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EDITED BY SHIRLEY HIBBERD, ESQ., F.R.H.S.

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FOR AMATEUR CULTIVATORS, AND EXHIBITORS OF PLANTS, FLOWERS, AND FRUITS:

FOR GENTLEMEN'S GARDENERS, FLORISTS, NURSERYMEN, AND SEEDSMEN:

FOR NATURALISTS, BOTANISTS, BEEKEEPERS, AND LOVERS OF THE COUNTRY.

CONDUCTED BY SHIRLEY HIBBERD, F.R.H.S.

"There are no ancient gentlemen but gardeners. . . They hold up Adam's profession."
Hamlet, v. 1

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THE

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1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
3	S	General Monk died, 1670.	8 8	4 49	4 2	6 7	3 3	0 27	0 52	9 52	10 17	36·6	Angræcum Kotschyi	East India.	3
4	M	Amazon, steamer, burnt at sea, 1852.	8 8	5 16	4 3	6 58	3 50	1 15	1 38	10 40	11 3	36·5	Barkeria Vanneri	Mexico.	4
5	Tu	● New Moon, 7h. 44m. Morn.	8 8	5 43	4 4	7 44	4 42	1 58	2 16	11 23	11 41	36·4	Burlingtonia candida	Demerara.	5
6	W	EPIPHANY.	8 7	6 10	4 6	8 23	5 39	2 35	2 51	Noon.	—	36·4	Calanthe Regneiri	Cochin China.	6
7	Th	Calais taken, 1558. [1861.	8 7	6 36	4 7	8 57	6 39	3 9	3 25	0 16	0 34	36·3	Oymbidium giganteum	Nepaul.	7
8	F	*Lucian*. Prince Albert Victor of Wales born,	8 6	7 1	4 8	9 27	7 40	42	3 58	0 50	1 7	36·3	Dendrobium Ainsworthi	Gar. hyb.	8
9	S	Fire Insurance due.	8 6	7 26	4 9	9 53	8 42	16	4 32	1 23	1 41	36·3	Lælia anceps	Brazil.	9

NATIONAL CHRYSANTHEMUM SOCIETY.—Prizes are offered for late flowering CHRYSANTHEMUMS (cut flowers and any variety), to be exhibited at ROYAL AQUARIUM, WESTMINSTER, on WEDNESDAY, JANUARY 13th, 1886. Full particulars on application to Hon. Sec., Mr. WILLIAM HOLMES, Frampton Park Nursery, Hackney.

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WEDNESDAY, JANUARY 6.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Lilies, Plants, and Bulbs.

WEDNESDAY AND SATURDAY, JANUARY 6 AND 9.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, Hardy Bulbs, Plants, &c.

THURSDAY, JANUARY 7.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Bulbs.

THURSDAY, JANUARY 7.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

FRIDAY, JANUARY 8.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

THE GARDEN ORACLE for 1886 is on the same plan as former issues, the present being the twenty-eighth publication of this work. It contains complete lists of the new plants, new flowers, and new fruits, and a complete list of the New Parliament.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C., to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

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Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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*** THE GARDENERS' MAGAZINE of the present date is the commencement of the 29th volume. It is a convenient time for new subscribers to commence, and for old subscribers to renew their subscriptions. The volume completed with last week's issue is now ready for sale, in handsome cloth binding, gilt edges, price 10s. 6d.

THE NEW YEAR is an abstraction that affects humanity as deeply as any tangible fact, and in its way is useful as prompting wholesome reflections. Every day has its duties, and the present moment is of more importance than any other either in the past or the future. But the reconnoitring station, as the opening of the year may be termed, is in the nature of an opportunity; we balance accounts; we rearrange sundry items of business, make new resolves, and brush up the armour for the conflicts that are in prospect. The sentimental view of the season is practically useful, for it encourages us to draw aside and consider many things that will have to be dealt with in haste when the time of action arrives.

Whether the year 1885 will prove good, bad, or indifferent, as compared with former years, no one can say, but there is plenty of work cut out for it, and it should be a year of activity. The political horizon is mysteriously clouded; there appear reasons for apprehending trouble, and an optimist view of things has little else than shadows to rest upon. Leaving that unattractive theme, and turning to the matters in which we are more ostensibly interested, we must bring the Colonial and Indian Exhibition into the foreground as a principal feature in the picture that an expectant fancy might paint. In the Inventions we found little that was new or specially interesting; but in the affair that is now fast advancing towards visible existence we shall find much, very much, of importance, both as regards novelty and attractiveness. The plant houses at Chiswick are crowded with plants sent here from various of our colonies, and more especially from Australia and New Zealand, to be prepared for presentation in the best form possible to assist in illustrating the botanical and horticultural characteristics of the contributing countries. Amongst them tree ferns are conspicuous for present beauty, and their promise of higher beauty to be displayed as the season advances. India will make a new revelation of her resources. The Indian Museum with all its treasures has aroused but little interest, and still less enthusiasm. Our people are slow to apprehend the merits of things to which they are but remotely related, and that yield information only to those who bring knowledge with them to aid in the inspection. But this discouragement will be banished in the exhibition that is preparing, for it will have the interest of human life infused into it, and the public will discover points of interest hitherto concealed in Indian affairs, the new revelation being the proper result of the actualities of the thing; in place of pictures and models there will be presented much of the daily life and habitual work of the millions of our fellow subjects in the far East.

The list of exhibitions in the new issue of the *Garden Oracle* indicates a busy season as comprised in the general prospect. We see that at South Kensington, Manchester, Birmingham, Bath, and other places of customary meeting, the horticulturists will have plenty of work, and the public, as we hope, abundant entertainment. There are now several special features in the programme of exhibitions that suggest an expanded and expanding interest in floriculture. The National Chrysanthemum Society has become firmly established and is prospering. As it received no aid from us in the first instance, it now owes us no thanks. On the other hand it is with pleasure we note its activity in the season when the flowers make work, and we have still to regret that a comparatively small share of that work is accomplished by the Royal Horticultural Society, for this venerable body should in range of action be like the elephant that can pick up a pin or carry a castle. In another direction we see the advance of floriculture is illustrated by the numerous exhibitions of roses, of which the dates of nine are given in the new issue of the "Oracle." The tulips, auriculas, carnations, and dahlias appear to be all fairly well provided for by special organizations, and "things in general" will be gathered up for the gladdening of the great public throughout the whole of the season at South Kensington.

The work arranged for at Chiswick includes most of the established items, and the seeds and roots proper to the garden will be the subjects of trial culture for the determination more especially of the relative merits of novelties. We confess we should like to see a new movement there to enlarge the range of the work, and render the garden a special attraction for the Fellows. Though cramped and built in, there is space yet, and the air is still sweet enough for much good work. The old pear trees have had their day, and might now with advantage contribute of their timber to support trial peas and make a small heap of feed for the furnaces. These being shunted into space, there would remain a space for the trial

culture of such things as pæonies, tuberous begonias, gladioli, pyrethrums, lilies, fritillarias, anomones, irisos, and narcissi. It might require a great effort for the council to screw the courage up to the necessary pitch for such a "new departure," and the treasurer might suffer elongation of face in face of the proposal. But the land can be made, the talent is at command, and the public need the information such a routine of work would secure for it. The horticultural papers are constantly occupied in selecting and revising, and our "Oracle" deals with the whole range of garden plants, with a view to select for its readers the best varieties amongst thousands. But these agents are rather assertive than demonstrative; they bring to bear the testimonies of many witnesses, but lovers of plants learn more by seeing them than by simply hearing about them, and the visible demonstration is the one thing needed, and that can be accomplished at Chiswick with as much advantage to the R.H.S. as to the many persons who would visit the gardens could they but see a change from the old pear trees that, so far as appears, have now accomplished all that is in their power to pay rent for the land they have so long occupied.

THE VEGETABLE GARDEN has had no comprehensive literary exposition in modern times, although works on vegetable culture—as upon almost every other culture—have been poured forth in a profusion that must often have perplexed the buyers of small books. But whatever reproach may attach to horticultural literature for neglect of this important subject is likely to be removed in a satisfactory manner by the admirable work of MM. Vilmorin-Andrieux, of which Mr. W. Robinson has published an English edition that differs in no material degree from the original in French.* This book is a handsome octavo of 620 pages, freely illustrated, and the subjects treated are arranged in alphabetical order under their popular names. To find any of them no knowledge of botany is required; but for the scientific explorer of the volume the index is particularly useful, as there we find the botanical names both of genera and species. A botanical summary might be added with advantage, as it would display in the several orders and genera, the part the several species play in the feeding of the hungry human family. But we can well afford to be thankful for what we have and cease from hankering for something more.

The publication of this work constitutes an epoch in horticultural literature. It has such merits as directness, clearness, discrimination, and true sympathy with the subject; but its chief and indeed crowning merit is its fulness. It would be a difficult task to mark where anything worth mention has been omitted; and as regards many things included, the book has a peculiar interest and value as giving the key to a long list of "pot herbs" that were in high repute "once upon a time." Many of these are now known to few except the readers of ancient books, or those modern books that deal in "lore" and "memorabilia." But we must not be supposed to regard the fulness of the work as bearing alone on the archæology of the garden, although that is a point of some importance, for in truth many of the old pot herbs, or say discarded vegetables, might be as useful to-day as they ever were, and their exclusion from our tables is much more a question for fashion than for science to dispose of. A hasty run through the pages enables us to note alexanders, angelica, borage, caraway, turnip-rooted chervil, chicory, corn salad, cuckoo-flower, burdock, evening primrose, fat-hen, hop, lentils, mallow, water melon, orache, winged pea, sweet potato, samphire, soybean, water chestnut, as amongst the subjects treated. On the merits of these we have nothing to say in the present connexion, save that for some half-dozen of the number, a discreet epicure would accept them gladly if properly cooked. Our object in mentioning them is to illustrate our commendation of the book for its comprehensiveness, for in its way it is exhaustive; and of whatever plant can be named as a possibly proper inmate of the vegetable garden, there will be found here some useful description and directions for cultivation. And this comprehensiveness not only takes us through the vegetable garden with pleasant proposals for enlarging and perfecting the routine of vegetable production, but it takes us into the world where men discuss the origin of species. The authors remark on the constancy of species as illustrated in a remarkable manner in the vegetable garden. After the most painstaking inquiries and comparisons they can find no specific differences between the cauliflower, the cabbage, the kohl rabi, the common sprouts, and the tree cabbage. These things when growing differ in the most striking manner, but when the flowers and seeds appear they all resolve themselves into forms of *Brassica oleracea*. The gourds, the kidney beans, the peas, lettuces, radishes, and onions run riot in variations, but the species of each are few, and we can only account for their immense range of characters by the fact that man, during long ages, has submitted them to an infinitude of conditions, not the least important being those of the several climates into which he has carried them as essentials of his existence.

To turn to the business view of the subject, we cannot allow the occasion to pass without another word to the young men who are looking forward to something better than more drudgery in the garden. There will always be labourers in plenty, but masters of arts who can do something more than smoke much and talk large, will, we fear, always be few. There prevails amongst the young men of the present day a decided distaste for the vegetable garden, and even for the arboretum, and the true theory of outdoor display. Those who limit their ambition to tastes that represent fashion only, as for example the cultivation of one or two classes of flowers, imperil their future, and may discover too late that they have been leaning upon a wall of reeds. Gardening is a large business, and the soundest parts, now as aforetime, are those that are nearest related to the material well-being of man, apart from his changing fancies and uncertain fortunes. There is no better schooling for young men than such as they may obtain in the vegetable garden, and there is no surer way to reach the top of the ladder than to begin at the very bottom. The fulness of this book suggests to us to say that fulness of knowledge is the true basis of all talent that may be trusted for usefulness; the talent that has no such foundation is rarely any better than mere cunning, and will carry a man but a short distance towards the goal to which the prize called "success" invites him. The angelic being who can subsist without the aid of peas and cauliflowers and potatoes may be allowed to look down upon such things, but the wise man knows that the mastery of minute detail, the knowledge of innumerable particulars, afford the surest weapon in the battle of life. We advise the young men to secure Messrs. Vilmorin's book, not for reference simply, but for systematic study. The older men who know much are not in need of advice, but very many of them will rejoice to hear of a really comprehensive work on the vegetable garden.

*The Vegetable Garden. Illustrations, Descriptions, and Culture of the Garden Vegetables of cold and temperate climates. By MM. VILMORIN-ANDRIEUX, of Paris (Murray).

MR. W. SWAN, late of Oakley Gardens, Fallowfield, has taken charge of the gardens of E. G. Wrigley, Esq., Howick House, Preston.

GARDENERS' ROYAL BENEVOLENT INSTITUTION is now located at 50, Parliament Street, Westminster.

STAPELIA GIGANTEA is in flower in the collection of Mr. Major, Cromwell House, Croydon.

KENNEL REVIEW.—A special Christmas number of this paper was published yesterday at 10, Craig's Court, Charing Cross.

SHEPPERTON AND THAMES VALLEY HORTICULTURAL SOCIETY.—The summer show will be held on Thursday, July 1.

OXFORDSHIRE HORTICULTURAL SOCIETY.—Commemoration show, June 29, second summer show, July 29; third summer show, September 1.

THE LOQUAT has produced a fruit on the open wall of Oxenhath Gardens, near Tunbridge. For the record of the interesting fact we are indebted to the *Journal of Horticulture*.

AN EXHIBITION OF LATE FLOWERING CRYSANTHEMUMS promoted by the National Chrysanthemum Society will be held at the Aquarium, Westminster, on Wednesday, January 13.

MR. E. BECKETT, of the Gardens, Aldenham Park, writes to urge the placing of Chrysanthemum Cullingfordi in the section of reflexed flowers, and that matter appears now to be disposed of.

CRYSTAL PALACE HORTICULTURAL EXHIBITIONS will be held as follows in the ensuing season: Spring Flowers, &c., March 26 and 27; Summer Exhibition, May 21 and 22; Roses, July 3 and 4; Fruit and Dahlias, September 3 and 4; Chrysanthemums and Fruit, November 5 and 6.

ROYAL BOTANIC SOCIETY.—Spring Exhibitions, March 24 and April 14; Summer Exhibitions, May 19 and June 9; Evening Fête, June 30. American Plants daily during June. Promenades every Wednesday from May 5 to July 28, excepting May 19, June 9, and June 30. Lectures, Fridays, May 7 to June 25, at 4 p.m.

SUTTON AND SONS' Pocket Garden Calendar is well adapted for carrying about to all the ends of the earth, and would fit into any ordinary pocket-book conveniently. Were it furnished with blank spaces for entry of engagements and made a little less of an advertising medium it would be nearer perfection.

ABERDEEN CHRYSANTHEMUM SHOW presents the unique circumstance of being in danger of collapse. At a recent meeting of the North of Scotland Horticultural Association, the advisability of continuing the show was discussed, and it was finally resolved to continue. The chrysanthemum show has thus far refused to comply with the rule that "exhibitions must be made to pay."

THE VOLUME OF THE G. M. just completed (vol. 28) runs to 776 pages. The first full volume of the present series was completed in 1866, and contained 586 pages. As regards bulk, the readers have now one-fourth more, and about ten times the number of engravings. Of the quality, as a matter of course, we say nothing; but the support we receive suggests the comforting reflection that our labours are appreciated. Especial thanks are now due to those who have assisted us, and we wish them all a happy new year.

THE WEATHER has been wintry in all parts of the country, in the north stormy, in the south less so. The barometer is at present too unsteady to make promise of severe frost, but wintry weather of some sort, perhaps with wind and snow may be looked for. A steady barometer now or shortly would indicate the coming of a severe frost.

PARIS HORTICULTURAL CONGRESS, MAY, 1886. — The subjects entered on the paper for discussion, May 4 to 9, include railway charges, phylloxera, schools of horticulture and agriculture, vitality of seeds, grape-vine mildew, cultivation of fruits for market, plant propagation, maladies of the zonal pelargonium, heating plant houses, use of meteorological instruments in horticulture.

AMERICAN EXHIBITION, 1886.—A plan of the grounds and buildings, covering 22 acres, is given in the *American Eagle* for December, 1885. As now set forth the scheme appears well adapted to constitute a powerful attraction, and to compete severely with the Indian and Colonial Exhibition. The railway stations giving access to the exhibition are those of Earl's Court, West Kensington, and West Brompton.

THE PUBLIC GARDEN ASSOCIATION, that is so admirably represented by Lord Brabazon, gives a good account of its operations in the past year. Its policy is simple enough, but in carrying it out becomes somewhat complicated, and it needs statesmanship to conduct negotiations with boards, vestries, trustees, and sometimes architects and builders, who stand in the way. There will always be good work for such an association. A great battle is imminent for the defence of the Charterhouse, a venerable monument of ancient piety of much importance to the metropolis, for it might become a sort of Hotel Cluny, with a delightful garden, if preserved in the right way, to the exclusion of bricks and mortar.

VEITCH MEMORIAL PRIZES FOR 1886.—We learn that the trustees of the Veitch Memorial Prize Fund have decided to offer next year the following prizes, the dates for which and other necessary particulars will shortly be announced: At Stoke-on-Trent, a Veitch Memorial Medal and prize of £5, for a group of orchids, with ferns intermixed; at Stoke-on-Trent, a Veitch Memorial Medal and £5, for a group of miscellaneous flowering and foliage plants; at Exeter, a Veitch Memorial Medal and £5 (subject not determined); at Royal Botanic Society, Regent's Park, a Veitch Memorial Medal and £5, for 12 amaryllis; at Royal Horticultural Society, South Kensington, a Veitch Memorial Medal and £5, for a collection of forced salad plants.

OVER PRODUCTION OF VEGETABLES.—In the seed catalogue just issued by Messrs. Harrison and Sons, of Leicester, occur the following remarks on this subject: The severe depression in agriculture has been the means of so many suggestions being made that, like some ailment, any quantity of sympathy is expressed and any quantity of remedies advised—all as the best; but a few remarks from us will perhaps not be unacceptable to our customers and friends, and which are founded on practical experience. Many eminent politicians during the past few years have addressed the farmers of England on the great subject of what to grow to pay, and advocated farmers turning their attention to the production of more vegetables, fruit, &c., and we have reason to believe their advice has been followed to a great extent with, we regret to say, in some instances very unhappy results, inasmuch that our markets have been glutted with vegetables of very inferior quality, which in many cases did not realize sufficient to pay for transit and market expenses, and caused considerable injury to the practical market gardener, who had been at great expense to plant and grow to perfection his various crops, which become depreciated in value by the overcrowding of the market with badly-grown stuff. We therefore suggest to any farmer contemplating vegetable growing to consider if his land is of suitable quality, situated in a locality where he can obtain an unlimited supply of manure and labour (which are most essential), and within an easy distance of a good market. Without well studying these points it will be advisable to pause, or the consequences may be, as we have already stated, a loss to himself and an injury to market gardeners, especially those who cultivate so much land with the spade. For fruit growing we should advise that the deepest soils be selected in the most suitable localities, and where possible a south-easterly to south-westerly aspect; it is also most important to select those varieties which have been found to thrive in that particular locality, or much money and time will be thrown away.

TRADE CATALOGUES.

JAMES ANDERSON, 149, COMMERCIAL STREET, SHOREDITCH.—*Sacks, Bags, Rick Cloths, &c.*

H. J. JONES, HOPE NURSERY, LEWISHAM.—*Select Chrysanthemums.*

BENJAMIN R. CANT, COLCHESTER.—*Roses.*

FRANK CANT, COLCHESTER.—*Roses.*

DEANE AND CO., LONDON BRIDGE.—*Garden Furniture.*

CROMPTON AND FAWKES, CHELMSFORD.—*Lean-to and Span Greenhouses, Summer Houses, Boilers, &c.*

J. CHEAL AND SONS, CRAWLEY, SUSSEX.—*Spring Seed List.*

LAING AND CO, FOREST HILL, LONDON, S.E.—*Seeds, Novelties, Begonias, &c.*

C. FIDLER, READING.—*Seed Potatoes.*

HARRISON AND SONS, MARKET PLACE, LEICESTER.—*General Seed Catalogue.*

WEBB AND SONS, WORDSLEY, STOURBRIDGE.—*Spring Catalogue.*

"ANY DOCTOR WILL TELL YOU" there is no better Cough Medicine than Keating's Lozenges. One gives relief; if you suffer from cough try them but once; they will cure, and they will not injure your health; they contain only the purest and simplest drugs, secretly and skilfully combined. Sold everywhere in 13½d. tins.—[ADVT.]

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. WHITFIELD CROFTS.

No. I.

Prevalent ignorance respecting the Channel Islands—unique and interesting territories—handsome and populous towns—inhabitants very enterprising—populations and areas—general appearance of Jersey and Guernsey—highly picturesque and exceedingly productive—capital thoroughfares—land tenure—little or no pauperism in the islands.

How few ever reflect on the momentous question of the food supply of million-peopled London, involving as it does the consideration that tens of thousands of persons in this and other countries are constantly engaged in the creation of this supply. Those who had never previously studied the question would be surprised on investigation to discover its immensity, and would, perhaps, be more surprised still on comparing the several items of this supply, to find that horticultural produce stood so high in the list. Prior to our investigations in West Cornwall, the results of which were recently given to the readers of this paper, we, in common we presume with many others, had but a faint suspicion of the extensive horticultural operations that were being diligently carried on in that remote and apparently uncongenial county. So again with the Channel Islands, we believe we are correct in assuming that a somewhat vague notion of the real importance of these islands as a principal source of the vegetable, flower, and fruit supplies of London, and the large provincial towns, exists in the minds of most people. Such was certainly the case with us. But a stay in the archipelago, and a careful and thorough inquiry into the whole subject has shown us how dense was our ignorance.

The Channel Islands are not the *terra incognita* they were twenty or thirty years ago, nevertheless they are still not so well known as they might be, and the tourists who visit them, and "do" them (which means seeing everything and learning nothing) in the short season, when it would be in such very bad form to be found in town, can know very little of the subject about which we are going to treat.

Some one writing a few years ago said, "I will venture to assert that more is actually known, and more accurate information to be gathered from authentic sources respecting the smallest of the colonies that lie in the Atlantic or Indian Ocean than respecting Jersey or Guernsey." We should not care now to endorse this assertion in its entirety, though the ignorance which still prevails in the minds of many thousands of Englishmen, concerning our Norman possessions, is astounding and really lamentable. The position of the group is plainly indicated by the generic name of Channel Islands, and that Jersey, Guernsey, Alderney, and Sark are the principal islands may be generally known; but it is very doubtful whether one in ten could tell anything more respecting the archipelago, while the very vaguest ideas must be held anent the inhabitants, their numbers, occupation, &c. Indeed, to the majority of Englishmen they still remain often little more than so many geographical expressions.

Yet these little territories are, as a whole, particularly unique and worthy of attention. The singular constitution which obtains in them affords an interesting study for the politician. The artist, the geologist, the naturalist will each find special attractions; whilst for the agriculturists and the market gardener in particular the attractions are indeed of no common order.

The stranger will be immensely surprised to find two such fine towns as St. Helier's, in Jersey, and St. Peter's Port, in Guernsey; the one with a population of 30,000, and the other with 16,000 inhabitants. St. Helier's, in particular, is a representative English town, modern in appearance, and with comforts and luxuries at command, such as one would certainly little expect to find in so remote and isolated a spot. The streets are many of them broad, with lofty and even handsome shops and buildings. The public works are numerous in both towns, and reflect immense credit on the inhabitants. As evidence of the spirited enterprise of the islands, we may just mention the steam tram in St, Peter's Port, which was one of the first in the kingdom, and the two systems of railroads which traverse the Island of Jersey. Guernsey, the smaller of the two islands, has just spent £16,000 in building a market town, and has lately carried a broad street across the town of St. Peter's Port, from the harbour to the heights above the town, at a cost of £10,000; and the hundreds of thousands of pounds which it is spending on its harbour works are noticed elsewhere. These figures are all very significant and astonishing. These facts cannot be considered irrelevant to the nature of these articles, as they will give a little needed insight into the general character of the islands and their inhabitants.

To speak in more particular terms, we may say that the chief islands are four in number, viz, Jersey, Guernsey, Alderney, and Sark, * which, with an extreme complication of rocks and islets, form the Channel islands, and occupy a deep indention of land formed by part of the coasts of Brittany and Normandy, opposite the south coast of England.

We shall proceed now, as briefly as possible, to dispose of several matters bearing on the subject under consideration, with which it is as well to be acquainted, and which should certainly be included in an exhaustive inquiry such as we intend making.

First of all, then, as to the general appearance and distinguishing characteristics of the islands. Jersey may be described as a compact, oblong-shaped island, its length from east to west being about eleven statute miles, and its breadth about five miles at the broadest part. Much of the coast line is low, and the county immediately inland has been inundated, at some remote period, by vast quantities of sand

* The population and the area respectively of the four islands are: Jersey, 60,000 population, 39,680 acres; Guernsey, 32,607 population, 16,005 acres; Alderney, 2,048 population, 1,962 acres; Sark, 571 population, 1,274 acres.

which are traditionally said to have buried a once fruitful and populous district.

The form of Guernsey is nearly triangular, its greatest length being about seven miles. Like Jersey, much of the coast is rockbound, and of considerable elevation. The cliffs extend chiefly along the southern boundary of the island, giving the slope towards the north, while in Jersey the land slopes to the south. Picturesqueness of the very highest order is the dominating feature of the islands. In Jersey the surface is less broken up than in Guernsey, but the former is more wooded, and vegetation is considered by some to be slightly more prolific. Comparisons, however, are particularly odious in this instance. Both islands have their distinctive and distinguishing features, but they agree in being each bountifully blessed by nature. Professor Ansted has truly said there are few places so small that take so long to see. They are *multum in parvo*, and contain, perhaps, a greater variety of charming scenery than any other territory of the same extent in Europe. George Henry Lewes remarks that the Americans say of England that it looks like a large garden; "What England is to America," he adds, "that is Jersey to England." *

The land is cut up into exceedingly small holdings†, and is cultivated to its utmost capacity by the industrious inhabitants. Both Jersey and Guernsey are extremely populous, and indeed are the most populous territories of their size of the British possessions, and, possibly, the most thickly peopled of any part of Europe. "The agricultural population," says Mr. Thornton‡, "is more than four times as dense as in England, there being in the latter country only one cultivator to 17 acres of cultivated ground, while in Guernsey and Jersey there is one to about four. Yet the agriculture of those islands maintains, besides cultivators, non-agricultural populations respectively twice and four times as dense as that of England."

Well-built houses and substantial villas abound on every side; indeed the number of these houses is simply astonishing. Buildings that in England would be mistaken for the dwellings of large farmers, or even private gentlemen's houses, will be found here to belong—not rented—to the sturdy and prosperous yeomen and peasant farmers. The roads and lanes are numerous, and kept in excellent condition; there is usually a path, and the hedges or walls on either side are in such trim order and perfect repair that the roads in both islands have a very dressy appearance, not observable in the rural parts of England. The length of these lanes in Jersey alone has been estimated at between 300 and 400 miles. Perhaps in no part of England could so many fine thoroughfares be found in an area of the same extent.

On the condition of the rural population of the Channel Islands we might enlarge at length, but prefer to be very brief. What we have said already will have prepared anyone for the statement made by Mr. Hill, to the effect that "the happiest community which it has ever been my lot to fall in with is to be found in this little island of Guernsey" ("Tait's Magazine" for June, 1834), "No matter," says Sir George Head, "to what point the traveller may choose to bend his way, comfort everywhere prevails" ("Home Tour through various parts of the United Kingdom"); and Mr. Thornton (previously quoted) says, "Literally, in the whole island, with the exception of a few fishermen's huts, there is not one house so mean as to be likened to the ordinary habitation of an English farm labourer."

And this happy state of things, as Mr. Kay§ and other writers point out, is the direct result of the free trade in land which exists in these islands, and of the breaking up of the land into a great number of small properties. It has been remarked that everywhere in the world except in our own country we find general markets for the general accommodation of the middle and working classes flourishing. "All who have travelled," says Mr. Kay, "among the French and German country towns must have noticed this. The wives of the small farmers and market gardeners come in with vegetables, fruit, flowers, eggs, fowls, and all the produce of the season. In all the smallest country towns, as was once the case with us, these markets are to be found flourishing. They are of the greatest value, both to the small farmers, labourers, and general inhabitants of the locality, and they are also great incentives to the careful production of many vegetables and fruits which would otherwise be neglected." The prosperous condition and good supply of these markets is often a very fair index of the condition and prosperity of the farmers and market gardeners in the districts around.

Rev. F. B. Zincke||, writing on the same subject, says: "The people who supply a market of this kind are not extensive cultivators, but peasant proprietors. Of these each does all that ingenuity and labour can to turn every square foot of his little estate to the best account. Every scrap and corner of it, and what they are producing, and what they can be made to produce next year or a dozen years hence, are constantly mapped in his mind's eye. Here is a bit of wall or an angle in a back yard where there is room for a fig or a plum tree. The fig or the plum tree is planted before this bit of wall or in this angle, and is carefully tended. This little bit of grass land will support a few apple trees. The apples before long will be ripening above the grass. Before his potatoes are out of the ground beet or brocoli is set between the rows. No leaf of this beet or brocoli will rot on the plant, but, as soon as it has done its duty to its parent, will be culled for the cow. The cow will supply milk and butter or cheese for the market. . . These are the people who supply the market (both the home and English markets). Every week the good housewife herself brings to the accustomed stall all that she has ready for sale. This insures that everything the locality can produce (and under this system every locality can be made to produce a great variety of good things) should be exhibited in the market place in great abundance and at very moderate prices. In the Guernsey vegetable market I counted upwards of a hundred of these peasant women in their stands at one time, many of them exhibiting twenty baskets of garden and dairy produce. Those who have any familiarity with the growing difficulty experienced in this country, possibly a result of our present system of land tenure, in supplying the working classes in our towns" (and he might have added in many of our richest rural districts) "with vegetables, fruit, eggs, butter, and milk, will regard such a market as that of Guernsey as of no small advantage to a locality." Our excuse for giving these excerpts must be that the writers quoted have said almost exactly what we wished to say, and in far more suitable language than we could have commanded.

Of the land laws of the islands, we may say that the land under the true old feudal system, by which it was made inalienable from the people, is held in small quantities of from five to eleven or twelve acres, seldom more, is cultivated to the greatest possible extent, and is handed down in the same families with great tenacity, and regularly as a rule. These land laws are very old, very singular, and very difficult to understand. Few lawyers in Jersey or Guernsey ever thoroughly understand them. So much, however, can be gleaned, that the bulk of the people hold the land, till it, spend their money on it with the certainty of enjoying its advantages, and, consequently, to live here is easy for the poor, industrious man or person with small means, for the taxation is light; little or no pauperism exists; tea, tobacco, spirits, good wines being alike free of duty.*"

* "Seaside Studies," 1858.

† In Jersey there are 2,568 estates, and in Guernsey 1,662. These figures do not include the hundreds of houses, with their small garden attached, owned by the peasantry

‡ "A Plea for Peasant Proprietorship." By William Thomas Thornton, C.B.

§ *Free Trade in Land*, by J. Kay, Esq., M.A., Q.C., 1885.

|| *Fortnightly Review*, No. cix. (new series), January, 1876.

* The laws and customs are taken from Normandy, and so provide for the disposing of all estates that no man or woman can by will, deed, or otherwise, give to any of their children either a greater or lesser share or proportion of their estate than what the law has directed.—*Annals of the British Norman Isles.*

Exhibitions and Meetings.

NATIONAL ROSE SOCIETY.

THE annual meeting of this society was held in the rooms of the Horticultural Society, December 17, Mr. Richard Bloxham in the chair. There were present: Rev. A. Cheales, Captain Christy, F. Cant, T. W. Girdlestone, W. Rumsey, G. W. Piper, J. Burrell, T. Gravely, J. Sargant, A. Slaughter, H. Wallis, A. Turner, W. J. Jefferies, W. H. Williams, B. R. Cant, G. Paul, E. B. Lindsell, R. Bloxham, G. Bunyard, H. Appleby, T. B. Haywood, and the honorary secretaries, Rev. H. H. D'Ombrain, and Mr. Edward Mawley. The preliminary arrangements for the election of officers, &c., being completed, the report of the committee was presented, and agreed to. The report set forth that the exhibition of the society at South Kensington in July last was the largest the society has ever held, and the exhibition at Manchester was altogether satisfactory. The sub-committee on hybrid teas recommend that these be in future exhibited as hybrid perpetuals. The finances of the society are in a satisfactory state, for although some extra expenses have been incurred, there remains a balance of fifty pounds to carry forward. The exhibitions arranged for in the coming season are two in number, one being at South Kensington, July 6, the other at Birmingham, July 15. The privileges of members subscribing one pound annually include two private view tickets and four transferrable tickets admitting at the same time as the general public. Members subscribing ten shillings are entitled to one private view ticket and two transferrable tickets. Finally the report alluded, in words of respectful regret, to the death of Mr. George Baker, of Reigate, a constant friend of the cause, and a much valued officer of the society.

On the motion of Mr. George Paul, seconded by Mr. T. M. Girdlestone, the recommendation in respect of the exhibiting of hybrid teas was adopted. The total of income was six hundred pounds.

A discussion arose on the most suitable place for the provincial exhibition of 1887, and the town of Nottingham appeared to be most in favour, but nothing was decided. The society's medals were also a subject of discussion and some new designs were accepted. It was also agreed that in the schedule class for new roses "new varieties first announced in English catalogues in 1884, or subsequently, should be admitted."

The following officers were elected for the year 1886: President, Rev. Canon Hole; Vice-Presidents, Hon. and Rev. J. T. Boscawen, Rev. J. M. Fuller, Dr. Robert Hogg, James McIntosh; Honorary Treasurer, T. B. Haywood; Hon. Secretaries, Rev. H. H. D'Ombrain and E. Mawley; General Committee, H. Appleby, Rev. H. A. Berners, Rev. H. B. Biron, R. Bloxam, G. Bunyard, Rev. J. B. M. Camm, B. R. Cant, Rev. A. Cheales, Captain Christy, E. Claxton, J. Cranston, C. E. Cutbill, H. H. French, Rev. F. H. Gall, T. W. Girdlestone, W. J. Grant, T. B. Hall, J. Shirley Hibberd, Rev. Canon Hodgson, C. F. Hore, J. House, W. J. Jefferies, E. B. Lindsell, Dr. M. T. Masters, Rev. F. Page-Roberts, G. Paul, F. C. Pawle, Rev. J. H. Pemberton, G. W. Piper, G. Prince, W. Rumsey, J. Sargant, A. Slaughter, A. Turner, E. R. Whitwell, E. Wilkins, Rev. W. Wilks, W. H. Williams.

Purdon's Irish Farmers and Gardeners' Almanac is of special value in relation to the rural industries of the neighbouring isle, and doubtless indispensable in the case of men who are not content to let all the waves go over them. It contains lists of fairs and markets in Ireland, a list of post towns with distances from Dublin, and a complete body of statistics illustrative of trade and commerce and the business regulations that prevail in Ireland. In addition to these important matters, there is much sound information on farming and gardening that has its uses for all parts of the United Kingdom It is published at 23, Bachelor's Walk, Dublin.

HERBACEOUS PLANTS FOR FORCING.

By W. KEMP.

THE number of hardy herbaceous plants suitable for forcing is not very large, but those which will be mentioned in the course of these remarks are highly attractive, and well able to afford substantial assistance in maintaining a good display of flowers in the conservatory throughout the early part of the year.

The general directions for the preparation of the forcing pit or house, and the regulation of the temperature and atmospheric conditions that were given in the GARDENERS' MAGAZINE of November 28, page 693, will apply equally as much to the herbaceous plants as to the hardy shrubs. There is not any occasion to have the plants established in the pots previous to their being placed in the forcing pit; for, according to my experience, they bloom equally as well when they are potted up a short time previous to their being started as when they have been in the pots long enough to become well established. In some cases the results are even more satisfactory. It is in all cases prudent to lift the plants from the borders as soon as the growth has died down, because after the middle of November there is a possibility of a frost setting in sufficiently sharp to render it difficult, if not impossible, to lift these plants when desired, thereby causing considerable loss of time. Moreover, the lifting process has a tendency to cause the plants to pass into a state of rest more quickly than they otherwise would do. As they are all more or less dwarf in growth, and require to be near the glass when making new growth, they should be placed in the bed along the front of the house. But when the forcing house is over taxed it is a good practice to place the herbaceous plants and the bulbs in a pit where they can be placed very near the glass. It is a great advantage to provide a mild hotbed for the whole of the subjects with but one or two exceptions, but the majority of them can be had in bloom at a very early period without the assistance of bottom heat.

ANTHERICUM LILIASTRUM is exceedingly useful for the supply of cut flowers early in the year, and is also well suited for conservatory decoration. Hitherto, I have simply afforded the protection of a cold frame, as it naturally blooms so early that with the shelter of glass it flowers during March. This year I shall try a few examples in the forcing pit, and give them a place at the coolest end. Possibly the St. Bruno's lily will stand a rather high temperature, but that remains to be seen; and I should advise those who have a rather small stock of bulbs to proceed rather cautiously. The bulbs should be put in five or six inch pots, and be packed rather close together.

ASTILBE BARBATA is too well known to need much comment. But it may be useful to state, that generally speaking, the imported clumps are better suited for early forcing than those of home growth. Their superiority in this respect is no doubt due to the crowns being placed under the conditions favourable to their attaining maturity early in the year. English growers appear to be afraid to divide the clumps into sufficiently small portions to ensure the production of strong crowns, or to plant them in positions where they will finish their growth and ripen off early. It is known that they require the best attention when planted in a cool moist position, and these are invariably set apart for them. But if the astilbes were to have a warm dry border devoted to them, and be assisted with liberal supplies of water during the early part of the summer, the growth would be completed at an earlier period than is usual, and respond more readily to the influence of artificial heat. The variegated form has very much finer flower spikes than the type, and deserves to be largely grown for early decorations. At present it is rather too expensive to be forced in quantities. The clumps should be put in pots, proportionate to their size, as soon as practicable after this date, and be placed in a cold pit in readiness for draughting to the forcing pit as occasion requires. A rather light sandy soil should be used in potting the clumps.

CAMPANULA PERSICIFOLIA ALBA, FL. PL., is so distinct in style from the other hardy plants suitable for forcing that a good batch should be forced. It is not so well adapted for very early forcing as a few of the other subjects, and, speaking in a general way, the plants should not be started until the end of January, and be then brought along rather slowly by being placed at the coolest end of the house. Strong clumps should be lifted from the beds or borders and be put in five or six inch pots, as may be most convenient. When potted they should be placed in a cold pit, with abundant ventilation, until they are taken to the structure in which they are to be forced into bloom. The plants have a very pleasing appearance when in bloom, and the flowers, taken off singly and mounted, can be turned to good account in the making of bouquets of all descriptions and the filling of epergnes.

DIELYTRA SPECTABILIS continues to hold its own as one of the most popular of hardy herbaceous plants for forcing, and deservedly so. Unsurpassed in effectiveness, it has the advantage of being easily grown and readily forced. No plant can, in fact, be prepared for forcing with less difficulty, and none of them will respond more readily to the influence of artificial heat. Although the plants can be forced without much trouble, they require careful attention to ensure their perfect development. In the first place they must not be subjected to an excessive temperature, and in the second they must not be too far removed from the glass. They cannot indeed be kept too close to the glass without actually touching it, and it is a good plan to stand the plants upon inverted flower pots placed on the bed. They must also have plenty of room for the development of the foliage, as very little overcrowding is sufficient to materially impair their effectiveness.

LILY OF THE VALLEY is everywhere regarded with so much favour as to fully justify the labour necessary to have a continuous succession of flowers throughout the winter. The single crowns are preferable to the clumps for forcing early in the winter, and for the first batch the Berlin crowns are better than the Dutch, as they start more quickly. For starting after the middle of January both crowns and clumps may be employed with equal success. When grown simply for the supply of cut flowers the crowns should be put in pans or boxes, but when intended for the decoration of the conservatory or drawing-room they should be grown in pots, those five and six inches in diameter being the most suitable. For whatever purpose the crowns are required they should be packed rather close together, and when clumps are forced they must be put into pots just large enough to conveniently hold them. In starting Lily of the Valley, the pots or other receptacles should be plunged in a bed of which the heat is about 75 degrees, and be then covered to a depth of six inches or so with leaves or cocoa-nut fibre refuse; the covering to be removed when the flower spikes are rising.

LILIES of most value for forcing are the old Common White, *L. candidum*, and the equally well-known *L. longiflorum*. When these are required for forcing the bulbs of both lilies should be potted immediately the stems begin to die down, as when potted early they become nicely rooted by the time they are taken to the forcing pit. It is not desirable to start either very early in the winter or in a strong heat, and as a rule it is prudent to wait until the middle or end of January before starting the bulbs. The best of all the lilies for starting early is *L. Harrisi*, which bears a striking resemblance to L. longiflorum.

SPIRÆA PALMATA, although less useful than Astilbe barbata, is well adapted for forcing, and medium-sized examples have a very pleasing appearance when nicely flowered. Clumps just large enough to be put in six-inch pots are the most suitable, and, as a rule, they should not be started until quite the end of January. It is also desirable to avoid pushing them too hard.

SOLOMON'S SEAL is not particularly showy, but it is useful for associating with subjects bearing brightly-coloured flowers, and for furnishing sprays for dressing epergnes, especially for those which have tall trumpet-like tops. In many instances two or three sprays will be sufficient garniture for a tall trumpet-like glass and the top of an epergne.

APPLE CULTURE.

By W. NEILD, of Withenshaw, Northenden, Manchester.

OWING doubtless to the numerous exhibitions of fruit held in various parts of the country, and to reports of the immense quantities of apples imported, the interest taken in their cultivation has much increased within the last few years, and the demand for good fruit trees is also increasing. I have often thought that it would be better to plant apple trees in villa gardens than so many forest trees, which, in the majority of instances, are so crowded together, that they have not sufficient space in which to show their true character. The apple is more suitable, as regards size and habit of growth, for planting in gardens of limited extent than any kind of forest tree. There are few more attractive objects than a well-grown apple tree when in full flower, and it is scarcely less interesting when in fruit. I would not, of course, wholly exclude forest trees from gardens of any kind, but I would use them only for wind-breaks and for shutting out unsightly objects. In no instance should they be planted where they cannot grow to their full size. Many object to planting fruit trees in this manner, thinking that the fruit would be stolen; but cases of robberies in that way, except near large towns, are few and far between. All, therefore, who design and plant new gardens, or renovate old ones, should plant fruit trees in every suitable situation. In the case of gardens already planted with the usual kinds of forest trees, I should recommend the occupier to obtain permission from the owner to remove a certain number of such trees and substitute apple trees. A common saying, probably correct some years ago, was "Plant pears for your heirs," but that remark cannot be applied to apples, for some fruit very early, notably Stirling Castle and Lord Suffield varieties, which usually produce fruit in two years from the time of being grafted or budded.

THE SELECTION OF VARIETIES proved to succeed in the soil and atmosphere of any particular district is of the greatest importance, for although some sorts may be seen in many orchards or fruit gardens throughout the country, and usually produce good crops, there are also many sorts which fail to fruit except in the most favourable situations. Those, therefore, who contemplate planting fruit trees should visit neighbouring gardens and get the names of the best varieties found to succeed in them. It is better to plant several trees of one variety known to succeed than to plant a large number of doubtful sorts. New varieties, too, should not be planted extensively until they are proved to be useful sorts, and an improvement on older kinds. Owners of trees injudiciously selected often complain of want of success. It is useless, they say, trying to grow fruit in their gardens, as their soil and atmospheric conditions are unsuitable for fruit growing. Now, if in this case good local free-fruiting kinds had been planted, failure under good management would have been next to impossible. The following culinary varieties have been proved to succeed in this neighbourhood. They are placed in the order in which they come into use —viz., Lord Suffield, Grenadier, Pott's Seedling, Ecklinville Seedling, Stirling Castle, Old Hawthornden, Cellini, Wareham Russet, Dumelow's Seedling, Golden Noble, Alfriston, and Northern Greening; these will form a succession for several months. For market purposes there is no apple in my opinion that will give as good returns as Lord Suffield. Of dessert varieties the following are the most desirable with which I am acquainted. They are placed in the order in which they ripen—viz, Devonshire Quarrenden, Summer Thorle, Kerry Pippin, King of the Pippins, Adams' Pearmain, Golden Reinette, Cox's Orange Pippin, Ribston Pippin, Blenheim Orange, Court Pendu Plat, Old Nonpareil, and Sturmer Pippin. It will be seen that I give the pre-

ference to culinary varieties by placing them first, as I consider them of more importance than dessert sorts.

IN PURCHASING FRUIT TREES it is important to have them true to name. It is very disappointing when, after a year or two's culture, it is found that some worthless variety has been substituted for a good one. I am aware that mistakes do sometimes happen which are difficult to avoid, but I can also say that there are instances in which wrong varieties have been sent out that could scarcely be attributed to mistakes. Choose clean, evenly-balanced young trees, vigorous in growth, and avoid those of a sickly, stunted character, as such seldom make thrifty trees. Never purchase trees with moss or lichen growing on them, or any that are affected with canker or blight. Those who have not sufficient knowledge or experience to select good plants will find it best to leave their selection to some reliable nurseryman who makes a specialty of growing fruit trees for sale. This has been a good year for most kinds of fruit, especially apples, though the yield is not so abundant as was anticipated when the trees were in flower. Fruit dropping has been very prevalent, owing to its having set so thickly and to the want of rain at a time when it was greatly needed to assist the swelling thereof. The rainfall for July was 1·36 inches, the average for the same month during the previous four years being about 3·70 inches. Strong winds have also been prevalent and have blown off large quantities of fruit. Standard trees have suffered much more in this respect than bushes or pyramids. In this neighbourhood the spring was cold and late. Vegetation may be said to have been almost at a standstill from the middle of February to the middle of April; then we had some fine warm days, the thermometer registering between 70 deg. and 80 deg. in the shade; this had a quickening effect, and everything then made rapid progress, so that before the end of April our plums, currants, and gooseberries, and many pear trees were in full flower. A sharp frost, however, which occurred in May, proved most disastrous to the plum crop, and in less degree to pears and bush fruits. Apple trees escaped with comparatively little injury, although large numbers of flowers were fully expanded and the remainder were far advanced towards that stage. Not only were fruit trees full of bloom this year, but also all sorts of flowering trees and shrubs, a condition doubtless brought about by the unusually dry and warm weather which we had last summer and autumn having thoroughly ripened the wood.

SOIL AND PLANTING.—Apple trees may be grown in almost any description of soil provided it is properly drained, but they succeed best in a moderately heavy loam from twelve inches to eighteen inches in depth. If the land to be planted is of a very sandy description, a dressing of marl in proportion to the character of the soil to be dealt with should be applied and thoroughly incorporated therewith by trenching. The marl, being very retentive of moisture, will act as a reservoir for storing water for the use of the tree during a season of drought; upon examining the marl it will be found that the roots have taken possession of it. It will be much better if the land to be planted has not previously been occupied by trees of any description; if it has, a few barrowloads of fresh soil should be introduced; that from a pasture field will answer best if it can be conveniently obtained, but any other good soil not recently occupied by trees will do. In this the tree should be planted in order to give it a good start. In planting on light land a hole, or pit as it is sometimes called, is made slightly higher in the centre than the outside, and wider than the extremities of the roots will reach. As regards depth, the planter should be guided by the formation of the roots and the size of the tree; generally, from six inches to eight inches will be sufficiently deep for young trees six or seven years of age. In planting on heavy retentive land it is best to place the trees on the surface and cover their roots with the surrounding soil; but if the land be low-lying and subject to periodical floodings, the best plan is to throw the soil into mounds or broad ridges and plant a row of trees along the centre of each ridge or one tree on each mound. By adopting this method the roots may be kept above the water level. All injured roots or any that appear likely to grow in a downward direction should be cut off with a sharp-edged knife in a slanting upward direction. The tree should then be placed in the hole or on the level, as the case may be. Its lower roots should be spread out in all directions, and covered with soil up to the level of the next tier of roots, when they also must be spread out and embedded in a similar manner, and so proceed until all the roots are covered to a depth of three inches or four inches. It is a great mistake to bury all the roots at the bottom of the hole. They should be spread out in a nearly horizontal position. The soil should be firmly trodden down as the work proceeds.

TIME TO PLANT AND STAKING.—October is the best time of year in which to plant, as then the young wood of the current year's growth is getting matured and not likely to shrivel, and there is sufficient warmth in the earth to keep the roots in a state of activity, so that the tree becomes fairly established before severe weather occurs. It is important for the after well-being of the trees that they should not be transplanted during frosty weather, nor when the soil is in wet condition. All, except very small ones, should be staked to prevent the wind blowing them over or swaying them to and fro, as their small, fibrous roots would thereby get broken or injured. The best method of staking small or medium-sized trees, by which they receive less injury to their bark than by any other with which I am acquainted, is to place a stake of sufficient length and strength at an angle of 45 deg. two feet or three feet from the bole thereof, so as to avoid injury to the roots. The main stem, at about two-thirds of its height from the ground, should be fastened to the stake by means of a handful of straight straw passed round the tree and tied with tarred cord on the side next the stake, then part the straw and place it round the stake, to which it should be securely fastened. After planting and staking, there should be a mulching of partially decayed manure six inches deep applied over the roots to exclude frost and to prevent the too rapid escape of heat and moisture. All trees, especially such as have been transplanted or root-pruned, should be well watered during the following summer if they exhibit any signs of dryness at the roots. The surface of the soil in which the roots are placed should frequently be disturbed with a Dutch hoe to keep down weeds and prevent evaporation during dry and windy weather. The ground, so far as the roots extend, should not be dug, as it is impossible to do so without destroying some of the fibres, which are of the utmost importance to the tree, and which we should by all means endeavour to keep near the surface.

OF THE SEVERAL FORMS of trees, perhaps the most useful for gardens is the bush-shaped; this offers many advantages to the cultivator compared with standard trees. It is much more convenient for pruning, cleaning, and gathering the fruit, and is not so liable to be injured by high winds, which frequently destroy a great portion of the fruit of large trees and cause irreparable injury by breaking off branches, while low-growing trees escape with comparatively little injury. Bushes on the crab or free stock may be planted from ten feet to twelve feet apart; but from six feet to eight feet will be sufficient for those worked on the Paradise stock. When planted at these distances, there is a free circulation of air amongst the branches, and they do not overshadow each other. The intervening spaces may be planted with vegetables or bush fruit until such time as they are required by the roots of the permanent trees. Standard trees may be planted in sheltered situations where there is sufficient space for them to develop their full size. Such trees, if the variety is suitable for the district, generally bear heavy crops—probably more than could be grown on bush trees on the same area of land. Apple trees in this neighbourhood, particularly young ones, frequently produce a large number of gross watery shoots, especially if their roots are allowed to go down into cold, heavy soil which contains a large amount of water. These continue to grow far into the autumn, and require a higher temperature and drier atmosphere to thoroughly mature than moderately strong wood, and unless properly ripened it will be of little value for fruit-bearing. Unripened wood cannot withstand sharp frosts without injury. The sap channels get ruptured, and canker as a consequence destroys the tree, or renders it of such little value that it has to be removed. I have frequently noticed the flowers of various kinds of fruit trees drop off in the course of two or three days after they have opened, the cause of which is generally attributed to the effects of frosts or north-east winds, but the real cause is unripe wood. If the flowers are carefully examined, they will be found to be imperfectly formed. In order to assist the thorough ripening of the wood in the case of over-luxuriant trees, I would recommend root-pruning or transplanting, operations which will seldom be required after the trees have been brought into free-bearing condition. By root-pruning a tree may be prevented from making a quantity of superfluous growth that would have to be cut off at the winter pruning. Trees that have set their fruit too thickly will be benefited by thinning out all unshapely ones, or any that are shaded by overhanging branches; afterwards apply a mulching of good manure to assist the swelling off of the fruit, and to prepare the tree for bearing future crops. When attention is not given to this matter, the tree frequently becomes too exhausted to bring its fruit to perfection.

IN ROOT-PRUNING, the size of the tree to be operated upon must be taken into consideration in order to determine the length of root to be left; from three feet to six feet from the bole will be sufficient for medium-sized trees. The best way is to dig a trench two feet deep and sufficiently wide to allow the workmen to undermine the ball of earth in order to ascertain if any roots are taking a downward direction; any found doing this should either be cut off or brought nearer the surface. Trees that have been annually or bi-annually root-pruned or transplanted may have their roots shortened entirely round, but any that have not been accustomed to this treatment should only have one side operated on at once. A few years ago there was a theory promulgated that a fruit tree was possessed of three distinct sets of roots for three distinct purposes—firstly, the wood roots, which were for the purpose of carrying on the enlargement of the tree; secondly, the tap-root, which was for anchoring the tree; and thirdly, the fruit roots, which were said to be solely for the purpose of producing fruit, and had nothing to do with supporting the tree or increasing the size thereof. I never had any belief in this theory, but for the purpose of convincing others that there was no reliance to be placed on it we tried the experiment two years ago of removing all the so-called "fruit roots" from a young apple tree which had never borne any fruit up to that time. Last year it set its first crop, but owing to the severe check which it received from the loss of so many of its feeders nearly all the fruit dropped off prematurely. This year it has brought a good crop to perfection, and has every appearance of doing so next year and for many years to come. When removing the earth from amongst the roots we carefully looked for a tap-root, but there was none to be found. Amongst the large number of trees that I have either planted or assisted in planting, I do not recollect having seen one with a tap-root where the tree had been previously transplanted. Such roots are invariably removed when the plants are taken out of the seed bed; therefore when root-pruning there need be no fear of cutting off the "fruit roots," and if there happens to be a tap-root the tree will be all the better for its removal. The principal objects of

BRANCH-PRUNING are that light and air may be freely admitted to all parts of the tree to ripen the fruit, which should be equally distributed thereon, and to prepare the wood for producing future crops. When summer pruning is considered necessary, it should be done during the latter part of August; if performed much earlier in the

season, it causes a number of shoots to be produced which have an injurious effect, and which have to be cut off at the winter pruning. The upper half of the tree should be done first; all shoots except leaders should be shortened to within six inches of their base, and a week later the lower half may be treated in the same manner. The winter pruning should be performed as soon as convenient after the fall of the leaf in order that the wounds may soon heal and cause as little injury as possible from loss of sap. Leading shoots should be left from 12 inches to 18 inches in length according to their strength and state of maturity. All unripened wood should be removed, cut to a bud placed in the direction in which it is desired the branch should grow in order to form a symmetrical tree. Lateral shoots, with the exception of any that are required to form fruit-bearing branches, should be cut back to within two or three buds of their base. When the tree has attained the desired size, the leading shoots may be treated the same as lateral shoots. Standards should be allowed to assume their natural habit of growth, merely thinning out superfluous branches or any that rub against each other; all dead spurs or branches and young shoots which spring from the bole should also be removed. In pruning, a sharp knife should be used. Draw it in an upward direction, leaving a smooth clean cut. In removing young shoots, about an inch of wood should be left above the bud which is intended to take the lead. In cutting out a thick branch, it should be cut as close as possible to the bole or branch from which it proceeds in such a manner as will prevent water from lodging upon it, and in order that the bark may cover the wound as soon as possible. When a saw is used to remove a branch, the wood should afterwards be trimmed with a knife, and a coat of painter's knotting applied to exclude moisture.

FOR DESTROYING MOSS OR LICHEN on fruit trees there is nothing better than lime thinned to the consistency of limewash, and strained through a fine sieve or thin canvas to exclude all rough sediment. It will then be ready for applying to the trees either by means of a syringe or garden engine. For the destruction of scale or American blight I have tried many insecticides, but have found nothing better nor so cheap as soap and paraffin oil prepared in the following manner: To make four gallons of the mixture, take half a pound of soap and half a pint of paraffin; place them in a bucket or other suitable vessel, and add two or three quarts of boiling water; stir the mixture until the soap is dissolved, and then add the remainder of the water. This mixture may be applied by means of a syringe in the following manner: Draw up a syringeful and discharge it into the bucket, and when the mixture is agitated draw up another and apply it to the tree. As American blight winters in the soil underneath the trees, it would be advisable to have the soil removed from under affected trees to a safe distance and burnt, so as to entirely eradicate the insect.

HARVESTING THE FRUIT.—It is important that fruit should be carefully gathered and stored in some suitable building. It should not be shaken off the tree, as in that way it is certain to get damaged, and all injured fruits soon decay. The trees should be gone over twice, each time selecting only fruits that are quite ready for gathering. This may easily be ascertained by gently lifting each fruit into a horizontal position; if the stalk parts freely from the wood it may be assumed that the fruit is ripe. When gathered let them be taken to the fruit-room, and there placed on wooden shelves without any covering of hay or straw, as these deteriorate the flavour. All fruits should be placed in single layers, and should not be disturbed until required for use. They should, however, be examined at least once every week for the purpose of removing any decaying ones, as if these are allowed to remain they affect the others.

A CHAPTER ON VIOLETS.

By JOSEPH MACDONALD.

IT cannot be wrong to say that for all practical purposes the best violet in cultivation is Marie Louise. So far as I know—and I have grown it extensively, both in frames and in the open for the past ten years—it has not one fault. In the first place, it is a capital grower, caring very little what sort of soil it is planted in; and in the next place, it may be said to be always in flower, and it is in perfect condition, when suitably treated, from the beginning of September to the end of April. At other times, if the plants have not been recently disturbed, flowers may be found on them, and in respect to the size of the flowers and for fragrance, no other sort surpasses it, and few can equal it. That is not all: it is such a vigorous grower that it is more readily increased than any sort of violet I know with double flowers. The best double sort, with white flowers, is Swanley White, or Comte Brazza, as they are undoubtedly one and the same. As a single variety I think the Czar cannot be beaten, as the individual blossoms are very large and very sweet scented.

In regard to soil, violets are not near so particular as some other plants; at the same time, the better the soil the more vigorously they grow, and consequently the larger and more numerous are the flowers. I am quite satisfied that when the position is well drained they are very grateful for a bit of thoroughly rotten farmyard manure, and when they are grown in pots or in beds of soil in frames, the best compost for them is three parts loam and one part manure, and if little lumps of turf are mixed up with the compost the roots will quickly lay hold of it in a way which shows that they like it.

With respect to propagating violets, it is a common practice to increase them by pulling to pieces the old plants and selecting the young side growth for future plants. I am aware that they do fairly well that way. But that is not the best way to get the largest flowers, at least such is my opinion. I have tried that plan, and I have also raised them from cuttings made from the points of the young runners, and I am quite satisfied that I get much the largest and the greatest number of flowers from these. Therefore, I advise all who are specially interested in violet cultivation to raise their stock of plants in the same way, as it is not much more trouble to get up a stock from cuttings than it is by dividing them.

We take off the cuttings about the middle of February and insert about a dozen in a 48 pot, and then place them in a melon or cucumber frame where they get some bottom heat, and in about three weeks they form roots, when they are taken to a close, warm house to gain strength with the aid of both sun and air. After three or four weeks they go to a cool house in which we keep bedding plants. Here they get well hardened. At one time I put each plant singly in a 3-inch pot, but it required more time and room than I could spare. So now I let them remain in the cutting pots until it is time to plant them out, which is generally about the end of May. I have also put in the cuttings in April with very good results; but of course the earlier they are struck the larger the plants are.

A good deal of the future success depends on the strength of the plants in the autumn, and that will depend on how they are treated during the summer. In naturally dry soils it is not unusual for the plants to get infested with red spider in a hot summer. For that reason a cool, shady border is the proper place for them, but it is of little use to attempt to grow the better forms of double violets in a poor soil, as they like it moderately heavy and rich, and seeing that most of us require sound, healthy plants to flower during the winter a little extra attention in the preparation of the soil will be rewarded. Before planting, the position should be first dug up and the whole well broken to pieces. Then a fair sprinkle of well-rotted manure should be spread on the surface, and forked in so as to well mix it with the soil. A rather fine surface is also necessary to receive the young plants, which may be put out nine inches apart each way. They will not be very large plants at the time they are put out, but it is surprising how quickly young plants from cuttings develope into robust compact clumps. They will be quite large enough for any purpose by the autumn. As a matter of fact, medium-size plants are better than huge clumps, for if they are very large the centre holds moisture so much that many of the flowers and leaves damp off during the winter. Attention must be paid during the summer to the roots to see that they do not suffer for the want of water; but if they are planted on a cool north border, a soaking of water once a week in dry weather will be sufficient for them.

It is necessary now to go back to the single varieties, as there are many who like to grow them, especially such as the *Czar* and *Victoria Regina*, and in regard to propagating them I may say that I raise my stock of these also from cuttings; but there is another simple way of securing young plants from the runners, and that is to get them from layers in the same way that strawberries are laid for forcing. The easiest way is to peg the runner down on the ground and lay a little mound of fine soil over it at the point which closely rests on the soil. Before I took to raising cuttings my favourite way of raising these was to get a piece of turf two inches square and an inch thick, and to peg the runner on the turf, into which it soon pushed roots, and was ready for putting into pots or planting out after they were severed from the parent plants.

The single varieties, like the double ones, are admirably suited to be grown in pots, and those grown in pots from the first will flower more freely than those planted out during the summer and put into pots in the autumn. The best soil for violets that are to be grown altogether in pots is a good fibrous loam; manure is not necessary. If the loam should be of a heavy nature I would add to it one part leaf soil and a good sprinkle of coarse grit or sand.

The plants that are to be grown in frames for winter flowering should have all the runners cut off before they are lifted, and those growing or to be put into pots must be dealt with in the same way.

The pits or frames that are to be occupied with violets through the winter should be filled up with soil, so that when the plants are in their position the leaves are not more than three inches from the glass. As they are put in, the plants should stand quite clear from each other, for damp is a greater enemy to them than cold, indeed, nothing but the most careful system of ventilation will keep them from damping off. Except when not actually freezing, a wedge of wood half an inch thick should be placed under the back at night, and on mild days the lights should be pulled off. At other times as much air should be given by wedging up the lights as the weather will permit.

For ensuring a regular supply of violets there must be space and material at command for doing the thing well, and it is a matter of importance to provide sufficient warmth. Although they do not require actual forcing with a high temperature to keep them regularly in flower, they must during cold weather have a little assistance from beds of warm leaves or hotwater pipes. With a well-constructed brick pit, and plenty of tree leaves, in which to plunge the pots there will be no difficulty, the warmth from a good bed of leaves will enable the cultivator to defy the frost unless it should be of long duration.

THE REASON WHY the trade of Horniman and Co., London, is so extensive and increasing is, because the public give their hearty support to a system which affords them a solid guarantee, that what they buy really is what it professes to be, "*Pure Tea*" such as the Chinese themselves drink. For 50 years Messrs. Horniman and Co. have denounced the practice of "facing" with mineral powders (such as prussian blue, gypsum, plumbago) the tea intended for the English market. Horniman's tea is amazingly strong, has a rich, delicious flavour, and goes farther than the ordinary tea. Sold in packets by Agents only, Chemists, Confectioners, and others; see announcements in all papers.—[ADVT.]

BLACK WALNUT.

Juglans nigra.

THIS tree illustrates the prevailing poverty of English woodlands in trees that are at once noble and profitable. It is a scarce tree, but for its beauty and usefulness it is one that should be freely planted wherever there is a reasonable prospect of success, and profitable timber is likely to be appreciated. In majesty of dimensions and proportions it is the finest tree of the class to which it belongs, and while it produces wood suitable for many purposes, it grows more rapidly than the common walnut, and is less particular as to soil, although, in common with the majority of vigorous habited deciduous trees, it will not thrive on a poor sandy soil, nor on land that is occasionally flooded.

In the years 1884 and 1885 we have received from correspondents in southern counties parcels of ripe nuts of this tree, and this fact has suggested to us the propriety of a note about its principal characteristics. It is called the *black* walnut from the dark colour of its wood, which is valued for cabinet work, and takes a fine polish. It is a native of the United States of America, where it has an immense geographical range, and it is always met with on good deep soil. The usual height of mature trees is 60 to 90 feet, and when free to spread in all directions it forms a magnificent head, and presents a striking appearance. The leaves are from twelve to eighteen inches in length, consisting of six to nine pairs of leaflets and an odd one; when bruised they emit a strong spicy odour. The fruit is enclosed in a thick husk; the nut is hard, and when opened is found to be divided by firm ligneous, or, we might say, bony dissepiments. Reports as to the flavour of the kernel vary, and we suspect the explanation is to be found in the influence of varying climates, the immense geographical range of the tree suggesting that in this respect differences are likely to prevail. We have tasted many samples at various times in hot summers and cold summers, but have never met with a sample that was otherwise than unpleasant. The normal flavour appears to be that of a common walnut when turning rancid, or in the first stage of mildew. The kernels are decidedly greasy, and where produced in quantity would probably pay the cost of pressing for oil.

LEAVES AND FRUIT OF BLACK WALNUT, JUGLANS NIGRA (Husk removed).

In many parts of the country, and particularly near large towns, the common elm is a failing tree. To take its place the black walnut appears particularly well adapted, as it is thoroughly hardy, thriving as far north as Sweden, although not bearing fruit there. It is a first-class shade tree of quick growth and requires less moisture in the soil than the elm, the frequent failure of which is attributable to drainage. But as nothing will grow under this tree it is not adapted for any place where it is desired to have vegetation beneath it. The systematic

removal of the leaves when they fall might considerably lessen its killing power, for it is their astringent property chiefly that occasions injury to herbage in the shade of the tree. For roads, rick yards, paved courts, and other such places where surface vegetation is not needed, the black walnut would often prove the best tree possible for beauty and profit. Its roughest uses, for such purposes as gate posts, are not unworthy of consideration, for in these humble capacities it is not easily matched for strength and endurance.

This tree is invariably raised from the nuts, and the surest way of obtaining a free growth and characteristic beauty is to plant the nuts where the trees are wanted.

PLANTING ROCKERIES.

Strange ideas prevail amongst the many who are presumedly interested in the formation and management of rockeries, the true theory of planting them appearing to be less understood than the true theory of construction. You make a good rockery, we will say, and you plant on it a lot of large bushe of aucuba, box, privet, euonymus, and holly. For summer colouring you use a few good herbaceous plants, such as delphiniums and phloxes, and make up the remainder with plants left over as the surplus of the bedding out. This arrangement makes a gay rockery, because you will have on it plenty of scarlet pelargoniums, blue lobelias, purple petunias, yellow calceolarias, and very many plants with variegated leaves. By such an arrangement you ensure a lively affair, such as may often be seen in suburban gardens, and it is likely to be admired, because a very considerable proportion of the human race like that sort of thing, and the scarlet geraniums do certainly show to great advantage lifted above the common level and set amongst dark stones that show up their strong colours.

When the man of taste passes by he will probably smile and say nothing. Well, it is better, perhaps, that he should smile than that he should frown. But if you compel him to speak, you will get no word of praise for your work, however rich and bright it may be, for to the eye capable of just criticism such a thing is not a rockery; it is much more of a variegated dust heap. At the best it is but a mixed border or a staircase, a commonplace and uninteresting garden stretched out on a flight of steps that no one can ascend, and that terminate in nothing. Rockeries of this senseless kind abound, and they suggest that we of the scribbling persuasion have some work to do in the diffusion of proper notions, and have perhaps worked very feebly thus far, that there should still remain many examples of such horticultural savagery.

A little reflection will remove the doubts that may beset the uninstructed as to the propriety of our condemnation of the lumpy and more or less lustrous subjects mentioned above. With the exception of the box, which is often singularly elegant amongst rough scenery, the plants named are out of place in a rockery, and they prevent the rockery doing its duty, which is to afford a distinct scene, differing from other features of the garden, and containing a body of special plant material persuasive of a special study. One clump of coarse acanthus, with its striking outlines and dignified demeanour, will put into the shade, and by contrast of suitability make mere rubbish of the aucubas and other lumpy things that are commonly planted on rockeries. But we have choice of thousands of the loveliest plants in the world, the jewels of the mountain flora, the saxifragas, pinks, catchflies, drabas, gentians, and cyclamens, with any number also of those coarser but truly noble subjects the hellebores, eryngiums, rudbeckias, and the like, all appropriate furniture for the filling of a distinct scene rich in varieties of vegetable beauty.

ROCKERY SCENE IN GARDENS OF ROYAL HORTICULTURAL SOCIETY, CHISWICK.

And when the true theory is apprehended, that rocks are to be built and planted after nature's method, even though with a diversity of materials such as nature never does bring into one scene, there will possibly remain places suitable for the lumpy things that we condemned at the outset. A large rockery may need a leafy background, and for the purpose commonplace materials may be found to answer very well, especially when the background is to serve as a screen to conceal objects beyond—a very common case in suburban gardening.

On small rockeries trees and shrubs are not wanted; on large rockeries they are often singularly useful. To take a general view of the case, it may be said that lumpy subjects are the worst for the purpose, and strong growing, robust habited shrubs of any and every kind are

little to be desired. The commoner kinds of rhododendrons, for example, are monstrous anomalies on an ordinary rockery, but glorious things in a proper place in beds on the lawn and in the foreground in the shrubbery. Of suitable trees and shrubs we have a few light willows, several gaily-flowering cistuses, many lovely roses—the exhibition roses being quite unfit—many of the smaller alpine rhododendrons, ledums, and andromedas; a few, perhaps very few, conifers, a few berberis, many ivies, two or three ruscus, any or all of the yuccas, where space permits of much variety, but none where the rockery is of small extent. Having made the selection of these, we come to the herbaceous plants, and then we are in the heart of the business.

In the selection of the flowering plants it is an important matter to consider the winter aspect of the rockery. The saxifragas contribute a wonderful variety in their mossy mat-like masses, varying in colour through all the gamut of green, with, in the umbrosa section, rich shades of red, purple, and bronze. A large proportion of the loveliest alpines are evergreen, and therefore a well-planted rockery does not lose interest with the decline of the year, although as winter deepens the flowers diminish, and we must wait for spring for their renewal. And as regards flowers we must have many that belong to plants that show not a leaf the whole winter through, and we must have them so scattered about and so selected that there shall be flowers for all seasons. It is in this particular that the prudent planter makes himself known, for a good rockery is a kind of perpetual flower garden, and every day the whole year round it should show something fresh, if only the changing of leaves from the green of summer to the fiery glow of autumn or the deeper tone that accompanies winter gloom.

In any case, the cheapest of the more showy plants of a suitable kind should be planted. A sufficient number of saxifragas, primulas, potentillas, geums, dielytras, alyssums, lithospermums, Alpine phloxes, anemones, hellebores, and such like should be secured and scattered about, and the general tone of the thing determined. Then additions should be made cautiously of such choicer things as gentians, dianthuses, ramondias, and cyclamens, these requiring more care, and being less suited for a first experiment than the kinds suggested in the first list. And when some progress has been made in this way it will be found advisable to plant—space and purse permitting—every one of the subjects included in the list of herbaceous and alpine plants given in the *Garden Oracle* for 1886. That list includes what may be regarded as a complete collection. It may be enlarged, of course, and, on the other hand, many plants may be struck out of it; but a better list will not be found. It was prepared in a garden, and cost months of work in determining which amongst myriads of plants might with safety and advantage be recommended to amateurs generally as proper occupants of a "garden of delight."

The sketch of the rockery in R.H.S. garden at Chiswick will show how trees and shrubs may fitly come into a rockery scene where space permits. This scene contrasts in a striking manner with the picturesque bit from the rockery at Kew given in our issue for December 19. There we have rocks, water, and flowering plants; here we have rocks, trees, and climbing plants. The Chiswick rockery is so pleasing that all who are familiar with it wish it could be considerably extended. And its beauty tells a singular tale, for being in front of the great vinery it is somewhat out of place. But no one thinks of that when admiring its beautiful vegetation; the incongruity is forgotten in the presence of true beauty.

A WORD ABOUT WILLOWS.

THE willows and the poplars are alone included in the natural order *Salicaceæ*, the hazels and birches, once associated with them, having been removed by Richard in order to restrict the order to plants which bear flowers with pistils or stamens alone, destitute of a calyx, produced on the same or different individuals, and the fruits of which are coriaceous, containing hairy seeds. The order is not an extensive one therefore, but it comprises a great number of trees and shrubs, some of which are the most diminutive ligneous plants known, and others trees of gigantic stature. Scarcely any one of them can be described as uninteresting or useless. They grow fast; their wood and bark are in most instances valuable, and they contribute several important aids to the art of medicine. The willows alone concern us now. These are invariably natives of temperate and Arctic climates. *Salix arctica* is the most northern woody plant known; in all the northern parts of Europe, Asia, and America the species of Salix play an important part in natural scenery and in the arts of life. A considerable proportion of them are inhabitants of marshes, the sides of rivers, and places subjected to periodical floods. Nowhere do they appear more at home or in harmony with surroundings than when planted by the sides of lakes, or when following the courses of rivers and brooks, as they oftentimes do, marking out their windings with a continuous belt of silvery grey foliage. There are about 300 species described; but it is highly probable that a considerable number of these are hybrids; in fact, it is the great difficulty in the study of Salix to distinguish between specific forms and the intermediate links which connect them together. But for practical purposes it is easy enough to follow the usual classification of the genus into (1) sallows, (2) osiers, (3) willows. Having an eye only to beauty, let us hastily glance at each of these sections.

Sallows are trees or shrubs more or less related to *Salix cinerea*, the "Gray Sallow," which is the type of them. It is one of our commonest British trees, attaining a height of 20 to 30 feet, and abounding in moist woods and on the banks of rivers. It is not in any way a handsome tree, but it is nevertheless one of our notable trees, for it is the "palm" willow *par excellence*, the circumstance of its early flowering adapting it for use on Palm Sunday, and hence to plant it near the suburbs of towns is to make sure of numerous visits of devout personages, who will freely cut at it without permission to bear home in triumph branches of "palm." Apart from the destruction of trees and the breaking of fences which commonly attend the observance of customs in which trees have any part, the adoption of the gray sallow in place of the palm, which in temperate climates is unattainable, is a very pretty feature in popular observances. This species is the one most in use on the Continent as palm, and is no doubt to be accredited with having suggested to Wordsworth, in the Vale of Chamouni, the idea that—

> "The Hebrews thus, carrying in joyful state
> Thick boughs of palm and willow from the brook,
> Marched round the altar—to commemorate
> How, when their course they through the desert took,
> Guided by signs which ne'er the sky forsook,
> They lodged in leafy tents and cabins low,
> Green boughs were borne ———"

Another of the same section, the goat sallow, *S. caprea*, is of equal fame with S. cinerea as supplying palm, and is the one most used in this country, as the latter is most used on the Continent. The two trees differ considerably in character. The leaves of S. cinerea are elliptic and greyish green; those of S. caprea are much larger and broader obovate, and a dark green colour. The catkins of the first are an inch long, with lanceolate scales at the base; those of the second are larger and more dense, and the scales at the base are more leaf-like and less clasping, and almost black in colour. In both the catkins are of a silky texture, and in some seasons they protrude in the autumn while the old leaves are yet on, instead of waiting till spring to herald the coming of a new crop of leaves. When the leaves are fully out the branches appear as if smothered with wool. No doubt they are members of a large group for which there is but one specific foundation, and which includes *S. oleifolia*, *S. aquatica*, *S. acuminata*, and *S. sphacelata*, all of which are too closely related to be considered specifically distinct. But this ends the present consideration of the sallows, save and except the remark that S. caprea and S. cinerea divide between them whatever historical and literary fame belongs to the "common willow." One of them was Rosalind's tree, on which Orlando hung his passionate verses—

> "From the east or western Ind
> No jewel is like Rosalind," &c., &c.,

and the soft bark of which was well suited for that whim of his—

> "These trees shall be my books,
> And in these barks my thoughts I'll character,
> That every eye, which in this forest looks
> Shall see thy virtue witnessed everywhere."

For does she not tell Celia she found the verses "on a palm tree," and at the same time make a most witty allusion to the metempsychosis? ("As You Like It," iii. 2.) So too it must have been Ophelia's willow; and here we may open an inquiry, and at the same time introduce a fine garden tree. In Knight's "Pictorial Shakspere" Mr. Harvey has represented (Tragedies I. p. 176) Ophelia floating on the stream while weaving

> "Fantastic garlands
> Of crow flowers, nettles, daisies, and long purples,"

beneath the dipping, shadowy growth of a weeping willow. I remember once looking at the picture and suspecting an anachronism, for in Shakspere's time our common weeping willow was not known in this country, and at the time of Hamlet it was probably not known in Denmark (which was certainly anterior to A.D. 1204). Yet it was a weeping willow, and Shakspere gives us the key to it in the memorable description of Ophelia's death by the Queen—

> "There is a willow grows aslant a brook
> That shows his hoar leaves in the glassy stream,"

by which token I guess it to have been the weeping variety of Salix caprea, and which as a nursery tree bears the name of *Kilmarnock Willow*, for the leaf of salix caprea in all its states has a downy midrib, and is more or less clothed with cottony pubescence and is glaucous underneath. If this be right, we have associated with the most touching incident in the greatest of the immortal poet's works one of the most beautiful park and garden trees known, and which should have a place in all large water scenes, and can never look better than when it grows "aslant a brook." Mr. Harvey's beautiful drawing, therefore, need not be harshly criticised on the ground of being botanically incorrect, though on referring to it while writing this I must confess I think he had the Babylonian willow and not the weeping caprea in his mind when he conceived the picture.

OSIERS.—This term is applied to a certain few species of Salix which have long pliant branches and lanceolate leaves, the type of the group being *S. viminalis*, the "common osier," which is so much used for basket making and a very profitable plant for swampy districts where few useful subjects will grow. It has no beauty, and would be a weed in a garden, though an "osier holt" is not an uninteresting scene and has usually some attractions for the botanist and the naturalist. The old poets were as quick as any of the moderns in their discernment of the relationships of plants to circumstances, and Ovid no doubt had this willow in his mind when he wrote of—

> "A hollow vale, where watery torrents gush,
> Sinks in the plain: the osier and the rush,
> The marshy sedge and bending willow nod
> Their trailing foliage o'er the oozy sod."

Many true willows are called osiers on account of their being cultivated in holts for basketmaking and for other rustic handicrafts, but the true osiers are those which Borrer classed in his group viminalis, where we find *stipularis*, *Smithiana*, *ferruginea*, *acuminata*, and a few doubtful species.

The Household.

GAS FIRES.

Gas fires are acquiring extensive popularity, and they are of such value and importance that for the removal of errors and prejudices respecting them time may be profitably spent occasionally. In the issue of this paper for May 7, 1881, certain forms of stoves and burners were described, and now, after a further experience of four years, it begins to appear that a few remarks may be added to what was then submitted to public notice.

In my present residence I have gas fires throughout the house, in breakfast, dining, and bed rooms, and in a suitable spot adjoining the kitchen a range of Fletcher's rings to supplement the kitchener for cooking at busy times, and to obviate the necessity of using the kitchener at all during very hot weather, for it is not good to compel the cook to cook herself when there is a meal wanted. The kitchener burns coals as usual and swallows a considerable lot, but this is to please the cook, who believes in it, and her work is so well done that I am content to continue the use of coals, although it is for the kitchener alone that they are now brought into the house, a practice that will cease when a suitable opportunity occurs, for cooking by gas is the best cooking possible since the old-fashioned roasting in front has been abolished.

The form of gas fire figured in our issue of the paper cited above is still the best for health, comfort, and convenience. It comprises a perforated terra cotta burner in the shape of a box, over which is heaped imitation coke made of fire clay. Its virtues may be summed up in the brief statement that it is the best parlour and bed-room fire known. A coal fire is a nuisance, is, in fact, injurious trash as compared with it. No coals to carry, no dust, no chimneys to be swept, no pouring out of a smoke when the wind blows down the chimney, and perhaps a fool persists in the endeavour to light the fire with paper crammed in and covered with wet wood. The difference to books, curtains, furniture, and the health of the occupants of the house is beyond the conception of those who know nothing of the matter by experience. You may turn the fire down very low if it suits you, and if any reason for more heat occurs, at a touch you have as much as you can require. The heat is usually less than that of a great coal fire at its best; but for this there is ample compensation in the constancy of it, for a coal fire rises and falls; it is for a time fierce and for a time feeble, depending on the stoking, which is more often a stupid performance than agreeable to a rational principle. And, finally, there is nothing safer than a gas fire: no hot coals to fall out, no small explosions of "purses" and "coffins;" and if you want a room kept warm all night you have but to turn down the fire to a suitable point and then shut up and leave it. This you cannot do with a coal fire, or, indeed, with any but a gas fire.

These remarks have been suggested by what an invalid said to me the other day. I had remarked on the quick recovery of this person from a severe attack of an old complaint, and the reply was that the quick recovery was chiefly due to the gas fires that had been adopted on my recommendation, for now constant warmth and a perfectly sweet atmosphere were secured. Formerly the dust, the occasional disturbance of making up the fire, which must be done sometimes when the patient is asleep; the likelihood of the fire to go out about three a.m., when the night is coldest; and the horror of relighting the fire to prevent further mischief, account in a great degree for the slowness of recovery in many cases where constant warmth is above all things required. To have command of a cheerful fire by one touch with the finger puts this matter almost on a level with electricity.

There are two points that may be counted on the other side. When a gas fire is lighted some time must elapse ere it communicates any sensible degree of warmth to the room. A coal fire, well made, gives out heat more quickly. The difference between the two can be diminished by management, and it is a good plan to turn the gas full on for about ten minutes to warm the whole of the apparatus, and then it can be turned down to a suitable point. In wintry weather I leave in the room I intend to take breakfast in a small fire burning all night; the cost is trifling, and the room is comfortably warm in the morning, and then, by turning up the gas, we have the comfort of an established fire.

Another point telling against the gas fire is one that it shares with the coal fire. When the wind blows down the chimney a coal fire requires prompt and skilful attention, or the consequences are simply dreadful. The very first step in such a case is to warm the chimney, and the simplest mode of action is to light a large piece of crumpled paper as far within the chimney as possible. When blowing out occurs with a gas fire a more simple course of action suffices. Light the gas, turn it full on, and fly, taking care to leave open any doors or windows that may assist to turn the current. In about three minutes the flame will go up the chimney, and there will be an end of the trouble. But the atmosphere of the room will be in a bad state, and the quickest way to sweeten it will be to shut doors and windows, and compel the fire to draw the air from the room. This is a speedy and a sure method, and, generally speaking, from seven to ten minutes will suffice to render the atmosphere perfectly sweet. Only so long as blowing out continues should the door be opened to set the current the proper way.

The "Cheerful stoves" and the "Fletcher rings" should only be used where there is ample space for the escape of the burnt air; they are quite unfit for any ordinary apartment, but very serviceable where the products of combustion can get away without assailing the human lungs. Those flat-faced stoves, in the style of a grill, filled with asbestos shavings, are equally unfit for apartments, and their unpleasant glare of flame is injurious to the vision. For all ordinary purposes asbestos is not needed for gas heating, but in some peculiar cases it has its uses.

Cooking by gas is a safe proceeding, and those who are disposed to exclude coals from the house may now do so with comfort and safety, and with a very slight increase of expense. In the first instance perhaps gas will prove more costly than coals, but when the management —which is of the simplest—is acquired, the cost will be found to be quite moderate, and the difference more than compensated by many advantages. It is a great matter to keep down the consumption at the time of general lighting up, for then the pressure increases and waste may occur. X. Y. Z.

Notes of Observation.

SINGLE CHRYSANTHEMUMS.

My note in a recent article referring to my disappointment in the single chrysanthemums has resulted in some of my friends sending me samples of flowers which they have grown, with a view to persuade me to reconsider the matter. For these I am thankful, for, as might be expected from flowers received from widely different sources, the so-called single varieties are numerous and varying in quality. It appears that there are not a great number of varieties that are really single, if I may judge from those before me. Many of them have two and three rows of florets or petals, while there are but few with single rows. In this matter they appear to be advancing, so that we shall soon hope to see the number increased, as no doubt we shall also find in time that the variety of colours is increased as well. The best lot of flowers I have received was sent from Messrs. Cannell's nursery, of Swanley, Kent. As might be expected, they embrace all the newest and most improved forms, the colours ranging from pure white to deep crimson, with a host of intermediate shades, including a bright and clear primrose yellow, while others are delicately suffused with pink and lilac. But the most pleasing of all is a violet shaded flower named *America*, which is quite five inches across. The flower is delicately constructed, with only two rows of florets, and the disc a clear yellow, a beautiful contrast to the soft colouring of the florets. This lot also contains a bold flower with dark crimson petals, which are of sufficient substance to keep them in the most perfect form. It appears to be one of the firm's new seedlings, and for which *Crimson Banner* would be an appropriate name. *Mrs. Dean* is a white variety, perfectly single, and therefore a very desirable flower. *Peter Henderson* is a bright primrose yellow, only several shades deeper, and certainly a valuable addition. This lot also contains another seedling, with bronzy red flowers, which are quite single. *Mrs. Wills* is a small flower with only a single row of florets; the colour a pale rose; this is a very perfect variety, the flowers being borne in long bunches: certainly a desirable variety for cutting from. *Helianthus* is of medium size, with the florets neatly arrayed, and the colour deep sulphur yellow; this is a valuable variety.

Taken altogether the Swanley selection contains a sufficient number of thoroughly distinct forms and colours to clearly show that the single chrysanthemums have already reached to a high point of usefulness, and so singular is the form of many of the flowers and so delicate the colouring of others that we may look forward to see them ultimately take a prominent position on the exhibition stand. One other point I must notice in the lot from Swanley, and that is the perfectly healthy condition of the foliage, for that which accompanies the flowers is well developed, and of the darkest green in colour. J. C. Clarke.

PRUNING IN FROSTY WEATHER.

I am quite aware there are some people who condemn the practice of pruning deciduous trees of any kind during frosty weather, under the supposition that the trees suffer from the operation more in frosty than in mild weather. It may be those who raise the objection are right and I am wrong; yet I cannot help thinking that if fruit trees are injured by it, many of those in the garden under my charge would now have been in a sorry plight, if not killed outright. I am so situated that I cannot have the whole of the work of the garden done always when it ought to be done, so I have done it when I can, and it has occurred to me many times since I have managed the garden that we were glad to have the frost to harden the surface of the ground to enable us to get upon it to prune the fruit trees. This has been done in our case many times. Long lines of pyramid apple and pear trees have been pruned in frosty weather, and so have the gooseberry and currant bushes, and not many years since all the men in the garden were usefully employed for more than a week pruning the fruit trees in a large orchard in frosty weather; yet I have failed to find any ill effects from it, our trees, both in the garden and orchard being quite as healthy and fruitful as any in the neighbourhood. This is sufficient to prove that the trees are not in any way injured by being pruned in frosty weather. If asked the question whether they were injured, I should say, certainly not, but I do not recommend that evergreen trees or shrubs be pruned during frosty weather.

J. Macdonald.

Blue Gum Trees of Australia are agreeably discoursed upon by M. Joly in a "Note sur les Eucalyptus Geants," printed by Rougier, 1, Rue Cassette, Paris. The author has much to say about colonies and colonization, but his information on eucalyptus is of considerable interest.

LEGENDARY PLANTS.

By RICHARD FOLKARD, Author of "Plant Lore, Legends and Lyrics."

PART I.

BUT few of us, perhaps, when we linger to admire the gay flowers which we collect in our gardens, or when, in the course of a country ramble, we cull from the hedgerows a handful of lovely wild flowers, stop to consider with what fanciful or weird legends they may have been connected, or what marvellous properties may have been ascribed to them by people of a forgotten generation. In the present paper it has been our purpose to gather together some of these plant legends (which have had their origin in many lands, and at widely different epochs), and to consider them under the several heads of "Ecclesiastical," "Historical," and "Poetical and Fanciful."

Under our first head we find a number of fantastic and marvellous tales—legends which probably owed their origin to the cloister or the cell, and dealing with subjects dating from the time of our first parents.

Ecclesiastical Legends.

LEGENDS OF ADAM.

Plant legends may be said to be as old as Adam, and, indeed, if we may accept the old Persian tradition, the primal human pair, who dwelt in Eden, issued from a currant-bush. At first there was only one currant-bush, but, this, after awhile, became separated into two. To these two plants Ormuzd, the supreme deity, imparted a soul, and thus the origin of Adam is traced to a plant. There are several plant legends connected with our first parent; thus we are told that Adam, when he named the plants in Paradise, cautioned them not to forget what he called them. One little flower, however, was heedless, and forgot its name. Ashamed of its inattention and forgetfulness, the flower asked the father of men, "By what name dost thou call me?" "Forget-me-not," was the reply; and, ever since, that humble flower has drooped its head in shame and ignominy.

The Rabbis tell us that, whilst in Eden, Adam one day broke off the bough of a tree growing there, and fashioned for himself a staff, which was transmitted to Noah, who took it into the Ark with him, and bequeathed it to Shem; that it descended to Abraham; that Isaac gave it to Jacob; that, during his sojourn in Egypt, he gave it to Joseph; and, finally, that it became the property of Moses, who wrought many marvels by its instrumentality.

We all know how intimately plant lore is connected with the fall of our first parents, and how Eve, by partaking of the fruit of the Tree of Knowledge, brought sin into the world. The Bible tells us this fruit was the mystical apple, but according to an Indian legend the forbidden fruit was the Banana, and this belief is very general in Eastern countries. Gerarde, the Old English herbalist, calls the Banana Adam's Apple Tree, and remarks that if the fruit be cut in any way, the form of a cross will always be seen in it. In Ceylon, where, according to some traditions, Paradise was located, it is said that there exists a large Banana Tree, the fruit of which, when cut transversely, exhibits a figure of a man crucified, and local legends narrate that from the huge leaves of this tree Adam and Eve made themselves coverings. But the distinction of having been the Tree of Knowledge is claimed for a variety of trees such as the Fig-tree, the Bread-fruit-tree, the Citron, Pomegranate, Orange, &c. The Fig is supposed to have been the first cultivated fruit tasted by man. Beneath its leafy boughs Adam hid himself after having eaten the forbidden fruit; and with its leaves he endeavoured to hide his nakedness. A Hebrew legend states that Eve, after eating the fruit, hid herself in the foliage of a Hazel-bush.

After their disobedience, Adam and Eve were driven out of Paradise, and, according to Arabian tradition, Adam took with him three things—an ear of Wheat, which is the chief of all kinds of food; Dates, which are the chief of fruits; and the Myrtle, which is the chief of sweet-scented flowers.

After his banishment, an old tradition tells us that God gave Adam, in his mercy, the power of producing instantly the animals of which he was in want, upon striking the sea with a Hazel rod. One day Adam tried this and produced the sheep. Eve was desirous of imitating him, but her stroke of the Hazel rod brought forth the wolf, which at once attacked the sheep. Adam hastened to regain his salutary instrument, and produced the dog, which conquered the wolf.

THE TREE OF ADAM.

There is a legend handed down both by Hebrews and Greeks, that when Adam had attained the ripe age of 900 years, he overtaxed his strength in uprooting an enormous bush, and that falling very sick, and feeling the approach of death, he sent his son Seth to the angel who guarded Paradise, and particularly the way to the Tree of Life, to ask of him some of its ambrosia, or oil of mercy, that he might anoint his limbs therewith, and so regain good health. Seth approached the Tree of Knowledge, of the fruit of which Adam and Eve had once partaken. A youth, radiant as the sun, was seated on its summit, and, addressing Seth, told him that He was the Son of God, that He would one day come down to earth, to deliver it from sin, and that He would then give the oil of mercy to Adam.

The angel who was guarding the Tree of Life then handed to Seth three small seeds, charging him to place them in his father's mouth, when he should bury him near Mount Tabor, in the valley of Hebron. Seth obeyed the angel's behests. The three seeds took root, and in a short time appeared above the ground, in the form of three rods. One of the saplings was a branch of olive, the second a cedar, the third a cypress. The three rods did not leave the mouth of Adam, nor was their existence known until the time of Moses, who received from God the order to cut them. Moses obeyed, and with these three rods, which exhaled a perfume of the promised land, performed many miracles, cured the sick, drew water from a rock, &c.

After the death of Moses, the three rods remained unheeded in the Valley of Hebron until the time of King David, who, warned by the Holy Ghost, sought and found them there. Hence they were taken by the King to Jerusalem, where all the leprous, the dumb, the blind, the paralyzed, and other sick people presented themselves before the King, beseeching him to give them the salvation of the Cross. King David thereupon touched them with the three rods, and their infirmities instantly vanished. After this the King placed the three rods in a cistern, but to his astonishment upon going the next day for them, he discovered they had all three firmly taken root, that the roots had become inextricably interlaced, and that the three rods were in fact reunited in one stem which had shot up therefrom, and had become a cedar sapling—the tree that was eventually to furnish the wood of the cross. This reunion of the three rods was typical of the Trinity. The young Cedar was subsequently placed in the temple, but we hear nothing more of it for thirty years, when Solomon, wishing to complete the temple, obtained large supplies of cedars of Lebanon, and as being well adapted for his purpose cut down the cedar of the temple. The trunk of this tree, lying with the other timber, was seen by a woman, who sat down on it, and inspired with the spirit of prophecy cried; "Behold! the Lord predicts the virtues of the Sacred Cross." The Jews thereupon attacked the woman, and having stoned her, they plunged the sacred wood of the temple into the *piscina probatica*, of which the water acquired from that moment healing qualities, and which was afterwards called the Pool of Bethesda. In the hope of profaning it the Jews subsequently employed the sacred wood in the construction of the bridge of Siloam, over which everybody unheedingly passed, excepting only the Queen of Sheba, who, prostrating herself, paid homage to it and prophetically cried that of this wood should one day be made the Cross of the Redeemer.

Thus, although Adam by eating the fruit of the Tree of Knowledge, came to know that which was evil, and could no longer be permitted to partake of the fruit or essence of the Tree of Life, yet, from its seeds, placed in his mouth after death, sprang the tree which produced the Cross of Christ, by means of which he and his race could attain to eternal life.

LEGENDS OF THE JEWS.

There are very few plant legends connected with the Jews; with them the Almond tree was regarded as the emblem of haste and vigilance, because of the suddenness of its blossoming; and it was from this tree that Aaron's rod was cut, which budded and brought forth in the Tabernacle during one day. King Solomon, who was well versed in lore appertaining to the nature and properties of plants, knew the secret of a certain magical herb called Baaras, which Josephus describes in the Wars of the Jews. This root, he says, is in colour like to that of flame, and towards the evening it sends out a certain ray like lightning. It is not easily to be pulled, it will not yield quietly, and it is certain death to anyone who dares pull it, unless he hang it with the head downwards. As to the uses of the root, Josephus continues: "After all his pains in getting it, it is only valuable on account of one virtue it hath, that if it only be brought to sick persons, it quickly drives away those called Demons, which are no other than the spirits of the wicked, which enter into men that are alive, and kill them, unless they can obtain some help against them," and the root was a useful stimulant, although in Baaras, at any rate, it seems to have lost its reputation as a love-philtre. It is noteworthy that Josephus also tells how Solomon had great skill in enchantments, and cast out devils by means of a root, an accomplishment he is said to have learned from some of the numerous foreign ladies with whom he surrounded himself.

CHRISTMAS LEGENDS.

Christian legends have associated various trees and plants with the history of Jesus and his mother, and at this season of the year it may be interesting to investigate the flower legends connected with the birth of our Saviour. . . One of these legends tells us that it was a Hazel tree which afforded shelter to the Virgin Mary, surprised by a storm, whilst on her way to visit St. Elizabeth. Another of these mediæval legends informs us that before the birth of our Saviour, the Virgin Mary longed extremely to taste of some tempting Cherries which hung upon a tree high above her head; so she requested Joseph to pluck them. Joseph, however, not caring to take the trouble, refused to gather the Cherries, saying sullenly, "Let the father of thy child present thee with the Cherries if he will!" No sooner had these words escaped his lips, than, as if in reproof, the branch of the Cherry-tree bowed spontaneously to the Virgin's hand, and she gathered its fruit and eat it. Hence the Cherry is dedicated to the Virgin Mary. From various Christmas plant legends we learn that at Bethlehem, the manger in which the infant Jesus was laid after His birth was filled with our Lady's Bedstraw (*Galium verum*). Some few drops of the Virgin's milk fell upon a Thistle, which from that time has had its leaves spotted with white, and is known as our Lady's Thistle. Whilst lying in the manger, a spray of the rose-coloured Sainfoin, says a French legend, was found among the dried grass and herbs which served for the infant Jesus' bed. Suddenly the Sainfoin began to expand its delicate blossoms, and to the astonishment of Mary, formed a wreath around the head of the holy babe.

According to the Apocryphal Gospel, the Virgin Mary, whilst journeying, became fatigued and oppressed with the great heat; in passing by a great desert, she saw a large and beautiful Palm-tree, beneath which she wished to seek rest and shelter; so she asked Joseph to drive the ass upon which she was seated towards the tree. When she reached the foot of the tree, she dismounted, and, looking up, noticed that the tree was laden with fruit. Then she said to Joseph: "I wish to have some of the fruit of this tree, for I am hungry." To this, Joseph replied: "Mary, I marvel that you should desire to eat of this fruit." Then Jesus Christ, who was seated in his mother's lap, ordered the palm to bend down, so that his mother might partake of its fruit at pleasure. And forthwith the tree bent down to the Virgin Mary, and she partook of its fruit, and still the Palm remained bent downwards. Then, Jesus, perceiving this, ordered the Palm to resume its natural position, and it immediately did so. This legend has been widely diffused in Italy and elsewhere, sometimes with the following addendum: "Jesus, after this act of devotion on the part of the Palm, gave the tree his benediction, chose it as the symbol of eternal salvation for the dying, and declared that He would make His triumphant entry into Jerusalem with a palm in His hand."

A whole group of plant legends refer to incidents which occurred during the flight of the Holy Family into Egypt. Traditions record that in order that the Virgin might conceal herself and the infant Saviour from the assassins sent out by Herod, various trees opened, or stretched their branches and enlarged leaves. As the Juniper is dedicated to the Virgin, the Italians consider that it was a tree of that species which thus saved the mother and child, and the Juniper is supposed to possess the power of driving away evil spirits and of destroying magical spells. Spanish tradition states that the Rosemary afforded the shelter and protection. The plant is said to flower on the day of the Passion of our Lord because the Virgin Mary spread on a shrub of Rosemary the under linen and little frocks of the infant Jesus; and, according to tradition, it brings happiness on those families who employ it in perfuming the house on Christmas night.

A tradition common in Bologna, records that whilst the Holy family were on their road, the Brooms and the Chick-peas (or Lupines) began to rustle and crackle, and by this noise betrayed the fugitives. The Flax bristled up. Happily for her, Mary was near a juniper. The hospitable tree opened its branches as arms, and enclosed the Virgin and Child within their folds, affording them a secure hiding-place. Then the Virgin uttered a malediction against the Brooms and the Chick-peas, and ever since that day they have always rustled and crackled.

The Holy Mother pardoned the flax its weakness, and gave to the juniper her blessing; on that account, in Italy, branches of juniper are hung up on Christmas Day in stables and cattle sheds, just as in England, France, and Switzerland, holly is employed as a decoration. In Sicily, they believe that the form of a hand is to be seen in the interior of the fruit of the Pine—the hand of Jesus blessing the Pine which had saved Him during the flight into Egypt, by screening Him and His mother from Herod's soldiers. Again, this distinction is claimed for the oriental Sycamore, and many Eastern travellers mention a tree which for centuries had been regarded with peculiar reverence. "At Matharee," Thevenot says, "is a large garden surrounded by walls, in which are various trees, and among others, a large Sycamore, or Pharaoh's Fig, very old, which bears fruit every year. They say that the Virgin, passing that way with her son Jesus, and being pursued by a number of people, the Fig tree opened to receive her; she entered, and it closed her in, until the people had passed by, when it re-opened, and that it remained open ever after to the year 1656, when the part of the trunk that had separated itself was broken away."

There is ancient tradition that, whilst journeying to Egypt, the Holy Family came to a dense forest, in which, but for an angelic guide, they must have lost their way. As they entered this wilderness, all the trees bowed themselves down in reverence to the infant God; only the Aspen, in her exceeding pride and arrogance, refused to acknowledge Him, and stood upright. Then the Holy Child pronounced a curse against her, as He in after life cursed the barren Fig tree, and at the sound of His words the Aspen began to tremble through all her leaves, and has not ceased to tremble to this day.

During the flight into Egypt a legend relates that certain precious bushes sprang up by the fountain where the Virgin washed the swaddling clothes of her Divine babe. These bushes were produced by the drops of water falling from the clothes, and from which germinated a number of little plants, each yielding precious balm. Wherever the Holy Family rested in their flight sprang up the *Rosa Hierosolymitana—the Rosa Mariæ*, or Rose of the Virgin. Near the city of On there was shown for many centuries the sacred Fig tree under which the Holy Family rested. They also, according to Bavarian tradition, rested under a Hazel.

Lastly, we find it recorded, in a Roumanian legend, that the infant Jesus, in the arms of the blessed Virgin, became restless, would not go to sleep, and began to cry. The Virgin, to calm the Holy Child, gave Him two apples. The divine infant threw one upwards, and it became the Moon; He then threw the second, and it became the Sun. After this exploit, the Virgin Mary addressed Him and foretold that He would become the Lord of Heaven. It is difficult to conceive for what purpose such a legend as this could have been concocted, or the mental condition of the people who could place any credence in it.

DRUMMOND'S PHLOX.

I have before me an illustration of this phlox as it appears in the March number of the Floricultural Cabinet for 1836. That is just about 50 years ago. The drawing given was taken from a specimen that had been sent to the editor, and it represents a truss of five blossoms of a rosy-red colour, but with the segments of the flower so divided that the blade of a knife could be put between them almost without touching their edges. During the summer I gathered and laid by the side of this illustration a pip of that king among the varieties of Phlox Drummondi, P. Drummondi splendens grandiflora, with its large, stout, beautifully-round, and superbly-coloured pip, of a rich vermilion-crimson hue, and then I was able to see what a marvellous advance had been made during the past half century. The original type was introduced from Texas in 1835, and in all probability Drummond never dreamed that it would ever reach such a high level of improvement as that seen in our day. The result is greater than the most sanguine prophet could have ventured to foretell at that time.

Is it from want of knowledge of the beauty and usefulness of the Phlox Drummondi that it is so seldom met with in gardens. It is sometimes found in isolated patches in a border, sown as carelessly as one would a pinch of Virginian Stock, and there it is allowed to remain without much, if any, attention. The plants are not thinned out, and consequently are left much too thickly to grow into vigorous and free branching specimens with large and finely coloured flowers; the result is, the plants are spare and drawn, and the flowers small and lacking in colour. From seeing such the impression is derived that Drummond's Phlox is a poor thing and unworthy of culture. Many a good and useful plant has wrongly suffered in reputation in much the same way.

In the summer of 1883 it was well remarked by Mr. Geo. Gordon, in the pages of the *Gardeners' Magazine*: "I have long been convinced of the great utility of the annual phloxes for garden decoration when they have justice done them, but on no occasion have I been so strongly impressed with their beauty and effectiveness as when grown in Messrs. Sutton and Sons' trial grounds at Reading." In the manner in which these phloxes are grown at Reading, there is all the difference between the treatment given to plants in ordinary seed grounds, and in a trial ground such as that of Messrs. Sutton and Sons'. In the latter case the plants of the different sections in beds, planted in good soil, and far enough apart to allow of a free and vigorous development, the result is well-grown specimens, and fine heads of bloom. Under these circumstances visitors to these grounds get a good idea of the value of Drummond's Phlox for the purposes of garden decoration during the summer; and it is not to be wondered at that the demand for collections of seeds is very large.

There are what may be termed five distinct sections of Phlox Drummondi. By some seedsmen one or two more are added; but I think that for general purposes five will suffice. There is first the old section of this phlox representing the types that have been cultivated for years past. The German cultivators of Drummund's Phlox make up collections of eighteen varieties, but twelve or nine will be found ample, and can be made to comprehend all the best varieties in cultivation. There are—Alba oculata, with white purple eye; Atropurpurea, or Black Warrior, deep blood purple; Brilliant, glowing rose, with dark-red centre; coccinea, deep scarlet; Atropurpurea, deep blood purple; Hortensiæflora, rose coloured, very showy; Isabellina, yellow, not good in colour, but distinct as a variety; Leopoldi, rich red, with white eye; Variabilis, a kind of pale purplish blue; and Violacea albaoculata, violet, white eye. Then there are some striped varieties, such as Atropurpurea striata, Chamois rose striata, Coccinea striata, and Radowitz, or Princess Royal, rose, striped with white. I have a vivid remembrance of a Phlox Drummondi Radowitz, that existed thirty years ago, that I should very much like to see again, but which I fear is lost to cultivation. It was sent out, I think, by Messrs. E. G. Henderson and Son, then of the Wellington Road Nurseries, St. John's Wood, and it used to be propagated by means of cuttings. It was a real striped phlox, white, with stripes of rose, distinctly laid on to a white ground, in the way of a snowflaked carnation. It was a charming subject for pot culture when grown for cuttings. I wish that our enterprising floral brother, Henry Cannell, to whom we are so much indebted for reintroducing not a few good old things, could get hold of P. Drummondi General Radetzsky as Mr. Turner had it at Slough, in 1855.

Phlox Drummondi grandiflora represents a kind of aristocratic section of the foregoing, a selection of large-flowered varieties represented by stout well-formed pips borne in large trusses and in varying colours. The premier variety of this section is Phlox Drummondi grandiflora splendens. I envy the man who raised this. If he originated nothing else he earned for himself floricultural immortality. A grand annual phlox, with rich vermilion crimson blossoms, having a circular white eye. I do not think the verbena has been raised that will match this for peerless beauty; and years ago, when it was first introduced to this country, and glowing bunches of it were shown at the meetings of the Royal Horticultural Society, I saw them passed over, and the award that should have gone to them was given to verbenas that one could never be certain they would see again. The verbenas have long since been forgotten, the phlox is as glorious and useful to-day as it ever was.

There are a dozen or more of varieties of Phlox Drummondi grandiflora, in which not a few of the names given above are reproduced in much finer forms. Messrs. Sutton and Sons have made a selection of four very fine striped varieties which they denominate varieties of splendens, and they form a sub-section. They are: Rosea, bright rose, striped white; Coccinea, scarlet, white striped; Atropurpurea, dark purple, white striped; and Violacea, violet, white striped. I am bound to say that my ideas of a striped Phlox Drummondi are by no means realized. All the striped forms I have seen have too little white and too dense a body colour. What is wanted is striped types like that General Radetzsky of which I have such a loving remembrance; pure white flowers, with a few distinct stripes; in which the white ground shall dominate, so as to make the stripes more distinct and definite.

Then there is a very dwarf and compact-growing section of the old type, plants six or eight inches in height, known as P. Drummondi nana. The varieties composing it have been selected for their uniform dwarf habits. There are a dozen varieties or so, and they make pretty beds. A few of the best are Chamois Rose, certainly the most beautiful of all the dwarf varieties, the colour pale salmon-rose, very pleasing and effective; Brilliant, cinnabar-carmine; Carminea, bright red; Hortensiæflora, brilliant rose; Fireball, scarlet; and Snowball, pure white. These make pretty beds for small gardens, and they can also be used as edgings for large beds of the taller-growing varieties; and let it be added that the varieties of Phlox Drummondi are much more persistent in flowering than is generally supposed, and in order to assist this, the decaying trusses of bloom should be picked off so as to prevent them forming seed pods.

The next section is known as Phlox Drummondi Heynholdi, a type introduced by Mr. Ernest Benary, of Erfurt, Germany. This phlox has quite a little history of its own. The first type or variety of this phlox was observed growing in the gardens of the Castle of Reinhardsbrum, in the Duchy of Gotha, the favourite residence in Germany of the late Prince Consort; a place at which Queen Victoria has also made several lengthened stays, and which is most charmingly situated. On one occasion Mr. Ernest Benary was visiting the gardens of the Castle, and pointed out to Mr. Heynholdi, the head gardener, a seedling different in character to any he had seen before; less robust in habit than the ordinary types of P. Drummondi, but remarkably floriferous. Mr. Benary eventually became the possessor of all the seeds, and this novelty was distributed by him in 1868, and it was named Heynholdi, in honour of the raiser. Since it was sent out, Mr. Benary has paid particular attention to the section, and succeeded in obtaining several new varieties of decided merit, one of the best being Cardinalis, bright scarlet; Alba, white; Empress Augusta, coppery-rose; and one or two others. Then there is what is known as Globosa, a section of P. Heynholdi, a type of spherical growth, and exceedingly floriferous. Of this type there are four varieties, viz.: Alba rosea, Atrorosea, Perfection, and Striata.

Then there is a very dwarf type of P. Drummondi known as Graf Gero, dwarf, bushy, compact, and very free, that are best adapted for pot culture, and when grown with care they are very effective cultivated in this way. But the section that is likely to be mostly grown in this country is that known as grandiflora, and in particular that fine variety, splendens.

I observe that M. Benary has made a new sub-section which he terms stellata, because the centre of white round the eye instead of being circular is rayed like a star. The newest of these is a stellate form of Grandiflora splendens, and in addition there are Atropurpurea, Carminea, and Rosea.

What is the best way of treating this charming half-hardy annual? Messrs. Sutton and Sons say: "To grow this useful bedding plant well begin at the end of February or first week in March by sowing the

sced in a very moderate heat. Prick out into boxes in rich leafy loam with plenty of sand, and harden off in good time for planting out. Prepare the beds well, give the plants a little care until they take hold of the soil, and then they will take care of themselves until the end of the season."

But it may be asked, can any particular variety of Phlox Drummondi be depended upon to come true from seed? My own experience is that they can. I have found Grandiflora splendens to come very true from seed. Should these phloxes prove a little sportive at times, it is no more than might reasonably be expected.

Has anyone attempted to cultivate specimens from cuttings? I shou'd think that if cuttings could be struck, say in August, and grown on during the autumn, they would come into flower in pots in spring; and after doing duty indoors for a time, might then be placed in the open ground for the remainder of the summer. I should think plants raised in this way would be more compact, and decidedly more floriferous than those raised from seed. But in all probability, no one has thought it worth while to make the attempt. R. DEAN.

AGRICULTURE AND TRADE OF BURMAH AND THE SHAN STATES.

By Mr. HOLT HALLETT, F.R.G.S.

AT a meeting of the Society of Arts this subject was treated in an interesting paper.

Mr. Hallett said: Upper Burmah and the Shan States lying to the east of it, which were until lately under its control, should be of the greatest interest to us as a trading nation, for they are interposed between the two most populous empires in the world, India and China. In these days, with foreign competition getting keener every day, and hostile tariffs not only shutting the European markets against us, but in a lesser degree American and English colonies also, with the race for fresh colonies and new markets among European Powers, it is of importance that we should avail ourselves of our present opportunity for an inland connexion and commercial alliance with Indo-China and China, and thus acquire new markets of transcendent promise. Burmah and the Burmese Shan States are highly favoured by their geographical position. They lie in the course of the monsoons, and are gifted for the most part with a plentiful rainfall. Burmah is bounded on the north by the snow-clad hills of Southern Tibet; on the east by China, the Shan States tributary to China, Burmah, and Siam, and by Siam; on the west by Assam, Manipur, Chittagong, and the Indian Ocean; and on the south by the Indian Ocean and Siam. It may be said to exist in four natural divisions, one of which, comprising the province of Arracan, borders the Bay of Bengal; the second, and by far the most fruitful and important, the basins of the Irrawaddy, Sittang, and Beeling rivers; the third, the portion of the basin of the Salwen that lies to the south of Karennee and as far west as the Thoungyen river; the fourth, the portion of our province of Tenasserim lying along the Indian Ocean.

Having glanced at the history of the country, Mr. Hallett said: The inhabitants of the Shan States of Thebaw and Theinni on the Myit-Ngé river, as well as those of Thoung-Thwot on the Khyeng-dwen river, and of Kampti, lying near the sources of the Irrawaddy, have been for some time in rebellion, owing to the oppression and cruelties of the Burmese. The Shans of Thebaw and Theinni, together with those of Monay and other States, driven to desperation and revenge, have been lately ravaging the country up to the very gates of the Burmese capital, and had we not interfered, the whole of the country would soon have been in a state of turbulence and disorganization, which would not only have stopped trade, but have led to serious complications on our frontier. The Irrawaddy is a river which discharges about 420,000,000 metric tons of water during the year. The river is about 900 miles in length, the last 240 being in British territory. As far south as Akouk-toung its bed is rocky; further down it is sandy and muddy. New sandbanks are continually forming and old ones being removed, which renders it necessary for the steamers plying between Rangoon, Mandalay, and Bhamo to have a service of pilots upon the river. In the rainy season steamers and large boats enter the main river from Rangoon by the Pan-Hlaing creek, but during the dry season they have to descend the Rangoon river for some distance and proceed by different routes into the Irrawaddy. The Khyeng-dwen, the river where, as we have heard to-night, several Europeans have been killed, is navigable for the largest boats plying on the Irrawaddy, and for steamers certainly as far north as Kendat, and most likely as far as the rapids which occur a little above the junction of the Ooroo river. A great deal of grain is grown in the lower portion of Khyeng-dwen valley, and likewise in that of the Ooroo, near the sources of which are the serpentine mines. The lower portion of the river passes through a broad, populous, and fertile champaign, and presents an almost continuous horizon of palmyra grove, always in Burmah a sign of population and culture. From these there is a considerable manufacture of palm sugar. The sugar-cane is generally used by the Burmese merely for munching, but, according to Colonel Yule, a little sugar is made from the cane in the neighbourhood of Ava. Bhamo, on the course of the Irrawaddy, is the entrepot of trade for north-western Yunnan, and will certainly become under our rule a place of great importance, as it is the terminus of the shortest caravan routes into Western China. For some time it was proposed by many of our officials to improve the caravan route by the construction of a wheeled road, and even a railway, but subsequent explorations have shown that although Bhamo, which is 430 feet above sea level, is only 250 miles distant in a direct line from Talifu, yet a railway would have to be 600 miles in length to connect these places. The cost of a railway connexion by this route would be at least four times as great as that proposed by Mr Colquhoun and myself, which, besides, has the great advantage of terminating at a seaport instead of at a town 840 miles up a river, of opening up the whole of Central Indo-China, and of passing through a much more fertile and better populated region than would be traversed by the other route. Bhamo will, no doubt, before long be joined by rail, *via* Mandalay, to our Rangoon and Tounghoo Railway, and subsequently to the Indian system at Dibrugarh, thus tapping the whole of the passes leading from the west of the Shan States, and completing one of the schemes long ago proposed by my colleague and myself.

Having described minutely the course of the Irrawaddy and the country through which it passes, Mr. Hallett remarked that the inhabitants of Burmah, owing to the excellence of the climate, are robust and healthy looking. They attain the average length of human life, and children especially thrive in the country. The registration returns show that in Burmah the deaths of children under five years of age are in the proportion of 27·85 of the total deaths at all ages, whereas in England they are 40 per cent. Concerning the characteristics and peculiarities of the Burman, much need not be said. His virtues, which are many, and his failings, which are not a few, are much the same here as in every part of his extensive country. He here, as elsewhere, displays much spasmodic energy and general laziness; much love of feasts and shows; much disregard of the sacredness of human life, and much tenderness for the lives of inferior members of the animal kingdom; much arrogance and inconsiderateness when placed in high position; and last, though not least, much general truthfulness, and among unsophisticated villagers, the very unoriental trait of being quite unable to tell a specious falsehood, a trait which is as honourable to himself as it is agreeable to those who have the government of his country. His occupations are cultivation on a small scale and petty trading. Actual poverty is almost unknown, but riches are never accumulated. The Burman is strongly distinguished from the Indian races by his love of sport and amusement, and his strong turn for the ridiculous. The Burman is in every way a marked contrast to the Hindoo. Their women-folk mix freely in all social gatherings on perfectly equal terms, and form a very important factor in society.

Proceeding to speak of British Burmah, Mr. Hallett said that only one-half of the area of that country is culturable, and only one-seventh of that half is under cultivation. Taking the present population at 4,000,000, there is room for 24,000,000 more without overcrowding the province. Even now about 1,000,000 tons of rice is exported every year, after feeding the population, cattle, and elephants. It is, therefore, certain that if all the reclaimable waste lands were brought into tillage, Burmah would be unrivalled as a granary. The population of British Burmah has increased from 2,747,141 in 1872, to 3,736,771 in 1883. In the same interval, the public expenditure in the province has risen from £779,513 to £1,498,702. Trade has more than kept pace with the advance of population and revenue, as the following figures will show: In 1874 the imports were £1,859,095, and in 1883 £3,772,887. In 1874 the exports were £3,480,407, and in 1883 £7,039,525. The relative increase of the imports is somewhat greater than the increase in exports, but with the balance of trade so strongly in favour of the province, its capacity as a consumer of British manufactures is very imperfectly measured by the actual value of the imports. Again, the comparatively small amount of those imports demonstrates conclusively that Upper Burmah has acted as an effectual and insurmountable barrier between the port of Rangoon and those illimitable commercial requirements of Western China and the Shan States, which it has been the hope of the Government and merchants alike to ascertain and to satisfy. Rice represents 80 per cent. of the total exports. The other chief exports are teak, cotton, jade, petroleum, spices, tobacco, hides, horns, ivory, indiarubber, shellac, cutch, and drugs. Of these, teak forms 7 per cent. of the total exports, and cotton 2½ per cent. The statistics of the province show that one of the chief wants is population, a want which our connexion with India and China would make it easy for Madras, Bengal, and China to supply, thus adding materially to the producing capacity and general prosperity of the province. In the ten years ending 1883, the State outlay in British Burmah was £11,228,282, or an average of £1,122,828 per annum. During this period the revenue rose from £1,565,186 to £2,702,086, an improvement of £1,136,000 between the first and last years of the decade. This is a result which seems to prove that the State could not, in its own interest, pursue a more wise, or a more profitable domestic policy in the case of British Burmah than to devote to the province special funds to be employed in opening out the country, in the extension of its railways, the improvement of its new water communications, and the construction of carefully selected roads to feed the railways and the river channels. Our conquest of Upper Burmah, which has been so happily concluded within the past few days, will place the Burman Shan States under our protection. We can now drive the iron horse from India down the valley of the Irrawaddy, and via Moulmein to the very gates of China without any political impediment. Mr. Colquhoun and I, solely in the interests of our national commerce, have given our services gratuitously during a series of years in promoting this connexion of India and China. We have performed our part of the work as pioneers by exploring and reporting upon the country requiring examination; we have shown that a railway connexion between India and China is practicable at no excessive outlay; that the country is well worth opening out; and that the connexion of Siam and China with Burmah and India will open out to British commerce, the rich, but land-locked interior of Western China, as well as develop and civilize the whole of Central Indo-China. It now remains for the British Government and our mercantile community to do their part, and we earnestly trust that the present opportunity for permanently increasing our commerce and strengthening our position in Asia may not be allowed to pass away.

Mr. Colquhoun said: The importance of Burmah in itself had been fully brought out in the paper. Its importance was clearly shown by two simple facts. In the first place the revenue of the country in the past ten years had doubled, and in the second place, taking the same period, the population had sprung from 2¾ millions to 3¾ millions. These two facts were exceedingly good tests of the degree of prosperity of any country. They hardly needed to know more than this—that it was an exceedingly prosperous province and that it had a great future before it. But there was a still more important aspect. Burmah was a country lying between two of the most populous empires in the world—India and China, and it was owing to the anarchy and misrule in that country that our communications between those empires had been harassed. The importance of developing our communications between India and China and Burmah and China was simply enormous to this country. He believed there was no other question, commercial or political, before the country that touched this question in its degree of importance, for in the enormous market of China laid the future natural development of our commerce. The importance of the question was growing upon the minds of the leading manufacturers and merchants of this country, but the working men in the industrial centres seemed to take a greater interest in the question than the people above them in position. If there were people who could go round to the working classes and talk such questions over with them, they would find that those classes had a very just appreciation of the value of foreign affairs, and that there would be a more statesmanlike and wiser policy directing our movements, whatever Government might be in office. Three or four years ago wealthy merchants asked "What is the use of our colonies?" But now adversity and competition had whetted the intellect of the country, and he found everywhere that very considerable interest was being taken in these questions.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

AZALEAS AND CAMELLIAS claim attention now, and azaleas coming into bloom must be kept at a regular temperature, and have plenty of water. They must not be pushed too rapidly into bloom, and they should not be placed in the stove until they have been first gently stimulated by the warmth of an intermediate house. Plants in flower will require a night temperature of 50 deg., to rise to 60 deg. and 65 deg. by day. Those for late blooming should have a temperature not lower than 40 deg. by night, and as much ventilation as the weather permits.

CLIMBERS in greenhouses should now have special attention to reduce their dimensions. Lay in wood for next summer's bloom, and clear the walls and trellises.

CONSERVATORY FLOWERS comprise Chinese primulas, tree carnations, cyclamens, Van Thol tulips, Erica hyemalis, Daphne indica, ivy-leaved and zonal pelargoniums, mignonette, and violets.

GREENHOUSE to be kept as airy as possible without giving a chill to any delicate subjects. Clean glass is a great help now to the well-doing of the plants. Hard-wooded plants must never be subjected to sudden extremes of temperature; soft-wooded plants bear heat much better, but a great heat is never required, and is always injurious. Do not allow any plants to become dust dry at the root; even during frosty weather give water when required, and maintain a temperature of 45 deg. to 55 deg. by day, and 40 deg. by night.

ERICAS to be kept cool and airy, and fire-heat used only when necessary to keep out frost.

PELARGONIUMS.—Shift specimens into their blooming pots, give a slight rise in the temperature, and keep near the glass.

STOVE AND ORCHID HOUSE.

ACHIMENES required for early flowering to be started in pans preparatory to potting off singly; soil, equal parts peat, leaf-mould, and sandy loam.

GLOXINIAS.—Start a few by first potting in fresh soil, consisting of loam, peat, and leaf, equal parts. Put in bottom heat at once.

ORCHIDS coming into flower must have extra warmth and moisture, and those still at rest should be carefully looked over.

PLANTS in bloom to be placed where they will not have their flowers injured by drip.

STOVE FLOWERS.—Centropogon Lucianus, Gardenia florida, Euphorbia splendens, Poinsettia pulcherrima, Ipomœa Thompsoni, Vriesia brachystachya.

FORCING AND ORCHARD HOUSES.

ORCHARD HOUSE to be kept shut during cold and stormy weather. To prevent injury to the roots of the trees in pots by frost, sprinkle *dry* hay amongst and over the pots to a depth of six inches above the roots of the trees. During bright weather open the ventilators and give water. The object of the cultivator should be to keep the trees safe and still. Frost will harm them if severe and the roots are unprotected; and mild sunny weather will start them into growth prematurely if the house is not well ventilated.

PINERY.—It will be needful to take great care at this time of year to prevent injury by damp and sudden fluctuations of temperature. As we have now little sun, the general stock must be kept quiet by a moderate temperature. Suckers potted off in the autumn will require a steady bottom-heat, and air at all favourable opportunities. Day temperature for plants swelling fruit, 75 deg. to 80 deg., night 65 deg.

VINERY.—Previous to starting the vines in the early houses cover the outside borders with a good thickness of dry material. Set the first house to work with a temperature ranging from 45 deg. to 50 deg., and increase the heat a little when the buds have fairly opened. In late houses paint the stems with an approved insecticide, and give walls, rafters, and trellises a general cleaning before the vines begin to start. The walls should also be washed over with hot lime.

FLOWER GARDEN AND PLEASURE GROUNDS.

BEDDING PLANTS must now be thought of, quantities of the several kinds determined, and hotbeds made up for starting old plants for cuttings, and for the first batch of plants required early. Stock plants of the several subjects may be put into a steady heat at once to furnish young shoots for propagating.

CHRISTMAS ROSE, *Helleborus niger*, usually shows its first flowers at the end of November, and continues flowering until February. It requires a deep, moist, loamy soil, and a somewhat shaded position, but does not thrive in deep shade. The plants should never be disturbed except for a special reason; for old clumps that have stood for years untouched flower more freely than those that have been only one or two seasons planted. They may, however, be lifted in October, and potted in large pots to flower in a cool greenhouse, and must be planted out again in February, and allowed to stand two years before they are disturbed again. If about a third of the plantation is lifted every autumn a beautiful display may be ensured in the depth of winter in the conservatory or alpine house

HARDY FLOWERS IN BLOOM will comprise, if the weather is mild, Primula vulgaris, Helleborus niger, Eranthis hyemalis, Bellis perenuis, Hepatica triloba, Cheiranthus alpina, Tussilago farfara, and T. fragrans, and Ornithogalum fimbriatum.

ROSES to bloom early should be pruned now, but the general collection must not be pruned for a couple of months at least.

FRUIT GARDEN AND ORCHARD.

CURRANT AND GOOSEBERRY BUSHES should be pruned at once, and fresh plantations made where necessary. Thin out all the old and decayed branches leaving young healthy shoots in their places. Cut away the young growths that cross each other, and keep the centre of the tree open to admit light and air. The fruit will be larger in size and of a better quality than that from trees which are a mass of small spray.

FRUIT TREES not yet pruned should be speedily attended to. Save any scions wanted for grafting by heeling them in at the foot of the tree they are taken from. They will take all the better for being cut some time before grafting. Fruit quarters that have been neglected hitherto must be dressed, cleaned, trained, and put in order at once.

RASPBERRY PLANTATIONS can be made now. The ground should be either very deeply dug or trenched—trenching is the best—and a moderate dressing of manure should be applied; heavy dressings of manure are not required, for that tends to promote a gross growth with but little fruit. Never disturb the soil of a thriving plantation of raspberries, but top-dress with good manure, and during the summer keep down weeds with the hoe.

SEASONABLE FRUITS include Wyken Pippin, Golden Pippin, Adams's Pearmain, Old Nonpareil, Golden Harvey, Blenheim Pippin, King of Pippins, Cornish Gilliflower Apples, Bourré d'Aremberg, Easter Beurré, Knight's Monarch, No Plus Meuris, Glou Morceau, Huyshe's Victoria, Zephirin Grégoire Pears, Alicante, Gros Colmar, Mrs. Pince, and Lady Downes Grapes.

KITCHEN GARDEN AND FRAME GROUND.

CABBAGE of all kinds may be sown on a warm border. The most useful to sow now are Ellam's Early Spring and Rosette Coleswort.

CAULIFLOWERS are apt to die off now unless kept dry; a little peat-dust will be useful to sprinkle amongst them where they are suffering from damp. Dry sand and wood-ashes may be used for the same object. If the plants are crowded they will only kill each other; so thin at once if necessary. Give plenty of air in mild weather.

CUCUMBERS to be bedded out as soon as large enough. They should be kept in the house till they have filled five-inch pots with roots, and then be planted. If kept any length of time starving in a pot-bound state they will become infested with red-spider and weakened in constitution. When ready to plant out, the bed should be in a sweet condition through occasionally forking over the dung. The bed is to be made by laying some strips of turf grass-side downwards in the centre of each light; on this put two barrowfuls of soil in a heap, consisting of loam from rotted turfs one part, leaf-mould one part, and dung rotted to powder one part. The third day after putting on the soil put the bulb of a thermometer into the hillock, and if it registers 70 deg. to 80 deg. plant at once; if higher than 80 deg. wait a few days longer. A fair average to start with is 75 deg.

DRAINAGE operations must have attention where necessary. This is a good time to make and repair drains. Drains four feet deep and twenty feet apart will serve almost anywhere to carry off excess of rainfall quickly; and the best drain-tiles are those made tunnel-fashion—that is, a half pipe and flat sole. The drains should be cut by a man skilled in earthwork, to make sure of a hard bottom and a regular fall to the outlet; if anywhere cut with holes or depressions, it will be no easy matter to level these solid again, to prevent a sinking of the drains at those places; in fact, not a crumb too much should be taken out anywhere. When the pipes are laid, place six inches of hard rubbish, such as brickbats, broken crocks, tiles, chalk, &c., over them, and fill in.

MELONS in the forcing pit to be kept carefully trained about nine inches from the glass, to be regularly stopped, and at a temperature of 70 deg. by day and 60 deg. by night. Sow now for plants to bed out in frames and pits for early main crops, and for succession in the early forcing house.

SEED BEDS for Peas, Beans, Round Spinach, Parsnip, Horn Carrot, Salading, and a few sorts of cabbage to be marked out and made ready.

Sow in heat Tomatoes, Capsicums, Egg Plants, Cockscombs, Amarantbus, and Intermediate Stocks.

VEGETABLES IN SEASON include Asparagus, Beet, Brussels Sprouts, tops of Scotch and Cottager's Kale, Carrots, Coleworts, Celery, Endive, Jerusalem Artichokes, Lettuces, Mushrooms, Parsnips, Rhubarb, Seakale, and Turnips.

EXPERIMENTAL POTATO CULTURE.

THE following summary of results of experiments made at Chiswick in 1884 and 1885, for the purpose of testing the efficiency of the system of "earthing-up" advocated by Mr. Jensen, was read by Dr. Masters, on behalf of the sub-committee appointed to carry out the experiments, at the last meeting of the Scientific Committee of the Royal Horticultural Society on the 8th ult.

The experiments made at Chiswick for the purpose of testing the value of the Jensenian plan of moulding potatoes as a preventive of the potato disease were carried out in the present year in essentially the same manner as in the preceding year. A few slight modifications were adopted to facilitate the making of the record, and the tubers were placed at rather wider distances, the rows being now four feet apart, but these changes did not in any way interfere with the fair comparison of the results of the two years, the number of plants in each row being the same. The chief difference in 1885 consisted in the longer time the potatoes were left in the ground. Thus in 1885 the longest duration of moulding was 118 days on section I. of each row, as contrasted with 83 days in 1884. The shortest moulding period in 1885 on section V. was 62 days as compared with 27 days in 1884. The potatoes were examined on March 31 by the committee, previous to planting, and all diseased and "suspicious" tubers eliminated. During growth they were inspected at stated intervals, and their condition noted. The season was for the most part warm and unusually dry, and no appearance of disease was noticed at any time on the haulms.

On the 10th of October, the weather for some days previously having been wet, the tubers were lifted and carefully examined by Mr. Shirley Hibberd, Dr. Masters, and Mr. Barron. Two unmistakeably diseased tubers were noted during the uplifting on row 3 (Adirondack); and three on row 2 (Recorder). Others that appeared suspicious were sent to Mr. George Murray, who, after adopting appropriate methods of cultivating the fungus, reports that only one was really diseased. It should be remarked that the peculiar red spots in the substance of some of the tubers noted the previous year were not observed at all, though carefully looked for.

As the immediate object of the experiments has again failed in its fulfilment, owing to the slight development of the fungus, a detailed report seems unnecessary, though the documents are at hand for preparing it if thought desirable. A few general remarks, based on the results of the two years taken together, may be of interest.

1. The amount of produce under the varied conditions of the experiment.
2. The effects of long or short periods of earthing-up, and of not earthing-up at all.
3. The consequences of bending the haulms in the manner recommended by Mr. Jensen.
4. The results obtained from planting whole tubers and cut sets.

1. The *Aggregate Produce* from all the rows of Recorder in 1884 was 257 lb.; in 1885, 254 lb. 8 oz.; showing a decrease of 2 lb. 8 oz. in 1885, and a total amount for the two years of 512 lb. 8 oz. The corresponding figures in the case of Adirondack are 455 lb. 9 oz. in 1884, 434 lb. 12 oz in 1885, showing a decrease of 20 lb. 13 oz. in 1885, and a total amount for the two years of 890 lb. 2 oz. Thus the actual produce of all the rows of each variety was so nearly alike in the two years as to be all but practically identical. On

the whole, there was a decrease in 1885, in spite of the tubers having been allowed to remain longer in the ground than in 1884. This decrease may, perhaps, be accounted for by the prolonged drought, but the close approximation in the amounts of produce in the two years respectively seems to afford an indication of the success of the method employed in carrying out the experiments.

2. *Effect of Earthing-up on the Amount of Produce.*—When the results of the two years are combined it comes out clearly (in the case of Recorder), under all conditions of growth, that the greatest weight of produce (irrespective of quality) was obtained from those sections (IV. and V.) which were earthed-up for the shortest time. Some of the largest tubers were met with in these sections, but mixed with a large number of smaller tubers, while their general quality was uneven and relatively bad.

The same general remarks do not, however, apply to Adirondack, which shows more variation in this respect, and in which the largest, as well as the best and most even tubers, were frequently found in those sections which had been earthed-up for the longest time. It may be suggested that the results obtained show the probability that the process of earthing-up differs in its effects materially in the case of different varieties of different habit of growth, texture, &c. At any rate, it may be useful to call attention to this subject, with a view to future experiments, the more so, as little or nothing is known of the relative effect of earthing-up on different varieties.

Potatoes Grown Without Earthing-up.—In both years four "control rows" were planted, two of each variety, the object being to afford a comparison between the Jensenian system of moulding and the natural condition of growth, in which no "moulding" at all occurs.*

* It may here be noted that no special rows of Recorder or Adirondack were set apart and moulded in the ordinary way, because, for the immediate object of these experiments such a course was unnecessary, the experimental rows being contiguous to a large area devoted to the cultivation of numerous kinds of potatoes in the usual way, so that had the disease appeared, ample means of testing the effects of the ordinary, as compared to the Jensenian system, would have been afforded.

The total produce, for the two years, on row 5 (Recorder, whole), amounted to 100 lb. 4 oz., an amount considerably in excess of the yield from any of the moulded rows of this variety (row 2, 84 lb. 6 oz.; row 8, 91 lb. 3 oz.). On row 11, where cut tubers were planted, the yield for the corresponding period was 87 lb.—also somewhat in excess of the crops on the corresponding two rows subjected to mouldings (row 1, 68 lb. 1 oz., and row 7, 80 lb.). The tubers on row 5 and row 11 were noted as much mixed in size; some of those on row 5 being much coarser and larger than on the other rows of the same variety, while many others found lying on the surface were green and small. They had also been the subject of insect attack and injury by slugs and millipedes to a much greater extent than the tubers in the other rows.

Of Adirondack left to itself the total produce of the whole tubers (row 6) for the two years was 186 lb.—an amount greatly above the quantity on the corresponding moulded rows (row 4, 129 lb.; row 10, 150 lb. 14 oz.) In the case of the cut sets (row 12), the total amount (for the two years) was about the same, viz., 182 lb. 14 oz., and also largely in excess of the corresponding moulded rows (row 3, 113 lb. 5 oz.; and row 9, 128 lb. 6 oz) The same remarks as to quality apply to the unmoulded rows of Adirondack as to those of Recorder.

It is clear, then, that under all circumstances, the actual produce was greater in the unmoulded rows, but that, while some excellent tubers may be grown in this way, the general bulk is much mixed, comprising numerous tubers unfit for consumption, but which might possibly have some advantage (so far as the plant is concerned) in point of physical health over those moulded-up. The small green tubers, for instance (if not affected by disease), might furnish stronger plants than those grown beneath the surface, while their noxious flavour might repel rather than attract predatory insects, &c.

3. *The Effects of Bending the Haulms or otherwise.*—In each year two rows of each variety were allowed to grow without interference, while in other two rows of each variety the haulms were at regular intervals of time bent downwards. There was no opportunity afforded in either year of testing the value of this practice as a preventive of disease, but the average amount of produce for the two years from the erect and the bent tops respectively shows the effect of the check to growth occasioned by the bending. The average produce of the two years on rows 7 and 8 (Recorder, erect top) was 81 lb. 6 oz.; on rows 1 and 2 (bent tops) 76 lb. 2 oz.

The corresponding figures in the case of Adirondack are 139 lb. 10 oz. for the unbent haulms (rows 9 and 10), and 126 lb. 1 oz. for the produce of the bent tops (rows 3 and 4).

4. *The Effect of the Employment of Whole Tubers or of Cut Sets.*—In the central rows, as before stated, the greatest weight of produce of Recorder in both years was obtained from the whole tubers, the totals being 100 lb. 4 oz. on row 5 (whole), and 87 lb. on row 11 (cut).

In the case of Adirondack, the total produce in the case of the whole tubers (row 6), = 186 lb., shows only a slight excess over the yield from the cut tubers (row 12), = 182 lb. 14 oz. In 1884 the produce from the cut tubers (95 lb. 10 oz.) was slightly in excess of that from the whole tubers (91 lb. 4 oz.); in 1885, however, the balance is much in favour of the whole tubers, *i.e.* 94 lb. 12 oz. as against 87 lb. 4 oz.

The whole tubers of Recorder subjected to moulding in various degrees, yielded in the two years a total crop of 176 lb. 3 oz., *i.e.*, 91 lb. 13 oz., from erect, and 84 lb. 6 oz. from bent tops.

The cut tubers of the same variety for the same period supplied 148 lb. 1 oz.,=80 lb. from the erect, and 68 lb. 1 oz. from the bent tops.

The whole tubers of Adirondack produced a yield of 279 lb. in the two years, of which 150 lb. 14 oz. were yielded by the erect, and 129 lb. by the bent haulms.

The cut tubers of the same variety yielded during two years a total of 241 lb. 9 oz., viz., 128 lb. 6 oz. from erect, and 113 lb. 3 oz. from bent haulms.

In general terms it may be stated, as a result of these experiments, that (1) earthing-up produces a crop of more uniform and of superior quality, though less in actual quantity; (2), that bending the haulms occasions a diminished yield; (3), that a larger aggregate produce is derived from planting whole tubers than from the employment of cut sets.

THE POISONING OF THE PIGEONS AT THE BRITISH MUSEUM appears to be ripening into a small scandal, in which Mr. Brightwell, the gardener, occupies an unpleasant position. In the *Times* of Wednesday Mr. Pulman, the clerk of the works, is challenged to explain his conduct and establish his case. It is absolutely necessary now that the whole of the story should be made public.

Replies to Queries.

Cratægus.—Your wild hawthorn, bearing yellow berries, appears to be the variety known as aurea, or an original sport intermediate between that and a very poor thing with white berries, called leucocarpa.

Bolivar.—It is not at 32, but about 40 Fah., that water is at its greatest density. The density of common ice is less than that of water, but we do not know what is the density of what is called "bottom ice," occasionally found in the bed of a river.

Names of Plants.—Chester.—Your plant is Alonsoa incisfolia. Old Subscriber, Alford.—The chrysanthemums are: 1, Princess of Wales; 2, Prince of Anemones; 3, Baron Beust; 4, Jardindes Plants; 5, out of condition; 6, La Nymphe. The other plants are 7, not sufficient for identification; 8, Euonymus europæus; 9, Euongmus radicans variegatus. Flowers in paper box, 1, Golden Mdlle. Marthe; 2, Mrs Bateman; 3, St. Michael. J. T.—Your flowers were so injured in passing through the post, that it is not possible to give the names.

Narcissi.—A correspondent, who gives no signature, asks for the date of the last Narcissus Conference, and for "the registered names of narcissus, and how they are described by the colours of the cups." It is impossible for us to give as a reply to a letter descriptions of some six hundred varieties of narcissi. But we can assist our anonymous correspondent in another way. The last Narcissus Conference (which was also the first) took place on April 1, 1884. The proceedings were reported at length, and lists of species and varieties recognized were given in G. M., April 5, and May 10 of the same year. The varieties are described by the forms and colours of the perianths, as well as those of the cups.

Equal Prizes.—Lutonia says "the judges at our last flower show awarded two equal second prizes in a class where the second prize is 10s. 6d. The committee ask if each winner should have the full amount, or should the amount be split between them? The practice varies, as regards the final fortune of the winners. Occasionally we see in schedules a declaration that in awards of equals, the amount offered will be divided between them. To make such an announcement is to damage the whole scheme in embryo, and to carry it into effect is akin to robbery, whatever may be the settled practice, or the notions of committees anxious to economize. The man who wins half a guinea should receive half a guinea; and if to another is awarded a prize of the same degree, he also should receive half a guinea. It is an outrage to diminish a man's winnings because there is another exhibitor in the field who takes rank with him in the relative merit of his contributions. When economy of funds is of great importance, judges should be instructed not to award equals.

Literature.

Ladies' Treasury (Bemrose).—In the January number of this excellent monthly Mrs. Warren bids for high favour with admirable papers on topics of the times.

Little Folks is one of the most useful in its way of the many admirable works for juveniles produced by Messrs. Cassell. The January number contains the first portion of a story by Mrs. Molesworth, entitled "The Palace in the Garden." A portrait of a baby eagle is quite a novelty in the way of pictures, and "Off to London town," would become a picture of the season if adequately reproduced.

Obituary.

On the 27th ult., at his residence, Caversham Road, N.W., Dr. SAMUEL BIRCH, the keeper of the Egyptian and Oriental antiquities, in the British Museum. As a student of ancient British coins, and more especially the literature and art of ancient Egypt, Dr. Birch stood almost alone, both for fulness of knowledge and a prophetic insight of things but imperfectly revealed, a power which enabled him to determine the exact significance of many ancient documents, inscriptions, and works of ideal art, as shown in his remarkable works on hieroglyphics, ancient pottery, papyri, and other relics of ancient Egyptian civilization. His age was 72 years.

On Christmas Day, Mr. CHARLES TUCKER, F.S.A., of Coryton Park and Marlands, near Exeter, aged 87 years. He was one of the earliest fellows of the Zoological Society, and was widely known in London for the active part he took in scientific pursuits, particularly archæology and horticulture.

Markets.

COVENT GARDEN.

FRUIT.

Apples ..... per ½-sieve	2s. 0d.	to 4s. 6d.
Cobs, Kent... per 100 lbs.	25s. 0d.	,,30s. 0d.
Grapes ..... per lb.	1s. 0d.	,, 4s. 6d.
Lemons ..... per case	15s. 0d.	,,20s. 0d.
Pears, Dessert....per doz.	1s. 0d.	,, 2s. 6d.
Pears .....per ½-sieve	2s. 0d.	,, 4s. 0d.
Pine-apples, English, per lb.	1s. 6d.	,, 2s. 0d.
Pine-apples, St. Michaels, each	3s. 6d.	,, 7s. 6d.

VEGETABLES.

Artichokes, Globe, per dz.	3s. 0d.	,, 4s. 6d.
Beet ..... per doz.	1s. 0d.	,, 1s. 0d.
Brussels Sprouts ..per lb.	0s. 3d.	,, 0s. 4d.
Cabbages ..... per doz.	1s. 6d.	,, 2s. 0d.
Carrots ..... per bun.	0s. 4d.	,, 0s. 6d.
Cauliflowers .....per doz.	2s. 0d.	,, 3s 6d.
Celery.....per bun.	1s. 6d.	,, 2s. 6d.
Coleworts, per doz. bunch.	2s. 0d.	,, 4s. 6d.
Cucumbers ..... each	6s. 9d.	,, 1s. 6d
Endive ..... per doz.	1s. 6d.	,, 2s. 0d.
Garlic ..... per lb.	0s. 4d.	,, 0s. 6d.
Herbs ..... per bunch	0s. 3d.	,, 0s. 4d.
Horse-radish .... per bun.	3s. 0d.	,, 4s. 0d.
Lettuces, Cabbage, per doz.	1s. 6d.	,, 2s. 6d.
Mushrooms ..... per basket	1s. 0d.	,, 2s. 0d.
Onions ..... per bushel	3s. 0d.	,, 4s. 0d.
Onions ..... per bunch	0s. 4d.	,, 0s. 6d.
Parsley ..... per bun.	0s. 4d.	,, 0s. 8d.
Parsnips.....per doz.	1s. 6d.	,, 2s. 0d.
Radishes ... per doz. bunch	1s. 0d.	,, 2s. 0d.
Salsify .....per bun.	1s. 0d.	,, 1s. 6d.
Savoys.....per doz.	2s. 0d.	,, 3s. 0d.
Small Salading .. per pun.	0s. 3d.	,, 0s. 4d.

VEGETABLES—*continued.*

Spinach ..... per bushel	3s. 0d.	to 4s. 0d.
Tomatoes ..... per lb.	0s. 9d.	,, 1s. 3d.
Turnips ..... per bunch	0s. 6d.	,, 0s. 8d.

CUT FLOWERS.

Abutilons....per doz. bun.	2s. 0d.	,, 2s. 6d.
Azaleas ..per doz. sprays	1s. 6d.	,, 2s. 6d.
Bouvardias .... per bunch	1s. 0d.	,, 2s. 0d.
Camellias, per doz. blooms	3s. 0d.	,, 6s. 0d.
Carnations, per doz. blms.	1s 0d.	,, 2s. 0d.
Eucharis, per doz. blooms	3s. 0d.	,, 6s. 0d.
Gardenias, per doz. blooms	4s. 0d.	,, 8s. 0d.
Heliotropes, per doz. sprays	0s. 6d.	,, 0s. 8d.
Hyacinths, Roman, per doz. sprays	1s. 6d.	,, 2s. 0d.
Lapagerias, per doz. blms.	2s. 0d.	,, 3s. 6d.
Marguerites, per doz. bun.	4s. 0d.	,, 6s. 0d.
Mignonette, per doz. bun.	4s. 0d.	,, 6s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d.	,, 0s. 8d.
Roses .....per doz. blms.	2s. 0d.	,, 4s. 0d.
Roses, Tea ..per doz. blms.	2s. 0d.	,, 3s. 6d.
Tropæolum ..per doz. bun.	2s. 0d.	,, 3s. 0d.
Tuberoses .....per doz.	0s. 6d.	,, 0s. 9d.
Violets.....per doz. bun.	1s. 6d.	,, 2s. 0d.
Violets, de Parme, per bun.	4s. 0d.	,, 5s. 0d.

BOROUGH AND SPITALFIELDS.

POTATOES.

Regents .....per ton	90s.	to 110s.
Magnum Bonum .....per ton	70s.	,, 95s.
Beauty of Hebron .....per ton	70s.	,, 85s.
Reading Hero .....per ton	70s.	,, 85s.
Scotch Champion ....per ton	65s.	,, 75s.
Victorias .....per ton	90s.	,, 110s.

D. of M.	D. of W.	ANNIVERSARIES, FESTIVALS, OCCURRENCES, HISTORICAL NOTES, &c.	SUN. Rises.	SUN. Souths After Noon.	SUN. Sets.	MOON. Rises. Morn.	MOON. Sets. After.	HIGH WATER AT London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. temp. avrg. of 10 yrs. Chiswick.	ORCHIDS IN FLOWER.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
10	S	**1st Sunday after Epiphany.**	8 5	7 51	4 10	10 17	9 46	4 47	5 4	1 57	2 12	36·3	Anoectochilus Ordianus	India.	10
11	M	Hilary Law Sittings begin.	8 5	8 15	4 12	10 41	10 50	5 20	5 39	2 29	2 45	36·4	Cymbidium Mastersi	,,	11
12	Tu	Coronation of Queen Elizabeth, 1559.	8 4	8 38	4 14	11 3	11 55	5 57	6 18	3 4	3 22	36·4	Dendrobium splendissimum	Gard. hyb.	12
13	W	☽ First Quarter, 0h. 24m. After.	8 3	9 1	4 15	11 29	Morn.	6 39	7 3	3 43	4 4	36·5	Lælia anceps superba	Brazil.	13
14	Th	Oxford Law Term begins.	8 2	9 23	4 17	11 57	1 2	7 28	7 56	4 28	4 53	36·5	Odontoglossum Andersonianum	Mexico.	14
15	F	Sandwich Islands discovered, 1770.	8 1	9 44	4 19	After.	2 11	8 27	9 0	5 21	5 52	36·6	Phalænopsis amabilis	Borneo.	15
16	S	Battle of Corunna, 1809.	8 0	10 5	4 20	1 6	3 23	9 40	10 18	6 25	7 5	36·7	Zygopetalum Mackayi	Mexico.	16

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at 11 a.m., in the Conservatory, Scientific at 1 p.m., in the Lindley Library on TUESDAY next, JANUARY 12th.

N.B.—Exhibitors' Entrance, East side of Royal Albert Hall.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

DATES OF THE MEETINGS OF THE SCIENTIFIC, FRUIT, AND FLORAL COMMITTEES IN 1886.

SCIENTIFIC COMMITTEE.

Tuesday, January 12th.
Tuesday, February 9th.
Tuesday, March 9th and 23rd.
Tuesday, April 13th and 27th.
Tuesday, May 11th and 25th.
Tuesday, June 8th and 22nd.
Tuesday, July 13th and 27th.
Tuesday, November 9th.
Tuesday, December 7th.

FRUIT AND FLORAL COMMITTEES.

Tuesday, January 12th.
Tuesday, February 9th.
Tuesday, March 9th.
Tuesday, March 23rd.
Tuesday, April 13th.
Tuesday, April 27th.
Tuesday, May 11th.
Tuesday, May 25th.
Tuesday, June 8th.
Tuesday, June 22nd.
Tuesday, July 13th.
Tuesday, July 27th.
Tuesday, August 10th.
Tuesday, August 24th.
Tuesday, September 7th.
Tuesday, September 21st.
Tuesday, October 12th.
Tuesday, October 26th.
Tuesday, November 9th.
Tuesday, December 7th.

NATIONAL CHRYSANTHEMUM SOCIETY.—Prizes are offered for late flowering CHRYSANTHEMUMS (cut flowers and any variety), to be exhibited at ROYAL AQUARIUM, WESTMINSTER, on WEDNESDAY, JANUARY 13th, 1886. Full particulars on application to Hon. Sec., Mr. WILLIAM HOLMES, Frampton Park Nursery, Hackney.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, JANUARY 12.—ROYAL HORTICULTURAL SOCIETY.—Meeting of Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.

WEDNESDAY, JANUARY 13.—NATIONAL CHRYSANTHEMUM SOCIETY.—Exhibition at Royal Aquarium.

FRIDAY, JANUARY 15.—GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Annual Meeting, 5 p.m.

Auction Sales for the Ensuing Week.

MONDAY, JANUARY 11.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Liliums, Tuberoses, and Other Bulbs.

WEDNESDAY AND SATURDAY, JANUARY 13 AND 16.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, Border Plants, Bulbs, &c.

WEDNESDAY, JANUARY 13.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Roses, Plants, Lilies, and Bulbs.

THURSDAY, JANUARY 14.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

FRIDAY, JANUARY 15.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

THE GARDEN ORACLE for 1886 is on the same plan as former issues, the present being the twenty-eighth publication of this work. It contains complete lists of the New Plants, New Flowers, and New Fruits, and a Complete List of the New Parliament.

*** WITH the present issue is given INDEX TO THE VOLUME just completed. There is no extra charge for this, and every copy sent out contains the Index.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C., to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £5.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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TITLE AND INDEX TO VOLUME XXVIII.

EXPERIMENTAL POTATO CULTURE is the subject of a report, given in our last week's issue, that demands something more than a casual perusal. It will be seen that the Jensen system has again had a careful trial at Chiswick, and has only failed to tell the whole story of its characteristics because there was not sufficient disease to put it to a final proof. But, in the opinion of many, enough has been done without the aid of the disease for the determination of certain interesting questions. We will at once say we are of the number of those who would look upon the continuation of the experiments as a mere waste of force, more especially as they must be carried out by men of experience who are taxed enough, and perhaps overtaxed, already. The two years' trial has added to the bulk of our knowledge, and this justifies the time bestowed in the business. But Dr. Masters has presented for the sub-committee an admirable report, and there, in our opinion, the matter should rest for the present. The Scientific Committee have ordered the work to go on, and therein we consider the Scientific Committee have made a mistake. The work has been ordered and the work must be done; and there will be found men willing to do it. Their first duty will be to pray that in the coming summer potato disease may prevail to render their devotion to this business something better than a waste of time.

The most obvious general lesson of these experiments is the same as we derive from every inquiry and every experiment that has for its object to enlarge our knowledge of vegetable reproduction. It is that nature's way is better than man's way for nature's purposes always, and for man's purposes more often than he is willing to believe. The potatoes in the Jensen trial were moulded in various degrees and at various times, but in every case the total produce of tubers was less than that of the rows left unmoulded for purposes of comparison with the different stages of the Jensen business. We may look upon a plantation that is unaided by the hoe or moulding board as assimilating to the condition of the wild plant, and it will be noticed that nature has rendered the tubers in some degree self-protective, for those that grow above ground and become green are of the most nauseous flavour and as unwholesome as they are unpleasant, and necessarily impose a check on the rooting up of the well-flavoured tubers that are hidden in the ground beneath them. We knew all this long ago; it has been known from the first cultivation of the plant, for the process of moulding has been adopted under the compulsion of this very bitterness, which is the penalty the potato grower has to pay for neglect of the crop. But although there is in the fact nothing new, it appears in a somewhat new light when a minute record of events and operations is kept as in the case before us. The report suggests a practical application of this item of ancient knowledge in the very quiet remark that "the small green tubers (if not affected by disease) might furnish stronger plants than those grown beneath the surface." We are disposed to regard; the suggestion seriously. Much has been said about selecting seed sprouting seed in daylight; rejecting mere chats for seed purposes and other kindred matters; but there has not been much said about the growth of seed potatoes on a non-moulding or strictly natural system. A green tuber grown above ground is a different thing to a tuber grown white below and made green by exposure six months afterwards. To dispose of this point it should be added that in all the unmoulded rows there was a fair crop of good table potatoes below ground, but they were uneven in size, and, generally speaking, wanting in beauty.

For the production of a crop intended for food, moulding is absolutely necessary. That fact also is as old as the other, but appears in a new light in connection with these experiments. It is now clearly proved that as moulding is antagonistic to the nature of the plant, and is adopted merely to render the total of the crop edible, so it should be carried out with a view to distress the plant the least possible. We have frequently discoursed upon this point urging that early and excessive moulding tended directly to diminish the total produce, and now our teaching is confirmed by the report, which says "the greatest weight of produce was obtained from those sections which were earthed up for the shortest time." There occurs, however, an apparent exception in the case of Adirondack, and this fact suggests that as every variety has its own period of growth, so, of necessity, it has its own range of capability to endure the check that moulding imposes. We shall never know the capabilities of the varieties; to determine them is beyond possibility; therefore we must be content with generalizations, keeping in view always that nature's way is the best way up to the point where, for our own particular purposes, we are compelled to adopt another way that we have learned from experience.

In connection with the moulding the bending of the tops has to be considered. Now here, we think, the report is scarcely full enough. It is shown that the bending of the tops reduces the total of the crop as the result of the check to growth consequent on the bending. In the case of Adirondack, bending the tops made a difference of about one-ninth in the total of the crop to the discredit of the bending. That is not the whole of the story. The bending of the tops is intended to throw the spores of peronospora to a distance from the crown of the plant, and observation proves (without the aid of the disease), that it is impossible the bending should

do so. The most simple and obvious facts will often escape our notice until we actually run against them, and are awakened by the impact. The potato shaws that are bent behave precisely as do dahlias that are bent and verbenas that are pegged down, and any other plants that naturally tend to the perpendicular. Being bent and moulded this particular day, they rise above the humiliation to-morrow, and in a few days are as truly perpendicular as before, but a little more spread out as the result of the operation. This, in our judgment, completely disposes of Mr. Jensen's proposals. The plant refuses to shoot the spores of the fungus to a distance from the centre of growth, and no power of man can compel it. To be sure the tops might be artistically spread out and pegged and tied, and to do this properly they would require attention about twice a week in the growing season. If any one is inclined to put the system to that kind of proof, it will be no part of our policy to object, but it would be a distinct part of our policy not to assist in the operation in any way whatever. As the Scientific Committee intends to continue the Jensen trials we will take the liberty of saying that pegging and tying should be regarded as a necessary operation, for it is only by sheer force that the tops can be persuaded to spread themselves out to project the fungus spores to a safe distance.

The comparison of whole and cut tubers is the least important feature of the report. Many times similar comparisons have been made, and an elaborate series of experiments by Mr. Maw some years since gave results identical with those now before us. That whole sets give better results than cut sets has been frequently demonstrated, but in a large view of the case the difference is not sufficient to establish a rule of practice. Paltry shavings of potatoes will never give a crop worth digging, but cut sets, if stout and sound, answer so well that the question of cutting must be determined by the kind of stuff that happens to be available for seed. To cut small sets is to plant shavings and ensure a poor crop. Neither cutting, nor sprouting, nor disbudding are of vital importance, but they all exercise an influence on the crop, and are worthy of some consideration.

ROSARIAN'S YEAR BOOK for 1886 contains an excellent photo portrait of Mr. B. R. Cant, of Colchester.

PARLIAMENT WILL MEET on Tuesday next, but politics will probably not obtrude until the time arrives for the address on the Queen's Speech.

STOKE NEWINGTON CHRYSANTHEMUM SOCIETY.—The next exhibition will be held in the rooms of the Highbury Athenæum, November 4 and 5.

A NATIONAL SCHEME OF EMIGRATION will be proposed by Mr. Arnold White at a meeting of Society of Arts on Tuesday, January 26, at eight p.m. The Marquis of Lorne will preside.

DEVON AND EXETER HORTICULTURAL SOCIETY.—Summer show August 20; autumn show, November 12. At the summer show Veitch memorial medal and £5 for best collection of vegetables.

LATE FLOWERING CHRYSANTHEMUMS will be exhibited at a meeting of the National Society at the Royal Aquarium, Westminster, on Wednesday next.

ABERDEEN SEED TRADE is reported to be prosperous, and advancing "by leaps and bounds." Such was the declaration of Mr. A. Robson, chairman of the Seed Trade Conversazione.

THE PRESENTATION TO DR. PATERSON, which has been some time in preparation, took place on the 24th ult., at Bridge of Allan, Mr. Laurence Pullar presiding. The gift consisted of a cheque for £340 enclosed in a silver casket. There were 260 subscribers.

HORTICULTURAL CLUB.—The usual monthly dinner and conversazione will take place on Tuesday next, at 1, Henrietta Street, Covent Garden. Mr. G. Baker, of the Herbarium, Kew, will introduce for discussion the subject of Cape bulbs.

MR. ROBERT TODD, formerly gardener at Rawcliffe Lodge, Langside, Glasgow, is appointed to lay out the grounds of the Edinburgh International Exhibition of Industry. It is late for such work, but Mr. Todd will, no doubt, make an attractive garden.

CANADIAN NATIONAL PARK will be on a similar plan to that of the Yosemite Valley. The district is in the Canadian Rocky Mountains, near Banff, in a beautiful spot renowned for salmon and trout streams, wild ducks and wild geese, magnificent scenery, and hot springs.

HIGHBURY FIELDS, a tract of twenty-two acres near the Highbury Station of the North London Railway, will be henceforth included in the number of the London Parks, having been purchased for the purpose by the Metropolitan Board and the Islington Vestry.

TUESDAY NEXT will be a busy day at South Kensington; the new committees will hold their first meeting, and some other committees will have business in the conservatory. Turner memorial should now assume a definite shape, and possibly Primula Conference will demand some attention.

R. H. S. COMMITTEES: *Fruit and Floral*—January 12, February 9, March 9 and 23, April 13 and 27, May 11 and 25, June 8 and 22, July 13 and 27, August 10 and 24, September 7 and 21, October 12 and 26, November 9, December 7; *Scientific*—January 12, February 9, March 9 and 23, April 13 and 27, May 11 and 25, June 8 and 22, July 13 and 27, November 9, December 7.

HOLLY STEALING has been very prevalent of late, much to the damage of woodlands, and often to the ruin of plantations in enclosed grounds. At Canterbury a man was convicted of taking holly from a wood belonging to the Ecclesiastical Commissioners. He was fined 5s., and, in addition, had to pay costs and damage.

SCHEDULES OF ROYAL BOTANIC EXHIBITIONS, March 24 and April 14 are in course of distribution. They do not differ in any material degree from those of previous years. On March 24 Veitch memorial medal and £5 are offered for 12 amaryllis. In the April 14 show there are classes for alpine plants in flower, and for auriculas.

APPLES SHIPPED FROM NOVA SCOTIA to Europe last year amounted in value to one hundred thousand dollars. This was from the port of Halifax alone. It is estimated that when the newly-planted orchards of the Cornwallis and Annapolis valleys come into bearing the annual export will amount in value to a million dollars.

YORK FLORISTS.—The "Ancient Society" held their annual dinner at the White Swan Hotel, York, under the presidency of Mr. Sheriff Wright. When the cloth was removed, the special prizes awarded at the chrysanthemum show were presented to Mr. R. F. Jamieson, of Hull; Mr. John Fielden (gardener, H. J. Clayton); and Mr. Robert Baker.

"THE VEGETABLE GARDEN," noticed at page 2, contains many additions and corrections carefully gathered by the authors since the appearance of the original French edition. It is therefore a fuller and more complete book, and has the advantage of being read in passing through the press by M. Henry Vilmorin and Mr. A. F. Barron. For these particulars we are indebted to a note from Mr. William Robinson.

SNOW ACCUMULATES INJURIOUSLY on evergreen trees, and more especially on conifers. While it continues trees that are laden should be relieved, but with care to avoid mutilation. Neglect of this matter may result in "irreparable" injury, for the most sturdy trees are not unseldom ruined by the accumulation of snow upon them. On the other hand, the task of relieving them is in most cases one requiring promptitude much more than either skill or strength.

"GARDENERS' CHRONICLE" ALMANAC for 1886 is a gay and tasteful affair, and has the merit of containing a lot of useful information. The producers of these things are apt to regard the business as beginning and ending in mere colour or in some æsthetic notion that embodies mere childishness or stupidity. Our respected contemporary has always given us acceptable almanacs, but the present is, we think, one of the best of the series.

AN INVERTED ADVERTISEMENT, that is to say, an advertisement "upside down," appears in *Gardeners' Chronicle*, page 2 of last week's issue. This is an old dodge that may have answered once upon a time, but prudent people will not take the trouble now to twist a paper about in order to know what its purport may be. The men who order advertisements to be printed in that way should be compelled to stand on their heads when transacting business. The performance would not hurt them if we may regard the mode of advertising as indicative of their cerebral quality.

FOR BINDING LOOSE SOIL and newly-made embankments, it is reported that the common annual poppy answers perfectly. In newspaper reports on the subject the "double poppy" is named as having been used extensively in the French railway service. There can be no special virtue in the double over the single poppy, but newspaper writers like to look original when they have anything to say about plants. It may be that the rapid rooting of the poppy fits it for the purpose referred to, but perhaps a February flood would not refrain from washing down the face of an embankment because of the dead poppy roots within it.

BEAUTY OF WORDSLEY MELON.

AMONGST the new melons offered by Messrs. Webb and Sons, of Wordsley, Stourbridge, the *Beauty of Wordsley* is conspicuous for beauty of form and quality of flesh. In common with some of the best melons ever grown, this variety has green flesh, and its pedigree

MELON, BEAUTY OF WORDSLEY. (Green flesh.)

requires it to be good, for it is the result of a cross between those excellent melons William Tillery and Colston Bassett. In form the fruit is inclined to oval or coco-nut shape with distinct longitudinal shades of colour and very finely netted. The flesh is pale green, firm, juicy, and of the finest flavour. We have on several occasions tasted it, and always found it A1. The vine is a good setter, and of vigorous constitution.

SHORT NOTES FOR SMALL GARDENS.

By the VICAR'S GARDENER.

GRASS VERGES.

I REFER to the subject of grass verges for the purpose of saying that we have been busy lately taking away all the grass verges that we could possibly do without, and substituting box edging in their place. We have been obliged to do this to curtail the labour, for other departments of our garden have grown and grown until we find it absolutely necessary to cut down the labour somewhere, especially during the summer, when work everywhere presses. After a good deal of thought it was decided to do away with all the grass verges, the removal of which would not seriously interfere with the general arrangements of the garden. This has now been done, and I look forward to a considerable saving of labour at the busiest part of the year. I may mention that we had a rosery containing thirteen beds, all of which were surrounded with grass verges one foot wide.

In another part of the garden there are several beds of rhododendrons which had grass verges round them. These have also had box edging substituted for the grass. A long grass verge skirting a walk which led to the paddock has been treated in the same way, so that, altogether, I can already see that there will be much saving of labour. It is not that we do not give the preference to grass instead of box, for I think nothing looks so well as neatly trimmed grass verges, but unless they can be kept in proper order few points about a garden are a greater disfigurement. The amount of labour they involve is surprising to those not conversant with the work of the garden. The number of times they want clipping and mowing in the course of the summer takes up more time than many inexperienced people are prepared to believe.

SURFACE DRESSING CONIFEROUS TREES.

As a rule, we do not agree with the practice of manuring the ground for any of the coniferous tribe of doubtful hardiness, either before or after planting, for the reason that a rich soil tends to make the trees grow longer at the end of the summer; consequently, the growth does not always get sufficiently hardened before winter sets in, and then they are more susceptible of cold if a severe frost should occur. Where the soil is naturally good and deep they will, as a rule, all grow fast enough. In our case, we have a few specimens which were planted eight years ago, standing where the soil is rather sandy and not very deep, and we find that they are not making the same progress as others that are planted in a stronger soil; so we have given them a thick layer of strong farmyard manure, about six inches thick, and extending quite as far away from the bole as the branches. From previous experience of surface dressing such trees, we know that it will have the effect of stimulating the growth, and, what is equally as important in the case of trees standing in prominent positions, it will give a greater depth of green colour to the foliage. As a matter of course the manure will not be dug in.

MOWING LAWNS IN WINTER.

This may appear an unusual note at this time of year, as mowing lawns is generally associated with growing showers of rain and bright sunshine; but the grass on some lawns also grows when these conditions are not so prominent as in the summer, and that is just our case, for we have one part of our lawn where the land is strong and the position somewhat sheltered, where the grass grows slowly more or less in mild weather all the winter. It has done so this year, and finding in our general clean up for Christmas that the grass was too long and thick to look nice, we chose a dry day, and ran the lawn mower over it, and took off the longest and thickest. But we did not set the machine so low as we do in the summer time, and when the work was done we were more than satisfied with the appearance of the lawn, for it left an even surface, and added greatly to the appearance and comfort of that part of the grounds. Perhaps it may not be necessary in many cases to mow lawns in winter, but I have in my time seen some besides those in my own charge that would have looked the better for it.

PLANTING UNDER TREES.

For reasons which I need not stop to explain it has become desirable to plant with something evergreen a space under some large beech and elm trees. I would like to have done the planting in October, but the ground was not then available. However, the job is completed now, and I think from the choice of subjects and the careful way in which the work has been done the object of the planting will be obtained. Perhaps I should say that the space is rather large and that the boles of the trees are bare of branches from 10 to 12 feet up, and that the lowest branches do not droop nearer than 7 feet from the ground. The object, therefore, is to cover the space beneath them with something green, but what with the ground being so full of roots and the density of the shade of the branches I felt it necessary to well prepare the ground. This was done by digging out the holes for the plants about six to nine inches deep; cutting asunder any roots that were in the way, and bringing some fresh soil to put round the roots as the plants were put in. I then went to a nursery and selected plants of the following subjects ranging in height from 15 inches to two feet: aucubas, Mahonia aquifolia, green box, green euonymus, yews, green holly, Portugal and common laurel, and a sufficient number of plants of Irish ivy to make a margin two feet wide to go by the side of the walk that passes under the trees. The shrubs were planted from two to three feet apart, and as soon as they were put in a layer of fresh soil, six inches thick, was spread over the surface between them. The plants of ivy were put about fifteen inches apart each way, and the branches spread out and pegged down to the ground; and we know from previous experience of ivy that it will in a few years make a capital carpet of green in the margin allotted to it; if for the first few years the growth must be regulated and pegged down. Already this space, which was previously bare of any living green, is quite bright and cheerful, and in three or four years we do not doubt the plants will have grown sufficiently to meet each other, and instead of the space being unsightly it will be covered with a mass of beautiful vegetation.

SHRUBBERY BORDERS.

We have unavoidably been delayed in finishing up our annual work in connection with the trees and shrubs about the pleasure grounds. As it is our custom, at least once in two years, to go through them and examine the condition of each tree or shrub, we like to do this work early in the autumn, as then if we find any shrubs crowding each other we can take them up and replant them, and those that are too large to move are pruned back where the branches are mingling with each other. By systematically carrying out this plan we have now in our borders many very handsome specimens of laurestinus, berberis in variety, aucubas, variegated hollies, rhododendrons, and a variety of deciduous flowering shrubs that are perfect in symmetry, simply because they have had sufficient room to grow in their own way. In other words, light and air have had access to all parts of the plants, and now each subject has bold and natural outlines that surprise many visitors. The overcrowded way in which these plants are generally treated is saddening in the extreme, as what would make plants or trees if they received the attentions they require are too often left uncared for until it is too late to undo the mischief of previous neglect. It is not an uncommon practice to send a man with no knowledge of the harm he may innocently do to trees and shrubs to dig the ground about them for the sake of making the surface presentable. I had almost said such a practice is barbarous, but at any rate it is bad, and that any one can understand who will stop to think of the number of roots positively mutilated by the process. In our case we never attempt to disturb the surface for appearance sake, and we never take away from the trees any leaves which fall from them. If we wish to hide the leaves we collect them over the roots, and get a barrow load or two of soil and cover them over. This is a better plan than taking them away, for as the leaves decay they furnish food for the roots, consequently the trees are in better health than those that are injured by the spade, and from which every scrap of nourishment is taken away that nature provides for them.

STAKING AND TYING TREES.

This is another part of the work of the garden that we find it necessary to attend to periodically. We make a point of doing so during the winter when work does not press quite so hard as in the summer. Any trees that require supports should be looked to for the purpose of seeing that both the stake and the tie are capable of standing through another year. If they are not they are renewed. Sometimes we find that the support is sound, but the tie broken, and when such is the case serious harm may be done to the bark of the tree by the wind rubbing the stake against it, but which another tie will obviate. Deciduous standard trees as well as standard roses require this attention as much as any, and a few hours devoted to an examination of the trees in a garden is profitably spent. While occupied with that part of the details we find it necessary also to look to the labels and see that the ligatures that attach them to the trees are not unduly pressing against the bark, many a valuable tree has been killed by a ligature, therefore this warning may be useful.

LEGENDARY PLANTS.

By RICHARD FOLKARD, Author of "Plant Lore, Legends and Lyrics."

PART II.

Ecclesiastical Legends.

LEGENDS OF THE CRUCIFIXION.

THE Swedes and Scotch have a tradition that Christ was scourged with a rod of the dwarf Birch, which was once a noble tree, but has ever since remained stunted and lowly. It is called *Lang Freday's ris*, or Good Friday rod. There is another legend extant, which states that the rod with which Christ was scourged was cut from a Willow, and that the trees of its species have drooped their branches to the earth in grief and shame from that time, and have, consequently, borne the name of Weeping Willows.

Much diversity of opinion exists as to the particular "Thorn" referred to in the Gospel narratives as having been used in forming the crown of thorns. In France, the Hawthorn is called *l'Epine noble*, from the belief that it furnished the mocking crown. Sir John Maundevile has given the original tradition, which is as follows:—"Then was our Lord led into a garden . . . . and the Jews scourged Him, and made him a crown of the branches of the *Albespyne*, that is, White Thorn, which grew in the same garden, and set it on His head. . . . . And therefore hath the White Thorn many virtues. For he that beareth a branch thereof, no thunder or manner of tempest may hurt him, and in the house that it is in may no evil spirit enter."

The melancholy distinction has, however, been conferred upon a number of plants, and the West India negroes say the crown was composed of a branch of the Cashew tree, and that in consequence the golden petals of its blossoms became black and blood-stained.

Regarding the tree that furnished the wood on which our Lord was crucified we have all sorts of different accounts.

According to the legend connected with the Tree of Adam, the cross was made of Cedar—a beam hewn from a tree which incorporated in itself the essence of the Cedar, the Cypress, and the Olive, the vegetable emblems of the Holy Trinity. Curzon, in his "Monasteries of the Levant," gives a tradition that the Cedar was cut down by Solomon, and buried on the spot afterwards called the Pool of Bethesda; that about the time of the Passion of our Blessed Lord the wood floated, and was used by the Jews for the upright posts of the Cross. Another legend makes the Cross of four kinds of wood representing the four quarters of the globe, or all mankind: it is not, however, agreed what those four kinds of wood were, or their respective places in the

Cross. Then, again, we are told that they were the Palm, the Cedar, the Olive, and the Cypress; but the Pine and Box are sometimes substituted for the Palm and Olive. Aspen, Elder, Ash, and even Mistletoe have also been named as having furnished the wood. Evelyn states that an examination of the relics stated to be pieces of the Cross proves it to have been of Oak.

Connected with our Lord's crucifixion, there is a legend that whilst on his way to Mount Calvary, bearing His Cross, he passed by the door of Verica, a compassionate woman who, beholding with pity the Lord's distressed condition, and the drops of agony on His brow, wiped His face with a kerchief, or napkin, and the features of the Redeemer remained miraculously impressed upon the linen. The kerchief itself was styled the *Sudarium*, and from some resemblance of the blossom of the Germander Speedwell to this saintly relic, bearing the features of Christ, the plant received the name of Veronica.

Aubrey relates a legend of the Wandering Jew, the scene of which he places in the Staffordshire Moors. When on the weary way to Golgotha, Jesus Christ, fainting and sinking beneath the burden of the Cross, asked the Jew Ahasuerus for a cup of water to cool his parched throat. He spurned the supplication, and bade him speed on faster. "I go," said the Saviour, "but thou shalt thirst and tarry till I come." And ever since that hour, by day and night, through the long centuries, he had been doomed to wander about the earth, ever craving for water, and ever expecting the day of judgment, which alone shall end his frightful pilgrimage. One Whitsun evening, overcome with thirst, he knocked at the door of a Staffordshire cottager, and craved of him a cup of small beer. The cottager, who was wasted with a lingering consumption, asked him in and gave him the desired refreshment. After finishing the beer, Ahasuerus asked his host the nature of the disease he was suffering from, and being told that the doctors had given him up, said, "Friend, I will tell thee what thou shalt do; and by the help and power of Almighty God above thou shalt be well. To-morrow, when thou risest up, go into thy garden, and gather there three Balm leaves, and put them into a cup of thy small beer. Drink as often as you need, and when the cup is empty fill it again, and put in fresh Balm leaves every fourth day, and thou shalt see, through our Lord's great goodness and mercy, that before twelve days shall be past, thy disease shall be cured and thy body altered." So saying, and declining to eat, he departed and was never seen again. But the cottager gathered his Balm leaves, followed the prescription of the Wandering Jew, and before twelve days were passed was a new man.

What was the particular tree on which Judas Iscariot hanged himself is a question which has never been satisfactorily solved, and around which a whole tissue of legends have been woven. The Fig, the Elder, Tamarisk, wild Carob Aspen, the Eglantine, and the Dog Rose have each been credited with having fulfilled the wretched office, but Sir John Maundevile gives his decision in favour of the Elder, having, according to his own account, actually seen the identical tree when on his journey in the East.

Legends of the Saints.

The Christian church has richly endowed the Virgin Mary with floral emblems, but in nearly every country the White Lily is her especial flower. Her husband, Joseph, has allotted to him a white *Campanula*, which in Bologna is known as the little Staff of St. Joseph. In Tuscany the name of St. Joseph's staff is given to the Oleander: a legend recounts that the good Joseph possessed originally only an ordinary staff, but that when the angel announced to him that he was destined to be the husband of the Virgin Mary, he became so radiant with joy that his very staff flowered in his hand. In after life, when Joseph came to convert the heathen nations he selected Glastonbury as the site for the first Christian Church, and when preaching there on Christmas-day, he struck his staff into the ground, which immediately burst into bud and bloom; eventually it grew into a Thorn bush, which regularly bloomed every Christmas-day, and became known throughout Christendom as the Glastonbury Thorn. St. Joseph is by no means, however, alone in his possession of a budding staff. Other wonderful staffs were the staff of St. Martin, from which sprung up a goodly Yew, in the cloister of Vreton, in Brittany; and the staff of St. Serf, which, thrown by him across the sea from Inchkeith to Culcross, straightway took root and became an apple tree.

Numerous indeed are the legends connected with the saints and martyrs, which have been carefully treasured and handed down to us by the monks of old. Most of these are of a miraculous nature, such, for instance, as the legend of the death of the Virgin Mary, which relates how she was, one day, filled with an inexpressible longing to behold her Son again, and how, whilst weeping, an angel suddenly appeared, and said: "Hail, O Mary! I bring thee here a branch of Palm, gathered in Paradise; command that it be carried before thy bier in the day of thy death; for in three days thy soul shall leave thy body, and thou shalt enter into Paradise, where thy Son awaits thy coming." After conversing with the Holy Mother, the angel departed into heaven, and the Palm-branch which he had left behind him shed light from every leaf, and sparkled as the stars of the morning. At the same instant, the apostles, who were dispersed in various parts of the world, were miraculously caught up and deposited at Mary's door. Then, having thanked the Lord, she placed in the hands of St. John the shining Palm, and desired him to bear it before her at the time of the burial—an office which he faithfully discharged.

The same legend recounts how, upon the Virgin's tomb being visited after her assumption into heaven, the interior was found filled with blooming Roses and Lilies.

In the supernatural category must be included the tree miraculously secured by St. Thomas, the apostle of the Indians, and from which he was enabled to construct a church, inasmuch as when the sawdust emitted by the tree when being sawn was sown, trees sprang up therefrom. The tree (represented as being a species of *Kalpadruma*) was hewn on the Peak of Adam, in Ceylon, by two servants of St. Thomas, and dragged by him into the sea, where he appears to have left it with the command, *Vade expecta nos in portu civitatis Mirapolis*. . . . When it reached its destination, this tree had grown to such an enormous bulk, that although the king and his army of ten thousand troops, with many elephants, did their utmost to secure it and drag it on shore, they were unable to move it. Mortified at his failure, the king noticed the holy Apostle Thomas approaching, riding upon an ass. The holy Apostle was accompanied by his two servants, and by two great lions. "Forbear," said he, addressing the king: "Touch not the wood, for it is mine." "How can you prove that it is yours?" inquired the king. Then Thomas, loosing his girdle, threw it to the two servants, and bade them tie it around the tree; this they speedily did, and, with the assistance of the lions, dragged the huge trunk ashore. The king was astonished and convinced by the miracle, and at once offered to Thomas as much land whereon to erect a church to his God as he cared to ride round on his ass. So with the aid of the miraculous tree the Apostle Thomas set to work to build his church. When his workmen were hungry he took some of the sawdust of the tree, and converted it into Rice; when they demanded payment, he broke off a small piece of wood, which instantly became changed into money.

Among flowers, the Rose—the especial flower of martyrdom—has been the most connected with miracles. Maundevile gives it a miraculous origin, alleging that at Bethlehem the faggots lighted to burn an innocent maiden were, owing to her earnest prayers, extinguished and miraculously changed into bushes which bore the first Roses, both white and red.

In old pictures of St. Dorothea, the virgin martyr is represented with a basket containing Apples and Roses: this is an allusion to the legend of her death, which tells that as Dorothea was being led forth to martyrdom, Theophilus, a lawyer, mockingly bade her send him fruits and flowers from Paradise. Dorothea, inclining her head, said, "Thy request, O Theophilus, is granted!" Whereat he laughed aloud with his companions, but she went on cheerfully to death. Arrived at the place of execution, she knelt down and prayed; and suddenly there appeared at her side a beautiful boy, with hair bright as sunbeams. In his hand he held a basket containing three Apples and three fresh-gathered and fragrant Roses. She said to him, "Carry these to Theophilus, and say that Dorothea hath sent them, and that I go before him to the garden whence they came, and await him there." With these words she bent her neck, and received the death-stroke. Meantime, the angelic boy sought Theophilus, and placed before him the basket of celestial fruit and flowers, saying, "Dorothea sends these," and vanished. Struck by the marvellous incident, Theophilus tasted of the heavenly fruit, and commenced a new life, following in Dorothea's footsteps, and eventually obtaining the crown of martyrdom.

The Romish legend of St. Cecilia relates that after Valerian, her husband, had been converted and baptized by St. Urban, he returned to his home, and heard, as he entered it, the most enchanting music. On reaching his wife's apartment, he beheld an angel standing near her, who held in his hand two crowns of roses gathered in Paradise, immortal in their freshness and perfume, but invisible to the eyes of unbelievers. With these the angel encircled the brows of Cecilia and Valerian, and promised that the eyes of Tibertius, Valerian's brother, should be opened to the truth. Then he vanished. Soon afterwards Tibertius entered the chamber, and perceiving the fragrance of the celestial roses, but not seeing them, and knowing that it was not the season for flowers, he was astonished, yielded to the fervid appeal of St. Cecilia, and became a Christian.

St. Elizabeth, of Hungary, is always represented with roses in her lap or hand, in allusion to a legend which relates that this saint, the type of female charity, one day, in the depth of winter, left her husband's castle carrying in the skirts of her robe a supply of provisions for a certain poor family; and as she was descending the frozen and slippery path, her husband, returning from the chase, met her bending under the weight of her charitable burden. "What dost thou here, my Elizabeth?" he asked, "let us see what thou art carrying away." Then she, confused and blushing to be so discovered, pressed her mantle to her bosom; but he insisted, and opening her robe, he beheld only red and white Roses, more beautiful and fragrant than any that grow on this earth, even at summer-tide, and it was now the depth of winter! Turning to embrace his wife, he was so overawed by the supernatural glory exhibited on her face, that he dared not touch her; but, bidding her proceed on her mission, he took one of the Roses of Paradise from her lap, and placed it reverently in his breast.

The legend of St. Christopher and the palm tree recounts that having, when still unconverted, entreated a hermit to show him Christ, the holy man admonished him that he must do some good and acceptable work, and recommended him to go to the banks of a deep and swollen river, and by his great strength assist travellers to cross over it. Christopher readily undertook the task, and went and dwelt by the side of the river. Having rooted up a Palm tree, he used it as a staff to guide and support his steps, and aided all who were overcome by the stream, and carried the weak on his shoulders across it. After he had spent many days at this toil, he, one night, whilst lying resting in his hut, heard a voice calling him from the shore. He arose and looked out, but saw nothing. So he lay down again, and the same thing occurred to him a second and third time. Then he took his lantern and searched about the river bank, and at last discovered a little child, who plaintively said to him: "Christopher, carry me over, this night." Thereupon the stalwart young man lifted the little child on his shoulders, and grasping his Palm-staff, entered the stream. As he struggled across, the waters kept rising higher and higher; the waves roared, and beat against him, and the winds blew. The infant on his shoulder became heavier and still heavier, till Christopher felt that he must sink under the excessive weight, and began to feel afraid; nevertheless, taking fresh courage, and staying his tottering steps with his Palm-staff, he at length reached the opposite bank. Gently placing the child down, he looked at him with astonishment, and asked, "Who art thou, child, that hath placed me in such extreme peril? Had I carried the whole world on my shoulders, the burthen had not been heavier." Then the child replied: "Wonder not, Christopher, for thou hast not only borne the world, but Him who made the world, upon thy shoulders. Me would thou serve in this thy work of charity; and, behold, I have accepted thy service; and in testimony that I have accepted thy service and thee, plant thy staff in the ground, and it shall put forth leaves and fruit." Christopher did so, and the dry Palm-staff flourished as a palm tree in the season, and was covered with clusters of dates. But the miraculous child had vanished. Then Christopher fell on his face, and confessed and worshipped Christ.

Fruit Culture in the Azores is in a state of transition, for oranges are less profitable than heretofore, and on the other hand pines find an improving market. The consequence is that the production of oranges is declining, and the production of pines increasing. It is still true, as of old, that there are no pines anywhere that equal English in flavour.

Sparrows are coming into the market in a way they never could have expected. There is a great demand for the skins (with plumage) of canaries, kingfishers, goldfinches, and other small birds, for the decoration of ladies' dresses. Now the enterprising traders in such goods have discovered that skins of sparrows are obtainable at a cheap rate, and may be dyed in various gay colours, and sold under any names except the name that they are known by as town foragers and pillagers of corn ricks. What an advancement for the sparrow to be under compulsion, when dead, to play the part of the daw in the fable!

CACTUS DAHLIA MRS. HAWKINS.

On several occasions in the autumn of 1885, Mr. T. S. Ware, of Tottenham, presented at meetings of R. H. S., and elsewhere, boxes of blooms of this beautiful dahlia. The figure accompanying this note is a faithful representation of it as regards form and proportions, but gives no idea of its delicate shades of soft yellow, passing into cream or primrose tints, that render it so conspicuous as distinct from other flowers of its class. Several new varieties of this section have been brought forward, but they mostly fall below the fine form of Juarezi, which is the best model, and the leader of the group. This variety, however, keeps much of the original character, with the advantage of a distinct and most delicate and delightful colour. The plant is of good habit, rising about four feet, and produces a larger crop of flowers than other

CACTUS DAHLIA MRS. HAWKINS (Flowers sulphur yellow, shading to creamy yellow).

varieties of the cactus section; in fact, it flowers profusely, and is particularly attractive in the garden. The first class certificate of the R. H. S. was well bestowed upon this flower, and we shall hope to see a class established for cactus dahlias, as an encouragement to the production of varieties equal to this in form and differing in shades of colour.

ROYAL HOTICULTURAL SOCIETY.

MEMBERS OF COMMITTEES, 1886.

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Baker, J.G., Royal Herbarium, Kew.
Bennett, Alfred W., M.A.. B.Sc., F L.S., 6, Park Village, East, W.
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Boulger, G.S., 9, Norfolk Terrace, Bayswater, W.
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Elwes, H. J., Preston House, Cirencester.
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Lowe, Dr. Wm Hy., Woodcote, Inner Park Road, Wimblodon.
Llewelyn, J. T. D., F.L.S., Penllergare, Swansea.
Lynch, R. Irwin, A.L.S., Botanic Gardens, Cambridge.
McLachlan, R., F.R.S., Lime Grove, Lewisham.
Michael, Albert D., Cadogan Mansions, Sloane Square, S.W.
Murray, G., Natural History Museum, South Kensington, S.W.
O'Brien, James, Harrow-on-the-Hill.
Pascoe, F. P., F.L S., 1, Burlington Road, Westhourne Park, W.
Plowright, C., 7, King Street, King's Lynn.
Ridley, Henry N., B.A., Natural History Museum, South Kensington, S.W.
Smee, A. H., The Grange, Wallington, Surrey.
Smith, Worthington G., F.L.S., 38, Kyverdale Road, Stoke Newington, N.
Wilson, A. Stephen, North Kinmundy, Summerhill, Aberdeen.

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Secretary.—Archibald F. Barron, Royal Horticultural Society, Chiswick, W.

Baines, Thomas, Fern Cottage, Palmers Green, N.
Ballantine, H., The Dell Gardens, Egham.
Bealby, William, The Laurels, Roehampton Park, Putney Heath, S.W.
Bennett, H., Shepperton, Walton-on-Thames.
Cannell, Henry, Swanley.
Dean, R., Ranelagh Road, Ealing.
Dominy, John, 11, Tadema Road, Chelsea, S.W.
Douglas, J., The Gardens, Great Gearies, Ilford, E.
Duffield, G., The Gardens, Bamford Lodge, Winchmore Hill, N.
Herbst, H., Richmond Road, Kew, Surrey.
Hill, E., The Gardens, Tring Park, Tring.
Holmes, W., Frampton Park Nurseries, Hackney.
Hudson, James, The Gardens, Gunnershury House, Acton.
Kellock, W.B., F.L.S., Stamford Hill, N.
Laing, John, Stanstead Park, Forest Hill, S.W.
Lendy, Major, Sunbury-on-Thames.
Low, Hugh, The Nurseries, Clapton, E.
Lowe, Dr. N. H., Woodcote, Lower Park Road, Wimbledon.
Noble, C., Sunningdale Nursery, Bagshot.
Paul, George, "Old" Nurseries, Cheshunt, N.
Perry, Amos Isaac, Stamford Road, Page Green, Tottenham.
Pollett, H. M., Fernside, Bickley, Kent.
Turner, Harry, Royal Nursery, Slough.
Walker, J., Whitton, Middlesex.
Wilks, Rev. W., Shirley Vicarage, near Croydon.

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Burnett, J., The Gardens, Deepdene, Dorking.
Crowley, Philip, Waddon House, Croydon.
Denning, W., The Gardens, Londeshorough Lodge, Norbiton, Surrey.
Ellam, Joseph, The Gardens, Cliveden, Maidenhead.
Ford, Sidney, The Gardens, Leonardslee, Horsham.
Godman, F., Du Cane, F.R.S., 10, Chandos Street, Cavendish Square, W.
Goldsmith, G., The Gardens, Floor Weedon.
Haywood, T. B., Woodhatch Lodge, Reigate.
Mason, Major F., The Firs, Warwick.
Miller, H., The Gardens, Coombe Abbey, Coventry.
Miles, George T., The Gardens, Wycombe Abbey, High Wycombe.
Norman, G., Hatfield House, Hatfield.
Paul, William, Waltham Cross, N.
Roberts, J., The Gardens, Gunnersbury Park, Acton.
Ross, Chas., The Gardens, Welford Park, Newbury.
Rutland, F., The Gardens, Goodwood, Chichester.
Saltmarsh, T. J., The Nurseries, Chelmsford.
Silverlock, Charles, 412, Strand, W.C.
Smith, James, The Gardens, Mentmore, Leighton Buzzard.
Sutton, Arthur W., Reading.
Veitch, H. J., F.L.S., Royal Exotic Nursery, Chelsea, W.
Warren, H., Worton Gardens, Isleworth.
Weir, Harrison, Henwick Lodge, Lansdowne Road, Tunbridge Wells.
Willard, Jesse, Holly Lodge Gardens, Highgate, N.
Woodbridge, John, The Gardens, Syon House, Brentford.

Exhibitions and Meetings.

ROYAL ACADEMY WINTER EXHIBITION.

ONCE more the R.A. scores a triumph, and the world may rejoice therein, for the artistic festival now at its command in Burlington House is not only equal to any in former years, but surpasses them all in one important particular. The collection of Old Masters comprises works that may be described as good, bad, and middling. The painter who is now especially honoured is Wright, of Derby, a member of the great school in which Sir Joshua, Gainshorough, and Romney were shining lights, the painter of "The Old Man and Death," of "The Eruption of Mount Vesuvius" the "Experiment with the Air-pump" and the "Edwin," illustrative of an episode in Beattie's "Minstrel." We say the same "school" as Sir Joshua and the others of that time, which in a certain sense is true, as the last-named picture testifies. But Wright was known as the "inimitable," because of certain tricks of light and shade in which he occasionally indulged, and these remind us more of Gerard Dow than of any other painter, living or dead. But Wright is not the only attraction for the visitors to the winter exhibition, for the masters we have named above are here again as of old, in great force, seeming to declare themselves inexhaustible, and in any case keeping us well-advised of the great range and high technique of English pictorial art. Noble works by Morland, Turner, and Stothard are included in the oil paintings, and to many those of the last-named Frenchified colourist will be at once new and interesting, for the sufficient reason that Stothard's works are not often seen associated with those of the great masters; he himself being not quite so great as a few of his contemporaries, and perhaps too much given to book work.

The new feature, and one of the highest importance, is the collection of water colours by Turner that are presented in the new gallery. These have been selected with a view to show the master at his best without any reference to chronology or the display of Turner's special forte in atmospheric effects. These works are here as proper parts of a great feast, not as lessons merely for students and critics, although these will wisely regard them as instructive beyond all ordinary example.

STOKE NEWINGTON CHRYSANTHEMUM SOCIETY.

A special general meeting of the members of this society was held at the Highbury Athenæum, Highbury New Park, under the presidency of Mr. J. Hicks, one of the vice-presidents of the society. The proceedings opened by the chairman reading the circular calling the meeting, which was, in effect, to consider the advisability of holding the next exhibition at the Highbury Athenæum. Letters were read from several gentlemen, who were all of opinion that if the next exhibition is held at the above-named place it would be greatly beneficial to the society. The matter was then freely discussed, and the following resolutions were agreed to, viz.: 1st. That the society should in future be called the Stoke Newington and Highbury Chrysanthemum Society, and that the next exhibition should be held at the Highbury Athenæum. 2nd. That the days on which the exhibition should take place shall be November 4 and 5 next. Another general meeting will shortly be held, when the rules and schedule will be entirely revised. W. E. B.

ROYAL OXFORDSHIRE HORTICULTURAL SOCIETY.

The annual general meeting of subscribers was held in the Council Chamber, Oxford, on Wednesday, December 30. Mr. Alderman Hughes, Deputy-Mayor, presided. About seventy members were present. The annual report spoke of the fifty-six years' usefulness of the society, and deplored the death of several members who had generously laboured in its behalf during many seasons. The year's work had been successful, although one of the show days was exceedingly wet. The statement of accounts showed that the income comprised: Subscriptions, £256 9s. 9d.; exhibitors' entry fees, £46 19s.; admissions to the shows, £300 14s. 9d.; total, £642. The prizes amounted to £321 10s., and other payments amounted to £606 4s., leaving a balance on the year of £32 12s. 2d. All the officers of 1885 were re-elected for 1886.

Replies to Queries.

Names of Plants.—T. J.—The sprig of juniper you send has nothing to do with saffron. What you are thinking of is Savin, which also is a juniper. The leaf is Abutilon vexillarium. J. M.—The dried plant is Rodochiton volubile; the seeds are Abrus precatorius. J. J. Melloo.—1, Dahoon holly; 2, Balearic holly; 3, Osmanthus ilicifolius; 4, Raphiolepsis ovata. The last will flower on a warm wall when established.

Weeds on Walks.—Prince complains that the use of salt in destroying weeds is only of temporary value. But that applies to all killing processes, because the policy of nature is to plant vegetation wherever there is a place for it. If Prince would have walks on which no weeds will grow he must put down asphalte or something similar. Salt answers perfectly if put on during dry bright weather; and it not only kills the weeds, but brightens the gravel. The proper answer to the question about mushrooms is that the "secret" of the market growers is knowing how to do it, that is all. In other words, there is no secret.

Tree Stakes.—Prince complains of the quick decay of poles used as stakes for trees. Very many preservatives have been adopted, but none of them are throughly satisfactory. The best, perhaps, consists in dipping the poles, when quite dry, into hot tar or pitch. This plan is improved by charring the ends in the fire employed to heat the tar, and putting them into the tar pot while quite hot. It should be known that iron stakes may be used with perfect safety. We had a large stock in use for many years, and never saw reason to regret the extra cost of such things, for they are cheaper in the end than wood stakes of any kind, and neater in appearance.

NO ARTICLE in daily use is more adulterated than Tea, and how and where to get a good cup of it becomes more and more difficult. That usually sold is of very inferior quality, often consists of redried and exhausted leaves, is prepared for the English market by cunningly facing or colouring with powdered mineral, plumbago, gypsum, and Prussian blue, and when so adulterated it is palmed off on the unwary as "best" tea. A remedy for this evil is found by using only the world-renowned Tea of Horniman and Co., London. Its strength is amazing, its flavour delicious, its purity beyond compare. It is sold in packets at fixed prices, by Chemists and others. For local Agents see advertisements in all papers.—[ADVT.]

"A SIMPLE FACT ABOUT" KEATING'S COUGH LOZENGES.—Ask throughout the world, in any country that can be named, you will find them largely sold. There is absolutely no remedy that is so speedy in giving relief, so certain to cure, and yet the most delicate can take them. One lozenge gives ease. Sold in 13½d. tins.—[ADVT.]

Work for the Week.

PLANT HOUSES.

CONSERVATORY must be ventilated freely upon all favourable opportunities, but guard against cold currents of air passing over plants lately brought from the forcing houses. Remove all decayed leaves and flowers, keep the paths and stages clean, and frequently re-arrange the plants. They ought to be re-arranged once a week, and when a few fresh ones are brought in they light up the groups and give the house a beautiful appearance. These remarks are applicable to all times and seasons, but it is especially necessary that they should receive extra attention just now, for there is little to interest out of doors, and this structure is the principal and, in many instances, the only resort. As there is necessarily a mixed collection of flowering plants in this structure, and derivable from various sources, some requiring a higher temperature than others, a little attention is necessary in their disposition and arrangement to make all comfortable. Camellias, heaths, epacrises, and other hard-wooded plants should be arranged at the cool end. Forced bulbs and other plants, such as primulas, justicias, euphorbias, violets, lily of the valley, and poinsettias should be kept at the warmest end. Water early in the day to allow the dampness arising therefrom to be quite dried up before night. Keep the atmosphere dry, to prolong the beauty of the plants in bloom as much as possible. An average temperature of 50 deg. to 55 deg. by day, and 45 deg. by night, will meet all requirements.

STOVE.—The occupants of this structure must be kept as quiet as possible at this season. Guard against the temperature being too high. In very sharp weather the thermometer may be allowed to fall to 55 deg., which is preferable to employing an excessive amount of fire-heat to keep it at the regular height. Plants at rest must have little or no water. Average temperature from 60 deg. to 65 deg. by day, with a fall of five degrees through the night.

ORCHID HOUSE.—All plants which have large fleshy bulbs and are at rest, must be kept dry; and others, such as vandas, must have no more water than is necessary to keep them fresh and healthy. Any that may be making young growth must be placed in the full light, and a little extra care bestowed upon the watering.

FORCING AND ORCHARD HOUSES.

PEACH AND NECTARINE TREES indoors should be pruned at once, and washed in much the same manner as recommended for vines. The brush must be worked in an upward direction, to prevent its injuring or rubbing off the buds. If the growth has been properly regulated through the summer, very little pruning will be necessary. Examine the trees and cut away the wood that is worn out, and lay in young shoots to fill up the vacant spaces. Shoots laid in to fill up vacancies should be shortened according to their strength. Last season's shoots laid in for fruit bearing should be left about a foot in length, and shortened back to a wood-bud. Those shoots which do not exceed this length, are well ripened, and have a fair proportion of flower-buds, will not require shortening, and may be laid in their full length, if there is space for them. All leading shoots must be cut back rather hard to enable them to throw out plenty of side shoots to fill up the trellis as they proceed, or they will grow to a great length, become naked, and consequently useless.

PINERY.—Plants swelling their fruit must receive every encouragement. The temperature should be kept at 75 deg. by day and 70 deg. by night. Those not yet showing fruit ought to be kept rather quiet, and in five degrees less heat. As the succession plants and suckers are now at rest, they should not have more heat than ten degrees less than the fruiters. If they are forced into growth at this season they will be completely ruined, for there is not a sufficiency of solar light to properly elaborate the sap, and all the foliage made now is necessarily drawn and weak; and by and by, when they are moved, the leaves will fall about in all directions. The bottom-heat for each section of plants should be from five to ten degrees higher than the atmospheric temperature of the house.

FRENCH BEANS to be sown for succession according to requirements. Sow in small pots in light rich soil, and directly the pots are full of roots repot into eight-inch pots. Another good plan is to sow in pans or boxes full of leaf-mould, and prick off into large pots when the first pair of rough leaves are developed. Place near the glass when young, to prevent their being drawn up. Take every precaution to prevent the appearance of red-spider.

VINERIES.—If not already done, the vines from which the fruit has been gathered should be pruned at once and dressed. When the pruning is left until the sap begins to move the vines suffer severely from bleeding; when done now the wounds get healed over. The whole of the wood should have a thorough washing with some approved insecticide on the pruning being completed. A moderately soft brush should be used, and it should be worked thoroughly into every crevice in the bark, to remove all larvæ of red-spider and other pests which prey upon the vine. A moderate amount of care is required in doing this, to prevent the dormant buds receiving any injury. Vines that are to be started within a short period should be trained horizontally along the lower part of the rafter, to equalize the flow of the sap, and induce the buds at the lower part of the rod to break strongly. If the vines are old, and there appears the slightest danger of injuring them by the twisting necessary to bring them horizontal, simply lower the tops of the vines on a level with the top part of the front sashes, and suspend them in that position with a piece of stout cord until the young shoots are from one to two inches in length. Houses just started should be kept at a temperature of 40 deg. by night, and 45 deg. by day, allowing a little increase by sun-heat. Vines in earlier houses showing leaf should have a temperature of 55 deg. by night, with an additional ten degrees during the day.

FLOWER GARDENS AND PLEASURE GROUNDS.

Comparatively little work can be done in the flower garden at the present time.

Very little work of importance can be done in this department at this season. The lawn should be thoroughly swept and rolled once a week at least, to keep a good firm bottom, and give it a clean and cheerful appearance. Gravel walks may now be turned. This should be done without disturbing the rough stuff underneath, for that is not wanted on the surface. Walks when first made should always have a sufficient depth of fine gravel on the surface to admit of their being turned over every other year if required. By turning them in a proper and workman-like manner, they can be kept clean and in good condition for a long time.

KITCHEN GARDEN AND FRAME GROUND.

ASPARAGUS BEDS.—Clear away weeds, and give a good dressing of rotten dung; that from an old hotbed is preferable. Cover the manure with about three inches of soil from the spaces between the beds.

CARROTS.—A small sowing of Early Horn may be made on a warm sheltered border; choose ground that was dug up roughly in the autumn, and has been thoroughly exposed to the weather. In light sandy soil, with a little protection in sharp weather, a nice early crop may be had. Old soil from the potting bench, in combination with charred and thoroughly-decayed vegetable refuse, and all thoroughly incorporated together, will be invaluable for such purposes.

CAULIFLOWERS.—Those under hand-lights and in frames should have an abundance of air, whenever the state of the weather will admit of its being done with safety. To keep them hardy and stocky, take the lights entirely off for a few hours on fine days. Keep the foliage dry, and remove all decayed leaves without delay. Cover the lights with mats, straw hurdles, or long litter on frosty nights.

ONIONS.—A small bed of the silver-skinned sown now under the same conditions as required for the carrots will be useful for drawing for salads and flavouring.

PEAS.—Sow a good breadth of the first early sorts. Choose a south border, and make the rows six to eight feet apart. The peas obtain more light, and consequently bear better than they possibly can do when crowded together in the ordinary way, and the spaces between are invaluable for early potatoes, lettuce, radishes, and other early spring crops.

POTATOES.—Lay sets of early sorts on the floor of the forcing house, and in the light, to enable them to form hard purple sprouts, ready for turning out on a gentle hotbed. No soil should be put over the tubers, for when they make roots they suffer from the removal to their permanent quarters.

VEGETABLES IN SEASON.—Asparagus, beet, brussels sprouts, tops of cottager's and Scotch kale, carrots, coleworts, celery, endive, Jerusalem artichokes, leeks, lettuces, mushrooms, onions, parsnips, rhubarb, salsify shallots, and turnips.

Correspondence.

AN ORCHID SOCIETY.

"To be or not to be, that's the question?"

ORCHIDS nowadays may be said to be some sort of an index to our respectability in flower gardening indoors, and in some ways have scarcely met with the recognition that they deserve. For example, the chrysanthemum, the daffodil, the dahlia, the primula and auricula, the pink and carnation, and the rose have each and all a society, or special committee devoted to them; hence quite naturally arises the question why should we not have an orchid society? Why of all other flowers are the orchids thus to be debarred from special attention on the part of their admirers? Distance is said to lend "enchantment to the view," but the distance that separates the orchid growers of the North from those of the South is not of that kind. One of the lessons taught to us by the Orchid Conference was that distance kept away the enchantment, seeing that the exhibition was confined generally to the southern growers only. Orchids are quite as well grown in the midlands, and in the North of England, and in Scotland, as in the South, but one can scarcely blame northern growers for not risking their plants on a two to four hundred mile journey by rail. Orchid growers and amateur cultivators are now such a numerous and influential body that, for their own interests, an orchid society is a *sine qua non*, and if such a society was formed on a sufficiently broad basis, "the trade" would find that the impetus given to the culture of these lovely flowers would be worthy of their co-operation.

A well organised "orchid society" might hold at least two, perhaps three, exhibitions every year—London, and Edinburgh, and if a third, then Manchester, as a matter of course. If this sounds like "going too fast," let the initial exhibition be held in May or June of this or of next year, in Edinburgh. I say Edinburgh first because London has already had an orchid show, at which the northern growers were, by distance and other considerations, precluded from exhibiting. If once an orchid society was formed in London, its exhibitions might be held as experience proved most desirable, the hands of the society being strengthened by the co-operation of local executive committees, formed by members who reside nearest to the locale of the various exhibitions. Even supposing such a society as that now recommended did not venture to hold exhibitions of its own independently, it could strengthen the hands of the Royal Horticultural Society, or of the Manchester and Edinburgh Horticultural Societies, who at present open their lists to the orchid growers. When we have a society like that devoted to Queen Chrysanthemum, doing such good work, holding exhibitions, awarding certificates, money prizes, and medals to successful growers, it seems quite time that the "Royal Orchids" had the benefit of a special society to themselves.

It is to be hoped that all amateur, as well as trade, growers will give this project the attention it seems to deserve at their hands.

F. W. BURBIDGE.

TRADE CATALOGUES.

JAMES DICKSON AND SONS, 108, EASTGATE STREET, CHESTER.—*Vegetable and Flower Seeds—Hybrid Gladioli—Florists' Flowers.*

WILLIAM PAUL AND SON, WALTHAM CROSS.—*Vegetable, Flower, and Agricultural Seeds.*

CHARLES TURNER, ROYAL NURSERIES, SLOUGH.—*Seeds for Kitchen and Flower Garden and Farm.*

BARR AND SON, 12, KING STREET, COVENT GARDEN.—*Seeds for Flower and Kitchen Garden.*

W. CUTBUSH AND SON, LONDON; AND BARNET, HERTS.—*Flower, Vegetable, and Farm Seeds.*

Obituary.

ON December 26th, at Didsbury, near Manchester, Mr. WILLIAM COLE, the famous plant grower, for many years one of the most constant and successful habitués of the Manchester exhibitions. Few amongst the many familiar with horticulture in Cottonopolis will hear of the death of this master of arts, the winner in many great conflicts, without experiencing a tender feeling of remembrance for a man who combined a fine rusticity of character with the utmost goodness of heart.

On the 23rd ult., Mr. WILLIAM KEMP, gardener to the Duke of Northumberland Albury Park, Guildford, aged 55 years.

Sales by Auction.

Wednesday next.
Consignment of Camellias, Azaleas, Ficus, and other plants from Belgium; an importation of Californian Lilies in variety; 600 Standard and other Roses from an English nursery; a choice assortment of hardy, home-grown Lilies and Bulbs, Tuberoses, Spiræas, Lily of the Valley; a consignment of beautiful Iris from Japan in 30 distinct sorts, &c.

MESSRS. PROTHEROE and MORRIS will SELL the above BY AUCTION, at their CENTRAL SALE ROOMS, 67 and 68, CHEAPSIDE, E.C., on WEDNESDAY next, JANUARY 13, at Half-past Twelve o'clock precisely.
On view morning of sale, and catalogues had.

Friday next.
Oncidium Jonesianum.

MESSRS. PROTHEROE and MORRIS are instructed by Mr. F. SANDER to SELL BY AUCTION, at their CENTRAL SALE ROOMS, 67 and 68, CHEAPSIDE, London, E.C., on FRIDAY next, JANUARY 15, at Half-past Twelve o'clock precisely, a grand importation of ONCIDIUM JONESIANUM, in splendid condition, some marvellous masses being amongst them; also a very fine lot of Oncidium Marshallianum, in large masses; Cattleya Mossiæ, Cattleya Warneri, Odontoglossum Alexandræ, finest possible varieties, and many other valuable Orchids.
On view morning of sale, and catalogues had.

SALES FOR NEXT WEEK.

MR. J. C. STEVENS will SELL BY AUCTION, at his GREAT ROOMS, 38, KING STREET, COVENT GARDEN, during the ensuing week, as follows, at Half-past Twelve precisely each day:—
MONDAY.—9,000 Liliums in variety from Japan, 5,000 Tuberoses, Tigridias, Gladioli, &c.
WEDNESDAY and SATURDAY.—First-class Roses, Fruit Trees, Border Plants, Bulbs, &c. (weather permitting).
THURSDAY.—Valuable imported and established Orchids in variety, from Messrs. Shuttleworth, Carder, and Co., in splendid condition.
On view morning of sale, and Catalogues had.

Valuable collection of Orchids for Sale.

THE LIVERPOOL HORTICULTURAL COMPANY (JOHN COWAN), Limited, wish to announce that they will shortly OFFER FOR SALE the large and valuable collection of ORCHIDS made by the late R. P. Percival, Esq., of Birkdale, Southport. Catalogues will be ready in a few days, and will be sent post-free on application.
The Company are also daily expecting fresh importations of East Indian and Mexican Orchids, particulars of which will also be sent on application.

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SPLENDID CHANCE for an industrious man.—DWELLING-HOUSE (double fronted), six large glass houses (some heated), and garden ground at Tottenham; rent only £30; may be purchased at £40 per year without interest.—Apply Mr. READ, 6, Worship-street, E.C.

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Important to those seeking a Nursery, Florist, or Seed Business.

MESSRS. PROTHEROE and MORRIS are about completing a new issue of their Horticultural Register, containing particulars of numerous businesses for sale requiring a capital of £300 to £10,000. Gentlemen and others are invited to write for a copy, giving a description of the property that is required, and a register will be forwarded marked with those places that appear most suitable. No charge made to applicants. This Register will also be found a valuable medium for the disposal of businesses. Terms and forms for inserting particulars sent free of charge. Auction and Estate Offices, 67, 68, Cheapside, E.C. First floor.

Wanted.

WANTED, a good GROWER of PLANTS for the London markets. Apply to W. CHILDS, 65, Rye Lane, Peckham, S.E.

WANTED, a steady LAD, age about 17; one used to growing for market and a good potter; none need apply unless used to the business.—47, Highbury Quadrant, N.

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A YOUNG MAN seeks a situation as IMPROVER; has had some experience; age 22; private preferred.—Address G. R., 37, Herries Street, Harrow Road, Paddington, London, W.

GARDENER (Head, Working, where three or four are kept).—Age 27; married; 13 years' good practical experience in all branches; first-class references.—W. L. H., Redleaf Gardens, Penshurst, Kent.

GARDENER (Head, working, where two or three are kept).—Age 35; thoroughly experienced in all branches; total abstainer; eight years' excellent character from present employer; married, no family.—Apply G. H., John Street, Ryde, I.W.

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GARDENER (Head, Working).—Married; no family; 25 years' good practical experience in all branches; also meadow land and stock; good character.—E. M., 77, Graveney Road, Lower Tooting, S.W.

GARDENER (Head).—Age 29; experienced in all branches; good characters; please state wages and assistance given.—G. W., 3, Collyer Terrace, Gipsy Road, Lower Norwood.

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WANTED, Situation as GARDENER (Head or Single-handed).—Age 36; married, one child; good character.—Address W. A. D., care of C. Bland, Baldock Street, Ware, Herts.

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D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.temp. avrg. of 10 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1884
17	S	**2nd Sunday after Epiphany.**	7 59	10 21	4 21	1 54	4 31	10 54	11 29	7 43	8 19	36·8	Bletia campanulata	Peru.	17
18	M	Prisca.	7 58	10 43	4 23	2 50	5 40	—	0 2	8 54	9 27	36·9	Dendrobium Ainsworthii	Gard. hyb.	18
19	Tu	First English Parliament, 1265.	7 57	11 2	4 24	3 57	6 40	0 33	1 0	9 58	10 25	37·2	Limatodes alba	Borneo.	19
20	W	○ Full Moon, 7h. 45m. morn. *Fabian.*	7 56	11 19	4 26	5 14	7 32	1 27	1 52	10 52	11 17	37·4	L. rosea	,,	20
21	Th	*Agnes.*	7 55	11 36	4 28	6 31	8 15	2 17	2 43	11 42	—	37·5	Oncidium jonesianum	Paraguay.	21
22	F	Princess Christian born, 1831.	7 54	11 52	4 30	7 54	8 52	3 7	3 30	0 8	0 32	37·7	Odontoglossum Pescatorei ...	South America.	22
23	S	W. Pratt died, 1866.	7 53	12 8	4 32	9 13	9 24	3 53	4 18	0 55	1 18	37·9	Phalænopsis Sanderiana	Borneo.	23

Auction Sales for the Ensuing Week.

MONDAY, JANUARY 18.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Lilium auratum and Other Bulbs.

WEDNESDAY, JANUARY 20.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Lilium auratum, Lilies, Bulbs. Roses, and Plants.

WEDNESDAY AND SATURDAY, JANUARY 20 AND 23.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, and Hardy Plants.

WEDNESDAY, JANUARY 20.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

THURSDAY, JANUARY 21.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

FRIDAY, JANUARY 22.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

THE GARDEN ORACLE for 1886 is on the same plan as former issues, the present being the twenty-eighth publication of this work. It contains complete lists of the New Plants, New Flowers, and New Fruits, and a Complete List of the New Parliament.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C., to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, JANUARY 16, 1886.

"THE ORCHID GROWERS' MANUAL" corresponds in a pleasant way with the subject of which it treats. The first edition was published in the year 1853, and contained less than 200 pages. The sixth edition is now before us, and contains 660 pages.* The orchids have been growing in nearly the same proportion, or perhaps in larger proportion, for there must be more than three and a-half times as many in the country now than thirty years ago. It is more likely they have been augmented by a thousand times if we were to count the plants; while of species and varieties the increase is enormous. There are not many books extant on the cultivation of orchids. The works of Henshall and Lyons are out of date, though good as far as they go. M. de Puydt, in his very agreeable volume "Les Orchidees," treats the subject in a sketchy manner, and appears glad to be quit of it. Mr. Williams has made the subject his own through a long term of years, and his book admirably represents his extensive experience and his ripe judgment, both in regard to the cultivation of the plants and the relative merits of species and varieties.

The Orchid Conference illustrated the interest of the general public in this group of plants, and enabled orchid growers to compare notes and raise questions that will prepare the way for a more practical and more impressive gathering at some future time. Strictly speaking the conference, so called, was of a prefatory or preparatory character, and if the lessons it afforded are wisely kept in view, the next event of the kind will be, or at least should be, the best thing in the way of a conference hitherto attempted. It is not surprising that the orchid growers throughout the country, and more especially in the north, are bestirring themselves. Every horticultural centre is likely to have something to say in connexion with a demonstration of its capabilities in the purchase and preservation of the most curious and perhaps most beautiful of all the useless vegetables known to man. Edinburgh, Manchester, and Birmingham testify to the contagion, and far away from those busy places the influence is felt and curiosity is aroused.

It may not be possible to classify orchid growers, but there is a broad line to be drawn, in a critical view of the subject, between the cultivator who is content with a few dendrobes, a few odontoglots, and one or two cypripediums, and the cultivator who is also a collector, grasping at many things. A thousand plants of Odontoglossum crispum, with all their delightful variety, will not constitute a collection of orchids, but it may be a very pretty imitation of a market garden. By an orchid grower we are to understand one who finds delight in taming all the eccentric members of the great family that are in any way worthy of the shelter of a glass-house. It must be confessed that the world produces orchids that are not worth attention for purposes of cultivation, but within the region where beauty dwells and commands the admiration of all beholders there are orchids enough to make work for a lifetime, and to tax the patience and skill of the ablest and most loving of operators. Mr. Williams does not waste his precious space in describing things that are of doubtful value in respect of floral attractions, and yet we find in this new edition of his admirable work descriptions of about 1,700 species and varieties, although of Odontoglossum crispum, of which the varieties are past counting, he recognizes only fourteen as entitled to distinction in his pages. It will be understood, therefore, that the grand total is not made up of trivial varieties but of characteristic orchids, and with this index before us we may roughly estimate the orchids that are especially worthy of cultivation as numbering about two thousand.

The extension of orchid culture in recent years is not alone due to the enlarged recognition of their singular beauty, endless variety, and peculiar charms of colour and fragrance, for two circumstances have contributed in an especial manner to their advancement in the estimation of men and women of taste. One is the comparative simplicity of the treatment they require, for although we speak of the patience and skill requisite to the complete mastery of the subject, orchid growing is a very easy matter up to a certain point. The fact accounts for the increasing number of persons who grow certain groups of orchids, and grow them well, and enjoy them much, but who draw the line at the point where it may be apprehended the difficulties begin. Anybody who can handle a plant with what may be termed everyday ability may with perfect safety indulge in orchid culture if content with the easily managed kinds, which, it must be confessed with gladness, are as beautiful as any. And if we say, and if others say that this sort of orchid growing is in the nature of a compromise or a halfway house on a road they will not follow to the end, what does that matter? Some people grow a few plants, and some grow many. It may happen sometimes that those who grow the fewest are the happiest; it is at all events not for us to discourage or disparage the love that finds expression in a limited collection of orchids.

Another and very effective aid in the extension of orchid culture is to be found in the fact that many of the most serviceable kinds are as cheap as pansies and pelargoniums; in fact the range of prices has within recent years undergone the most surprising modifications, and any one who has a taste for orchids and has means sufficient to employ glass in plant culture, may very well afford to enter the orchid market, for the rule has become obsolete that no one should ever whisper of orchids without having in hand at the moment at least a hundred pounds of spare cash. A hundred shillings will bring fruit from the tree, or what is the same thing, orchids from the forest. But to this general observation it should be added that a beginner should not speculate in newly imported orchids, for there is a cheaper and safer way of going to work which every beginner should discover for himself by exploration of the nurseries where these plants obtain special attention.

Returning to "The Orchid Growers' Manual," in order to pronounce it a necessity not less important than daily bread to a lover of orchids, it should be added that this edition is so copiously and ably illustrated that reference to the figures will enable many cultivators to name their plants where the names are wanting, and to correct labels that have been written in error. It is not without literary and scientific interest, more especially in the introductory chapters,

* *The Orchid Growers' Manual.* Descriptions of the best species and varieties and most approved methods of treatment, &c. By Benjamin Samuel Williams, F.L S., &c. Published at the Victoria Nurseries, Upper Holloway, London, N.

but its great merit is that it explains everything that needs explaining in respect of the cultivation of orchids, both to give the beginner a start with every possible advantage, and keep the expert progressing in his comparisons and his practical undertakings. This sixth edition contains the fullest summary of information for those who mean business amongst orchids of any work current, and entitles the author to the hearty thanks of all who are competent to appreciate his labours.

NATIONAL CARNATION AND PICOTEE SOCIETY'S Exhibition will be held at South Kensington, July 27.

DR. M. T. MASTERS, F.R.S., is a member of the Floral Committee of R.H.S. His name was omitted from the list published in our last issue.

A CHINESE CHART OF THE LINNÆAN SYSTEM OF BOTANY has been presented to the Royal Botanic Society. It is written in Chinese characters.

THE QUEEN'S SPEECH will be delivered to Parliament on Thursday next, and on the Monday following the warfare of the session will begin.

LUCOMBE, PINCE, AND CO., EXETER, announce their annual hyacinth show to be held on the 5th of March. Three prizes are offered.

DEVON AND EXETER HORTICULTURAL SOCIETY.—At the exhibition to be held August 20, Messrs. Lucombe, Pince, and Co. offer three prizes for twelve dishes of vegetables.

MESSRS. WEBB AND SONS, Wordsley, Stourbridge, lately appointed Seedsmen to her Majesty the Queen, have now received a similar special appointment to his Royal Highness the Prince of Wales.

TURNER MEMORIAL FUND has not met with the support its promoters anticipated, the amount of cash in hand up to the present time being only £162. It is hoped a total of £200 will be secured to complete the undertaking.

IN THE ACCIDENT ON THE GREAT EASTERN RAILWAY, Mr. Wallace, son of Dr. Wallace, of Colchester, and Mr. Horsman, of the same town, were injured. Happily, they are doing well, and have fair prospects of recovery.

A MEMORIAL TO THE LATE DR. BULL, OF HEREFORD, is in progress, and a considerable sum has been subscribed towards it. The form of the memorial will probably be a porch to the west front of the cathedral.

AN EXCURSION ALONG THE LINE OF THE ROMAN WALL is in course of organization by the Newcastle Society of Antiquaries. It will be under the superintendence of Dr. John Collingwood Bruce, the best man in the world for such a pilgrimage.

"REVUE COLONIALE INTERNATIONALE" is an important representative of colonial interests and commercial matters generally. The papers in it are of high quality and mostly in French, English, and Dutch. It is published by J. H. de Bussy, 60, Rokin, Amsterdam.

LIVERPOOL HORTICULTURAL COMPANY will shortly offer for sale the collection of orchids formed by the late Mr. Percival, of Southport. Orchid growers will be invited to inspect them on the 20th and 21st, when luncheon will be provided.

EARLY DAFFODILS.—On the 11th instant, Mr. Hartland, of 24, Patrick Street, Cork, despatched to us a bunch of flowers of the famous Narcissus pallidus præcox, reporting at the same time that the Irish form of Spurius is showing its first flowers.

AMERICAN EXHIBITION in preparation at Earl's Court will not be opened this year, but in May, 1887. The postponement will be to the advantage of the Indian and Colonial Exhibition, but possibly to the injury of the horticultural exhibition, which will probably follow in the year of the Queen's jubilee.

SEED ORDERS are checked by the bad weather very much to the disadvantage of the hard worked men and women employed in seed stores. Presently the orders will pour in, overtaxing all human strength and ensuring to those who send late orders delay in the supply and perhaps other vexations. In the first burst of fine weather at this time of year the pressure on the seed trade is terrific. We urge upon our readers to order all they want at once and if in doubt about sorts consult the "Garden Oracle."

THE WEATHER has been interesting, because seasonable. Our prognostications have been amply verified, and we have had "a taste of real winter." The fall of the barometer on Tuesday and Wednesday brought rain and wind, and gave promise of a term of fluctuations. Of skating there will not be much, even in the far North; but we have not done with winter yet, and there is probably worse weather in store for us than we have of late experienced. The prospect is not a bright one; changeable and generally unpleasant weather may be expected for some time to come, and the advent of spring is for the present postponed.

OVERHEAD WIRES have been somewhat strained by the snow, and a few, among many have given way. Had they all been completely destroyed there would have been some compensation for the injury to trees the snowfall has effected. It is to be feared the wires will be repaired, and Bumble will settle down to rest and be unthankful. There is no more hideous burlesque of our achievements in science than the overhead wires that disfigure every scene, and to the apotheosis of the Ugly Devil add an appropriate menace to every human life. What with Ireland on the one hand, and the aerial wires on the other, we may truthfully say we are governed with a Vengeance.

MR. H. BENNETT'S MAGNIFICENT NEW ROSE, *Her Majesty*, the stock of which went to America, has been, by Mr. Evans, the original purchaser, placed in the hands of Messrs. W. Paul and Son, Waltham Cross, for distribution in this country. "Her Majesty" is probably the finest new rose within the experiences of modern rosarians, and in any case it is distinct, sumptuously beautiful, and has a constitution and character properly corresponding to its name.

THE ANNUAL DINNER to the heads of departments and managers in the establishment of Messrs. Hooper and Co., of Covent Garden, was given on Thursday evening, the 7th inst., at Simpson's Divan, in the Strand. Mr. C. A. Hooper presided, and the loyal toasts, and that of "The Employés," were given from the chair, to the latter of which Mr. Fuller replied. Mr. Hartung then gave "The Firm," after which some other friendly toasts were drunk, and a very pleasant evening was spent. Covers were laid for twelve.

CAPTAIN MANSFIELD'S GARDEN is thus noticed in the *Illustrated London News*: "Llysonen Gardens, seven miles from Carmarthen, South Wales, are the property of Captain Mansfield, R.A., where he pursues the art of floriculture successfully. He has an area of 200,000 feet of glass, with a proportionately large staff of gardeners, painters, glaziers, masons, carpenters, and firemen, many of whom reside in very pretty cottages which the captain has built for his people. The mechanical apparatus for supplying water and heat are the most perfect that could be invented; and the coal used is the anthracite coal, which gives tremendous heat. There are no less than six miles of hot-water piping passing through the numerous stove and plant houses. Thousands of roses in pots are already in bud. A house is devoted to liliums, another to orchids, while others are individually devoted to geraniums, pelargoniums, cinerarias, and sweet-scented foliage plants. There are one hundred thousand pots of lilies of the valley for forcing. The camellias are magnificent, and a house full of maidenhair ferns is a sight not easily to be forgotten. The forcing houses were already rich in blossom, and thus eighteen large houses were devoted to flowers. In the peach house 10,000 pots of strawberries are forced each year. There are many hands employed in preparing and packing the flowers for the London market."

IRISH AGRICULTURE is reported on by Mr. T. W. Grimshaw, the Registrar-General for Ireland. He states that the extent of land under crops, as compared with 1884, shows an increase in wheat, barley, rye, mangold wurzel and beet, flax, and hay; while there is a decrease in oats, potatoes and turnips; in bere the difference is practically nothing. Thus wheat has increased from 67,890 acres to 71,017; barley from 167,061 to 179,133; rye from 7,149 to 8,399; mangold wurzel and beet from 34,541 to 37,179; flax from 89,225 to 108,147; and hay from 1,962,487 to 2,034,768. The decrease is chiefly in oats, of 19,575 acres, and turnips of 7,047; while the chief increments are wheat 3,127, barley 12,072, flax 18,922, and hay 72,281. If a balance be struck between these differences it will be apparent that there is an advantage of more than 82,000 acres in 1885 over 1884. When, however, an average is taken of the past ten years, in no instance but one is last year able to bear a favourable comparison with its predecessors. Thus, to mention the most important results, there should have been, according to its average, 134,750 acres under wheat, and even the improved crop of 1885 is only 71,017—a decrease of 63,733, which means over 47 per cent. This is the greatest proportional decrease, though in other cases the falling off from the average is large; as in oats 82,252 acres; barley, 35,321; potatoes, 49,034; turnips, 49,034; and flax, 11,920. The sole produce which shows an increase is hay, 96,962. As it was shown that the extent under all crops was greater in 1885 by 82,000 acres than in 1882, the estimate will not be complete unless it is pointed out that 1885 is itself altogether 170,000 acres behind the average of the ten years 1875-84. All the crops save bere, show an increase of produce per acre over the average.

ROAD REPAIR is a subject of some importance to those who are interested in outdoor industries. That the roads are going to ruin while costing more and more money is known to many, and counts among the horrors of local government. The world at large does not know what roads are or what roads should be; those things are known only to the elders, who remember the sound, long-lasting roads on which the coaches made their journeys in the pre-railway times when road-making was a science, and the Road itself ranked amongst the domestic gods. There are no roads now—that is to say there are none in or near London; there are only so many muddy troughs periodically covered with large stones intended to kill horses and cut the flesh out of ratepayers, and that are made the more villanous by the steam-roller that quietly sanctions the mixture of mud with concealed razors of granite. Hear what Mr. Reynolds has to say upon the subject of the real Macadimised road—the best road ever known for the outsides of large cities, and the insides of towns of all grades save a few of the busiest. "The stones broken must be small—*i.e.*, one inch and a-half in their largest dimensions; hard material, flint where obtainable, or granite, should be employed. No mud, sand, or so-called binding material, must be used, but the stones must unite by their own angles into a solid mass. Economy of material must be promoted by filling up holes at once, and by never putting down stones more than one thick; also by making small patches of stones where wanted, instead of large ones whether wanted or not. All mud must be removed, attention must be paid to drainage, especially by filling up puddles at once, and keeping them so. This system of repair will diminish the road rates by 50 per cent. at least, and will conduce to the comfort of every one. In short much less should be spent on materials and rather more on skilled labour and superintendence. The present road surveyors and highway authorities must alter their extravagant system, or they will assuredly have to give way to more competent men."

The Poisoning of the Pigeons at the British Museum made considerable progress in the way of a public scandal, and brought out some interesting examples of individual shabbiness, the meanest feature in the case, perhaps, being the letter of the boy George, who probably deserves better teaching than to be coached up to such a thing. However, after suffering much, the gardener Brightwell is enabled to say that his character has been vindicated and he has found employment. He will know, and many will know by his example, what too many have known to their cost, that speaking the truth is sometimes a dangerous matter, but even that danger is trifling as compared with that of a poor man who is forced into conflict with one of larger means and higher social status.

Richmond Horticultural Society is a thriving concern, and makes a lot of work for its committee and officers. One constant and energetic friend is Mr. Ford, of the London and County Bank, the honorary secretary of the society, whom we have found always ready to assist our reporters amid the excitement and worry of the early hours on show days. It is with pleasure we learn that at a committee meeting, Mr. T. Skewes Cox in the chair, and Messrs. Bates, Bray, Brown, Bowell, Gribble, Herbst, Kinghorn, Lindsay, Nicholson, and Rydon present, it was resolved to present Mr. Ford with a testimonial in recognition of his services. The thing being made public should be carried through with spirit, and, therefore, we hope the promoters will allow a little time for the residents of the district—benefitted by Mr. Ford's generous labours—to grasp the idea of their indebtedness.

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, January 12.

Floral Committee.

Present: G. F. Wilson, Esq., in the chair, and Messrs. J. Douglas, J. Walker, H. Bennett, W. Bealby, H. Herbst, T. Baines, G. Duffield, W. Holmes, R. Dean, H. Ballantine, Major Lendy, J. Dorman, H. Cannell, J. O'Brien, E. Hill, G. Paul, and H. Turner.

In consequence of the severity of the weather the contributions to the meeting were limited in number, and comprised but few novelties.

Messrs. J. Veitch and Sons, King's Road, Chelsea, exhibited a large collection of primulas, for which they were awarded the bronze Banksian medal. The collection, which comprised about one hundred splendidly flowered plants and produced a very striking effect, included: The Queen, a very distinct variety, with large finely formed flowers of a pleasing blush colour; Improved White, a remarkably fine variety in the way of The Queen, from which it has been raised, but with pure white flowers; Chiswick Red, which is now so well-known and highly appreciated for its excellent habit and the large size and brilliant colour of its flowers; and Improved Blue, a form of which the flowers are of the finest form, and very bright and pleasing in colour. Messrs. H. Cannell and Sons, Swanley, exhibited a box of flowers of their beautiful strains of primulas, and were accorded a vote of thanks. About twelve varieties were represented, and included, in addition to those for which the firm have been awarded certificates in previous years, a spotted variety of exquisite beauty.

The orchids, which were well represented considering the cold weather, formed a very pleasing and interesting feature of the meeting. Mr. N. Blandford, gardener to Mrs. Haselfoot, Moor Hill, West End, Southampton, exhibited a large and well bloomed specimen of the beautiful Lælia anceps. The specimen was sent to show the advantages of pruning, but it did nothing more than represent cultural skill of a very high order, for strictly speaking it had not been pruned at all. Instead of cutting away the whole of the pseudo-bulbs annually, as in the case of the specimen of the Dendrobium nobile exhibited by Mr. Prinsep, at South Kensington, last year, Mr. Blandford has simply removed the old bulbs as they have lost their leaves. As the foliage of this lælia is very persistent, the pseudo-bulbs have probably not been removed until they have been five or six years old. In several instances there were six pseudo-bulbs on the same rhizome, and from their appearance some were fully five years old. The specimen, which was described as having been in the same pot five years, was in a most healthy condition, and furnished with ten well developed spikes. A cultural commendation was awarded Mr. Blandford.

Mr. Ballantine, gardener to Baron Schröder, The Dell, Egham, exhibited fine spikes of Lælia anceps and seven of its varieties, and was awarded a cultural commendation. L. anceps has rather large flowers with light rose-coloured sepals and petals, and a rich amethyst purple labellum with light yellow throat marked with crimson stripes. L. anceps Barkeri differs from the type in the flowers being larger in size and deeper in colour; the petals and sepals are deep rose, the labellum brilliant crimson with a large golden yellow blotch. L. anceps rosea, a delicately coloured variety, the sepals and petals black, the labellum bright rose marked with yellow blotch, and in the throat with transverse lines of crimson. L. anceps Hilli, a pleasing form, the sepals and petals white, the labellum very pale rose marked with yellow and chestnut red lines. L. a. Dawsoni, the finest of all the light forms; the flowers are very large, the sepals and petals of great breadth and pure white, the labellum pure white with large purple blotch, and a lemon yellow throat with bright purple-crimson lines. L. a. Sanderiana, a beautiful variety very similar to Dawsoni, but with rather narrower petals and a smaller purple blotch on the labellum. L. anceps Williamsi has pure white flowers with lemon yellow blotch and purple crimson lines; and L. anceps alba has pure white flowers with small lemon yellow blotch on the labellum. Mr. Ballantine presented also a good spike of Odontoglossum crispum Bonnianum, a distinct variety with large finely formed flowers, richly suffused with rose and marked with large chestnut red blotches.

Mr. Cooke, gardener to D. B. Crawshay, Esq., Rosefield, Sevenoaks, sent cut flowers of several orchids, and was accorded a vote of thanks. Amongst them were Lælia Crawshayana, a richly-coloured form, intermediate in character between L. anceps and L. autumnalis; L. anceps blanda, a pale-coloured form; and Odontoglossum aureum, a hybrid with pleasing sulphur-yellow flowers. Mr. White, gardener to C. Dorman, Esq., The Firs, Laurie Park, Sydenham, submitted good examples of Cypripedium insigne Dormannianum, a distinct variety distinguished by the profuse manner in which the sepals and petals are spotted; Odontoglossum tripudians superbum, on which a first class certificate was conferred; and O. Insleayi splendens, an exceedingly fine variety, surpassing the type both in size and richness of colouring. Mr. H. James, Castle Nursery, Lower Norwood, presented flowers of Cattleya Trianæ Measureseana, a handsome variety with petals of great breadth, and a labellum of the richest purple. The New Plant Company, Colchester, exhibited several good varieties of Cattleya Trianæ.

Messrs. Paul and Son, Cheshunt, contributed a gathering of flowers of Rose Sunset, a very fine tea-scented variety of recent introduction, to show the freedom with which it blooms during the winter season. A vote of thanks was accorded the firm; and a like compliment was paid to Mr. John Walker, Thame, for several stands of chrysanthemums, comprising fresh blooms of Duchess of Teck, Ethel, Jardin des Plantes, Peter the Great, and a few other varieties.

Fruit Committee.

Present: Dr. Hogg, in the chair, and Messrs. H. J. Veitch, G. Norman, W. Warren, J. Woodbridge, C. Ross, G. T. Miles, W. Denning, J. Saltmarsh, A. W. Sutton, Sidney Ford, W. Paul, R. D. Blackmore, C. Silverlock, P. Crowley, and J. Burnett.

A large and interesting collection of stewing pears was sent by Mr. Barron from Chiswick, the most important varieties being Uvedale's St. Germains, Directeur Alphand, Catillac, Leon Leclerc d'Hiver, Reine des Tardives, Excellente de Colmar, Lieutenant Poidevin, Duchesse d'Hiver, Doyenne Jamin, Angleterre d'Hiver, Prince Napoleon, Prévost, Duchess d'Hiver, and Bellisime d'Hiver.

Mr. J. Walker, Thame, exhibited twenty very large and well-finished bulbs of Walker's Exhibition Onion, one of the very finest of the several types of the White Spanish. A vote of thanks was accorded Mr. Walker. Mr. H. Mitchell, gardener to Sir G. Elliott, Bart., Aberaman House, Aberdare, submitted a well-grown Smooth Cayenne pine, weighing about 6 lbs., and was awarded a cultural commendation. From Mr. Allan, gardener to Lord Suffield, Gunton Park, Norwich, came a seedling culinary apple, under the designation of Lady Suffield, which was described as a heavy and sure cropper. The fruit is of medium size, roundish, and of a bright yellow colour.

Novelties.

These were extremely limited in number, and the only certificate granted was that

To C. Dorman, Esq., for

Odontoglossum tripudians superbum.—A distinct and handsome variety, bearing flowers fully three inches in diameter, and richly coloured; the sepals and petals are of a bright chestnut brown, marked at the base and tips with golden yellow, and the labellum of great breadth, the lower half pure white, and the upper half rich purple.

NATIONAL CHRYSANTHEMUM SOCIETY, January 13.

With a view to encourage the cultivation of late flowering chrysanthemums the National Chrysanthemum Society offered for competition at its meeting at the Royal Aquarium, Westminster, on Wednesday last, a series of prizes for cut blooms, and the results were so highly satisfactory as to surprise all concerned. Six classes were provided in the schedule, two for incurved, two for Japanese, one for twelve blooms without restriction as to variety, and one for collections, and, with the exception of the classes for incurved flowers, the competition was very keen. The blooms staged were mostly of medium size and remarkably fresh and the display produced was very bright and effective.

The most important of the several classes was that for collections, as there were six entries, and all the flowers were more or less good. The first prize was awarded to Mr. J. Lowe, Nurseryman, Uxbridge, who had a very large collection of flowers of great excellence. It comprised forty-eight blooms of Princess of Teck, the same number of Grandiflora, twenty-four blooms of Lowe's Late Bronze, which appears to be very similar to Mons. Lemoine, and two stands of mixed varieties. The flowers of the three sorts mentioned were especially fresh, those of the last two being very bright in colour. In the stand of miscellaneous varieties were good blooms of Lady Margaret, Jardin des Plantes, Fulton, and Elaine. Mr. R. Owen, Maidenhead, staged a large and highly attractive collection, and was a very close second. It contained between thirty and forty good blooms of Boule de Neige, a very valuable reflexed variety with pure white flowers, which was certificated by R.H.S. and N.C.S. in December last, and excellent flowers of L'Incomparable, Fair Maid of Guernsey, M. Delaux, Fanny Boucharlet, Nuit d'Automne, Sarnia, Golden Queen, Belle Pauline, Beauté des Jardins, Ethel, Mad. Deveille, Etoile de Fleuri, Dr. Macary, Colibri, Mrs. Mahood, and Fabias de Manderanaz. Mr. G. Bolas, gardener to H. Chandos Pole Gell, Esq., Hopton Hall, Wirksworth, was a good third with a collection consisting of medium-sized and exceedingly fresh flowers, which were tastefully set up with foliage. The chief varieties were Mons. R. Larios, Oracle, Madame C. Audiguier, Elaine, Mons. C. Hubert, Lady Buller, a reflexed flower of a purple colour, and Fleure Marie. Mr. Bettesworth, gardener to R. Ewing, Esq., Burton Grange, Cheshunt, and Mr. J. Walker, Thame, were awarded extra prizes for collections that did them much credit.

The only exhibitor in the class for twelve incurved flowers was Mr. Bettesworth, who had medium-sized blooms of Princess of Teck and Miss Marechaux, but hardly fresh enough to justify the award of the first prize. In the class for six incurved a stand comprising small but very fresh blooms of Jardin des Plantes and Princess of Teck was staged by Mr. J. Walker, Thame, who was awarded the second prize.

The Japanese classes were highly satisfactory, and in that for twelve blooms there were four exhibitors, all of whom presented flowers possessing much merit. At the head of the competitors in the class was R. Falconer Jameson, Esq., Hessle, near Hull, who staged blooms so large in size and high in finish as to compare favourably with those shown at the November exhibition of the society. The stand consisted of four blooms of Triomphe de la Rue des Chatelets, two each of Boule d'Or, and Mons. Comte, a fine purple-rose flower, and one each of Japonaise, Bend Or, Mdlle. Augustine Gautheraut, an exquisitely beautiful flower of a delicate pink colour, and Sceptre de Toulouse. Mr. H. Listen, gardener to Lord Brooke, Easton Lodge, Dunmow, was a good second with medium-sized and especially fresh flowers of Meg Merrilies, Thunberg, Grandiflora, Fanny Boucharlet, Madame C. Audiguier, Comtesse de Beauregard, and Triomphe de la Rue des Chatelets. Mr. Bettesworth was third with a meritorious stand of blooms comprising Mdlle. Cabrol, Cérès, and Fanny Boucharlet. Mr. Sullivan, gardener to D. B. Chapman, Esq., Downshire House, Roehampton, was awarded an extra prize for a good stand in which Boule d'Or, Baronne de Prailly, and Mdlle. L. de Reydelet were

well represented. Mr. Sullivan had also a bright orange-yellow sport from The Khedive, which is said to be very late. For six Japanese flowers, Mr. Sullivan was first with good blooms of Meg Merrilies, Mdlle. Angustine Tezier, a bright orange-coloured flower, Mdlle. L. de Reydelet, and the sport from The Khedive mentioned above. Mr. J. Walker, Thame, was second with a stand containing fresh blooms of Peter the Great and Elaine. There was a very spirited contest in the class for twelve blooms without limit as to class or variety, and the premier award was made in favour of Mr. R. F. Jameson, who staged large, fresh, and well-coloured blooms of Golden Christine, Souv. d' Ardene, Marquise of Lorne, Roseum superbum, Jeanne d'Arc, Mons. Comte, Madame B. Pigmy, Pink Christine, and Mdlle. Cabrol. Mr. G. Bolas was second, and Mr. Bettesworth third. The last-mentioned exhibitor had five exceptionally fine blooms of Sunflower.

The miscellaneous contributions were not numerous, but those staged were of a high degree of merit. Mr. Sinclair, East Linton, Peebleshire, sent two large bouquets of Elaine, the blooms being of full size and perfectly fresh, and received the compliment of a high commendation. Mr. E. Beckett, The Gardens, Alderney Park, Elstree, sent, not for competition, a collection of chrysanthemums, in which the flowers were of magnificent quality. The varieties were: Cérès, Ville de Toulouse, Mons. Astorg, Agréments de la Nature, Mrs. Mahood, Dolores, Triomphe de la Rue des Chatalets, The Daimio, and Madame Eugéne Laujelet, a bright yellow anemone pompone. A certificate of merit was awarded to Mr. Beckett and also to Mr. F. Taylor, gardener to Sir John Lubbock, Bart., M.P., High Elms, Beckenham, for cut chrysanthemums and Roman hyacinths. Messrs. H. Cannell and Son exhibited a collection of exceedingly well-grown primulas, comprising Delicata, Princess Beatrice, Swanley Blue, The Queen, Swanley Giant, and Swanley White Improved, and were awarded a certificate of merit. The firm sent also a group of orange trees in pots, which were furnished with heavy crops of fruit, and attracted much attention. Mr. Walker was awarded a certificate of merit for his Exhibition onion, which was presented in capital condition. Mr. J. Storrocks, Withington, near Manchester, contributed three fine blooms of Boule d'Or; and Messrs. W. and G. Drover, Fareham, submitted a bloom of Syringa chrysanthemum, a light variety, of American origin, which promises to prove a useful addition to the list. Mr. Bettesworth staged a basket of plants of a white Japanese variety in the way of Meg Merrilies, but with flowers of the purest white, and very late, as shown by the fact that the plants were furnished with a large number of buds as well as flowers.

The judges were Mr. W. Holmes, Mr. R. Dean, and Mr. G. Gordon.

HULL CHRYSANTHEMUM SOCIETY.

On the 8th inst. a meeting of this society was held in the Royal Institution, Hull, to hear a lecture by Mr. J. Udale, of Sheffield, on the History and Cultivation of the Chrysanthemum. George Bohn, Esq., C.E., presided, and in introducing the lecturer said he was pleased to be able to say that the Hull Chrysanthemum Society now occupied a leading position amongst kindred associations. He also had very great pleasure in introducing to them one of the most successful cultivators of the chrysanthemum, and the large company that had assembled was a sufficient proof that the executive had not made a mistake in asking Mr. Udale to come amongst them and give them the benefit of his experience.

Mr. Udale, after alluding to the popularity which that society had achieved by its great enterprise, dwelt with considerable detail on the history of the chrysanthemum, and in speaking of the development of the plant, explained that in 1820 there were ten varieties, which had increased to over forty in 1827, and the varieties had increased so rapidly that in 1860 there were no less than 750 growing in one garden. Dealing with the classification of the Japanese and Chinese forms of the plant, he divided this part of his subject into sections, and enumerated the names of the best varieties. This brought him to the most important part of his lecture—propagation and cultivation. He advocated propagating by cuttings. And those that were intended for specimen blooms should be struck by the end of January, and such as the Princess of Wales should be in by November. He assured them that there was nothing illegitimate in dressing, as its object was only to extract from the bloom anything that marred the beauty of the flower. But ladies were better for this work than gentlemen, because they had more patience. He then explained flat, bush, pyramidal, and standard training, dwelt on greenhouse decorations and specimen blooms for exhibition, and advised hand-picking as the best remedy for keeping caterpillars and other insects in check. The lecturer also spoke upon floral decorations for dinner tables and bouquets, and said that the centre pieces should not be more than eighteen inches high, and in making bouquets stiffness, heaviness, and sombreness should be avoided.

An interesting discussion followed, and a vote of thanks to the lecturer and the chairman closed the proceedings.

GROSVENOR GALLERY.

The present winter exhibition at the Grosvenor will rank amongst the great events in the history of English art. It consists of a collection of 160 works by Sir John Everett Millais, comprising his earliest and his latest efforts, his most finished pictures, and his lightest sketches. To very many the exhibition will present a succession of surprises not less because of the splendour of many of the pictures, but because, in some instances, of their lack of power or their travesty of original ideas. Any way, here is our Millais at his best and his worst, and none will doubt that he wortbily occupies the walls that have been in previous years filled with the works of Watts, Gainsborough, Reynolds, and Tadema. To the student of the English school, a new chapter in the history of the pre-Raphaelite movement is revealed in this exhibition, for here are the early and most sincere efforts of a distinguished disciple of that school who has advanced beyond the highest point attained by either Mr. Woolner or the late Dante Gabriel Rossetti; and, in fact, beyond the whole of the brotherhood with their many and various gifts. The "Isabella," the "Ferdinand," and the "Christ in the House of His Parents" are striking memorials of the early workings of the passion for truth to nature and patience in the elaboration of details that constituted the life of the movement and its justification. Its subsequent extravagances that are especially illustrated in recent works by Mr. Holman Hunt are scarcely suggested by anything in this exhibition. With a genius commensurate certainly with that of Sir Joshua and Gainsborough, Sir John Millais transcends them both in power and in daring, for Gainsborough's "Blue Boy" is outdone by the old "Yeoman of the Guard," and neither of his great predecessors who have commanded reverent attention at the Grosvenor has reached the point to which the "Spate" and "Chill October" carry us.

For the casual admirer of pictures this great feast is notable for colour in general and portraiture in particular. The noble picture called the "North-West Passage," admirably reproduced in the Christmas number of the *Illustrated London News*; the "Huguenot," the "Black Brunswicker," the "Ophelia," the "Woodman's Daughter," the "Minuet," and the "Deserted Garden," display the versatility of the master, and tell us much of the growth of his art both in conception and technique. But here we have also the evidences of his simplicity and playfulness in those fanciful pictures of children that we may, without disrespect, regard as the results of the influence of Sir Joshua upon his range of thought; but whatever their origin they entitle him to the distinction of the first painter of childlife of modern times. Sir Coutts Lindsay has once more proved himself a public benefactor, and the Millais exhibition will make a brilliant mark in the history of the Grosvenor Gallery.

Calls at Nurseries.

MR. B. S. WILLIAMS' VICTORIA AND PARADISE NURSERIES, UPPER HOLLOWAY.

THE orchid houses, which form such an important part of these extensive and well-known nurseries, present, even at this dull season, an exceedingly bright and attractive appearance, and serve to show in the most striking manner the immense amount of pleasure and interest a representative collection is capable of affording at all times and seasons. But, gay as are the numerous structures devoted to orchids, they do not by any means constitute the only interesting feature at the present time. There are the camellia, azalea, heath, and rhododendron houses, which, if not so richly furnished with colour as the orchid houses, will not fail to afford abundant interest. Highly attractive, also, are the structures devoted to nepenthes, which are grown with singular success, ferns, palms, and miscellaneous fine foliage and flowering plants.

The orchids well merit first mention, for there are at least fifty species and varieties in bloom at the present time, and some of them are represented by large numbers of flowering examples. The cattleyas comprise C. chocoensis, a charming species with delicate blush-coloured flowers; C. Percivaliana, which is remarkable for its rich colouring, the variety in flower being particularly good; C. Walkeriana, a dwarf-growing species, with comparatively large flowers of a lovely rose colour; and C. Trianæ, of which there are many fine varieties, the best being C. Trianæ Dodgsoni, a magnificent form, with large flowers, the sepals and petals delicate blush, and the labellum rich amethyst purple. Lælias are blooming freely, chief amongst them being L. anceps, of which there are large numbers of spikes in various stages of development. Especially noteworthy amongst the several varieties of this fine species are L. anceps rosea and L. anceps grandiflora, both of which have flowers of large size and superb form; those of the first-mentioned have a bright rose coloured labellum, and those of the last-mentioned a deep purple labellum. L. Albida bella is a charming variety, with full-sized flowers, having a labellum of a pleasing rose colour. L. Dayana is in full bloom, and must not be overlooked. Dendrobium Goldieana and D. superbiens are now at their best, and forcibly demonstrate their great beauty, and D. Ainsworthi gives promise of producing a fine display in a very short time hence, the whole of the large stock of plants being thickly set with buds. Of the various calanthes, there are some hundreds of spikes of showy flowers, comprising C. Veitchi, varieties of C. vestita, which are now at their best, and C. Stevensi, C. Regneiri, and C. Williamsi, which are now coming into bloom, and will contribute to the display for some time hence. Cœlogyne barbata and Phaius maculatus are both in full bloom, and although not so showy as some other subjects possess much beauty, and should not be overlooked. Lycaste Skinneri, of which the varieties are remarkably fine, is now coming into flower, and the rare and handsome L. lanipes is at its best, and contributes in no small degree to the interest of the cattleya house, in which it has a place.

The lady's slippers in bloom comprise upwards of twelve distinct species and hybrids, and of these the most important are Cypripedium Williamsi, a very beautiful form, which will be distributed in the course of the forthcoming season; C. Haynaldianum, C. selligerum, C. Spicerianum, C. Harrisianum superbum, C. barbatum Warneri, C. villosum, C. Ashburtoniæ, C. Meiræ, C. Melanopthalum, and C. Chantini. The last-mentioned is one of the very finest of the forms of the type represented by C. insigne, and the two kinds immediately preceding are remarkably fine hybrids, introduced by Mr. Williams a few years since. The oncids in bloom include Oncidium longipes, O. pretextum, O. pulvinatum, and O. Forbesi, all of which are exceedingly attractive. The odontoglossums are well represented by the exquisitely beautiful O. Alexandræ, of which there are many examples in bloom, amongst them being O. Alexandræ Warneri, which has flowers of very large size and remarkable for the richness of the markings; O. Pescatorei, O. angustatum, and O. luteolum. Associated with the odontoglots are Masdevallia ignea Massangeana, a superb variety, the flowers of the largest size and a brilliant scarlet colour; and M. polystiota, a charming white species, very fine in blooming, and useful for the supply of cut flowers.

The large camellia house will afford an immense amount of interest for some time to come, for the collection is remarkable for its comprehensiveness and richness in large specimens, and the whole of the plants are thickly studded with buds. To enumerate all the varieties worthy of notice would occupy more space than can well be spared, but the following must be mentioned for their exceptional excellence, namely, Madame A. Verschaffelt, blush striped with red; Corradino, bright carmine red, large, and very full; Leon Legnay, brilliant rosy red; Nobilissima, pure white; Mathotiana, red; Mathotiana alba, pure white, large, and very fine; and Thomas Moore, brilliant red, a very handsome variety, and one of the very best of its colour. The rhododendron house, in which the large specimens of such fine kinds as Gibsoni, Countess of Haddington, and Fragrantissima, at once arrest attention. Princess Alexandra is flowering freely, and presents a pleasing appearance. In the stoves Amaryllis Comte de Germiny, a magnificent hybrid, raised by Mr. Williams, is in bloom, and is very conspicuous. The flowers, which are of very large size and superb form, are of a deep rose-pink colour, shading to bright pink at the edge of the segments. It will form a valuable addition to the winter-flowering kinds previously distributed from the nurseries. Amongst the nepenthes that merit special attention at the present time are N. atrosanguinea, N. Hibberdi, and N. intermedia, three fine hybrids distributed by Mr. Williams, and remarkable for the large size and attractive colouring of the pitchers. Very fine also is the superb N. Masteriana, which it would be difficult to over praise.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. WHITFIELD CROFTS.

No. 2.

The soils of Jersey and Guernsey, said by some writers to be naturally fertile—its productiveness said by others to be the result of liberal manuring rather than to any inherent virtue in the soil itself—the law of gavelkind—extraordinary crops—a remarkably poisonous soil—seaweed largely employed as manure—value of the seaweed used—"no seaweed no cornyard"—the climate of the islands—the opinions of several authorities on the subject—statistics.

Now with respect to the soil of the islands. That of Jersey may be generally described as a deep, sandy loam, with a subsoil of red loam or clay based on granite rock or schistose formation. The depth of this soil varies from one to four feet, or more in some cases. Considerable tracts of land have been rendered less valuable owing to incursions of sea and sand. The original fertile soil is buried under some of this land at a depth of from thirty to forty feet.

The character of the Guernsey soil is, says Dr. Maccullock, abundantly fertile, it being the produce of the decomposed gneiss. Dr. Paris* likewise speaks of the soil as very fertile, "a circumstance depending upon the large proportion of felspar and iron which enters into the composition of the granite, and the consequent rapidity with which its decomposition proceeds." Guernsey, he says, "consists of gneiss abounding in felspar, its soil is accordingly fertile; whereas the granite parts of Norway are distinguished by the abundance of quartz, and we therefore find that their superincumbent soils are sterile."

The prevailing impression is that the soil of the islands is exceedingly fertile—naturally so—that, as Douglas Jerrold used to say, you have only just to tickle it with a hoe and it laughs into harvest; but more recent writers on the subject object to the soil of the Channel Islands being called *fertile*; it is *rich* rather than fertile, and has been made so, they contend, by the constant and liberal applications of manures. As phosphorus is generally absent, and only a small percentage of potash is present, the soil is therefore deficient of two highly important elements, so that it can really possess no extraordinary inherent value, and would soon become exhausted but for the fact, already stated, that more is returned to it in the shape of fertilizers than is extracted from it in crops. A great deal has been written and said respecting the superior bulk of the crops in the islands as compared with the yield per acre in England; but we think this has been satisfactorily explained as simply the result of a highly-manured soil, and also, as it has been pointed out, that cultivation on a small scale always yields a better result per acre than when large properties are held in one or a few hands.†

Apropos of this, Mr. Brock, a late bailiff of Guernsey, says (quoted by Mr. Kay, *ante*): "Let the production of the island be compared to that of any 10,000 acres kept in one, two, or three hands in Great Britain, and the advantage of small farms will be obvious." ("Guernsey and Jersey Magazine," Oct., 1837, p. 258; Thornton's "Plea," p. 41). Mr. Lincke truly says, "Without the division of the land, which obtains throughout these islands, the astonishing results, shown by the market gardening trade, could not have been produced. The temporary occupiers of other men's lands cannot plant orchards or build vineries; and as to the potatoes, which must be forced into maturity by the middle of May, the culture they require is so costly that, as a general rule, it will not be applied on a large scale, or to land of which the cultivator is not also the owner."

Mr. F. B. Tupper, in his *History of Guernsey*, says: "In England the average produce of wheat, according to Young, Cobbett, and various agricultural societies, is from 21 to 23 or 24 bushels per acre. In Guernsey it is 33, and 35 bushels have been returned on ground at St. Martin's. One respectable farmer, quoted by Duncan (*History of Guernsey*, 1841), asserts that he once grew at least sixty Winchester bushels per acre.‡ Hay crops average 1½ tons per acre, English weight; parsnips, 22 tons, English acre. Average crop of potatoes is 14 tons to the English acre, but many fields are known to have yielded 20 tons per acre.

Still this fallacy concerning the island soil remains fixed in the minds of the inhabitants. We were continually reminded during our investigations in Jersey and Guernsey of the very superior character of the soil, the farmers and market gardeners seeming to ignore the fact that this was owing so largely, if not entirely, to the immense quantities of manure carted on to the land every year and several times in the year.

While on the subject of soils we may state that in some parts of the islands there exists a very remarkable subsoil which lies in patches at some depth, and consists of a yellowish sandy clay, which is poisonous to plants whose roots touch it. It is described as being "very spongy in texture and almost melts in water." It has but little earthy smell and contains much air, as becomes evident when placed in water. It is full of the small rootlets of plants, generally in a decayed or half-rotten state. When the roots of a plant or tree come into the vicinity of this soil they seem attracted by it and penetrate it readily. After a time the plant or tree looks sickly and ultimately dies. The roots in such cases are always found completely rotten within the range of the poisonous mineral. It is the opinion of the farmers that if the soil is turned up by the plough and mixed with the rest of the land it will in the course of fifteen or twenty years sink down and form a deposit as before at a certain level. This is not probable. Analysis seems to yield us no information as to the cause of the mischief produced by this curious mineral. Neither does a microsocopic examination of the grains of sand lead to any conclusion. It is chiefly a silicate with a trace of iron. On two occasions in Jersey we were shown young trees in a dying state the roots of which it was supposed had penetrated into this poisonous stratum.

We have already referred to the manure as the chief cause of the great fertility of the soil of these islands. Were it not for the fact that so much excellent manure is accessible, it is very improbable that horticulture would ever have assumed the importance in the islands which it has done. The presence of a large population of men and animals returning to the soil all, or more than all that has been extracted from it is an important fact to be considered in this place. But the great abundance of seaweed cast up on the shores of the numerous islands is of first importance when dealing with the subject of manures.

Nowhere is seaweed found in greater abundance, or such variety and such excellent specimens of their class, as on the coasts of Jersey and Guernsey and the smaller islands. Upwards of 200 distinct kinds are found round their shores in their different seasons. It is estimated that a mile of coast under favourable conditions will yield on an average 2,000 tons of weed per annum; and as at least a hundred miles of such coasts exists round the Channel Islands, the extent of these resources of the product is manifest. In Guernsey alone the total amount of weed actually collected in the course of twelve months has been stated to be probably not much under 30,000 loads, and "as the value of each load is estimated at two shillings, the total value cannot at present be estimated at less than £3,000 for manure only."* This estimate was made some forty-five years ago. The figures, if they could be known, must now be very much larger. In Jersey especially, where the culture of the potato has assumed such proportions, exceedingly larger quantities are used. By the poor people this weed (called here, as in Normandy, *varech* or *vraie*) which is distinguished into two classes, *vraie scié* and *vraie venant*, the former being attached to the rocks, and the latter coming in as drift weed, is collected and dried and burnt as fuel, the resultant ashes being sold to the farmers and market gardeners, and sown on the fields and over the potatoes. It is considered to be nearly equal to guano.

A very important matter in a general consideration of the subject of these papers is the excellent and moderate climate which the islands enjoy; indeed, it is to the climate far more than to any other condition—unless it be the breaking up of the land into so many small holdings—that the Channel Islanders owe their great success and good fortune as market gardeners.

A great deal has been written on this subject. Professor Ansted alone, in his work on the Channel Islands, devotes 28 pages to a consideration of the question of climate, and other writers have treated the subject scarcely less exhaustively. In this place we shall attempt little more than to give a very brief *résumé* of the conclusions arrived at by others.

The climate of these islands may be briefly described as exceedingly mild—milder and more equable, it has been thought, than even that of the west of Cornwall. Dr. Clarke considers that of Guernsey to be intermediate between that of the west coast of England, and the western parts of France. "There is no doubt, however," says Dr. S. E. Hoskins, "that it is milder than the latter in winter, and considerably warmer at all seasons than the southern coast of Devonshire, without, however, being more humid—a character which it has rather undeservedly acquired."

There is more sunshine and less rain in Jersey than in Guernsey.† "It may be said," observes Dr. Hooper,‡ "that the island of Jersey enjoys an early spring and a protracted autumn, vegetation being usually active and forward in March, and the landscape of the country far from naked so late as the end of December. The dreary aspect of winter, therefore, is short lived. With rare exceptions, the latter season passes off in soft or windy weather, with intervals of astonishingly mild days, with scarcely any frost or snow. The prevailing winds of this season are the west and south-west, and the actual temperature, its variation and ranges, are all in favour of the island compared with other places in neighbouring latitudes."

Mr. Inglis declares that he has experienced much greater cold, and seen the thermometer much lower for days together, in the most southern parts of France, and even in the south-east of Spain, than he has ever felt or seen in Jersey. During clear weather the neighbouring

* Trans. of the Royal Geological Society of Cornwall.

† The law of gavelkind which obtains in the islands necessarily occasions a minute division of property. Not unfrequently the same field is divided into two or more portions, each portion having a different owner. In this case the field is sown or planted with different crops. This extreme partitioning of the land is thought by some to be injurious. It was argued to us that an individual left with an inheritance of only three or four vergeés of land is rarely in a position to purchase the proper manure necessary to ensure a good crop; and even where farms of from ten to twelve vergeés are possessed by persons destitute of capital little in the way of improvement can be expected. This *petite culture* may have defects, but there is no doubt, judging from the condition of the islands, that the system generally answers, and that peasant proprietorship must commend itself to the majority.

‡ In the *London Magazine* for 1757, p. 514, is the following: "Extract of a letter from Guernsey.—I have had a surprising production in my walled garden, viz, a single grain of wheat, that was set in November, produced in August last 142 ears, from three to six inches long, and the product of these ears was 5,600 grains. The governor, some officers, and abundance of country people have been with me to see the stalk and produce, both of which I preserve as a curiosity for the farmers and naturalists.—(Signed) JOHN TUPPER."

* Duncan's *History of Guernsey*, 1841.

† The mean annual rainfall in Guernsey is rather less than 35 inches falling on 134 days. During the six years of a joint record (1849 to 1855) there were in all 909 days during which rain fell in Jersey and 931 in Guernsey, while the quantity of rain that fell was in the one island 188·6, and in the other 207·7. The Jersey *British Press* gives the following figures for 1883: Mean of the barometer, 30·050; the mean temperature, 51·9; the amount of rain, 33 inches; the number of rainy days, 187; the sunshine hours, 1,886; and the mean humidity, 82.

‡ Observations on the climate of Jersey.

coast of France is often seen covered with snow, while not a flake has fallen in the islands. High winds are prevalent throughout the year. A perfectly calm day, even in summer, is rare; and, generally speaking, says Dr. Scholefield, even the finest weather may be called "blowy." The diurnal range of temperature is said, by Dr. Hoskins, to be only 8 deg., whilst that of the south of England is nearly 15 deg.

The following tabular statement, from the Registrar General's reports for six years of observation, will be interesting as showing the peculiar difference in the readings made at Jersey and Guernsey:—

	Mean Annual Temp.	Mean Daily Range.	Mean Monthly Range.
Greenwich	48·7	16·0	36·7
Torquay	50·1	10 0	25·3
Jersey	50 8	11·6	27·9
Guernsey	50·5	8 0*	20·6

The great climatic advantage of the islands, and of Guernsey in particular, is seen in the winter months. From the following short table (and it is the last we will give) it will be seen that whilst the temperature of the year in Guernsey is only 2½ deg. above that of Greenwich, the autumn temperature is apparently 4 deg., and the winter as much as 6 deg.; but in spring there is a difference of only 1 deg.

	Greenwich.	Guernsey.
Spring months	46·9	47·7
Summer months	60·6	59·9
Autumn months	49 9	53·8
Winter months	38·2	44·2†

Notwithstanding the low temperature of the Guernsey spring months it is surprising that many kinds of flowering plants and shrubs are at least a fortnight earlier there than even in the warm parts of England, and the same applies to the earlier ripening of fruit in the open air though the English summer is warmer than that of Guernsey. This is explained by the equable and benignant character of the climate —a climate to which the islanders owe so much, and which has been justly extolled by every writer on the subject.

NOTES ON NEW VEGETABLES.

Although the number of new vegetables is not this season so large as in some previous years there are sufficient to show that the work of improvement is being proceeded with, and afford abundant entertainment to those who take a special interest in novelties. Knowing how great is the desire at the present season of the year to learn something about vegetables of recent introduction, more especially by cultivators who take part in the various competitive gatherings, I have prepared notes of the newer esculents that have come under my notice during the past year. I shall make the briefest possible reference to the several kinds, and it must be distinctly understood that I shall not attempt to enumerate all that are good. Neither will the selection be limited to those which are now being sent out for the first time, as many cultivators are, I know from experience, desirous of gaining information with respect to recently-introduced kinds that have been in cultivation long enough to be subjected to a thorough trial. As soils and situations exercise a material influence upon vegetables as upon fruits, it would be both interesting and useful to know how far my experience with those kinds introduced previous to this year agrees with that of other cultivators.

Broad and Long-pod Beans have not had any addditions made to them this season, but there are a few comparatively new varieties that deserve to be grown. *Carters' Leviathan* must have special mention for its value for exhibition. The pods attain an average length of fifteen inches, examples over twenty inches long being by no means uncommon. They are invariably well filled, a point of no small importance in a close competition, for good judges are not, as a rule, satisfied with the appearance of the outside of the pods. Of a quite distinct character, and in its way of great value, is *Laxton's John Harrison*, which has been in cultivation two years, and proved a great acquisition. It is immensely productive, and the pods, which are well packed with comparatively large beans, range from nine to twelve inches in length, and are decidedly handsome.

Brussels Sprouts have had so much attention paid to them of late years that all the strains in cultivation are more or less good. The most recent addition to the strains in commerce is *Northaw Prize*, which has been selected by Mr. J. May, gardener to Captain Le Blanc, Northaw House, Potters Bar, and well deserves a trial. The plants are taller than those of the Aigburth, and other "exhibition" strains, some having been exhibited upwards of three feet in height. The finest examples were those staged by Mr. Edmonds, gardener to the Duke of St. Albans, Bestwood Lodge, at the February meeting of the Royal Horticultural Society, and by Mr. J. May, at the exhibition of the National Chrysanthemum Society. In each case the plants were fully three feet high, and thickly studded throughout their whole length with large solid sprouts, which, it may be added, are very delicate in flavour.

Beet of good quality is by no means difficult to obtain, and an ordinary stock of such types as Dell's Crimson, Nutting's Dwarf Red, and Pine Apple, will not fail to give satisfaction when the roots are required simply for the supply of the table. But when required for exhibition the finest types are alone suitable, so keen is the competition in the vegetable classes. It may, therefore, be useful to state that one of the very finest of the types I have grown is *Pragnell's Exhibition*. This was sent out a year or two since by Messrs. J. Veitch and Sons, and is, I know, held in high estimation by some of the leading exhibitors. The roots are rather above the medium size, almost perfect in outline, and of good colour and flavour, and are as well adapted for supplying the table as for forming part of an exhibition collection.

Broccolis have had a few good additions made to them during the past two or three years, the most recent being *Gilbert's Victoria*, which is probably the latest of all the varieties in cultivation. Excellent heads were shown by the raiser at South Kensington on June 9, 1885, when a first class certificate was conferred upon it. Grown in good soil the heads attain a diameter ranging from twelve to fifteen inches, and are of a delicate creamy white; the leaves, as described in the *Garden Oracle*, "overlapping so closely as to effectually protect them from the weather." As Gilbert's Victoria comes in at a time when first class vegetables are extremely scarce, it must be regarded as a most valuable acquisition, and it will undoubtedly soon make its way into general cultivation. *Sutton's Michaelmas*, which was very highly spoken of by Mr. H. Gillett in the Gardeners' Magazine March 28, 1885, is a valuable addition to the autumn varieties, and can be strongly recommended. Plants raised from seed sown early in March will produce heads of medium size and of the finest possible colour and quality during September and the two following months. We have hitherto begun to cut about the middle of the month mentioned, and have had an abundant supply until nearly the end of November. The season could no doubt have been considerably extended by successional sowing, and it might probably be had in good condition until Christmas by sowing about the middle of April. The chief value of the variety, however, consists in its coming in between the cauliflowers and the broccolis.

Cabbage.—Amongst the most recent introductions to this useful group of vegetables is *Allan's Incomparable*, distributed by Messrs. Daniels Bros. This variety is moderately early, turning in immediately after Ellam's Early Dwarf, and has medium-sized hearts, which are exceedingly delicate in flavour when cooked. To such excellent little early cabbages as Carters' Little Pixie, Sutton's Little Gem, and Ellam's, it forms a capital succession, and will be found well suited to the requirements of those who want a good bulk of crop as well as an early supply.

Carrots must be mentioned, for the purpose of referring to *Sutton's New Intermediate*, which has far surpassed the expectations of myself and other cultivators. The roots are larger, and of much finer shape, than those of the best type of James's Intermediate, and in quality and colour they are all that could be desired. It is equally valuable both for exhibition and the table, and should be grown in preference to the variety mentioned, and also the Red Surrey.

Peas have had several good additions made to them, the new introductions comprising early mid-season and late varieties. Cultivators may be advised to grow *Veitch's Selected Extra Early* for the first supplies, as it comes in very early, and produces an excellent crop. One of the most noteworthy varieties introduced this season is *Sharpe's Sir F. A. Milbank*, a wrinkled blue marrow, which promises to eventually take a high place amongst the second earlies. In general character it comes nearest to Sharpe's Early Paragon, which has found so much favour with cultivators, and is highly productive, the pods being very large, and closely packed with peas, which are of a deep green colour, and rich in flavour. *Sharpe's Triumph*, a blue wrinkled marrow, which also has been raised by Mr. Culverwell, is an excellent main crop variety, averaging three feet in height, and remarkable for its productiveness and high quality. *Sutton's Satisfaction*, sent out last year, proved a valuable addition to the main crop varieties, and can be highly recommended. The height is about three feet, and the pods are of large size, well filled, and produced throughout the whole length of the haulm. Last season it stood the drought remarkably well, and afforded a good supply during July last. *Carters' Telephone* and *Carters' Stratagem* are no longer new, but it must be said that they are still unsurpassed in their respective classes, and indispensable in gardens of very moderate dimensions, as well as in those of large size. *Harrison's Exhibition Marrow* will not fail to be appreciated by those who have a strong partiality for Ne Plus Ultra, for it is the best stock of that fine old variety with which I am acquainted.

Runner Beans.—With reference to these it must be said that *Laxton's Girtford Giant* has fully justified the description given when introduced, and is a very desirable addition to the list. The pods attain an enormous size under ordinary cultivation, and are very thick and fleshy. They tell well in an exhibition collection, quite surpassing those of the well-known kinds. It is undoubtedly the very best of the runners for exhibition.

Tomatoes steadily increase in numbers, and the cultivator has now plenty of scope for choice. Amongst the new varieties is *Williams's Golden Queen*, a heavy cropping variety, producing large, handsome fruits of a bright golden yellow, and of high-class quality. *Sutton's Abundance* is well worthy of a trial, and will probably prove not less valuable than *Reading Perfection* and other of the first-class varieties introduced by the firm during the past three or four years. *Carters' Perfection* has well maintained its high character, and having regard to its productiveness, the handsome appearance and excellent quality of the fruit, is not surpassed for general cultivation.

Old Spadesman.

* We may safely state that there is no recorded climate, and probably no climate whatever, in north temperate latitudes on either side of the Atlantic that presents so small a daily range of the thermometer as the Island of Guernsey.—T. Ansted.

† The figures relating to Guernsey were determined by Mr. Glaisher, from observations extending from 1841 to 1856, and were used by Mr. Ansted as standards of comparison for Greenwich.

WINTER PEARS.

The number of first class pears attaining maturity during October and the two following months is so large that in favourable seasons there is no difficulty whatever in keeping the table well supplied with excellent fruit until the end of December. But after that period the available varieties fall away at a very rapid rate, and usually by the end of January not more than fifteen or sixteen really good sorts are left. This season the number is rather above the average, as several of the late sorts, which seldom bear satisfactorily, produced good crops, and will afford substantial assistance in supplying the table during the next eight or ten weeks. Notwithstanding this fact, the fruit-room presents a very different appearance to that which it had in the early part of December. Then the shelves were, as the result of the abundant crop, heaped up with fruit, but now they are becoming so thin that the greatest care will have to be taken of the remaining store. In examining the fruit-room for the purpose of making a few notes for future reference, I was much struck with the change that had been made during the past five or six weeks, and could not help feeling some regret that so few of the really good pears of recent introduction are in season after Christmas. I can speak with confidence upon this point, for I have subjected to a careful trial a considerable proportion of the pears introduced to English gardens during the past twenty years, and not more than four or five of those ripening after the end of the year have been found of any real service. My experience would appear to coincide with that of other growers, for in referring to the list of recently-introduced varieties recommended by the committee of the Pear Congress as worthy of general cultivation, I find that the majority ripen between August and December. It would be a real gain if the list of late varieties could be augmented by half a-dozen or so of first class sorts, for at no season of the year are pears more useful than in the first three months of the year, as we have then no other fruits available but apples and grapes, and it is only where the vineries are spacious that a good supply of grapes can be had throughout these months.

It appears that late pears are not keeping so well as usual, certainly not so well as they did last year, and I am afraid that some of the kinds will not remain in condition so long by three or four weeks as last season. This unfortunate state of things I attribute, in part, to the heavy rainfall for some time previous to the gathering of the fruit, and the mild moist weather which has prevailed with but little intermission throughout the winter. The rain, in fact, came at the wrong end of the season for the pears. In many cases the fruit had come to a standstill before the change in the weather, and then, with the assistance of the additional moisture, it began to swell again, and continued to increase in size until a much later period than usual. Consequently, it contained a much larger proportion of water, and did not attain to the same degree of maturity as in such a favourable season as that of 1884. The mild and moist weather which prevailed up to the end of the year has been decidedly unfavourable to the keeping of the late kinds, for it has materially accelerated the ripening of some and promoted, I am sorry to say, the rapid decay of others. I would add that the soil of our gardens is rather close and retentive, and that we have probably suffered more from an excess of moisture at the end of the summer and the early part of the autumn than in the majority of cases. The following varieties, of which we have good supplies, comprise the best of the late sorts that we grow, and are, I believe, the very best of the pears for use during the early part of the year:—

Alexandre Bivort.—This pear is now almost over, for we have not more than two or three good dishes left; but in cold winters it remains in good condition until nearly the end of January. The fruit is of medium size, and very rich and buttery, and it is a heavy and fairly-constant bearer. We find it especially useful during the Christmas festivities.

Bergamotte Esperen.—This is not a particularly handsome pear, but is of the highest possible quality, and can be strongly recommended. One great point in its favour is its adaptability to various soils and situations, as shown by the large number of times it was shown at the recent Pear Congress. It succeeds admirably as a pyramid or against a wall, but the finest samples are obtained from a wall. We have trees against both east and west aspects, and although there is not much difference, the fruit produced by the trees on the aspect last mentioned is generally the largest and the finest in quality. The fruit is of the shape common to the bergamots, comparatively large in size, and exceedingly rich in flavour. To ensure the production of first class samples, moderate thinning is necessary in most seasons. It is at its best during February and March, but this season we shall, I believe, be able to send it to table soon after the middle of the present month.

Beurré de Jonghe.—Although introduced about twenty years since, and of a high degree of excellence, this pear has not attained to a very high degree of popularity amongst cultivators. We are now sending it to table in quantity, and it is considered by my employers one of the best of the kinds in use during January and February. The fruits are rather above medium size, pyriform, and of good appearance. The flesh is very rich and buttery, and has a very pleasant aroma. This should be included in the smallest collection. It does well on both the quince and pear stock, and is a good bearer; but, to have it in perfection, it must have a position against a wall. We, at all events, find it does best against a wall, and the situation of our garden is by no means bleak and cold.

Beurré Rance.—Our store of this old and justly famous variety is remarkably good this season, for we took the precaution to afford the trees a little assistance during July, when the fruit was swelling. All our trees are against the wall, and when the dry weather set in we applied a heavy mulch of stable manure to the border, or rather, such portion of it as was uncropped, and gave the trees three liberal waterings. With this timely assistance the fruit continued to swell freely, and attained to the full size, and finished off well. The proper season for this pear is formed by February and the two succeeding months; but we shall probably have a few ripe before the present month is out, and I am afraid that we shall not be able to have many after the middle of April.

Beurré Sterckmans.—This useful pear is doing good service at the present time, and will, judging from the appearance of the fruit, afford supplies for fully a month hence. In cold winters we have it in good condition until the end of February, but I am afraid that it will not keep so late this season. The fruit is of medium size, has a good appearance, and is excellent in flavour; but in the latter respect it is hardly equal to one or two others of its season. It is one of the best for pyramids, in which form all our trees are grown.

Chaumontel.—We have a good supply of this pear, but it is not held in very high estimation by my employers, as our soil is rather too cold for it, and in consequence, the fruit is generally somewhat gritty and wanting in richness. Our trees are trained to a wall having a western aspect, and in seasons that are favourable bear rather heavy crops, and it is very disappointing that the fruit is not so good in quality as could be wished. Where this variety does well, as in the western counties, it is one of the finest of the winter pears, but with us it is only second rate.

Easter Beurré is, as a matter of course, in strong force, and the fruit is remarkably good, for the trees were assisted with a mulch of manure, and two or three liberal waterings. To refer to this pear at length is not necessary, but it may be useful to mention the fact that the finest flavoured fruit is that produced by trees having a south-west aspect.

Duchesse de Bordeaux.—Very few cultivators are acquainted with this pear, although one of the best of those attaining maturity during the first three months of the year. It forms an excellent pyramid, is a free and constant bearer, and the fruit is of medium size, handsome in appearance, and delicious in flavour.

Nec Plus Meuris is too well-known to require any lengthy comment. We have a good supply, and in few seasons has the fruit been of better flavour; but it is coming in so fast that it will be over early in March.

Nouvelle Fulvie.—This excellent pear was fairly well represented at the Pear Congress, but not so largely as it should have been; for, taking all points into consideration, it is one of the best of the varieties ripening in February.

Olivier de Serrers.—When well grown this variety will attain a high degree of popularity, unless I am much mistaken. The tree forms a good pyramid, and bears heavy crops in most seasons; the fruit is rather large, rather handsome, and the flavour is remarkably rich. With us it commences to ripen at the end of January, and usually affords supplies until the end of March.

Josephine de Malines.—Like Nec Plus Meuris, this fine pear does not need anything more than the briefest reference being made to it, as it is one of the most highly-appreciated of the late varieties. It is a capital bearer on our heavy soil, and the fruit is invariably of good quality.

Passe Crassane.—Our trees of this variety are now coming into full bearing, and last season we gathered a rather large supply. I am thoroughly satisfied with it, and regard it as one of the most useful pears in its season, which extends from January till March. The fruit is of medium size and of good flavour, but inclined to grittiness.

Winter Nelis.—The supply of this fine old pear will be soon over this season, for it is not keeping so well as usual. But few of the late sorts are more highly appreciated than this, and as it is invariably good, some little regret is expressed indoors when the last dish is sent to table.

Pyrus.

Oranges and Pineapples.—Mr. Consul Hertslet reports a continued decline in the trade between this country and St. Michael's, observing: "The falling off in exports from St. Michael's to England, especially during the past ten years, is, I have good reasons for believing, to be largely due to the increased production of oranges in the south of Spain, which has competed with the fruit of the Azores throughout this period. Various reasons have from time to time been advanced to account for the depression, which has of late resolved itself into a rapid decline in the export of oranges, the staple product of St. Michael's; but I venture to assert that there is no explanation which seems more worthy of being generally accepted as affording a satisfactory solution of this very difficult problem than the one to which I have just called attention. The season of 1873 4 saw the English markets glutted with one of the largest importations of oranges that has ever left these shores; in the season of 1884-5 the export of the same fruit from St. Michael's is the worst that has been recorded for the past 42 years. Cultivators are, as might reasonably be expected, becoming thoroughly disheartened at such a disastrous state of affairs, and those who have not already succumbed to its effects have cleared their land of trees, and planted it afresh with cereals and the sweet potato. In striking contrast to this rapid decline in the orange trade is the marked increase in the value of the pineapple export. Increasing attention has been given during the last 15 years to the cultivation of the last-named fruit; and, according to the return forwarded to me by the Custom House, the exportation last year reached the high figure of 184,400 pineapples, of an estimated value of £19,699. As no pains are being spared to bring the plants to the best state of perfection, there seems scarcely room to doubt that ere long these figures will be considerably exceeded."

A SCENIC CONSERVATORY.

It is surprising that few who are lucky enough to possess the luxury of a conservatory, however small, have any idea how beautiful it may be made to appear by the exercise of a little skill. Even the ordinary plain window-box, with a little management, may be transformed into an artistic object.

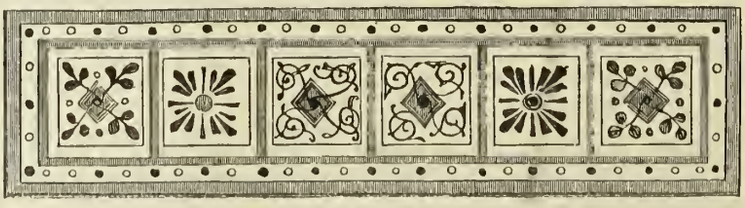
To begin with the conservatory, where there is a blank wall that cannot in all cases be utilized and hidden with plants, the effect is anything but pleasing, but paint it and cover it with artificial scenery and you will be well repaid for your trouble. The accompanying illustration will show at once what is meant.

The lower portion of the background may be painted a bluish grey, graduating towards the top into a warm primrose tint. The rock and vegetation partake of a tropical nature, whilst an Italian or Eastern sunset may be represented in the landscape itself. Without going into details a few tubes of artist's colours are indispensable, of which the following will perhaps be the most useful: Ochre, lemon and orange-chrome, Prussian and ultramarine blue, burnt sienna, Indian, vermilion, and crimson lake reds, Vandyke and umber browns, with two or three greens. These latter, however, are not of importance, as any shade of green can be produced by combination of blue and yellow, modifying with sienna and brown. It is not at all imperative that you shall be an accomplished artist to use these, but have a pot of white lead broken up and work the tints into it as required on a palette, blending or softening or making the work abrupt as may best give the effect. Stage scenery is but a coarse daub when closely looked at, but when at a distance its beauty is at once apparent, provided, of course, it is good of its kind. The aim is artistic effect from a certain point of view, and so it may be with the conservatory wall, for the artificial rockery below and forming the base will remove the painted landscape just far enough from the eye to hide its most glaring defects.

The lower background may be made with white, Prussian blue, and crimson lake, gradually lightening it with the addition of more white until the blue tone leaves it, and then adding orange chrome and burnt sienna to give the sunset hue; setting sun itself being vermilion, crimson lake, and lemon chrome, with white. The clouds will be well represented with shadings of Vandyke brown, umber, sienna, and white. The watercourse may be ultramarine, Vandyke brown, and white, with a flashing of white. The various kinds of vegetation will suggest themselves, varying in colour from an olive brown to scarlet, moss green, &c.

The base, as will be imagined, is to be made up of burrs, spa, virgin cork, ferns, &c., terminating with, if possible, a stream of real water, giving a very natural finish to the whole.

The window-box may easily be made by a fadding amateur. It is necessary first to decide upon the size you want, and get the boards from the saw-mills, and either plane them yourself or give a carpenter



DECORATED CONSERVATORY AND WINDOW BOX.

a trifle to plane them for you. From 5 in. to 8 in. deep and ¾ in. thick is a fair average size and strength. When your box is made fix a small, neat moulding along the bottom and ends, paint the whole a nice terra-cotta colour, made with white lead, ochre, raw sienna, burnt sienna, or Indian red, in depth of tone according to taste. Pick the moulding out either Vandyke brown or black; the border outlined black or chocolate; the pattern velium, made with white and raw sienna. The panels, or quarries, whichever you like to call them, may also be lined between either black or white, whichever may be thought the most effective, and the pattern put on of a paler vellum than the border. The patterns can be bought to any size required, and almost any pattern, at the colour shops, and to use them you simply lay them on the work and pounce them over with a stencil brush. Size No. 5 is a useful one. You must take care to beat out all surplus colour on a board, and keep your stencil design firm and in its place.

When all is dry, varnish, and if the work is carefully done it will look equal in finish to the most expensive and elaborate tilework.

One who has done it.

Mr. J. McIntosh has been engaged as gardener by A. A. Watt, Esq., Thornhill, Londonderry.

BEAUTIFUL BRAMBLES.

Blackberries, as edible fruits suitable for garden culture, have obtained some attention within the past few years, and concurrently the brambles that are useless in respect of their fruits have acquired importance as interesting occupants of the garden, and more especially of the wild garden and the rockery, although amongst them are a few of refined character and good enough for a wall. With the present paper we present a figure of one of the most beautiful of the whole family, and the figure represents it faithfully save in respect of colour. The flowers, it will be seen, are quite double, and the petals finely cut; the colour is a soft purple-tinted rose, very fresh, and well displayed by the dark green and occasionally bronzy foliage. A list in alphabetical order of a few of the best of the brambles may be useful to many readers. As they are all in the genus Rubus, the specific names alone will suffice.

DAISY-FLOWERED BRAMBLE, *Rubus bellidiflorus* (Flowers purplish rose-coloured).

Arcticus is a sweet little rockery plant with a habit not far removed from that of the wild strawberry. The flowers are of a lively rose colour. B.M., 132.

Bellidiflorus is not far removed from the common bramble, but differs greatly in habit and beauty. When in a strong soil it forms a

bush five or more feet high, and produces a sheet of rosy flowers that are quite daisy-like in character. G.M., 1886. A variety with similar daisy-like flowers, but not so beautiful as the true Bellidiflorus, is figured in G.M., 1884, 448.

Biflorus has a white bark, but is not the same as the one properly called leucodermis, which Hooker regards as a variety of Rubus occidentalis. Biflorus is a handsome, free rambler, with neat white flowers, which are not in pairs, as they ought to be, but in clusters of two to five or more. It is a fine garden bramble, producing a handsome edible fruit. B.M., 4678.

Deliciosus is a rocky mountain species, with large white flowers that are as handsome as any of our wild white roses. Whatever the quality of the fruit in its native haunts, when grown in the English garden it is worthless. B.M., 6062; G.M., 1882, 50.

Nutans is a pretty Himalayan species that grows in the way of ivy, carpeting the ground with neat, glossy perennial leaves, borne on shaggy stems, and accompanied with pretty white flowers. B.M., 5023.

Nutkanus is a coarse but handsome upright growing leafy rubus allied to R. odoratus. The leaves are of great size, resembling those of the grape vine; the flowers are white. B.M., 3453; B.R., 1368.

Odoratus is the well-known "flowering raspberry." It is a good shrubby plant, quite hardy, forming a stout compact bush, and producing a good show of large purplish tinted rosy flowers. The fruit is rarely produced in English gardens. B.M., 323.

Paucifolius is a small, bushy bramble, native of China, leaves three to five divided; flowers crimson. Not worth growing. B.R., 496.

Parviflorus is a remarkable plant, native of Nepaul. It is of the most robust growth, rising eight to twelve feet, the root shoots of a rich brown colour, the lateral shoots green, the panicles containing six to nine small flowers of a purple colour, which are succeeded by small black or deep purple berries that have a sweet sub-acid taste. B.R., 854.

Phœnicolasius is a handsome curiosity, native of Japan. It has surmounted a pole ten feet high in the temperate house at Kew, making an interesting object. The flowers are conspicuous by reason of the smallness of the corollas and the great length of the calyx lobes, which close over the ripening fruit. It is regarded as a climbing and much modified form of the common raspberry. B.M., 6479.

Roridus is a native of Madagascar, and a tender plant; it has simple leaves and smallish white flowers. It is called the dewy bramble, from the little transparent glands that surround the petals, giving it the appearance of being sprinkled with dew. B.M., 1607.

Reflexus is a native of Canton, and requires greenhouse cultivation. It grows in the way of common bramble, the leaves are oblong cordate, with short angular lobes, the flowers small, pure white. Not worth growing. B.R., 460.

Rosæflorus coronarius is a greenhouse or wall plant of great beauty, having elegant five-divided leaves and large double white flowers that are exquisitely beautiful. It is sometimes labelled *Rubus sinensis*. B.M., 1783; G.M., 1880, 27.

Spectabilis is an exceedingly beautiful bramble, native of North-West America. The leaves are of a fresh green colour, and prettily three-divided; the flowers are of a rich deep rose. It has disappointed cultivators, and is but rarely seen. B.R., 1424.

Leucodermis is very distinct, the stem being "whitewashed" so perfectly by the pallid hue of the bark as to render it a conspicuous curiosity. It is a strong grower, quite handsome enough for a good wall. G.M., 1884, 230.

There are about forty species and varieties of brambles registered, to nearly all of which there are references in Pritzel. But those that are in the foregoing list, described as desirable, will be found sufficient for most gardens, and the double-flowered and cut-leaved varieties of the common English bramble should have a place with them, because of their very distinctive characters. Perhaps the most desirable of all the ornamental species are R. odorus, R. bellidiflorus, R. leucodermis, and R. rosæflorus coronarius.

KEEPING OF LATE GRAPES.

A FEW items on the keeping of grapes, and when they should be cut and ripened, may be seasonable just now. Judging from past experience, I conclude that by early cutting and late ripening I was on the right tack. In the year 1884 I cleared all off last day of the year, and as I did not start any of the houses until March, the vines had a good rest, and by not firing heavy it made the ripening late. We commenced cutting, November 12, Gros Maroc, Gros Colmar, Alicante, Lady Downes, Alnwick seedling, and last, though not least, Muscat of Alexandria, with the result that to-day (January 5) the first cut are better, that is, plumper, than those I cut December 24.

Between the two dates I cut above 1,100 bunches, a nice little batch to experiment with, and as I have each day's cutting dated, and also various bunches weighed to test the weight, I shall be in a position between this and Lady Day to chronicle the result. Were I asked which is the best keeping, and also at the same time most profitable grape, I should have no hesitation in saying, in very large letters, Gros Colmar. Then the opposite, that is, the worst both for keeping (note this) and also the least profitable, is Lady Downes. You will see I leave flavour out entirely, and this does not affect me. I am only now giving my own experience, and in this I am sure any of the Magazine readers who saw them (to which they are welcome) would say the same.

Alnwick Seedling looks very promising, and this is far superior to Alicante for flavour.

Gros Maroc, selling well in October and November, we did not keep many. These are right, but what appears to me against this variety is the pink or red fruit stalks, and these being not so stiff as Gros Colmar, Alicante, or Lady Downes gives it a *limp* look.

Muscats keep good, but certainly the first cut are the best.

To sum up, it is no good keeping grapes on the vines until the foliage is off or until they begin shrivelling.

What is wanted in a grape room is ventilation and a dry air. Damp in any form is injurious, and the less heat the better. On two mornings my glass stood at 34 deg. This is, I know, very low, perhaps too low to be safe; but knowing the ill effects of fire I am very cautious. I have said a *dry room* is what is wanted. By this I mean no damp in walls, floor, or roof. Using some 200 of Ward's grape troughs, which, by the way, are excellent, far before bottles, of which I have some 300 in use, the atmosphere can never be dry, but walls, &c., *are* dry. Fire must increase in my case atmospheric moisture, so I am careful accordingly. I ought to say that more than once I have had thermometer standing at 34 deg. and full crops of grapes hanging without any apparent injury.

While I have the shrivelling in mind let me say that, excepting Muscats, the *first* to shrivel on the *vine* is Lady Downes; this too when grown in same house under the same conditions as Alicante, Alnwick seedling, and Gros Maroc.

Gros Colmar is grown by itself with more fire and is started the first, yet is the last to ripen. In cutting select the ripest or at least the *best coloured* first. I have italicised best coloured because I believe there is not much question of ripeness but most of colour.

It may interest growers of pale or bad coloured stuff to know that my worst is always cut last and sold *last*, thus quite upsetting the theory of *must* be well coloured to keep. As you may be sure, I do not advocate the making of a lot of bad coloured stuff, but in Gros Colmar we generally have some; as, speaking in moderation, this is always overdone in cropping. The last lot I cut forty bunches from one vine off two rods. I was ashamed to see so many, and how I came to let the crop hang I do not know. But to make sure of better results another season I have cut one rod away. Reverting again to cutting early, I know of a friend who has experimented by cutting at the end of October, and they are keeping well.

Wishing both editor and readers a happy and prosperous New Year.

West Lynn, Norfolk. STEPHEN CASTLE.

The Household.

COLD POTATOES.

IN some houses there are always cold potatoes; in other houses they are absolutely unknown. It depends in some part on the genius of the cook, and in some part on the number and capacity of the appetites. But no matter; the object of this note is to report on two methods we have adopted to make use of cold potatoes. I have no idea of making a lot of work in using up cold potatoes, at all events, what I have to recommend now can be done by any one who is competent to cook food of any kind in a plain and reasonable manner.

A very acceptable way of presenting cold potatoes in a state of transformation is to cut them in thin slices, and fry them a nice golden brown, and serve them up hot with the breakfast bacon. They may be fried in butter, or in the fat of the bacon, the last being the best method, generally speaking. It is an old experience of mine that whoever sits at table with us, when the fried potatoes appear with bacon or chops or fish at breakfast, is sure to eat them, and speak well of them, and ask for more. So far good. The other proposal is an old one, but it perhaps will now have a new shape, for it is nothing less than potato soup.

POTATO SOUP is an excellent thing when nicely made; sometimes it will happen that there is a great heap of cold potatoes, and then it may be prudent to make soup of them. And if there are not enough, freshly-peeled potatoes may be added. It requires some practice to turn out potato soup nicely, but the general plan is simple enough; the cooked potatoes are broken up and boiled in a smallish quantity of water, with a small proportion of onions and turnips, the flavour of which should be slight. Generally speaking, one small onion and one small turnip will suffice if cut up small; but, of course, the quantity must be proportioned to that of the soup. Let them all be boiled a reasonable time, and then beat the pulp through a colander; or, if time presses, beat it in the pot with a large spoon. Now add as much new milk as the quantity of water added originally, and a little flour first beaten up with cold milk to give smoothness and whiteness. Add loaf-sugar, salt, and nutmeg. To determine the right proportions of these is a matter of taste and judgment. The books that say a spoonful of this and half an ounce of that are too dreadfully mechanical; my advice is that you add all flavourings with caution, remembering that, as a rule, sugar and salt may be used rather liberally in many kinds of soups, but spices should always be used sparingly. In the present case a very little nutmeg suffices, but a stick of mace may be thrown in when the flour is added.

This soup should be passed through a strainer into the tureen, and should be ornamented with nice little croquets of thin, pale buttered toast. It is really no trouble when you are used to it, and it seems to suit every appetite. X. Y. Z.

NO ARTICLE in daily use is more adulterated than Tea, and how and where to get a good cup of it becomes more and more difficult. That usually sold is of very inferior quality, often consists of redried and exhausted leaves, is prepared for the English market by cunningly facing or colouring with powdered mineral, plumbago, gypsum, and Prussian blue, and when so adulterated it is palmed off on the unwary as "best" tea. A remedy for this evil is found by using only the world-renowned Tea of Horniman and Co., London. Its strength is amazing, its flavour delicious, its purity beyond compare. It is sold in packets at fixed prices, by Chemists and others. For local Agents see advertisements in all papers.—[ADVT.]

Literature.

KILIMA-NJARO, THE MONT BLANC OF EASTERN AFRICA.

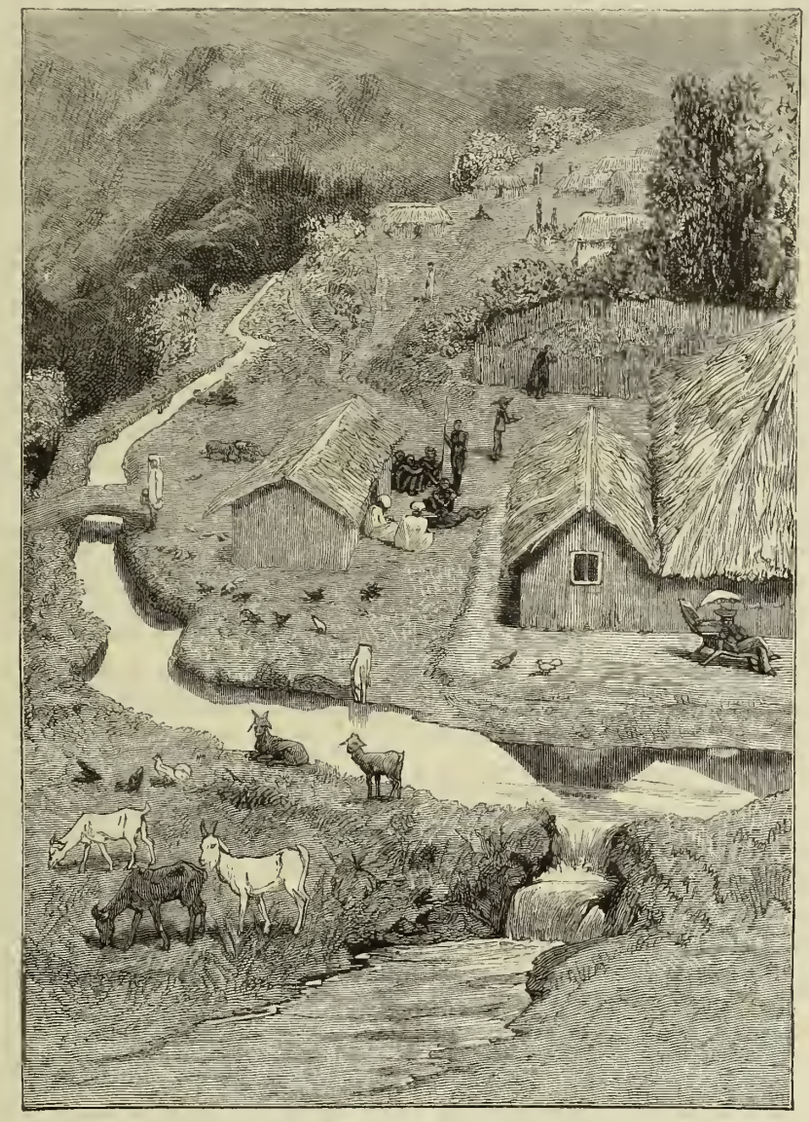
The Kilima-njaro Expedition. A Record of Scientific Exploration. By H. H. JOHNSTON, F.Z.S., F.R.G.S. (Kegan Paul and Co.)—This book has been expected of Mr. Johnston as the necessary outcome of his recent successes as an explorer in Eastern Africa, and it will disappoint none who care more for substantial information and the enlargement of the boundaries of knowledge than for mere adventures that enable the author to pose as a hero or perhaps as a fighter of windmills. Mr. Johnston was the leader of a scientific expedition in a region that, though long known as regards its general characteristics, was, until he and Mr. Thomson took it in hand, practically unexplored. As the result of the labours of those two brave pioneers, we now know something about it, and may, perhaps, properly anticipate the time when adventurous spirits from many lands, and Englishmen perhaps in greatest number, will tread in the footsteps of these explorers, to enjoy some of the finest scenery in the world, and make the acquaintance of some remarkable peoples. What will become of the Masai when travellers drop in upon them frequently may be conjectured. It is possible that for a time they may become worse than they are, which seems difficult, but the end of it must be that contact with civilization will make them better. Indeed, such a state of being as we have revealed to us in the works of the two authors mentioned can continue only while the races are, in a degree, isolated; for Europe to know of their infamies, which are picturesque perhaps, and in some degree pardonable from one point of view, is for them to receive a death blow, and one might almost specify the date when the Masai will cease to be the most immoral set of fine fellows on the face of the earth, and become a community of respectable agriculturists.

Mr. Johnston offers us in his valuable and entertaining book a grand body of information on the language, the natural history, and the ethnology of East Africa. He says he dare not write the name of the great mountain phonetically for the English ear, he can advise the pronunciation thus—*Killy-manjāhro*, an item of information that will ensure for him the thanks of many readers. As regards distance this great mountain mass is easy of access, for it is as near to Zanzibar as Manchester is to London. In fact its distance from the east coast in a straight line is only 175 miles, and Mombasa is the nearest port. In Africa, however, miles are measurements that mean more than mere distance from point to point. They include difficulties and dangers the average traveller knows no more of than of banditti and pack saddles.

Kilima-njaro is a composite mass, and is connected with Abyssinia on the north, Natal on the south, and the Cameroons on the west, by mountain ranges and scattered peaks. Considered as a separate group there are two great summits lying east and west, and from these proceed innumerable spurs and minor mountains mostly running to the south and west. The highest summit is Kibo, 18,880 ft. above sea level; the lesser peak is Kimanwenzi, 16,250 ft. Northward of Kilima-njaro, and not far away, lies Mount Kenia, which is about the same height as Kibo, and may, Mr. Johnston thinks, prove, when carefully measured, a few feet higher. A point of special interest in the exploration of this region is that we have here a snow-clad mountain mass three degrees distant from the equator, and it may be said that all the climates of the world are represented on its broad slopes, from the hot plains that lie to the east to the eternal winter that reigns on the summits. It has been proved on paper that snow-clad mountains cannot exist near the equator, and the task now ranks with the proof that was ostentatiously given of the impossibility of establishing steam traffic across the Atlantic.

After a month's sojourn in Zanzibar to make necessary arrangements Mr. Johnston dispatched his party of thirty carriers to Mombasa to be ready for the journey. The great staple of East African trade is "merikan," or American sheeting. Of this, therefore, many bales had to be purchased and dispatched to Mombasa. Other kinds of "cloth" had to be purchased to serve as money; also Manchester goods of several kinds, beads in considerable variety, coils of iron wire, which the Masai prize as personal ornaments, cowries, gunpowder, looking-glasses, cutlery, bells, mouse traps, cheap musical instruments, guns, playing cards, and gaudy picture books. "For myself," says Mr. Johnston, "I added crates of potatoes and onions, and a dozen live fowls to my precious stock of preserved provisions; while for the men large quantities of Indian corn and yams were bought." With the various loads of material the start was made, and at the outset the usual difficulties were experienced, want of water, discontent of the carriers, and so forth. In the first day's journey we find the leader thrashing his men in order to nip in the bud an incipient mutiny.

The journey up is dreary enough, through a country characterized by sterility with a few lions and other such natives to be met and disposed of as may be convenient. But on reaching the outliers of the mountains the scene changes; in place of thorny mimosas are seen avenues of umbrageous trees and all the varying colours of an exuberant vegetation. "We were now in the precincts of Taveita, but before we actually entered that African paradise we were obliged to halt in the forest where the path was blocked with an immense structure of tree trunks. Just a tiny aperture was left, an entrance three feet high, in the shape of a dolta, and through this we all had to wriggle and crawl, while several of the loads would scarcely admit of passing through, and only the most ingenious twisting and turning effected this end. The first barrier passed, we found ourselves in a small square chamber, where in times of war and rapine suspicious visitors could be inspected and interviewed before being allowed to pass. There was, however, no one to scrutinize us in this gateway, because the 'passport' regulations of Taveita have been greatly relaxed of late years; but a few decades back this elaborate hindrance to free transit was the only protection the wretched Tavietans had against the merciless assaults of the Masai robber bands."



MR. JOHNSTON'S FARM ON KILIMA-NJARO.

The principal determining cause of the character of the vegetation here, as elsewhere, is the plentifulness of water. On the eastern plains the lack of the life-giving element accounts for the prevailing sterility, but in approaching the great slopes the streams fed from the snows afar off ensure to the earth an abundant and varying vegetable clothing. "We walked for some ten miles over an unattractive country, devoid of water, and little better than desert. The hills were sparsely overgrown with sad, grey-looking trees, almost leafless, or else sprinkled with scanty foliage of an olive green. In the rolling plain at their base there was little to break the monotonous yellow of the withered grass. Now and then was seen a *Bauhinia* shrub, or stunted tree, that afforded as little shade as the poor foliage of the eucalyptus, or a thorny mimosa with flattened crown and red trunk, like a conventional tree from a child's box of toys; or, lastly, a few inconspicuous nameless shrubs with leaves of a shiny grey colour, like those of most plants living in semi-desert countries. Once or twice we crossed the dry bed of a torrent, and found therein a more varied, but scarcely more pleasing vegetation. Rampant euphorbias, with fleshy, snake-like, coiling stems, armed with horrid spikes, trailed themselves triumphantly over unresisting shrubs; acacias, which from sheer viciousness had almost done without leaves to bestow all their productive powers on the development of terribly efficacious thorns, threw out their cruel grappling-hooks over the paths, ripped up our faces, hands, and clothing as we passed. Other plants of the lily tribe (debase and wicked members of a beautiful family) grew like swords stuck in the ground point upwards, and woe betide any careless person who put his hand on the apex of their rigid, blade-like leaves—their rapier points would pierce his palm as readily as a sword of steel. But as we had crossed a ridge stretching out into the plain, and our path, from sloping upwards descended a little on the other side, this fantastic vegetation, befitting the precincts of some horrid mediæval monster's lair, modified its character, and became clothed with shrubs and grasses of vivid green, while to our joy we descried some half a-mile ahead a belt of dense purple green foliage, which in these African wildernesses always denotes the presence of water. In fact, a few minutes walk took us from the dull white glare of the hazy noontide in the open, shadeless white, into a cool, delicious bower of deep green shade."

A little state on Kilima-njaro confers on the Taveita district a certain geographical importance. It is the state of Mosi, governed by a chief named Mandara, who proved a good friend to our traveller although he occasionally spiced his conversation by threatening to cut his head off. Mr. Johnston entered on Mandara's paradise with the aid of a chorus of lions, for there were no less than ten of these royal beasts in attendance on his camp the first night of his entry; but on proceeding to the chieftain's abode next day, a salute of twenty-one guns was fired, his sable majesty insisting upon this as due to his independent royalty. A considerable extent of the Mosi country is

described as a land of milk and honey, the kine are handsome, the rivulets many and musical, the flowers brilliantly coloured, and the bees accommodating, for the simple way of securing a honey harvest consists in hanging up suitable boxes which the bees fill and the natives take when ready.

In the face of innumerable difficulties Mr. Johnston established a collecting station for scientific work and entered upon his observations. The position selected for the settlement is described as commanding magnificent views of mountains and plains, snowy peaks, green forests and rivers innumerable. Mandara, of course, commenced the old African game of bleeding his victim under pretence of hospitality. His creatures swarmed upon the settlement, seeking for presents; a pack of trained beggars instructed by the chief. This difficulty was surmounted by means of a strategy, which may be defined in the old terms, defence without defiance. Then, he says, "with a light heart I was able to explore the beauties of my African Switzerland."

But troubles came. Mandara used up the barrels of gunpowder he obtained as gifts as speedily as possible, and then provoked a war with powerful tribes near him, boasting that his white man would pickle them alive. A lot of fighting followed, and much slaughter was done with long spears and short swords; but the grand feature of the conflict was a triumph for science, and literally astonished the natives. Mr. Johnston had brought with him a stock of fireworks, and at night he made a display of these, concluding with a magnificent flight of rockets. No military force could withstand this, the astounded foes fled in dismay, and the war was over. But for the ascent of Kibo it was necessary to remove to Taveita, and after many trials and sacrifices this was accomplished; and again the choice fell upon a spot which is describd as one of the loveliest on the earth's surface. The snowy peaks were mastered, the products of the forests were made a subject of systematic study, and the collections were brought away in safety. The descriptions of the scenery and the people of these mountain lands constitute the chief interest of the book for the generality of readers, but for the scientific there is a heap of information on the plants, animals, and minerals; the physical characteristics and the languages of the peoples. Mr. Johnston's book will rank with the best of the important series to which it belongs, and will advance in interest and value as attention is further directed to the remarkable regions in the midst of which it was written.

LEGENDARY PLANTS.

By RICHARD FOLKARD, Author of "Plant Lore, Legends and Lyrics."

PART III.

Ecclesiastical Legends.

LEGENDS OF THE DEVIL.

BUT it must not be supposed that the Church has appropriated the whole store of supernatural Plant Legends. On the contrary, the Devil, who we know must have "a finger in every pie," has claimed his share thus: Among the Sicilians, the mother of the Apostle Peter is the subject of many legends. She is always represented as bad and niggardly. The only thing she ever gave away was the leaf of a Leek, which she flung to a beggar, who importuned her one day as she was washing her potherbs. When she died, hell received her. Years afterwards, Peter, the doorkeeper of Paradise, heard a piteous voice saying: "Son Peter, see what torments I am in. Go, ask the Lord to let me out." So Peter went and asked. But the Lord said, "She never did a nail-paring of good. Except this Leek-leaf she never once gave a scrap away. However, here is a Leek-leaf; this angel shall take it, and shall tell her to lay hold of the other end, while he pulls her up." So Peter's mother grasped the Leek-leaf; but all the souls in torment ran after her, and clung to her skirts, so that the angel was dragging quite a string of them after her. Her evil disposition, however, would not permit her to keep quiet. It grieved her avaricious temperament that anyone besides herself should be saved; so she struggled and kicked, in order to shake the poor souls off, and in so doing tore the saving Leek-leaf, and fell back again, and sank deeper than before.

In the Ukraine, there is a tradition that on one occasion the Devil besought the Almighty to make him a present. God responded: "What is there that I can give you? I cannot part with the Rye, or the Barley, or the Millet: I must give you the Oats." The Devil, well pleased, withdrew, crying, "Hurrah! the Oats, the Oats, are mine!" Then St. Peter and St. Paul inquired of God, who replied: "What can I do, seeing that I have handed them over to him?" "Verily," said Paul," I will at once go and get them from him." "How will you manage that?" "Leave that to me," replied Paul. "Very well—go!" St. Paul passed the Devil, and hid himself beneath a bridge. Presently the Devil came along shouting "Oats! Oats!" St. Paul commenced to shriek. The Devil stopped short. "Why have you thus frightened me?" he asked. "God has given me a plant, and now you have made me quite forget its name. "Was it Rye?" "No." "Wheat?" "No." "Could it have been the Sow-thistle?" "Ah! that was it, that was it!" exclaimed the Devil, and he ran off shouting "Sow-thistle, Sow-thistle."

There is another version current of this legend, in which it is said the Reed belongs to the Devil, and has, in fact, been his habitation since the days of Jesus Christ. One day, having met the Saviour, he prayed Him to give to him as his portion the Oats and Buckwheat, because, after having assisted the Almighty to create the world, he had never received for himself any consideration. The Saviour consented, and the Devil was so delighted, that he skipped off without even thanking his benefactor. The wolf met him, and seeing him so elated, asked him why he was jumping and skipping about? This question confused the Devil, who, instead of replying "because God has given me the Oats and Buckwheat," said: "I am skipping because God has given me the Reed and the Sow-thistle."

In South-east Devon and the neighbourhood, a curious legend is current among the farmers respecting St. Dunstan and the Apple-trees. It is said that he bought up a quantity of Barley, and therewith made beer. The Devil, knowing that the Saint would naturally desire to get a good sale for his beer, which he had just brewed, went to him and said, that if he would sell himself to him, then he (the Devil) would go and blight the Apple-trees, so that there should be no cider, and, consequently, there would be a far greater demand for beer. St. Dunstan, naturally wishing to drive a brisk trade in his beer, accepted the offer at once; but stipulated that the trees should be blighted in three days, which days fell on the 17th, 18th, and 19th of May. In the almanacs, the 19th is marked as St. Dunstan's Day, and, as about this time the Apple-trees are in blossom, many anxious allusions are generally made to St. Dunstan; and should, as is sometimes the case, a sharp frost nip the Apple-blossoms, they believe they know who has been at the bottom of the mischief.

Historical Legends.

Our second group of plant legends embraces those of historical associations. Amongst the flowers of which its history takes cognisance, *noblesse oblige* that first mention should be made of the Rose of England, which, however, can scarcely be classed as a distinctive emblem until the Wars of the Roses, when the houses of Lancaster and York respectively took red and white Roses as their respective badges. Tradition says that the Thistle was adopted as the symbol of Scotland from the following circumstance: A party of invading Norsemen or Danes attempted to surprise the Scottish army by night. Under cover of darkness they approached the slumbering camp, but one of them trod upon a prickly Thistle, and his involuntary cry of pain roused some of the Scots, who flew to arms and drove back the foe. The Irish legend runs that when St. Patrick first preached the Gospel to the heathen Irish, the doctrine of the Trinity was the great stumbling block; but picking up a trefoil or Shamrock leaf which grew at his feet, he by its means explained so lucidly to them the possibility of the Trinity in Unity, that on that point there was no further difficulty. From this circumstance it is presumed that the Shamrock came to be chosen as the symbol of Ireland. It is unsatisfactory to find, however, that several trefoils contest the honour of being the national symbol—the most favoured being the *Trifolium repens* (a variety of white clover); the Medick, or None-such, and the Wood Sorrel. The Welsh claim the Leek as their national cognizance, and this vegetable "trophy" is said to be in memory of a great victory obtained by the Welsh over the Saxons; on which occasion, they, by order of St. David, placed Leeks in their caps in order to distinguish themselves.

Drayton relates another legend, which runs as follows:—

"There is an aged cell, with Moss and Ivy grown,
In which, not to this day the sun has ever shone.
That reverend British saint, in zealous ages past,
To contemplation lived, and did so truly fast.
As he did only drink what crystal Hodney yields,
As fed upon the Leeks he gathered in the fields;
In memory of whom, in each revolving year,
The Welshmen on his day that sacred herb do wear."

The so-called "Lily of France" is in reality the beautiful Iris. The Franks of old had a custom, at the proclamation of a king, to elevate him upon a shield, or target, and place in his hand a reed of Flag in blossom, instead of a sceptre, and from thence the kings of the first and second race in France are represented with sceptres in their hands like the Flag with its flower, and which flowers became the armorial figures of France. There is a legend that Clotilda, the wife of the warlike king Clovis, had long prayed for the conversion of her husband, and at length Clovis, having led his army against the Huns, and being in imminent danger of defeat, recommended himself to the God of his sainted wife. The tide of battle turned, he obtained a complete victory, and was baptised by St. Remi. On this occasion, owing to a vision of St. Clotilda, the lilies (Iris) were substituted in the arms of France for the three frogs, or toads, which Clovis had hitherto borne on his shield. In the pictures of St. Clotilda, she is generally represented attended by an angel holding a shield on which are the three *Fleurs de Lys*. This occurred early in the sixth century. Louis VII., in consequence of a dream, assumed it as his device in 1137, when engaged in the second expedition of the Crusaders, and the Iris flower soon became celebrated in France as the *Fleur de Louis*, which was first contracted into *Fleur de Luce*, and afterwards into *Fleur de Lys*, or *Fleur de Lis* (Lily-flower—although it has no affinity to the Lily), and was incorporated in the arms of France, and formed one of the embellishments of the crown.

Another historical plant is the Broom, to which the Plantagenets owe their name. According to Skinner, the house of Anjou derived the name of Plantagenet from Fulke, the first earl of that name, who, it is said, having killed his brother in order that he might enjoy his principality, afterwards, touched by remorse, undertook a pilgrimage to Jerusalem as a work of atonement; and being there soundly scourged with Broom-twigs, which grew plentifully on the spot, he ever after took the surname of Plantagenet, and bore the *Genêt* as his personal cognizance, which was retained by his noble posterity. Another legend, however, relates that this badge was first adopted by Gefroi, Earl of Anjou, the father of Henry II., and husband of Matilda, Empress of Germany. Passing on his way to the battlefield through a rocky pathway, on either side of which bushes of yellow Broom clung firmly to the boulders, or upheld the crumbling earth, Gefroi broke off a branch and fixed it as a plume in his cap, saying, "Thus shall this golden plant ever be my cognizance—rooted firmly among rocks, and yet upholding that which is ready to fall." He afterwards took the name of Plantagenet (*Planta genista*) and transmitted it to his princely posterity. His son Henry was called the Royal Sprig of Genista, and the Broom continued to be the family device down to the last of the Plantagenets, Richard III.

The Hawthorn is the distinguishing badge of the royal house of Tudor. When Richard III. was slain at Bosworth, his body was plundered of its armour and ornaments. The crown was hidden by a soldier in a Hawthorn-bush, but was soon found and carried back to Lord Stanley, who, placing it on the head of his son-in-law, saluted him as King Henry VII. To commemorate this picturesque incident, the house of Tudor assumed the device of a crown in a bush of fruited Hawthorn.

The Gentian (*Gentiana*) was so called after Gentius, King of Illyria, who first discovered the medical virtues of this bitter plant. Gentius having imprisoned the ambassadors sent to his court by the Romans, they invaded his kingdom, conquered it, and led the royal botanist and his family in triumph through the streets of Rome. The old name of this flower was *Gentiana cruciata*, and it was also called *S. Ladislai Regis herba*, in regard to which latter appellation, there is a curious legend: During the reign of King Ladislas, the whole of Hungary was afflicted with the plague. Compassionating his unfortunate subjects who were dying by thousands, the pious king prayed that if he shot an arrow into the air, the Almighty would vouchsafe to guide it to the root of some herb that might be employed efficaciously in arresting the terrible plague. The king discharged an arrow, and, in falling, it cleft the root of the *Cruciata* (Gentian), which was at once tried, and found to possess the most astonishing curative powers when administered to sufferers.

A very similar legend appertains to the white and red Carline Thistles, which derive their name from Charlemagne Carl de Groote, of whom the legend relates that—"a horrible pestilence broke out in his army, and carried off many thousand men, which greatly troubled the pious Emperor. Wherefore, he prayed earnestly to God; and in his sleep there appeared to him an angel, who shot an arrow from the cross-bow, telling him to mark the plant upon which it fell, for that with that plant he might cure his army of the

pestilence. And so it really happened." The plant upon which the arrow alighted was the Carline Thistle, and, as Gerarde tells us, Charlemagne's army was, through the benefit of the root, delivered and preserved from the plague.

A reference to the Violet must complete our notice of historical plants. In 1814 pictures were circulated in France apparently representing merely a bunch of innocent-looking violets, but a close scrutiny of the *shadows* cast by the flowers enabled the careful observer to discover portraits of the first Napoleon and his wife and son. The Violet became identified with the Bonapartists during the Great Napoleon's exile at Elba. His adherents, in allusion to the time he was expected to return to France, toasted his health under the name of Caporal Violette "or the flower that returns with the spring." Byron makes him take leave of his adopted country in these words:—

"Farewell to thee, France! but when liberty rallies
Once more in thy regions, remember me then;
The violet grows in the depth of the valleys,
Though withered, thy tears will unfold it again."

Work for the Week.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY must be ventilated freely in favourable weather, or mildew and damping will prevail, and many plants pushing their flowers will cast them unopened. But to give air there must be a gentle fire, so that for the next few weeks keep the fire going steadily, whether the temperature be mild or severe; in the case of mild weather, give plenty of air, and have a look round to see if any plants are suffering from want of water. A high night temperature is most mischievous, and is the common failing everywhere, especially in small gardens.

ERICAS require great care at this season, as overmuch artificial heat is injurious, and damp and frost are not much less so. In mild weather give air, and at all times be careful to avoid pouring water about the house, as such a course will end in their suffering from mildew, which is one of the worst enemies with which they have to contend.

PELARGONIUMS of the decorative class must be encouraged with the aid of an increased temperature and as much air as weather will allow. It is common for them to be assailed with green-fly when the new growth of the season commences, but if the cultivator is on the look-out, and puts a stop to that pest in good time it may be got rid of for two months to come. Keep them as near the glass as possible, and of course avoid anything approaching a forcing process.

STOVE AND ORCHID HOUSE.

EPIPHYLLUMS are most valuable for winter decoration under proper management. As they go out of bloom repot or top-dress them, place in a warm and light position in the stove, and supply them rather liberally with water. During the summer season keep them in a light, airy position in the greenhouse, and they will be in splendid condition for starting in heat in the following November for winter bloom.

ORCHIDS at rest that have pseudo bulbs such as the cattleyas and dendrobiums must be kept rather dry at the roots for the present, but those coming into bloom will require a moderate degree of moisture. The plants in bloom must be placed where they will not be subject to drip, as the flowers quickly become discoloured and lose their beauty when water falls upon them. This is especially necessary in the case of the odontoglossums, of which several beautiful species are now in bloom.

STOVE PLANTS in bloom at the present time include Anthurium Scherzerianum, Begonia fuchsioides, B. Roezli, Eucharis Sanderi, Hymenocallis macrostephana, and Poinsettia pulcherrima.

FORCING AND ORCHARD HOUSE.

CHERRIES in the forcing house must be managed with great care, or the flower buds will fall prematurely. Keep a regular temperature of about 45 degrees, letting it fall to 40 degrees at night, and after the trees have made a start raise the heat to 55 degrees, which will suit them admirably for flowering. Let the atmosphere be rather moist at first, but drier when the flowers begin to open.

PEACHES AND NECTARINE trees in flower may be greatly helped by shaking the trellis, or whisking a light brush over them, to disperse the pollen. Rough play with the trees will do more harm than good, but any slight agitation will assist materially in setting the fruit.

VINES must be pruned without delay, or the usual result of late pruning—that is to say, bleeding—will follow, and this will injure the vines immensely. Vines started will require care during changeable weather to prevent injury to the young leaves by frost or fire, and especially to guard against too high a night temperature. All shoots not required for wood, and on which no fruit appears at the proper time, to be removed as soon as possible, as, for example, it is not well to allow two shoots at one joint, or a cluster of shoots where there is a bend in the leader.

STRAWBERRIES should enjoy as free a circulation of air as the weather will permit, and they require as much air and sun as possible as soon as the fruit begins to colour. Use no more heat than needful to keep them in free healthy growth, or the crop will be worthless; this fruit cannot, in fact, be hurried. A temperature ranging from 50 deg. to 60 deg., the latter with sun-heat, will be the most suitable.

FRUIT GARDEN AND ORCHARD.

PLANTING must be completed as early as possible; but, as the latter part of January is one of the most uncertain times of the whole year, the planter must be cautious, and avoid taking up more trees or making larger purchases than he can deal with quickly and completely, for in the midst of the work may come hard frost, a deluge of rain, or long-continued snow. Better let the trees lay in by the heels a few weeks than plant them, unless the ground is really in a proper condition.

SEASONABLE FRUITS include Adams's Pearmain, Golden Pippin, Blenheim Orange, and King of Pippins apples; Alicante, Black Prince, Lady Downes, and Muscat of Alexandria grapes; Beurré d'Aremberg, Duchesse de Bordeaux, and Glou Morceau pears.

FLOWER GARDEN AND PLEASURE GROUNDS.

DAHLIAS, of which it is desired to raise large stocks, may be started in a gentle heat for cuttings. Lay the tubers on the soil over the hotbed in a propagating house, or on a bed of warm hops or dung, and when the shoots are two inches long take them off and strike them.

EVERGREEN SHRUBS should not be transplanted or in any way disturbed for a few weeks hence.

LAYERING of hardy shrubs may be practised now for increase of stock. Draw down a suitable branch and peg it to the ground, to mark where the tongue should be cut. Then enter the knife on the under side and make an incision half through the wood, and turn the knife toward the top of the shoot, and cut a slit an inch or an inch and a half long; peg it down firm, and cover the tongue with an inch or two of soil.

ROSES to be planted as soon as possible, if not already done. In light soils standards will thrive better if some clay is dug in with the manure. Roses on their own roots need a lighter soil than briers. Roses will not thrive unless the ground is effectually drained, deeply stirred, and liberally manured.

KITCHEN GARDEN AND FRAME GROUND.

ASPARAGUS should be forced in a temperature ranging from 45 deg. to 60 deg.; beyond 65 deg. it should never be allowed to rise. When the heat goes down below 45 deg. apply a lining of hot manure round the bed, and cover the lining with straw or thatched hurdles, to shoot off wet and prevent cooling down by wind or frost.

BEANS AND PEAS pushing through the ground need some protection both against frost and vermin. If the weather is mild and open, sprinkle them slightly with soot or plentifully with wood ashes. This will keep off slugs and snails. If the weather is cold, and likely to be severe, strew over them any light, dry, warm material that may be handy, such as chaff, waste hay, or even dry fine earth. In places exposed to the wind, branches of spruce thrust in aslant so as to overhang the rows will be of considerable service, and may save many a promising piece of plant from destruction.

CABBAGE.—If any likelihood of requiring early supplies of summer cabbage, sow now a few of the early-hearting kinds in boxes or pans, and start in a gentle heat.

CAPSICUMS, TOMATOES, AND EGG PLANTS for early crops to be sown at once, and placed in heat. Use light rich soil, sow thin, and prick the plants out to strengthen as soon as they are large enough.

CAULIFLOWERS.—Sow in pans or shallow boxes, and treat as advised for cabbage, remembering that these are more tender in constitution, and will require a little more nursing.

CELERY to be sown for very early supply. A small pan of seed will suffice. L t the soil be rich and fine, the seed to be very lightly covered. To prevent evaporation, lay a square of glass over the pan after sowing the seeds, but remove it when the plants appear above the surface of the soil.

HOTBEDS may now be made up for every kind of early work. In many suburban districts it is no easy matter to obtain hot dung for the purpose, on account of the immense demand from the beginning of February to the end of April. Where there is any risk, the amateur should remember that every scrap of dry fibrous material can be made available to increase the mass for the production of heat. Straw, fern, mouldy hay, and leaves are all of value to mix with dung, for the continuance of the heat depends entirely on the bulk of undecomposed fibre in the mass.

KITCHEN CROPS of every kind required for spring sowing may be sown in very small breadths, and with the exercise of judgment as to the prospects of the weather. Warm sheltered situations should be selected.

LETTUCE.—Sow a pinch of Cabbage and Cos varieties in boxes, as advised for cabbages and cauliflowers.

POTATOES of early kinds that have made short, hard, purple sprouts may be at once planted in a frame or pit for securing an early crop. To force potatoes it is only necessary to have a gentle bottom heat from a large mass of fermenting material, such as newly-gathered leaves, a bed of light rich earth containing a good proportion of leaf mould and charred rubbish, and some old frames and lights.

RHUBARB in the open quarters to have six inches of rotten dung heaped over the crown of each plant, for it is impossible to grow good crops without the aid of liberal dressings of manure. The roots may be planted now, and old stools divided.

VEGETABLES IN SEASON include asparagus, beet, Brussels sprouts, tops of Buda, Jerusalem, and Green Curled kales, carrots, celery, coleworts, endive, French beans, Jerusalem artichokes, lettuce, mushrooms, onions, parsnips, rhubarb, seakale, salsify, savoy, shallots, and turnips.

TRADE CATALOGUES.

THOMAS S. WARE, TOTTENHAM, LONDON.—*Flower Seeds, Hardy Perennials, &c.—New Blackberries, Gooseberries, and Pœonies—Hybrid Gladioli.*

DOBIE AND MASON, 62, DEANSGATE, MANCHESTER.—*Reliable Seeds, &c., for Garden and Farm.*

STUART AND MEIN, KELSO, N.B.—*Amateurs' Gardening Guide.*

KELWAY AND SON, LANGPORT, SOMERSET.—*Manual for* 1886, *Seeds, Bulbs, Gladioli, &c.*

B. SODDY, 243, WALWORTH ROAD, LONDON.—*Spring Catalogue,* 1886.

HOOPER AND CO., COVENT GARDEN, LONDON.—*Spring Catalogue.*

J. MATTHEWS, ROYAL POTTERY, WESTON-SUPER-MARE.—*Price List of Flower Pots, Roofing Tiles, &c.*

LUCOMBE, PINCE, AND CO., EXETER.—*Vegetable and Flower Seeds.*

MAXIME CORNU, MUSEUM NATURELLE, 27, RUE CUVIER, PARIS.—*Seeds collected in the year* 1885.

GOATS FOR COTTAGERS.—At the half-yearly meeting of the British Goat Society it was reported that during the year the committee have been able to supply some goats to cottagers on the instalment system, with very satisfactory results. They believed that this arrangement with cottagers, especially those residing near commons, would be found more suitable to their requirements than the suggested "three acres and a cow," and it was hoped that as the society progressed, and became more generally known this important benefit might be considerably extended. In reply to an inquiry, Mr. Holmes Pegler (hon. sec.), stated that cottagers who had been supplied with milch goats almost invariably showed their appreciation by the regular payment of the instalments agreed upon. A discussion ensued with reference to a forthcoming goat show, and the conditions of entry for the first volume of the society's herd book.

"THERE IS UNQUESTIONABLY" no better remedy in the whole world for all cough and throat troubles than Keating's Lozenges—any medical man will assure you of this fact. Relief is speedy; they contain no strong acting, but only simple drugs; the most delicate can take them. Sold everywhere in 13½d. tins.—[ADVT.]

Correspondence.

EQUAL PRIZES.

I NOTICE this query and your reply at page 16 of the Magazine. As I read the inquiry the information conveyed is rather meagre. If it means that two equal seconds had been awarded as well as the first, then I don't wonder at the committee being in a fix to know what to do, because I should say there was nothing in the schedule to warrant the judges in awarding the prizes in such a manner. Respecting equal first, it is a pretty generally recognized rule that the first and second prizes should be equally divided. In that case no second prize is awarded, and I have never known any dissatisfaction arise when that course has been adopted, either by the committee or exhibitor.

J. C. C.

AN ORCHID SOCIETY.

As an old cultivator of orchids, I have read with considerable interest Mr. Burbidge's letter at page 23, in which the formation of an orchid society is proposed. I have read the letter with care as well as with interest, and although the case in favour of such a society being established is stated with great ability, I fail to find any really satisfactory reason why effect should be given to the proposal. We are told that the chrysanthemum, the rose, and other classes of flowers have societies specially devoted to them, and we are then asked, "Why should we not have an orchid society?" The fact that there are already so many special societies is to my mind one of the strongest arguments that could be advanced in opposition to Mr. Burbidge's views. In the first place the subscriptions to the several societies impose a heavy tax upon those who occupy a leading position in the horticultural world, and in the second the multiplication of special societies weakens the general societies, such as those at South Kensington, Regent's Park, and Old Trafford. It may of course be said that no one is compelled to contribute to the funds of all the societies. Strictly speaking, there is no compulsion, but I know that it is extremely difficult for leading horticulturists to refuse to subscribe to any movement without giving offence to those directly interested. As regards the influence of the special societies upon the great general societies, I am persuaded that we require at the present time a concentration rather than a diffusion of effort. The large societies should be more strongly supported by cultivators of the several classes of plants that obtain attention at the present time, not only by their becoming members or Fellows as the case may be, but by their contributing liberally to the exhibitions the subjects in which they take a special interest. Were they to do this they would, in most cases, have sufficient influence to prevent their favourites being neglected to any appreciable extent. But the multiplication of small associations so materially weakens the large societies that it is quite impossible for them to perform their work in a thoroughly efficient manner. It is idle to suppose that if two or three exhibitions of orchids are held annually under the auspices of a special society that the exhibitions at Regent's Park and Manchester would not suffer in consequence. There are but a certain number of orchid growers who exhibit, and if there is any material increase in the annual exhibitions some must necessarily suffer. Mr. Burbidge evidently has no idea that the proposed orchid society would be otherwise than beneficial to the great central bodies, for he says "it would strengthen the hands" of those societies which at present "open their lists to orchid growers." Or, in other words, the proposed orchid society would provide a certain portion of the money offered as prizes for orchids at London, Edinburgh, or Manchester. But I believe that the providing of prize money by outsiders is a source of weakness rather than of strength, and, generally speaking, it has a demoralizing effect. There are other objections to the scheme, but I am afraid of occupying too much of your space; but I must say, in conclusion, that the existing societies are quite sufficient for encouraging cultivators, and dealing with novelties as they make their appearance.

A VETERAN ORCHIDIST.

Law.

KEEPING PIGS NEAR LONDON.

IT is generally believed by residents in the suburbs of London that the keeping of pigs is altogether prohibited by recent Acts having reference to sanitary matters. A case, full of instruction on the subject, is now before us, and will prove of considerable interest to many of our readers.

At Wandsworth, Mr. Sheil heard a summons for keeping pigs in an unfit place in Southfields, Wandsworth, the proceedings being instituted by the Local Board of Works. Mr. W. W. Young, solicitor to the Board, said three persons were summoned. There were five piggeries, in which 200 animals were kept without any drainage, the manure being thrown over the land and causing a nuisance. Mr. Sheil held that he had nothing to do with the drainage, and said he had to decide that the place was unfit, however clean the pigs might be kept. In the summons against a man named Oaks it was stated that he had 45 pigs, but they were 236 feet from the road and 280 feet from the houses. Mr. Sheil looked at the plan of the locality, and said the piggeries were surrounded by open land. Mr. Young contended that the place was unfit, as the pigs caused a nuisance. Mr. Sheil suggested to Mr. Young to go to the Legislature, who had not the courage to prohibit the keeping of pigs in the metropolis. At the request of Mr. Young, Dr. R. A. Lamprey, assistant medical officer of health, was called, and he stated that the pigs were in a filthy condition and caused a nuisance. Mr. Richard Boyd, assistant manager of the Royal Paper Mills, Garrett Lane, said the smell from the piggeries, though they were 500 yards distant, was abominable. Mr. Young stated that they had some of the inhabitants present who would give similar evidence. Mr. Sheil decided against the Board, and said Mr. Young could indict the defendant or proceed under the other section of the Act of Parliament for keeping pigs in a dirty state. As the Legislature allowed pigs to be kept in the metropolis, how could he say that a place was unfit when it was surrounded by open land? He wished the Boards would confer together and resolve to ask the Legislature to pass an Act to prevent the keeping of pigs within the police-court districts without a licence, as it was monstrous that persons should be allowed to poison others for their own profit. Mr. Young said the question was under consideration. The summons was dismissed, Mr. Sheil holding that there was no proof of a nuisance within the meaning of the Act. The other summonses were withdrawn.

Replies to Queries.

B. L.—Your Marechal Niel is probably too cold and wet at the roots for the temperature overhead. Time will mend the matter, and the less it grows for the present the better.

Reepham.—It will be more effectual to dust the ground amongst young plants, and especially seed beds, when the slugs come forth with milder weather. To dig in lime will not improve the case at all.

H. P.—Gardeners' Royal Benevolent Institution is located at 50, Parliament Street, Westminster. The United Gardeners' Benefit Society is in charge of Mr. McElroy, gardener, Campden Hill, Kensington.

Names of Plants.—F. G. Whitby.—Linum trigynum. G. S.—Tabernæmontana Camassa; 2, Sericographis Ghiesbrechtiana; 3, Rivina humilis; 4, Griffinia hyacinthina. W. F.—1, Monochætum sericeum multiflorum; 2, Sparmannia Africana; 3, Salvia Bruanti. Amateur.—1, Cypripedium insigne; 2, Dendrobium moniliforme.—B. P.—1, Hibbertia volubilis; 2, Isolepis gracilis; 3, Cyperus alternifolius; 4, Coprosma Baueriana; 5, Jasminum nudiflorum; 6, Abutilon vexillarium.

Bouvardias.—E. Bristow.—The bouvardias appear to be very badly infested with the pineapple scale, Coccus bromeliæ, and red spider, and we would suggest dipping the plants that are not in bloom in some approved insecticide as the best means of getting rid of the pests. The examples in flower should have their leaves sponged with a mixture similar to that in which the others are dipped. Sponging the leaves will be very tedious, but you must either adopt an efficient remedy or destroy the stock. Gishurst Compound and Nicotine Soap are both excellent insecticides, and should be used of as high a degree of strength as is consistent with the safety of the plants.

Grapes for Greenhouse.—Constant Reader.—The two grapes most suitable for a greenhouse are Buckland Sweetwater and Black Hamburgh, and as the last-mentioned is decidedly the best, and usually the most highly esteemed, the two varieties should be planted in the proportion of one cane of Buckland Sweetwater to three of the Black Hamburgh. It will not be advisable to attempt the culture of the Alicante and other of the late varieties in the greenhouse, as they require a higher temperature than they can have without injury to the general stock of plants, and it will moreover be extremely difficult to keep the fruit in good condition far into the winter because of the moisture rising from the plants occupying the stages. The climber of which you send a spray can be grown most successfully in the greenhouse. It cannot be named without flowers.

Obituary.

RECENTLY, after a long illness, Mr. DAVID PARRY, many years gardener at Gwaeny-nog Hall, Denbigh.

Recently, Miss M. D. MUTRIE, the accomplished painter of flowers and fruit, and frequent exhibitor of pictures at Burlington House and elsewhere.

A few days since Mr. WILLIAM BROWN, Florist, of Hendon, was found drowned in a well in the nursery. It appears from the statement of particulars, that the cover was on the well, and this imports into the case a peculiar difficulty.

On the 9th inst., Mr. JAMES FERGUSSON, F.R.S., the eminent author of the "History of Architecture," and of the "Inquiry Into the True Principles of Beauty in Art." He was the author of the celebrated article on "Stonehenge," in the *Quarterly Review*, and of a work on "Rude Stone Monuments," in which he endeavoured to connect the so-called Druidical remains in the West of England and in Brittany with the history of the Celtic races, and more especially the events of the Arthurian age. It was under his direction that Miss North's Picture Gallery, in the Royal Gardens, Kew, was constructed, and it represents his conclusions as to the manner in which the Greek temples were illuminated. His age was 78 years.

Markets.

COVENT GARDEN.

FRUIT.

Apples .....per ½-sieve	2s. 0d. to 3s. 6d.
Apples, American, per bar.	10s. 6d. ,, 20s. 0d.
Cobs, Kent.... per 100 lbs.	25s. 0d. ,, 30s. 0d.
Grapes .....per lb.	1s. 0d. ,, 4s. 6d.
Lemons ..... per case	10s. 0d. ,, 12s. 0d.
Pears, Dessert....per doz.	1s. 0d. ,, 2s. 0d.
Pears .....per ½-sieve	2s. 0d. ,, 4s. 0d.
Pine-apples, English, per lb.....	1s. 0d. ,, 1s. 6d.
Pine-apples, St. Michaels, each.....	3s. 6d. ,, 7s. 6d.

VEGETABLES.

Artichokes, Globe, per dz.	4s. 0d. ,, 5s. 0d.
Beet .....per doz.	1s. 0d. ,, 2s. 0d.
Beans, French ....per lb.	1s. 0d. ,, 2s. 0d.
Brussels Sprouts ..per lb.	0s. 3d. ,, 0s. 4d.
Cabbages .....per doz.	1s. 6d. ,, 2s. 0d.
Carrots .....per bun.	0s. 4d. ,, 0s. 6d.
Cauliflowers .....per doz.	2s. 0d. ,, 3s. 0d.
Celery.....per bun.	1s. 0d. ,, 2s. 6d.
Coleworts, per doz. bunch.	4s. 0d. ,, 6s. 0d.
Cucumbers .....each	1s. 0d. ,, 1s. 6d.
Endive ..... per doz.	1s. 0d. ,, 2s. 6d.
Garlic .....per lb.	0s. 4d. ,, 0s. 0d.
Herbs .....per bunch	0s. 3d. ,, 0s. 4d.
Horse-radish .... per bun.	3s. 0d. ,, 4s. 0d.
Lettuces, Cabbage, per doz.	1s. 6d. ,, 2s. 0d.
Leeks.....per bun.	0s. 3d. ,, 0s. 4d.
Mushrooms .....per basket	1s. 0d. ,, 1s. 6d.
Onions .....per bushel	3s. 0d. ,, 4s. 6d.
Onions .....per bunch	0s. 4d. ,, 0s. 6d.
Parsley .....per bun.	0s. 3d. ,, 0s. 6d.
Parsnips.....per doz.	1s. 0d. ,, 1s. 6d.
Radishes ..per doz. bunch	1s. 0d. ,, 2s. 0d.
Salsify .....per bun.	1s. 0d. ,, 1s. 6d.
Savoys.....per doz.	2s. 0d. ,, 3s. 0d.
Small Salading ..per pun.	0s. 3d. ,, 0s. 4d.
Spinach ..... per bushel	4s. 0d. ,, 5s. 0d.
Tomatoes .....per lb.	1s. 0d. ,, 1s. 6d.
Turnips .....per bunch	0s. 6d. ,, 0s. 8d.
Shallots.....per lb.	0s. 3d. ,, 0s. 0d.

CUT FLOWERS.

Abutilons....per doz. bun.	2s. 0d. ,, 4s. 0d.
Azaleas ..per doz. sprays	1s. 0d. ,, 1s. 6d.
Bouvardias ..... per bunch	1s. 0d. ,, 1s. 6d.
Callas .....per doz.	4s. 0d. ,, 8s. 0d.
Camellias, per doz. blooms	3s. 0d. ,, 6s. 0d.
Carnations, per doz. blms.	1s. 0d. ,, 2s. 0d.
Cyclamens, per doz. blms.	0s. 6d. ,, 0s. 8d.
Epiphyllums, per doz. blms.	0s. 9d. ,, 1s. 0d.
Eucharis, per doz. blooms	4s. 0d. ,, 0s. 0d.
Gardenias, per doz. blooms	7s. 6d. ,, 18s. 0d.
Heliotropes, per doz. sprays	0s. 6d. ,, 0s. 8d.
Hyacinths, Roman, per doz. sprays	1s. 6d. ,, 2s. 0d.
Lapagerias, per doz. blms.	2s. 0d. ,, 3s. 6d.
Marguerites, per doz. bun.	4s. 0d. ,, 6s. 0d.
Mignonette, per doz. bun.	4s. 0d. ,, 0s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 8d. ,, 1s. 0d.
Poinsettias, per doz. heads	4s. 0d. ,, 8s. 0d.
Roses .....per doz. blms.	2s. 0d. ,, 4s. 0d.
Roses, Tea..per doz. blms.	2s. 0d. ,, 3s. 6d.
Tropæolum ..per doz. bun.	2s. 0d. ,, 3s. 0d.
Tuberoses .....per doz.	1s. 0d. ,, 1s. 0d.
Tulips ....per doz. blooms	1s. 0d. ,, 1s. 6d.
Violets.....per doz. bun.	1s. 0d. ,, 1s. 0d.
Violets, de Parme, per bun.	4s. 0d. ,, 5s. 0d.
Violets, Czar	1s. 0d. ,, 2s. 0d.

BOROUGH AND SPITALFIELDS.

POTATOES.

Regents .....per ton	80s. to 120s.
Magnum Bonum .....per ton	65s. ,, 100s.
Reading Hero .....per ton	60s. ,, 70s.
Scotch Champion ....per ton	50s. ,, 70s.
Victorias .....per ton	70s. ,, 100s.

GREEN FRUIT.—Messrs. Keeling and Hunt report: Demand for Oranges is somewhat better, but Lemons remain without alteration; more enquiry for Nuts of all description; American Apples are dull of sale; Valencia Onions selling more freely; over supplies of Valencia and Sicilian Mandarin Oranges have caused prices to rule very low; St. Michael Pine Apples are in request.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Mora.	London Bridge. After.	Liverpool Dock. Mora.	Liverpool Dock. After.	M.tmp. avrg. of 10 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
24	S	**3rd Sunday after Epiphany.**	7 52	12 22	4 33	10 30	9 51	4 42	5 4	1 43	2 7	38·3	Calanthe Williamsi	Cochin China.	24
25	M	Princess Royal married, 1858.	7 51	12 30	4 34	11 42	10 20	5 27	5 49	2 29	2 52	38·4	C. lutea	"	25
26	Tu	Sydney, New South Wales, founded, 1788.	7 50	12 49	4 36	Morn.	10 48	6 11	6 35	3 14	3 36	38·5	Cattleya Warscewiczi	Brazil.	26
27	W	(Last Quarter, 1h. 31m. morn.	7 49	13 1	4 38	0 51	11 16	6 59	7 25	4 0	4 24	38·6	Cypripedium Meirax	Gard. hyb.	27
28	Th	Battle of Aliwal, 1846.	7 48	13 13	4 40	1 59	11 48	7 52	8 22	4 50	5 17	38·8	C. racianopthalmum	"	28
29	F	George III. died, 1820.	7 46	13 24	4 42	3 2	After.	8 56	9 33	5 47	6 21	38·9	Epidendrum vitellinum	Mexico.	29
30	S	King Charles I. beheaded, 1649.	7 45	13 33	4 44	4 0	1 2	10 14	10 52	6 57	7 39	38·9	Lælia superbiens	Guatemala.	30

ROYAL HORTICULTURAL SOCIETY.

The PRESIDENT, COUNCIL, and FELLOWS of the ROYAL HORTICULTURAL SOCIETY will hold their FIRST ANNUAL DINNER on TUESDAY, FEBRUARY 9, the day of the Annual General Meeting, the President, Sir TREVOR LAWRENCE, Bart., M.P., in the chair. The dinner will be held at the Criterion at Half-Past Six p.m. precisely.

Tickets 30s. each (including wine), must be applied for on or before Saturday, February 6. Further information and tickets can be obtained from Wm. Lee, Esq., Downside, Leatherhead, or at the Office of the Royal Horticultural Society, South Kensington.

N.B.—Each Fellow can purchase one extra ticket for a friend.

HUDDERSFIELD CHRYSANTHEMUM SOCIETY.—The THIRD ANNUAL EXHIBITION will be held in the TOWN HALL, HUDDERSFIELD, on FRIDAY and SATURDAY, NOVEMBER 12 and 13, 1886. JOHN BELL, Hon. Sec.

THE FOURTH TAUNTON CHRYSANTHEMUM SHOW is fixed to take place THURSDAY, NOVEMBER the 18th, 1886, when several valuable and special Prizes will be offered. Schedules will be issued without delay, and may be obtained from the hon. secretary and treasurer, ROB. H. POYNTER, The Nurseries, Taunton.

Auction Sales for the Ensuing Week.

TUESDAY, JANUARY 26.—Messrs. Protheroe and Morris, at their Central Sale Rooms, Rooms, 67 and 68, Cheapside; Orchids.

WEDNESDAY, JANUARY 27.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Lilium auratum and others, Roses, and Plants, &c.

WEDNESDAY, JANUARY 27.—Messrs. Protheroe and Morris, at the Exotic Nursery, Tooting; Nursery Stock.

FRIDAY, JANUARY 29.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

THE GARDEN ORACLE for 1886 is on the same plan as former issues, the present being the twenty-eighth publication of this work. It contains complete lists of the New Plants, New Flowers, and New Fruits, and a Complete List of the New Parliament.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, JANUARY 23, 1886.

SPECIAL SOCIETIES have served so many useful purposes that we are usually much more disposed to encourage them than to make discovery of their weak points or diminish the ardour of their promoters. But even such admirable, because special, organizations must be kept within reasonable limits, more especially in any given locality. The proposal to establish an Orchid Society raises the question, because it appears to make appeal to a locality where special societies are sufficiently numerous already. If the lovers of orchids desire to establish for their own special use a centre of correspondence and of mutual action in the interests of their favourite pursuit, there can be no great difficulty in carrying into effect the proposition of Mr. F. W. Burbidge. Indeed, in the face of a want generally and deeply felt, the thing need be no sooner said than done, although it may prove somewhat difficult to pull the strings effectually from Dublin. That, however, is a matter of comparatively small importance as compared with another that demands more than a moment's consideration.

It is proposed to render the Orchid Society in a measure auxiliary to the Royal Horticultural Society, a sort of feeder or "rate in aid." Whether, if efficiently organized, it will prove to be so remains to be seen, for it cannot be predicated of it that it must prove a source of strength and not of weakness. But it must be evident to all observers that a connection with South Kensington must be established in one way or other, and it may be not the less evident that very much of the life of the thing must be derived from that house of call for all the talents in horticulture. This point being clearly apprehended there comes into view a matter of fact that has hitherto obtained but slight attention, and it is that the supporters of special movements there are few in number, and heavily burdened with the special societies that in so large a degree are dependent upon them for money, time, and talent. To be a member of a committee there means to be liable, in the way of politeness, for the solvency of innumerable undertakings. In the way of the law the liabilities are few, but there is ever a cause in need of help, and its high claims are not to be lightly ignored by men whose sympathies run parallel with many forms, perhaps with all forms, of horticultural endeavour. There have been indications of late that the habitués of South Kensington are somewhat disposed to chafe at the frequency of appeals to their public spirit and generosity. The Pelargonium Society was dissolved while yet in a thriving state, because the men who had to find the ways and means saw that it could be kept going only by the exercise of pressure on its diminishing circle of friends, and it was honourably abolished, and its surplus of funds handed over to another special society having at least kindred aims. It is not for us to say that any existing society might with advantage be similarly disposed of, but we can with safety say that the supporters of special societies are comparatively few in number, and always include a certain number of persons who are as heavily taxed as they can bear to be in their behalf. Each society gathers up a school of adherents, but it makes appeal at last to a school that has a kind of universal character, out of which both men and money are taken for a considerable variety of special undertakings.

Orchid growers are sufficiently numerous to form and sustain a society, and if the need for such a thing is felt a moderate amount of energy prudently bestowed will suffice to start the thing with a prospect of success. But we do hope that those who are favourable to the project will consider how the case stands in respect of South Kensington. Is the proposed society the more likely to strengthen or weaken the venerable R.H.S.? The first duty of all in this connection is to sustain the parent society, and perhaps a concentration of energies may be more favourable to that end than any kind of diffusion. And, again, is it to be expected that the men who bear the burden of committee work and the judging of the exhibitions, and who subscribe liberally to the many undertakings that are promoted up there, are to be looked to for the means to make and manage the proposed new undertaking?

It is not for any one to say that there is no further need for special societies, and we shall not seek to damp the ardour of those who are now contemplating an addition to the number. But the matters mentioned above appear to us to be of practical importance. A new society, to be successful, must appeal to a constituency not already heavily weighted with the care of special institutions, and it must give promise of strength to the R.H.S. or it will fail to attract the sympathies of earnest horticulturists. Whatever the shortcomings of the chartered corporation, its usefulness in the present and its fortune in the future depend on the concentration within its boundaries of the energies of horticulturists generally, inclusive of specialists and all varieties of horticultural taste and talent. If an Orchid Society is established, will it improve on the Orchid Conference, and where will it call its forces together?

MR. A. HIGGINS has been engaged as gardener at Ashleys Hall, Berkhampstead, the residence of A. F. Lucas, Esq.

MR. JOHN STRINGER has been engaged as gardener by W. B. Paget, Esq., Southfield, Loughborough, Leicestershire.

AN EXHIBITION OF LOCAL MANUFACTURES will be held at Birmingham in connection with the meeting of the British Association. It will be opened September 1.

THE QUEEN'S SPEECH states that measures for "facilitating the sale of glebe lands in a manner adapted to the requirements of the rural population," and "removing the difficulties which prevent the easy and cheap transfer of land," will be submitted in the course of the Session.

A POCKET HANDBOOK TO THE FLORA OF THE ALPS is being prepared by Mr. A. W. Bennett for the use of tourists.

READING HORTICULTURAL SOCIETY will hold its exhibitions June 2 and August 26.

HUDDERSFIELD CHRYSANTHEMUM SHOW will be held November 12 and 13.

ROYAL NORTHERN HORTICULTURAL SOCIETY.—At a meeting of the acting directors, Mr. Councillor Lyon was elected Chairman, and Major Crombie, Vice-Chairman for the present year.

ODONTOGLOSSUM ANDERSONIANUM, bearing flowers with double labellums, columns, &c., was exhibited by Mr. J. O'Brien at the January meeting of the Scientific Committee of the R.H.S.

EXTRAORDINARY TITHES will obtain the attention of the House of Commons on the motion of Mr. Bolton, M.P., who will introduce a Bill for their abolition. The revolt against them brings the law into contempt, and of that mischief we have seen too much of late years.

FORESTS OF FRANCE cover only twenty-two million acres, the extent of the country being over two hundred thousand square miles, or 128,000,000 acres. One hundred years back the acreage of forest amounted to about twenty times the present total.

A DOUBLE LAPAGERIA has been forwarded to us by Mr. James Martin, gardener to C. N. Kidd, Esq., Dartford, Kent. It consists of two smallish flowers united by a fusion of the petals on one side. Instead of calling it double, perhaps it should be regarded as a case of twins.

IRIS RETICULATA is reported by Mr. Ware to be flowering now in the open ground, and he sends a sample of a new variety with smallish flowers that is considered somewhat earlier and hardier than the type. Such weather as now prevails will assuredly put a stop to all outdoor flowers, however hardy they may be. With the new Iris reticulata come flowers of Narcissus (corbularia) monophyllus, white as snow.

MESSRS. SUTTON AND SONS' SPECIAL PRIZES FOR 1886 include a series offered in connection with the several exhibitions of the Royal Horticultural Society, at South Kensington, and comprise such subjects as melons, cucumbers, cauliflowers, peas, cabbages, tomatoes, potatoes, &c. Also prizes offered in connection with Oxford and Reading exhibitions. Persons interested in the seprizes are advised to obtain the list direct from Messrs. Sutton and Sons, Reading.

POPPIES VERSUS HOPS.—A novel proposition has been submitted to the farmers of Kent as a possible remedy for the existing depression in agriculture. This is, that in conjunction with the growing of hops they should try the experiment of cultivating the poppy for the purpose of obtaining a supply of opium. If the idea is favourably received by the agriculturists of the hop county, it is (so states the local papers) intended to promote a series of lectures on the subject.

THE WEATHER continues wintry, and although the cold has been less severe the general conditions have been more unpleasant than during the last term of frost. There are changes at hand, but we fear they will not prove of an agreeable nature, for when fog and frost have run their course, there will be floods to follow. The outlook is not inviting, and the eastern counties will probably be more disturbed than the western, but the west will have less than its usual share of comforts.

ROYAL HONOURS TO THE SEED TRADE.—Messrs. James Carter and Co., who have supplied their celebrated grass seed and other specialties to H.M. the Queen for nearly twenty years, have received the honour of a Royal warrant appointing them upon her Majesty's service as seedsmen. Messrs. Carter have for many years held special Royal warrants as seedsmen to H.R.H. the Prince of Wales, H.R.H. the Duke of Connaught, H.I.M. the King of Italy, and H.I.M. the King of Portugal.

ROYAL HORTICULTURAL SOCIETY.—The annual general meeting will be held at three p.m., on Tuesday, February 9. The following will be proposed for the honorary offices: *President*, Sir Trevor Lawrence, Bart., M.P.; *Treasurer*, William Haughton; *Secretary*, William Lee; *Auditors*, John Lee, James F. West, Wm. Richards. The members of council retiring are G. T. Clark, F. du Cane Godman, F.R.S., and Sir P. Cunliffe Owen, K.C.M.G., &c. In the room of these will be proposed Sydney Courtauld, A. B. Mitford, C.B., and Baron Schröder. The President, Council, and Fellows will dine together at the Criterion on the evening of the same day.

NORTH OF SCOTLAND HORTICULTURAL ASSOCIATION. — The monthly meeting of the North of Scotland Horticultural Association was held on Friday evening, 15th inst., in the hall of the Christian Institute, Aberdeen. There was a good attendance, the president (Mr. Peter Harper) occupying the chair. The subject for discussion was, "Should science or practice obtain most prominence in discussions on horticultural subjects?" Mr. A. Robson (Aberdeen) ably supported the case in favour of science, and Mr. J. Henderson (Wellwood) was as entertaining on behalf of practice. A capital discussion ensued, and, on a division, the advocates of science were in a great minority.

OXFORDSHIRE CHRYSANTHEMUM SOCIETY.—The twenty-third annual meeting was held in the Council Chamber, Oxford, on Monday evening, January 11. R. Buckell, Esq. (the Mayor) presided. There were over forty members present. The report read by the secretary spoke to the general flourishing condition of the society, although last year, owing to a wet, winterly show day, and the near approach of the General Election for the city and county, the receipts fell £32 short of the previous year, resulting in a loss of £17 11s. 11d. on the year. The balance-sheet showed that the society had a balance at the bank of £26 18s. The officers of the society were re-elected, two fresh names being inserted in the list of committee. The usual complimentary votes of thanks were accorded to the chairman and officers.

HOLLIES IN THE WORCESTER NURSERIES.

ON a sunny day before the frost came I had an opportunity of a walk through the nurseries of Messrs. Richard Smith and Co., Worcester. And as this is a hollyberry season, I gave particular attention to the holly plantations. The stock of hollies numbers about 40,000 trees in about 50 varieties; and there are in addition many hybrids raised here from seed some sixteen years ago that are now beginning to display their proper characters. It was a special object of my inspection to make note of such as were showing fruit, and one note I made, that anyone may make almost anywhere just now, to the effect that the common holly, Ilex aquifolium, is bearing an immense crop, and presents a resplendent appearance when lighted with clear sunshine, as it has often been during the past two months. Two of the named kinds arrested attention by their fruitfulness and glorious wealth of colour. These are Aquifolium album pictum, and Argentea variegata, which have brilliant leafage as well as glowing berries.

Aquifolium.—The common holly bears smallish berries of the most brilliant scarlet colour. Some trees are quite barren, which may be taken as evidence that they produce only male flowers. There is no named variety more fruitful; a very large proportion are less so.

Camelliæfolia.—The camellia-leaved holly, a fine variety, has large ovate smooth scarlet berries, the crop rather thin but showy.

Contorta, a handsome twisted leaved variety that shows no berries.

Crenata and *Crenata variegata.*—Two small-leaved and scarcely attractive, but very interesting plants. Natives of China and Japan; appear not to have fruited in this country.

Donningtonensis must rank amongst the most beautiful hollies for its fine habit and dark neat foliage. It does not display a single berry.

Ferox, the hedgehog holly, takes three or four forms; green, silver, gold, and variations of both; all are barren.

Fructo-luteo is of course yellow-berried, It is one of the most useful of garden hollies, and it now shows a heavy crop of handsome berries, that in some places are of a clear yellow, and in others a full orange colour.

Ghesbrechtiana (a name variously spelt) is applied to a good garden holly that does not bear berries.

Grecian holly bears a heavy crop of red berries.

Henderson's holly bears a large crop of scarlet berries.

Heterophylla, the various-leaved holly, is a good variety that does not bear berries.

Hodginsi, a great holly for the north, and for smoky towns, and more especially for London; does not bear berries. It comes near to Shepherd's holly in its fine broad foliage.

Latifolia, the broad-leaved holly, with laurel-like foliage; bears a thin crop of red berries.

Latispina, with distinctive armature; bears a small crop of red berries. The *minor* variety of this also shows a smallish crop.

Laurifolia is well known as one of the best garden hollies; in growth it is a beauty and it flowers freely, but produces no berries.

Maderensis, the Madeira holly, produces a good crop of red berries.

Minorca or *Balearica* is a well-known large-leaved handsome holly. It now shows a good crop of handsome red berries.

Myrtifolia, the pretty myrtle-leaved variety, is quite barren,

Opaca, a thick-leaved sort, has a good crop.

Ovata, with very dark leaves, is barren.

Platyphylla, broad leaved, no berries.

Recurva, leaves bent back, no berries.

Serratifolia, leaves distinctly toothed, berries small, crop thin.

Whittingtonensis, a pretty variety, a smallish crop of red berries.

Angustifolia aurea is a fine variety, with golden leafage and a thin crop of scarlet berries.

Album pictum has brilliant variegation and a great crop of glowing scarlet berries.

Aureum pictum is a beauty in leafage, and the more attractive now by reason of a moderate crop of red berries.

Milkmaid is a well-known variety, with variegation in the centre of the leaf, berries scarlet, and in good plenty.

Argentea variegata.—A brilliant silver-leaved variety, berries scarlet, a heavy and very showy crop.

Aurea maculata is also known as *Clouded Gold.*—The specimens here are remarkably fine, the result of careful pruning and frequent transplanting. A heavy crop of scarlet berries.

Golden Queen is well known as a brilliant golden-leaved variety. It bears no berries, and its name should not delude us; it is a male variety.

Bromeliæfolia aurea marginata might compel one to ask "What's in a name?" It is a handsome gold-margined holly, bearing a fair crop of very bright scarlet berries.

Handsworth Silver Weeping bears a heavy crop of bright scarlet berries.

Latifolia aurea marginata, a showy variety, is barren.

Madame Briot, with golden foliage, barren.

Silver Spined is barren.

Waterer's.—Fine gold margined, appears never to bear berries.

Weeping Aquifolium is a grand lawn tree, very fruitful and showy.

Aurea maculata.—A showy and vigorous variety; a large crop of brilliant scarlet berries.

Elegantissima picta, also known as *Hibberd's Favourite*, is very handsome in leafage, but quite barren.

Aurea picta, a good variety, barren.

Hispina (?)—A thin crop of scarlet berries.

W. G.

CO-OPERATIVE FARMING.—A good deal of interest was excited some time ago by the co-operative farming experiment made by Mr. Bolton King on his Warwickshire estate. The balance-sheet just issued for the past year is disappointing. Although the season has suited the land, and the crops have been exceptionally good, the balance-sheet shows a loss during the year of £612 19s. 8d. This is attributed to the great fall in the price of live stock, which during the year has decreased in value to the extent of 30 to 40 per cent. But for this depreciation the valuation would have brought £800 more, and the balance-sheet would have shown a profit of £200. The associates received £781 for wages, but Mr. Bolton King is a creditor for £4,704 principal, £222 9s. 2d. interest, and £178 rent, which is only at the rate of 10s. per acre.

METEOROLOGY OF 1885.

By H. COURTENAY FOX, M.R.C.S., F.R. Met. Soc., Stoke Newington.

ONCE more the time has come to present a brief summary of the principal features of the weather during the past year, ere they have faded from our recollection. A review of the year leaves on the mind fewer points of special interest than some that have gone before. There were no great extremes of temperature or of rainfall, with the exception of the great drought of July; nor were any storms of extreme force encountered in the neighbourhood of London. The most prominent features of 1885 were its dry and sunny summer, and its cloudy, cold, and wet autumn.

The greater part of 1884 was (as mentioned in my last report) exceptionally warm and dry. Even the previous year (1883) had been a dry one; so that by the end of 1884 there was a deficit of ten inches in this fertilizing element, to be carried forward against the new year.

The following table, which exhibits at a glance the mean temperature and rainfall for each month, and their departure from the averages of forty-four and seventy years respectively, will be of interest to that steadily-increasing proportion amongst the readers of this paper who are probably in the habit of making careful observations of the weather. Their own records may most usefully supplement the returns that are here quoted, and thus help to present us with a fuller view of the more important weather changes.

	Mean Temperature. Degrees.	Difference. Degrees.	Rainfall. Inches.	Difference. Inches.
January	36·6	—1·9	1·4	—0·5
February	43·9	+4·3	2·3	+0·7
March	40·3	—1·4	1·5	—0·0
April	47·7	+0·7	2·1	+0 3
May	49·9	—2·8	2·1	+0·0
June	59·5	+0·6	1·7	—0·3
July	63·8	+1·7	0·5	—2·0
August	58·5	—3·0	1·3	—1·1
September	55·1	—2·0	3·7	+1·3
October	46·1	—4·0	3·4	+0·6
November	43·3	—0·1	2·8	+0·5
December	38·9	—1·0	1·1	—0·9
Year, 1885	48.6	—0·8	(Sum.) 24·0	—1·3

Note.—In reading the table it will be understood that the sign (+) denotes *above*, and the sign (—) *below*, the average.

TEMPERATURE, &c.

The mean temperature of 1885 was 48·6 degrees, or nearly one degree below the average. January was a somewhat cold and dry month, more especially for the fifteen consecutive days, ending with the 26th. There were seven *mean frosts* in the month, and the 21st was also an *entire* frost. The weather was cloudy, and at times stormy, and, strange to say, there was a bright flash of lightning, followed by thunder, on the 31st, which recalled the old saying :—

"Winter thunder and summer flood
Ne'er bode the land good."

The cold broke up suddenly on the 27th, and the succeeding twenty-two days to February 17th were all but one above the average. There have been only four warmer Februaries in the previous seventy years, and what a succession of mild ones we have lately had! In the last ten years only two Februaries were under the average temperature, and in each case the departure was but slight, so that if an average were taken for these ten years it would give a much higher value than the 44-year period used in the above table. Hence we see that a short average—even though it extend to ten years—may sometimes give a misleading idea of the true normal standard. So great was the difference between the temperature of January and February that the mean of all the low night readings in the latter month was nearly equal to the mean of all the high day readings in the former. There were but three days of night frost in February, and fog and snow were conspicuous by their absence.

The winter (December to February) was, on the whole, moderately warm and wet. Bright sunshine was recorded at the rate of three-quarters of an hour daily, although the sun was actually above the horizon on the average nearly nine hours a-day. It was the fourth consecutive mild winter; perhaps, from an agricultural point of view, one of our good, old-fashioned seasons would be more acceptable. The stiff and heavy lands may be in need of some hard, dry frosts, which pulverize the soil, rendering it afterwards more amenable to tillage, whilst they destroy great quantities of grubs that would otherwise infest the future crops. The lowest temperature at the Royal Observatory occured on January 22, when 22·3 deg. were registered. The only mean frosts in the three months were the seven already referred to (against an average of fifteen.) Entire frosts occurred but once (against an average of five times.) Snow fell at Greenwich on six days, and fog was only eight times recorded during the winter.

The returns of the mortality for the quarter ending March 31st, show that throughout England generally the season was a healthy one. There was a great decrease in the deaths of children and of adults up to sixty years; but beyond that age the fatality exceeded the average.

From February to March the temperature—instead of rising about two degrees—actually *fell* 3.6 deg. The latter month was therefore rather cold, but there was no very low temperature recorded The rainfall exactly equalled the average, and one half of it, namely 0.75 inch occurred on the 22nd—a heavy fall of snow followed by rain, which was pretty general over the South of England—so that the rest of the month was very dry. The weather was stated to be generally favourable for agricultural operations, although vegetation was in rather a backward condition. An Aurora Borealis was seen at Greenwich on the 15th. April consisted of two nearly equal and opposite halves—namely, fifteen cold days to the 16th, and then eighteen very warm days which ran on to May 4th, and formed an early example of a *Pre-Estival summer*. It was the sunniest April known for nine years. The sky was especially serene from the 17th to the 22nd, and it is a fact worth remembering that the average duration of bright sunshine for these six days was 10.5 hours *per diem*—or just 75 per cent. of the "possible" sunshine. May was a very cold month, with low barometer, variable winds, and an average rainfall. The twenty-one days ending with the 25th were all below the average, but, strange to say, the nights were not so cold in proportion as the days, and there was but one frost recorded in the month. This was the first time for seven years that we could complain, with one of our early poets that,—

"Winter, lingering, chills the lap of May."

On the whole, the spring was bright and cold, with moderate rainfall and easterly winds. Bright sunshine was entirely absent only on six days; fog was four times, and snow but once, recorded. It was a generally healthy season, excepting for young infants, who are especially prone to suffer from exposure to cold winds.

The early part of June was very sunny and warm, and the maximum thermometer registered as high as 84·7 deg. on the 4th. But the eighteen days ending July 2nd were all save one below the average. July was a lovely month, and generally warm, excepting for one chilly week about the middle. Bright sunshine was recorded every day, averaging 7·0 hours *per diem*—the best July in nine years. A reference to the foregoing table shows the extreme deficiency of rainfall in this, which is normally the wettest but one month of the year. Rain fell on five days, to the amount of half an-inch. Only four times in the long period of seventy years has a drier July been known at Greenwich. In some parts of the country the amount was still smaller. Thus at Whitchurch, near Reading, it is stated to have been only 0·07 inches! The bright, dry weather of this month, together with that of the latter part of June, so favoured the hay-making that a crop of unexpectedly good quality was gathered. August was almost unvaryingly cold—only three days being above the normal. There was little sunshine in London, but the country was more favoured, and the dry weather was generally propitious to harvest operations. A curious exception must be made in the case of Scotland, where a rainfall of perhaps unprecedented severity occurred at Braemar and throughout the Deeside on the 12th, no less than 3·4 inches falling in twelve hours. At the opposite end of the island the hop fields of Kent and Sussex suffered severely from a gale which occurred at the end of August.

Taken together, the three summer months were of average temperature and exceptional dryness. There was only one finer summer in the previous eight years. A remarkable feature was the comparative absence of electrical disturbance; in July only one thunderstorm was reported throughout England, and this seems to have been confined to London and the district extending northward toward Cambridge. The maximum temperature recorded at the Royal Observatory was 90·2 deg on July 26.

It is highly satisfactory to find that the general English mortality for the third quarter of the year was at the extremely low annual rate of 16·5 per thousand living. With but one exception this was lower than in any previous summer since 1837, when civil registration of births and deaths was established. According to the Registrar-General, nearly 26,000 persons survived the three months who would have died had the death rate corresponded with the average rate in the forty-seven preceding corresponding quarters.

The cold weather that we found setting in at the close of July continued almost uninterruptedly right on to November 19. There were two or three warm days in mid-September, and again in mid-November, but, with these brief exceptions, the sixteen weeks were almost uniformly cold. September was very cloudy and wet, and a gale on the 11th was so strong as to upset a London cab with four people inside as it was turning a street corner. Many cellars in the low-lying districts of South London were flooded by the choking (and in one case the bursting) of the sewers. At Aberdeen the British Association was then holding its annual session, to which I had forwarded a paper describing amongst "Some Laws which Regulate the Sequence of Mean Temperature and Rainfall in the Climate of London," one remarkable law which received an unexpectedly early confirmation—namely, that a very dry August tends to be followed by a wet September. The peculiarity of this law consists in its being, so far as I can ascertain, the only instance in which there is a tendency for *opposition* between the rainfall or the temperature of one month or season and that of the month or season immediately following. That such a tendency is conclusively shown by the records of seventy years is a fact of no small interest though why it should only be found in connexion with these two particular months is still a mystery.

October was, with three exceptions, the coldest in seventy-one years. On the 5th the Highlands were visited by a heavy snowstorm, in places where there was still much grain uncut. Extensive inundations occurred in the eastern parts of Yorkshire, as well as throughout the Trent valley, thousands of acres of arable land being under water. In this way the dried-up springs were replenished, although at the cost of much inconvenience to man and beast. Nature is apt sometimes to effect her compensations in such rough-and-ready fashion that we are hardly disposed to feel so grateful to her as we should be.

The last week of November was exceptionally warm, windy, and wet—two inches of rain falling in seven days. "Biela's comet meteor-stream was well seen" at the Royal Observatory on the 27th. The duration of bright sunshine this month averaged one hour a-day, and was smaller than any previous record for the same month. The whole autumn was, in fact, the dullest one experienced in the course of nine years. Sunshine was recorded at the rate of just two hours daily, although the sun was actually above the horizon on the average nearly eleven hours a-day.

There is a curious tendency—which is apparent on the average of many years—for a temporary arrest of the downward course of temperature, which makes itself felt from about November 21st. The mean temperature, instead of continuing to fall from day to day, remains stationary for a week and then goes up a little, so that the first five or six days of December tend to be actually warmer than the week or ten days preceding them. This is only one of several unexplained peculiarities that are found to affect the curve representing the mean annual march of temperature. Of course, individual years often present great deviations from this typical course—which is here referred to on account of the almost exact confirmation which it received from the sudden rise of temperature which took place in the last week of November, 1885. The resulting warm spell was of short duration, and was succeeded by nine very cold days, from December 5 to 13, four of which were mean frost. The lowest temperature was 23·3 deg. on the 11th. It appears that winter set in severely at the same time in Paris, the first snow of the season falling heavily on the 8th. Temperature in London was fluctuating and unsettled for the rest of the month, but without any further recurrence of mean frost. The month was, on the whole, moderately cold and dry, the rain nearly all occurring in a few days at its beginning and close. A very unusual and curious phenomenon was witnessed at Grangemouth about the end of the year, to which the name of "dog suns" is sometimes applied. A number of miniature rainbows, displaying the prismatic colours, appeared in the eastern sky shortly before sunrise, and after remaining visible for some time, gradually disappeared.

RAINFALL.

The rainfall of 1885 was exactly twenty-five inches. The difference (1·3 inch) below the average is so small that we can hardly call the year, on the whole, a dry one. This may surprise some who will recall the drought of July and August more readily than the copious showers of the ensuing autumn. Whilst the rainfall of our own summer months was showing an aggregate deficiency of 50 per cent., it is interesting to note that China and Japan suffered from an unusual downpour during June and July. In the latter country it is reported to have rained almost incessantly during the summer, so that the sun was rarely seen. In September news came of terrible inundations in some of the beautiful Austrian valleys; four towns were under water and many houses utterly destroyed. So there is no lack of pain and sorrow in this wide world! We can hardly open our morning papers without reading of some new calamity or other. Sometimes they proceed from *natural* causes—tempest, earthquake, or plague—that we are powerless either to foresee or control. More often, alas! they are the work of human *passions*—anger, hatred, greed of gain—which may be traced, more or less, to one common source, that the love of self is still allowed a chief place in our hearts. Terrible as are the visitations of nature, it may well be doubted whether these have altogether inflicted on mankind a tithe of the suffering and injury which have been due to the latter, and more preventible, causes.

The days on which rain fell numbered 166, or fifteen above the average. Snow was only seven times recorded at Greenwich, and fog was present on 47 days.

The dry summer seems to have favoured the gathering of the harvest—more particularly of the wheat crop. It was a "heavy land year," and the ears of wheat on the true wheat soils were well loaded with grain. Oats, which, perhaps, suffer more readily from drought than from other causes, were said to be below the average, as was barley also; whilst peas and beans were nearly everywhere destroyed by blight. The long drought was almost fatal to the subsequent growth of grass and of all other succulent crops, but there was just enough rain in August to preserve them from utter destruction.

WIND.

The mean daily horizontal movement of the atmosphere—which elegant circumlocution expresses in the language of scientific precision much the same thing as the monosyllable at the head of this section—was at the rate of 286 miles, or fifteen miles above the average of twenty-one years. The largest excess occurred in February and October, and the greatest deficiency in March. With regard to its direction, the proportional number of winds from the south-west quadrant was much smaller than usual. North-east winds were very prevalent in April, and fairly common in the summer months, and again in November, whilst "variable" winds were of frequent occurrence in most of the other months.

The mean readings of the

BAROMETER

were unusually low during our wet and stormy February, and again in April and May—the latter of which was a windy month. The marked decline in pressure which normally characterizes October was this year greatly exaggerated, and was in harmony with the wet and windy features of this month. On the other hand the mercury stood very high during March, July, and December. The lowest actual observation at Greenwich was 28·77 inches on 11th January. Twice in the same month I am informed by a valued correspondent that readings less than 28 inches (27·95) were recorded at Strathpeffer Spa, Scotland.

In the matter of

SUNSHINE

the past year was on the whole unusually favoured, but this was mainly owing to the very bright weather of three months—April, June, and July. On the other hand, January, September, and November presented very poor records, the duration of bright sunshine in all three together falling considerably short of that in April alone. The ratio of *bright* to *possible* sunshine in each season varied from 38·7 per cent. in summer to 8·7 in winter—the former being the best summer but one, and the latter the dullest winter but one, in the course of eight or nine years. On exactly one hundred days the photometer recorded "no sunshine."

Thus we end with that which is, after all, the origin and sustaining force of our many-hued climate—and not of climate only, but of life and every form of energy—namely, the light and heat of our mighty and mysterious luminary, the sun!

NEW CONTINENTAL ROSES.

THE number of roses selected by the French raisers for distribution this season is fifty-five, of which thirty-three are hybrid perpetuals and fifteen tea-scented varieties. The varieties are as under:—

HYBRID PERPETUALS.

Amiral de Joinvitle (E. Verdier).—Growth vigorous; flowers large, double, and of good form; bright red shaded purple; very fragrant.

Anguste André (Schwartz).—Very vigorous; flowers large and double; colour tender rose, lilac rose in the centre; fragrant.

Clara Cochet (Lacharme).—Robust; flowers large and double, with remarkably fine petal; colour bright rose shading to satiny rose.

Climbing Monsieur Boncenne (Schwartz).—Robust in growth; a fixed sport from Mons. Boncenne, from which it differs in the character of its growth.

Climbing Pride of Waltham (Schwartz).—A robust growing variety, obtained as a sport from Pride of Waltham, from which it differs in having a climbing habit.

Comtesse Freissinet de Bellanger (Levêque).—Very vigorous; the flowers of full size and a bright rose colour.

Denys Cochin (E. Verdier).—Rather vigorous; flowers large, double, and of good form; colour purple-red, shaded velvety crimson and fiery red.

Docteur Pinel (Moreau).—Vigorous; flowers very large, and borne in clusters; colour red-vermilion, shaded carmine.

Frederick Schneider II. (J. Ludovic).—Growth strong; the flowers above medium size and of a bright rose colour, shaded brilliant red.

Le Chatelain d'Eu (E. Verdier).—Moderately robust; flowers of full size, colour red-crimson, shaded purple.

Léon Delaville (E. Verdier).—Vigorous; flowers large and full, colour red, shaded carmine and velvety crimson.

Louis Calla (E. Verdier).—Vigorous; flowers large and double; colour red purple shaded scarlet.

Madame Baulot (Levêque).—Vigorous; flowers large, full, and imbricated; colour beautiful rose shaded carmine.

Madame Gomot (Liabaud).—Strong in growth; flowers extra large and very double; colour bright silvery rose. Said to be a seedling from Souvenir de la Reine d'Angleterre.

Madame Lefebvre (Moreau).—Vigorous; flowers of average size, and produced in clusters; colour satiny rose.

Madame Musset (Liabaud).—Very strong in growth, and producing large flowers of a bright red colour.

Madame Ph. Dewolfs (Soupert et Notting).—Vigorous; flowers large and similar in form to those of Centifolia; colour rose shaded violet.

Madame Pierre de la Beys (Soupert et Notting).—Vigorous in growth, and bearing flowers of large size and good form; colour red vermilion passing to carmine.

Madame Rebatet (Liabaud).—Vigorous, and bearing flowers of extra size and of a tender rose hue, said to be a seedling from Souv. de la Reine d'Angleterre.

Madame Sanglier (Vigneron).—Vigorous; flowers large and double; colour deep rose-lilac, reverse silvery rose.

Madame Vauvel (E. Verdier).—Robust; flowers extra large with fine petal, colour bright rose.

Madame Villy (Liabaud).—Growth vigorous; in general character resembling Duchesse de Cambacérès; flowers large and of a bright red amaranth colour.

Maréchal Canrobert (Levêque).—Growth strong; flowers large and globular; colour red cerise shaded carmine.

Mons. Moreau (Vigneron).—Vigorous; flowers large, globular, and of a beautiful rose colour, reverse of petals silvery.

Nicolas Leblanc (Moreau).—Robust; flowers extra large and globular in form; colour rose-cerise passing to tender rose.

Prince Waldemar (E. Verdier).—Very vigorous; flowers of full size and of fine form; colour red-cerise shaded carmine.

Princesse Amedée de Broglie (Levêque).—Growth vigorous, and the flowers large, globular, and of a bright rose colour.

Princesse Marie d'Orleans (E. Verdier).—Very strong in growth, flowers of full size, double, and of a pleasing rose cerise.

Professeur Maxime Cornu (Levêque).—Very vigorous, and producing large flowers of a brilliant red colour. Said to be very free blooming.

Raoul Guillard (Margottin père).—Growth rather strong; flowers of full size, and of a bright red colour, with purplish reflex.

Rosieriste Chauvry (Gonod).—Vigorous; flowers large, full, and globular; colour fiery red. Said to be very fragrant, and a seedling from Victor Verdier.

Souvenir d'Eugène Karr (Schwartz).—Strong in growth, and producing medium-sized flowers of a reddish-scarlet hue, with violet reflex.

Souv. de Victor Hugo (Pernet père).—Growth vigorous; flowers large, globular, and very double; colour bright satiny rose.

TEA SCENTED.

Camille Roux (Nabonnand).—Vigorous; flowers large, full, and globular; colour red, shading to rose at edge of petals.

Claudius Levet (Levet père).—Robust; flowers very large and borne on stout stems; colour rose carmine; centre salmon.

Comtesse de Frigneuse (Guillot et fils).—Vigorous; flowers large, double, and of a bright canary yellow.

Comtesse Horace de Choiseul (Levêque).—Vigorous; flowers of rather large size; colour tender rose, shaded coppery yellow.

Edmond de Biauzat (Levet père).—Robust; flowers large, double, and of good form; colour salmon, shaded peach.

Exadelphé (Nabonnand).—Very vigorous and free in blooming; flowers large and well formed; colour bright yellow; said to be exceptionally fragrant.

Flavien Budillon (Nabonnand).—Growth robust; flowers large, cup-shaped, and double; colour tender rose.

Marguerite Ramet (Levet père).—Robust and free blooming; flowers large; colour bright rose pink, veined with red.

Marquise de Vivens (Dubeuil).—Growth vigorous; flowers of medium size, freely produced, and of a bright yellow colour, shading to rose pink.

Reine Nathalie de Serbie (Soupert et Notting).—Robust; flowers large, double, and of a pleasing flesh colour, shaded cream and yellow.

Reine Olga (Nabonnand).—Strong in growth, and producing flowers of average size, which are coloured red and yellow. Said to be very fragrant.

Souv. de Madame Lambert (Gonod).—Very vigorous; flowers large, double, and freely produced; colour yellow, reverse of petals flesh colour.

Souv. de l'Amiral Coubert (Pernet père).—Moderate in growth, and producing a profusion of medium-sized flowers, which are of a bright red colour. Described as suitable for borders.

Suzanne Blanchet (Nabonnand).—Vigorous; flowers rather large, imbricated, and of a pleasing rosy flesh colour.

NOISETTE.

Comtesse George de Roquette-Buisson (Nabonnand).—Moderately vigorous; flowers of medium size, globular, and of a yellow hue.

HYBRID NOISETTE.

Abane d'Arneville (Schwartz).—A vigorous growing variety, producing medium-sized, cup-shaped white flowers.

PERPETUAL POLYANTHA.

Floribunda (Dubriel).—Dwarf and vigorous in growth; flowers small and produced in large corymbs; colour, rosy lilac.

Princesse Wilhelmine des Pays-Bas (Soupert et Notting).—A dwarf growing variety, bearing small white flowers.

HYBRID POLYANTHA.

Daniel Lacomb (Moreau, semis Allard).—Vigorous in growth and free in blooming; flowers of medium size, and of a chamois colour passing to pure white.

Max Singer (Lacharme).—Vigorous and very free blooming; flowers small and of a deep red shading to light red.

BOURBON.

Madame de Rochefontaine (Vigneron).—Growth very vigorous; flowers rather large, and of a satiny rose colour.

A FACSIMILE COPY OF SHAKSPERE'S WILL, printed on paper of antique style, and with ink of a suitable colour, is presented by Messrs. Cassell, with the first part of their "Illustrated Shakspere."

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 3.

The Channel Islands 200 years ago—the manufacture of stockings—the islanders formerly of a lazy disposition—the green bed—shoemaking—communication with England 100 years ago—new roads are made—English carts are introduced—improved communication with England—the first steamboat arrives at the islands—harbour accommodation is improved—progress since 1850.

Before proceeding to give a particular account of the market gardening operations at present pursued in the Channel Islands, it may be as well perhaps to take a glance at the past history of the archipelago, selecting such islands as may have a special bearing on the subject under review.

If we look back, say, 200 years, what do we find was the condition of the islands and of the people on them? Jersey and Guernsey were then more thickly-wooded, agriculture was in a rude state, and market gardening unknown.

That farming was conducted under difficulties we may readily conceive when we are told how clumsy and indifferent were the implements employed. * It would seem, however, that agriculture was not then being engaged in to the extent that it had formerly been. In Jersey, at any rate, it had made a retrograde movement, and farming was so neglected and the labourers so few that the States had to pass certain Acts with a view to remedying the position of things. Curiously enough, everybody, high and low, had taken to knit stockings, and this article of clothing was, at this period, the chief and almost sole item of export from the island. More than half the population was dependent on the manufacture of stockings for a living. It was taught in the schools, and men, women, and children employed their leisure in knitting. Falle, referring to this state of things, says that it rendered the poorer people lazy and idle, giving them an aversion to husbandry work as a more painful occupation. The States had to forbid anyone above the age of 15 knitting stockings during the vraie (seaweed) and harvest seasons, under penalty of confiscation, as there was such a dearth of hands to do the work of the fields.

The Channel Islander of a few years back was evidently, from all we read and hear, not the energetic and industrious individual he is to-day. A strange, idle custom prevailed in the islands not so very long since. In almost every cottage or farm there existed what was known as the green bed, which consisted of a wooden frame covered with dry fern, on which the men or women used to lounge away a great part of the day. Sedentary occupation was plainly more to their liking than hard toiling in the fields.

We were informed by Mr. Le Cras, of Beaumont, Jersey, that his father often told him much about the shoe trade of Jersey carried on in that island some fifty or sixty years ago. All the boys were taught the trade, and at one time it became quite an infatuation. It is told how the Rev. Phil Tourgis, an eloquent Wesleyan minister, a Jersey man, and who married the widow of one of Napoleon's generals, made shoes very expertly, until the time that he entered the ministry, merely as an agreeable pastime; and even after he had been ordained it is stated that the tap, tap, tap of the hammer was often to be heard coming from the reverend gentleman's study. The youth of the best families engaged in this all-engrossing pastime. This continued until about twenty years ago.

But we are proceeding rather faster than we intended.

Even 100 years ago agriculture was backward in both islands, and market gardening was an industry as yet unknown, and by the islanders probably undreamt of. It was about this time that the first sailing vessel commenced to run between Guernsey and Southampton, when *eight* voyages to and fro in the course of the year was considered very active employment. Sometimes only four voyages were accomplished in the twelve months. At this period, also, Lieut.-Governor Irving introduced the first four-wheel close carriage with a pair of horses ever seen in Guernsey. The first English waggon was introduced in 1824, before this a few English carts had been taken over. The carts used for husbandry were heavy, clumsy vehicles, very unsatisfactory, but this was owing to almost total absence of roads.

Communication between the islands and England was bad enough, but communication between separate and distant parts of the same island was only accomplished under great difficulties. As an example of the hindrances to farming arising from this course, it is related that three hours were required to drag a ton weight of potatoes to St. Helliers from any of the distant parishes; and not only so, but it was also necessary to send an *avant courier* to keep the road clear, as two conveyances could not pass at the same time. Now all that is changed, and splendid roads (which were all completed without the aid of a single turnpike gate) intersect every part of the island.

And yet, strange as it appears on reading it now, the very people who would be, and who were afterwards, tempted by the improvement of the thoroughfares, were bitterly opposed to this reform, and did all in their power to frustrate those who were endeavouring to carry them out. In Jersey they were effected through the untiring efforts of Sir George Don, one of the governors of the island, and in Guernsey by the Lieut.-Governor, Sir John Doyle. This was about eighty years ago. As an instance of the bitter opposition made to those roads, Quayle tells us that "one farmer evinced his sincerity by enjoining *in articulo mortis*, that his remains on their conveyance to his last home should not be carried over any part of the new road!" Many of the old lanes are still in existence, and make a miserable contrast by the broad, straight, and well-kept military and other roads constructed by the island authorities with the assistance of money from the English Government.

This was the means of opening up the remoter parts of the islands, and of furnishing the inhabitants with quick and easy means of transit of their produce to the neighbouring town. And the inhabitants were not long in appreciating the benefits which resulted from these changes. An impetus was given to agricultural improvement, and the potato crop in particular grew to considerable dimensions.

As the produce of the islands soon became more than was sufficient to support the inhabitants, steps were taken to improve the existing service of ships between the islands and England.

As late as 1828 the Government sailing packets occupied frequently from 36 to 48 hours reaching Guernsey from Weymouth, and were sometimes 24 hours between Jersey and Guernsey. It was about this time that the first steamer ever seen in the islands arrived at Guernsey. * The pier and the various eminences were crowded by spectators to view her as she came in. They had come from Southampton after a passage of 15 hours. The first steamboat seen in Jersey was in 1823.

After this rapid progress was made in the improvement of the means of transport between England and the archipelago. In 1826 a ship commenced running between Guernsey and Plymouth. In 1827 the three Weymouth sailing packets were replaced by three steam ships. In 1861 the daily service between Southampton commenced, and now two powerful steamboats ply daily between England and the islands, and scores of steamboats and large sailing ships are constantly passing between the islands and England and France.†

This large augmentation in the shipping necessitated the enlarging and improvement of existing harbours. The new harbour at St. Helliers, commenced in 1841, cost upwards of £100,000. The position chosen for it, however, was not a good one, and immense sums of money have been since expended on the works with a view to remedying the error, but with little satisfaction.

The Guernsey people are justly proud of their harbour. First talked about in 1830—when the cost of the works, estimated at £31,500, was thought by the States to be far in excess of their means—it was not until some twenty years later that the works were actually commenced, the erection of which cost £350,000, and this sum would have been far exceeded but for the fact that the granite was at hand, and Guernsey labour was not high. The harbour covers seventy-three acres of ground, and is accessible to large vessels at any state of the tide.

These important and expensive improvements had an immediate and remarkable effect on the islands. Visitors found them more accessible, and resorted hither in increasing numbers. Agriculture was immensely benefited. Large vessels now frequented the ports, and the farmers and market gardeners found every facility provided for expeditiously transporting their produce to England.

Since 1850, market gardening has come steadily and more prominently to the front, whilst farming has grown rather less important. Indeed, there are now very few of the inhabitants engaged entirely in what is strictly understood as agriculture. The cultivation of the early potato has assumed immense proportions, and the quantity exported swells every year. Grapes and tomatoes have assumed a leading place in the exports from both islands. Pears, apples, and the smaller fruits, broccoli, saladings, lettuces, and other vegetables are sent away in astonishing quantities. The culture of flowers for London is likewise steadily extending, and is a source of much wealth to the archipelago. Altogether, the value of the farm and garden produce of Jersey and Guernsey exported to England amounts annually to upwards of £1,000,000.

* The plough, which has been used for centuries, and is still in use, is frequently drawn by eight or ten horses, having four or five drivers. But a lighter plough is also in use.

* In January, 1812, not one steamboat existed in the world. In July, 1813, the first one in Europe was launched on the Clyde.

† In 1883, 2,218 British and foreign vessels, measuring 329,166 tons, entered and cleared from the port of Jersey.

SNOWDROPS EVERYWHERE.

It is not everyone who has a weakness for snowdrops, but I must confess it is one of my natural failings, and I make the confession with a good grace, because I feel sure I shall meet with sympathy from many of your readers. It is to the sympathizing ones chiefly I wish to write with respect to the snowdrops in my garden. They are now peeping through the soil in so many places that in a week or two I look forward to get a great deal of pleasure out of them. From my window, as I write, I can see large patches of them just showing their white heads through the earth, looking like pearls of snow, and to-day, as I was walking round, I found them peeping up through some unkindly soil beneath the shade of some large trees where nothing else will grow. A little further on, under the shelter of a fine old cedar tree, they are springing up in such numbers that soon the ground will be decked with sheets of white blossoms. In a mixed border that skirts the south side of my lawn I also find them defying the snow and the frost, as if they had come through the cold earth on purpose to greet me early in the New Year. Extending my walk to the kitchen garden, I found the gardener had forestalled my wishes, for he had planted snowdrops in every available corner, so that I returned from my walk delighted, if not edified. Nature is kind to us when we treat her children with the care they deserve.

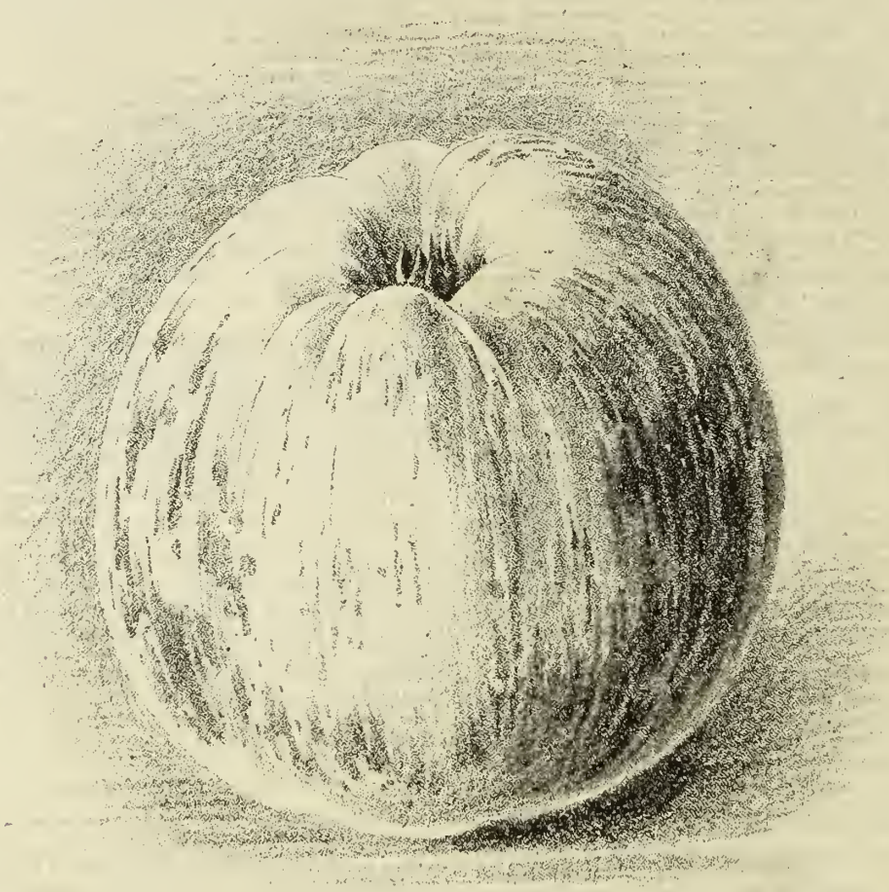
Laura L———.

The Snowfall on Jan. 6 injured many shrubs and ornamental trees in the villa gardens at Oxford. Several noble elms in the college gardens and groves also lost immense limbs, while at the Botanic Gardens the grand specimen Quercus Ilex had three or four large branches torn off on its eastern side.

TWO NEW APPLES.

NEW apples make their way into public favour slowly for the sufficient reason that we already possess many good varieties adapted to all the conditions in which the production of apples is possible. But when varieties of high merit appear they do make their way, as we have seen in the case of Lane's Prince Albert, Cox's Orange pippin, Ecklinville Seedling, Lord Suffield, and others of comparatively recent introduction that have become popular, although but little aided by the usual agencies by which publicity is secured. And this will always be the case, for the simple reason that the interest in the apple is universal, and if time be required to make the results of new varieties known, public interest will ensure appreciation of the knowledge when acquired. The two varieties of apples now to be noticed are the subjects of inquiries by correspondents who have not had the opportunity of seeing examples. They have been several times exhibited, and on all occasions have been duly reported on in these columns, and they have also appropriate mention in the "Garden Oracle."

PRINCE BISMARCK is a culinary apple, remarkable for size and beauty. It has been grown by Messrs. T. Rivers and Son, and by Messrs. Laing and Co., as well as by Messrs. James Veitch and Son, of Chelsea, who have several times exhibited beautiful specimens. By the last-named firm it was shown at the Crystal Palace, October 7th, 1885, and distinguished with a first class certificate. It was again shown by Messrs. Veitch at the meeting of the Royal Horticultural Society, Oct. 13, and from one of the fruits then presented, the accompanying faithful figure was prepared by Mr. Alfred Slocombe. The fruit is of the largest size, spherical or slightly oblate, the skin waxy white with a shade of delicate red on the sunny side, and a slight mottling all over which adds much to its beauty. The flesh is white, tender, and of excellent flavour. It will probably keep until Christmas, but is not ranked amongst the late varieties.



CULINARY APPLE, "LADY SUDELEY."

LADY SUDELEY was first brought into notice by Messrs. G. Bunyard and Co., the Old Nurseries, Maidstone, under the provisional name of "Jacob's Strawberry," but was afterwards re-named and placed in commerce as Lady Sudeley. It has been many times exhibited, and notably on the 9th of September, 1884, when the certificate of the Fruit Committee of the Royal Horticultural Society was conferred upon it. At the Pear Congress, Chiswick, Oct. 21 to Nov. 4, 1885, a handsome dish of this variety was presented, and from one of those samples the subjoined figure was prepared. It is a handsome variety, medium to large in size, roundish, and rather tall, with a bold eye in wrinkled basin, the skin yellowish and much streaked and patched with crimson. The tree is hardy, bears early, and is highly productive. It is more properly a culinary apple, but is admirable as a table fruit, and may be reckoned upon as useful up to Christmas, but not later.

SHORT NOTES FOR SMALL GARDENS.

By the VICAR'S GARDENER.

FORCING EARLY VEGETABLES.

IN the following remarks I am assuming that there is no other convenience for forcing vegetables than ordinary pits or frames and fermenting materials consisting of tree-leaves and stable manure. With such conveniences the gardener can, with an ordinary amount of skill, produce a few early crops of vegetables that will be much appreciated in the majority of families. The first point of importance that requires attention is the preparation of the manure and leaves that are to afford the necessary warmth. Fresh manure from the stable is quite necessary. The leaves, as a matter of course, will have been collected and stored in a heap for future use.

In the use of manure for fermenting purposes it should be known that there is great waste unless it is properly prepared; when indifferently prepared the heat quickly leaves it, and the crops it is intended to benefit suffer in consequence. Ordinary stable manure contains generally a lot of straw only slightly impregnated with saline matters. Therefore it requires to undergo a process of preparation so that the bulk of it may have the parts that are likely to ferment the quickest evenly distributed about it. To accomplish this the whole of it must be placed in a heap. But in the process all parts of it must be well shaken about to disintegrate any compact lumps, for only by so doing can a regular heat be obtained in all parts of the heap. After it has been laid up for a week it will require turning. The turning process should be quite as carefully carried out in regard to its being well shaken as the first heaping. In turning it over the outsides of the heap should be placed in the middle. To thoroughly prepare manure it generally requires turning three times, allowing an interval of a week between each turning, and the last time of turning the leaves that are to be used with it should be mixed up with the manure. Then the whole of the materials will be warm together ready for use.

EARLY POTATOES.

This will be the first crop that requires attention, and as soon as the fermenting materials are ready the hotbed should be made up. Whatever may be the size of the frame the bed should be made one foot longer every way, and when finished it should be four feet high at the back and three feet in front. The frame, as a matter of course, will be put on as soon as the bed is made. But before the soil is put in an interval of four or five days should elapse to allow of the heat to rise. In regard to soil, a rather light medium is the best for forced potatoes, as they turn out a better quality from a light soil than from a heavy one that retains a good deal of moisture. A depth of six inches of soil is enough to begin with, and in this the tubers may be buried one inch under the surface. Three rows of sets to a light four feet wide is a suitable distance to plant, and in the row the sets may be

twelve inches apart. As soon as they are grown two inches above the soil another layer of soil may be spread all over the bed three inches thick, which will serve as an earthing and afford all the soil they want to finish off the crop.

As to other details, potatoes require to have the lights carefully protected at night to keep out frost, and on all favourable occasions they must have plenty of air given them by placing wedges of wood under the lights at back and front on alternate days. In all probability they will want watering twice during the season, and, if possible, the water should be slightly warmed before given them. If potatoes are to be grown in pits, sufficient leaves and manure must be put in the pits to allow for its sinking down. In other matters they require the same treatment as when grown in frames.

Early Carrots.

There is nothing gained by making a hotbed for carrots before the beginning of February, unless there is a plentiful supply of manure to renew the declining heat by placing thick linings of hot dung round the bed. The bed for carrots will require making the same size and in the same way as for potatoes. But all the soil must be put in the frame at once; for carrots a depth of six inches is sufficient. The same description of soil may be used as for potatoes. The Early French Horn is the sort generally sown in frames. But for my own part I give the preference to the English Short Horn, as it produces rather larger roots in the same time as the other. The seed should be sown in drills half an inch deep, and the drills four inches apart, and the seed covered with a little fine soil. In other respects the management of carrots is the same as for potatoes; they like plenty of air, and the soil must be kept fairly moist. Slugs are very partial to young carrots, just as they are coming up, so that a sharp look out is necessary, or they will injure the crop. I find a sprinkle of dry ashes from the ash pit of the boiler put all round inside the frame once a week a capital preventive against these depredators.

French Beans.

There is no crop of forced vegetables that in my opinion gives such a good return as French beans. We have devoted a three-light frame to them for many years, as they last in bearing fully six weeks and supply a choice vegetable when other kinds are scarce in the open garden. The chief secret in growing them in hotbeds is not to begin too early. I find if the bed is ready to receive the seed by the middle of March that is early enough. If the bed is made up earlier the heat gets exhausted before the natural temperature rises sufficiently to afford the needful warmth, and then the crop does not make much progress, so that there is no gain in time in commencing before the date I have given. The bed for French beans should be prepared in the same way as I have directed for other crops. In regard to soil the crop should have it a little heavier than is recommended for potatoes, and they require a depth of nine or ten inches of fairly rich compost.

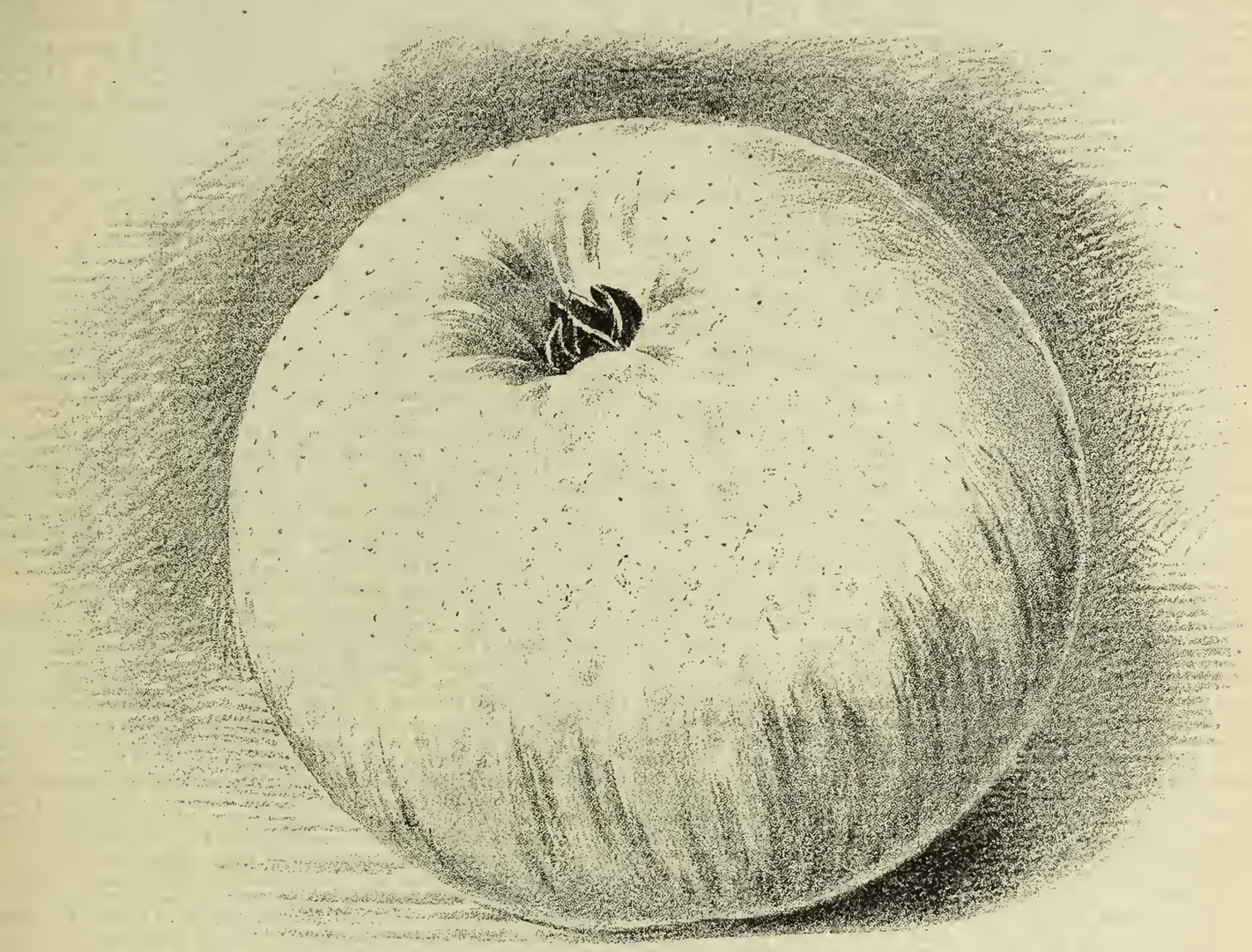
In planting the seed there is nothing gained by crowding the crop. The rows should be fifteen inches apart, and in the row the beans must be nine inches asunder. At this distance they will have space to develope side branches, which materially prolongs the bearing capacity of the plant. Fulmer's and Osborne's Early Forcing are both excellent sorts for frame work. With regard to air and root moisture French beans require about the same treatment as potatoes, but as the beans will last longer, the weather after the beginning of June will admit of the lights being taken quite off the frame during the day. But they must be put on again at night in cold or stormy weather.

Hotbeds Below the Surface.

Until one has tried this plan one can hardly realize how much may be done with a limited supply of manure. The principle on which it is founded is to thoroughly prepare the manure in a heap and then to dig out space a little larger than the frame that is to be used, and to bank up the soil close by the sides. When this is done, the manure is placed in the hole and raised up to the height of the earth round the sides; the frame is then put on, and the crop, whatever it may be, is treated in the same way as if the hotbed was built on the surface. The great merit of this plan is that, as all the manure is confined by the earth, none of the heat is wasted, and a less quantity serves to make a bed than by the other plan. But, of course, the heat does not last so long, and the bed being below the surface, there is no chance of renewing the heat by applying hot linings of dung, as can be done, if desired, when the beds are made on the surface. Crops of potatoes, carrots, and radishes can be be brought on considerably in advance of those from the open ground by the use of these sunk beds.

Temporary Frames.

What I call temporary frames are those contrivances which are covered with canvas or mats. A temporary frame is made up with boards or strips of wood, and fixed over one of these hotbeds below



CULINARY APPLE, "BISMARCK."

the surface. In them early potatoes, carrots and radishes may be successfully brought on a fortnight or more in advance of the crops from the open garden. Whatever covering may be used, it must be put on at night and taken off again in the morning. The early part of March is quite soon enough to begin with the temporary frames. In regard to early potatoes, a friend makes a narrow, long bed in this way, and then gets some long green sticks and bends them over the bed to support some old mats, which he uses as a covering. In this way he never fails to have new potatoes on Midsummer's Day.

PRUNING ORCHARDS.

By WILLIAM EARLEY.

OPINIONS differ regarding the best method of pruning orchard fruit trees, and no doubt will continue to do so until the end of time. That results differ considerably in connexion with moderate pruning and severe pruning, thoughtful and observant growers know full well. I have here at home marked illustration of the fact, even as between my next door neighbour's practice and my own. My neighbour's theory, and indeed practice regarding this matter is, to use his own words, "Fruit trees in orchard or standard form should be so pruned as to admit of a wild duck flying through them at will." I need not say this is an exceptional and very extreme idea. Nevertheless, this practice has been constantly upheld by him, and I observe something similar is practised by others, entailing on the possessors very serious loss, the result of such severe prunings being that the couple of acres of excellent sorts of apples and pears show trees of large bole, and exceptionally small heads with very meagre crops; whilst, on the contrary, the trees only divided from them by an oak fence are large-headed, moderate-sized boles, and with constantly heavy crops. So severe has been my neighbour's periodical prunings that large loads of faggotted branches are removed following each pruning.

Now it is difficult to explain how such a system of severe pruning can have suggested itself to any grower. To say the least, the practice is quite unnatural. Probably it results from the fact that espaliers are often so pruned, and that periodically lifted pyramidal trees upon dwarfing stocks, though having the roots pruned, require curtailing also superficially. The two cases are so distinct, however, that identical superficial cutting out of the superficial growths does not apply, and in this view of the subject these few remarks may tend to correct, what is to say the least, an erroneous practice.

Severe branch pruning without root pruning consists in perpetuating an evil by the very practice used for its correction. The intention is to lessen or limit superfluous or non-productive wood. By severe pruning, subsequent duplicate growths that are strong, young, sappy, and immature are formed inconsistent with flower-bud formation. These simple facts go far to affirm the excellence of the well known lecture on "Fruit Tree Pruning," delivered some years since by Mr. Shirley Hibberd, at a meeting of the Society of Arts.

At the present time, and following the singularly prolific crop of the past season, it were well for owners of trees to give especial attention to these facts. Very few pear trees exist, which have not yielded abundant crops. Special examination of each tree at this time will show the kind of wood which fruits most freely; in connexion with which it will be observed that much young wood which has developed one or two seasons' lateral growths, have given wonderful crops. Such vigorous young shoots must be retained. In the centres of such young vigorous trees, however, small branchlets often exist numerously, which do not possess sufficient vigour for fruiting. If pruning be necessary, these are the useless parts which should be neatly pruned out. For this reason they do not possess sufficient vigour for fruiting, or even for flower production, and are therefore a tax upon the tree without sufficient compensatory advantage. By neatly lightening trees of these, the amount of support they previously received from the tree will be given to the more profitable main branches, and light, with an increase of air, will be given to the boles and the centres of the trees, which will go far to assist in ripening fruiting wood for fruit-bearing purposes.

Turning to more aged pear trees, it is found, as a rule, these exist around with large, tall, distended branches, such limbs being often so high as to be beyond the gatherer's reach from an ordinary ladder, and on which, it is mostly observed, many young lateral branchlets grow. In this case it is well to shorten the ends of main branches, so as to bring what are retained more within reach, and to direct more support to the younger branchlets which issue from the sides of main limbs around below. By doing this such lesser, lower, younger growths will, in the course of the season, change weak wood into fruit or flower buds. By attention to these matters much good will be done to both forms of trees, and little more attention be required for three or four years.

As regards apple trees, I do not recommend in process of pruning the cutting away of any main branches. Much good may be done by thinning out the small spray, or intermediary branchlets, so dense and so weak existing in mid-tree and around the boles, it being essential at all times to cut away all young shoots which grow directly from main limbs. In the case of young orchard apple trees of twelve to fifteen years old, it will be observed that as the trees have extended and spread out in bulk or size above, they seem to have neglected or discarded, so to speak, many of the lowermost, or original branches. These it is often necessary to cut right away; but these only when they show no signs of present vigour, and are being overgrown and shaded by more recent vigorous growths above. Such fruit trees, especially when grown on grass lands, are vastly aided and improved by surface mulchings with manure, such manures to be always spread around as widely as the branches extend or overspread the ground.

PROPAGATION OF CHRYSANTHEMUMS.

By J. MARDLIN, Finsbury Park.

FROM the inquiries that are constantly being made by those who have seen the exhibitions of chrysanthemums held in this park it is evident that there is a very general desire for information on the culture of these flowers, which enjoy such a high degree of popularity at the present time. Knowing this, I intend giving brief directions for successfully carrying out the principal details of their cultivation, and in this communication I shall lay the foundation of the work; or, in other words, I shall describe the way in which the cuttings should be struck, and the attention the young plants ought to receive during the time they remain in the propagating pit.

The first matter to be considered is the proper time for striking the cuttings, and in referring to it I would say that those who are anxious to attain a full measure of success must not range themselves on the side of those who advocate autumn propagation, nor on that of those who believe the first two or three months of the year to form the best possible period for the multiplication of stock. The large-flowered varieties differ so much in character that it is practically impossible to have the flowers of all of them in first-class condition on any given date when they are all propagated at the same time. The only practice that can be recommended is to commence striking the cuttings in November and to continue the work until the end of January or the middle of February, by which time it should be completed. By taking this course, which does not occasion any extra trouble, each variety has the time necessary for the completion of its growth and the production of its flowers and no more. Until the grower is acquainted with the peculiarity of the varieties he will be unable, without assistance, to determine when the several varieties should be propagated. Speaking in a general way, it may be said that those varieties which come into bloom early should be struck at the beginning of the year and the late sorts in November or December. But to beginners, for whose assistance these directions are given, generalities will not be of much service, and I will therefore point out the time at which the cuttings of the principal incurved and Japanese varieties should be struck.

Taking the incurved section, Queen of England, Empress of India, Golden Empress, Emily Dale, Lord Alcester, Alfred Salter, John Salter, Mr. Brunlees, Princess of Wales, Jardin des Plantes, Cherub, Nil Desperandum ought to be propagated in November or December. Those which should not have their cuttings struck until January comprise Mrs. George Rundle, Mrs. Dixon, George Glenny, Prince of Wales, Refulgens, Beverley, Mr. Bunn, and Lord Derby.

The Japanese varieties that should be struck at the end of the year include Boule d'Or, Golden Dragon, Meg Merrilies, Madame C. Audiguier, Japonaise, Mdlle. Lacroix, L'Incomparable, Madame de Sevin, Jeanne Delaux, and Mons. Astorg. Amongst the varieties that ought not to be propagated until January are Elaine, Margot, Mons. Henri Jacotot, Comte de Germiny, Mandarin, Lady Selborne, James Salter, Val d'Andorre, Mons. Moussilac, Flamme de Punch, and Mons. J. Laing. In grouping them in this way I am of course assuming that the several varieties are wanted in bloom at the same time.

In referring to the preparation of the cuttings I would strongly advise cultivators to refrain from the too common practice of taking them off below the surface with or without root. When they are, so to speak, dug up, the plants produce a large number of suckers in the course of the season that are certainly not wanted. The right way in proceeding with the work is to select short-jointed shoots and take off the tops low enough down for the cuttings to be about three inches in length when they have been prepared. Each one should be cut clean through with a sharp knife and have the two lower leaves removed. When the cuttings are prepared in this way not only are the plants free from a large number of suckers, but they are much dwarfer, as proved by those which form the annual displays here, a fact especially worthy of the attention of those who require the stock for conservatory decoration. The cuttings are here struck in large sixties, four or five in each, and the pots used are clean and efficiently drained. An inch layer of rather small crocks is put in each, and this is covered with a little cocoa nut fibre refuse to keep the soil in its place. For filling the pots we use a mixture consisting of good turfy loam three parts, leaf mould one part, and enough silver sand to keep the mixture open. The pots are filled with this to within about a-quarter of an inch of the upper edge of the rim, and care is taken to press it firm and make the surface perfectly level. Upon this is placed a-quarter of an inch layer of sand that is moderately moist and can be pressed firm without being sprinkled with water. The cuttings are inserted equal distances apart round the sides of the pot, and have the soil made firm about their base.

As the cuttings are inserted place them in a pit or frame, and lightly sprinkle with water. The pots do not require plunging, but it is desirable to stand them on a bed of coal ashes in accordance with the practice adopted here from the first. Keep the frame rather close until the cuttings are struck, and sprinkle with water when necessary, but they must not be supplied too liberally with water because of the risk of their damping off when the moisture is in excess of their requirements. They must be kept safe from frost by the use of fire heat or the aid of mats or other coverings. But a little fire heat is the best, as it helps to dry up moisture as well as to keep out the frost. If the pit is heated it will be advisable in cold, damp weather to turn the heat on occasionally to expel the damp; and it is a very good practice not to allow the temperature to fall much below 40 deg. It will not be necessary to ventilate the pit or frame in which they have a place until they are rooted and air must be admitted, but very gradually, as very little ventilation is necessary, until they begin to grow freely.

By the third week in February the cuttings will be rooted sufficiently to be potted off singly. They should be put into three-inch

pots which must be clean, and have sufficient drainage to carry off superfluous water. It is essential to turn them out of the pots in a careful manner, and to injure the roots as little as possible in separating them, but when the roots have attained to a great length they should be shortened a little with the knife. The soil should be similar to that advised for filling the cutting pot, but of course used in a rather rougher state, and it must be pressed rather firmly. A pit in which they can be kept rather close for a short time will be the best place for the plants after they are potted off.

RETINOSPORAS.

The Retinosporas constitute a peculiarly distinct growth of coniferous trees, the beauty of which has secured for them considerable popularity. They have uses for the picturesque lawn, for the Italian garden, the rockery, the dress shrubbery of an approach or entrance court, and for the foreground of any rustic scene, in respect of which it would be difficult to match and impossible to surpass them. It follows that planters of all grades should know something of these trees, both as to their uses and their requirements. All that need be said of them in respect of their place in the garden, however, may be said in a few words, although in a large review of the subject the available material would suffice for a lengthened discourse.

One of the most noticeable characteristics of this interesting group is the great difference of expression in old and young trees. As age increases their leafage undergoes a change, and specimens of some size appear but remotely related to younger trees of the self-same species. This is a point of some importance to those who plant for future effect, and suggests that the planter should make himself familiar with specimens of various ages in order to attain to a clear

RETINOSPORA FILICOIDES.

HIBBERD'S PROLIFIC MARROW.

Seed sown April 16, 1885, and started in greenhouse, and plants put out in natural soil without any special preparation. When grown six inches the soil dusted with guano one foot wide each side and pricked in. When vines one yard long, again dusted with guano two feet each side from former dressing. At all times rather freely watered. Six plants covered about two square rods; they were cut off by frost September 26. Fruit first cut July 20; last cutting September 29. Fruit in fine condition cut from plants numbered 136, and 10 small fruit remained that were cut after the frost.

Sutton, Surrey. W. Thurtell.

idea of the ultimate aspect of plantations in which they are employed. They are beautiful at any age; they are bijou trees when young; they are at once peculiar and picturesque when mature, and the variegation is always less striking in old than in young trees.

There are no coniferous trees save the yews that so well endure the adverse influences of a town atmosphere as the trees now before us. Given one condition that will presently be stated, and they appear to be but little affected by smoke, dust, and defective daylight. But that one essential condition being absent, farewell to the beauty of the retinosporas. The writer of this had for some years a beautiful town garden, furnished with choice evergreen shrubs of many kinds, and conspicuous for beauty in it were the compact bushes of Retinospora obtusa aurea, and R. pisifera aurea, for which the conditions appeared to be nearly perfect. That the situation was smoky was testified by the fact that these pretty trees were quite black with a deposit of soot upon them before new growth commenced in the spring, yet they very soon recovered their looks, and presented quite a brilliant appearance in the summer, as was the case also with variegated hollies and many other such plants. It would be scarcely possible to find any other coniferous trees that would pass so well through such an ordeal. Even the bitter winter of 1880, with its twelve days' fog in February, made no permanent mark on the pretty trees. It made them black like sweeps' brushes, but the new growth sparkled as freshly as on trees far away in the country, and their summer aspect proclaimed them absolutely unhurt.

Retinosporas, as remarked above, require everywhere one special condition for the preservation of their beauty, and that is a moist soil. The dry summer of 1885 disfigured many fine specimens, and diminished the beauty of those that were not disfigured. The trees in the flower garden referred to had the advantage of deep, strong, moist soil; in a thin dry soil the summer would have ruined them, although they were spared by the winter. As regards the texture of the soil, a good loam is the best certainly, but they are not particular provided there is depth and moisture.

In some of the books these conifers are classed under chamæcyparis, the false cypress, but they are best known in gardens under the name by which this note is headed. In the selection of species and varieties, while all are good, and there are not many to perplex the planter, preference should perhaps be first given to *R. filicoides*, the fern-like, *R. lycopodoides*, the lycopodium-like, *R. filifera*, the thread-bearing, which produces numerous drooping shoots, which become crested, giving the plant a tassellated appearance; *R. obtusa*, of which there are four varieties, all beautiful, the one-named *aurea* being the most useful; and, finally, *R. pisifera*, of which the variety *aurea* is surprisingly beautiful. We leave unnoticed six or seven varieties that have good characters, and those who do not plant them should make their acquaintance, for they belong to the class of "interesting" subjects, and are characteristic of the vegetation of Japan. W.

Notes of Observation.

SMALL BRUSSELS' SPROUTS.

An accident has revealed to me, what I ought to have known years ago, as the result of commonplace observation, that large Brussels' sprouts—that is to say, large buttons—are not of necessity the best. It has been my rule to grow this vegetable in rich soil, and it has been my pride to send into the house abundant supplies of large, compact, globular buttons. Last year, after having planted out my usual breadth, there remained a lot of rejected plants, small, ugly candidates for the rubbish heap. Through a mistake on the part of one of my young men, they were planted out on a piece of poor, dry ground, and as I do not like to undo anything that has been well done, I allowed them to remain. They had not a drop of water all through the dry time, and as autumn came they looked a poor, starved lot, and I said, "When we are slack of work we will dig them in." But, as time wore on, they became studded with buttons very small, compact, the largest about the size of walnuts, the smallest about half that size. And then another accident occurred, for a lot were pulled up and the buttons snapped off, and sent into the house. The next day I was about to consign the lot to extinction, when there came a request for another supply of those small sprouts, for at one trial on the table they were regarded as something new, and of far better flavour than the customary sprouts. As I looked at them I ejaculated, "Of course they are better than large sprouts, I always knew that, but the worship of size has made me put my knowledge under foot." I sent in a further supply, and I had a dish cooked for my own dinner. They were so good that really they might have been pronounced a new and distinct vegetable. And every little plant was studded so closely that, granting the size of the buttons to be sufficient, the starved plantation was one of the most profitable crops in the garden. Brussels' sprouts should have a *recherché* flavour, sweet and somewhat spicy, and the larger they are the less of this flavour is perceptible; while the small, close sprouts, when properly cooked, come to table as green as grass and as perfect in form as when gathered; while the large ones lack colour, and are, in a certain sense, "cabbage." Large or small they are always good but the small, half-starved samples were, in the case now stated, certainly the best. W.

FRUIT OF THE DOUBLE-FLOWERING PEACH.

From a double-flowering peach in my garden I obtained last year two splendid fruits, that ripened as perfectly as could be expected for the season. They were evidently the produce of single flowers, and were free from deformity and every imperfection.

Sutton, Surrey. W. Thurtell.

PORTUGAL CABBAGE.

This excellent vegetable, usually catalogued as *Couve Tronchuda*, belongs to the list of good things that are not generally known. It should be included in every seed list when the object is to provide for the table, because it affords an acceptable variety, and comes in well at times when there is a little tendency to sameness in the supplies. This cabbage requires plenty of room to throw its lusty arms about, and in the autumn it supplies two distinct kinds of vegetable, the head being marrowy and delicious, and the midribs of the large leaves tender and delicately flavoured when cooked in precisely the same way as sea kale. A strong growth is required, but heavily-manured ground is not necessary for this; in fact, the flavour is best from good ground containing no recent manure. For a country-house vegetable of the profitable sort Couve Tronchuda is first rate, but only as much should be grown as can be consumed before winter, as a severe frost will destroy it. W.

LILY-WHITE SEA KALE.

For some three or four years past I have noticed in Messrs. Veitch and Son's trial grounds plantations of the lily-white sea kale. This variety was grown by us some years ago at Hermitage from roots supplied by Messrs. Stuart and Mein, from whom it passed to Messrs. Veitch, who by this time must have a considerable stock of it. Although only a trivial variety of the common sea kale, it has for garden purposes a distinctive quality that in time will establish it as the favourite sort for all purposes. Its character is expressed in its name; it never shows a taint or tinge of purple colour; it is always "lily white;" the texture wax-like, and altogether beautiful. In flavour it does not in the least degree differ from common sea kale of the best growth, and it has always appeared to us that it is incapable of developing a certain degree of bitterness that occasionally occurs with sea kale, and is, of course, objectionable. Now that the lily-white sea kale is at command at the price of the common sort, or a very slight advance thereupon, it should be secured by every cultivator of the useful vegetable. S. H.

TOMATOS FOR SALADS.

Now that tomato salad is coming into favour, and the magazine directions for preparing it have met with general approval, it will be a question with many what is the best tomato to grow for the purpose. It should be understood that any kind of tomato, when fully ripe and not over ripe, will answer well; therefore let no one go short of tomato salad in the hot summer days, when it is one of the most elegant and wholesome things that can be placed on the table. But the sorts differ in quality when cut up raw for salads; some are watery, others have too much central core; others again are deficient of flavour. Having tried all the sorts from year to year for several years past, facilities for so doing being at command, the verdict again and again has been given in favour of the old *Pear-shaped*. The next best is one that comes near to it in form, the somewhat new but famous *Chiswick Red*. The flesh of this is dry and firm, and better for salad when allowed to carry the whole of its crop than when thinned to secure large fruit. X. Y. Z.

WINTER FLOWERS.

At the close of the year I had in flower in my garden several interesting plants, of which I will name a few: Winter heliotrope, *Petasites fragrans*; Winter Spice, *Chimonanthus fragrans*; Winter Jessamine, *Jasminum nudiflorum*; Shrubby Speedwell, *Veronica Andersoni*; with primulas of several kinds, including lilac and yellow single primroses. The recent frost put a stop to their flowering, but now they are fast recovering and I expect many good things to join them to enlarge the winter garland. Some of my hellebores have not yet flowered, but are quite ready to begin. Those that flowered in November and December are disposed to show few more flowers. The Winter Aconite, *Eranthis hyemalis*, made a good beginning, but the frost stopped it; this, therefore, will again show its flakes of gold. No one can question the desirability of having enough of such things, but it is a question if one can have too many. One sunny hour now will show me in the garden a very cheerful garland.

Laura L———.

LILIUM AURATUM.

Now that the season for potting the bulbs of Lilium auratum has arrived, I would like to suggest that, as they can be obtained at a very cheap rate, this magnificent lily should be grown more extensively in the gardens of all classes than has yet been the case. After considerable experience I cannot speak too highly of the imported bulbs, for with ordinary attention they produce a strong growth and flower most satisfactorily. Last year I bought three dozen bulbs from Mr. W. Gordon, Amyard Nurseries, Twickenham, and although they were not by any means high in price they proved most excellent, and my gardener was very successful with them. They indeed produced remarkably fine spikes, consisting of from sixteen to thirty-six blooms each. Amongst the thirty-six bulbs there are six distinct varieties, all of which are very beautiful. The majority have flowers remarkable for their large size and great breadth of petal, and richly marked with cerise or golden yellow on a pure white ground, the variation in colour being of great beauty. The examples surprised most of my friends, and many good judges who saw them expressed a very high opinion of the development of the plants and the quality of the flowers.

Roselands, Teddington. Walter Furze.

"ANY DOCTOR WILL TELL YOU" there is no better Cough Medicine than Keating's Lozenges. One gives relief; if you suffer from cough try them but once; they will cure, and they will not injure your health; they contain only the purest and simplest drugs, secretly and skilfully combined. Sold everywhere in 13½d. tins.—[ADVT.]

Work for the Week.

CONSERVATORY AND GREENHOUSE.

CLIMBERS in conservatories require attention now to remove dead wood, rub away any pushing buds that are badly placed, and to train in young shoots where desirable.

FUCHSIAS growing freely will require repotting. Use a mixture of three parts turfy loam of a mellow hazelly description and one part each of leaf-mould, hotbed manure rotted to powder, and silver sand. A temperature of 55 deg. by night and 65 deg. by day is best for fuchsias newly potted at this time of year, with frequent syringing.

GREENHOUSE to be kept clean and airy, and the whole of the stock to be revised, that there may be no propagating of useless stock and no delay in securing stocks of things really desirable. Nearly all the small plants from cuttings of last autumn will now require to be repotted, and as they are now intended to grow, a generous soil may be used, rather rough, turfy, and quite sweet.

NERIUMS require to be started in a brisk moist heat, and to have abundance of water as soon as the sap is fairly in motion. See that they are free from scale and all other vermin. Old plants should be shaken out and repotted in equal parts peat, loam, leaf-mould, and rotted cow-dung.

ORANGE TREES to be well cleaned before new growth commences. Top-dress with fat dung, and give the roots a good soaking with tepid water.

PLANTS IN BLOOM comprise Amaryllis, forced Azaleas, Camellias, Chinese Primulas, Cyclamens, Cytisus, Daphnes, Mignonette, Violets, Tree Carnations, and forced Tulips.

FORCING AND ORCHARD HOUSES.

FIGS to have plenty of liquid manure as they advance in growth. Pinch the shoots at the fourth joint.

PEACH AND NECTARINE trees indoors will set their fruit more freely if there is a good breeze through the house every day; the atmosphere at the same time to be kept as dry as possible. Peaches that have set fruit to be thinned partially, so as to leave room for another thinning. Cold draughts are very injurious, and it is important to keep the temperature steady, and give air freely on fine mornings.

STRAWBERRIES coming into fruit need abundance of water, and occasionally liquid manure. Give as much air and light as possible, to ensure well-flavoured fruit, and those that set heavy crops thin to a moderate number, or the berries will be small.

VINES started now will not need so much caution as to raising the temperature as those started in December, as there is now more solar light, and vegetation is becoming active. Use the syringe freely among vines newly breaking, but sparingly, or not at all, to vines in flower. This is a good time to put in eyes for raising a stock of pot vines, and this is best done by putting the eyes singly in a mixture of turfy loam and leaf-mould, and plunging the pots in a bark bed or dung frame, with a bottom-heat of 70 deg. to 80 deg. The bunches of vines in the early house to be thinned as soon as the berries are of sufficient size. Tie in the young shoots, to prevent the tips touching the glass, and remove laterals early.

FLOWER GARDEN AND PLEASURE GROUNDS.

ANNUALS may be sown in open borders and in reserve beds. Any that are wanted in large quantities should, to make sure, be sown in pans also and placed in a pit.

AURICULAS are by no means difficult to raise from seed, and now is a good time to sow it. Use large shallow pans filled with fine soil, consisting chiefly of loam from rotted turfs, leaf-mould, and peat. Press the soil firm and soak well with boiling water. When the soil is cold, sprinkle the seed on the surface, and lay a flat tile or square of glass over each, and place the pans in a cold frame. Leave them alone for a fortnight, then if the soil is getting dry place the pans in a vessel of water, so that the soil will be moistened by absorption without washing the seeds off the surface.

BEDDERS of all kinds may now be propagated in quantity. The reminder may be useful that, generally speaking, cuttings put in now make fine plants and bloom early; but if deferred beyond this time the plants must be comparatively weak when put out, and an early bloom is out of the question.

HARDY PLANTS IN BLOOM include Primula vulgaris, Eranthis hyemalis, Hepatica triloba, Viola suavis, Cheiranthus alpina, Tussilago alba, and Snowdrops.

RANUNCULUSES and ANEMONES to be planted now in beds of sound loam, well drained and well manured. Place the roots in open trenches two inches deep, which are to be previously sprinkled with coarse sand, and then cover with the soil that was taken out.

ROSES may be planted, and plantations that need trenching and manuring may be lifted for the purpose. Put strong stakes to all newly-planted standards. Be in no haste to prune roses yet; a few for early blooming may be cut back, but the general stock should remain unpruned a few weeks.

FRUIT GARDEN AND ORCHARD.

ROUTINE WORK comprises the completion of all pruning and nailing of wall trees not yet done, and the mulching with manure of old borders that have not had such refreshing some time.

TREES that bear well must be fed well, for if fine fruit is desired the roots must have food enough to furnish it.

VINES out of doors must be pruned without delay. If there is any choice as to method, as will be the case with vines only a year or two planted, and which have only one or two strong rods, then the long-rod system should certainly have the preference, but old fruitful wall vines must be taken as they are, and first be cleared of the shoots that bore fruit last year; next have laid in a regular distribution of last year's shoots shortened back to three or four buds; and, lastly, be cleared of all superfluous and crowded wood, so as to leave the bearing shoots at an average of eighteen inches apart.

KITCHEN GARDEN AND FRAME GROUND.

CUCUMBERS will soon be growing freely, and as the days lengthen they will benefit by a little extra heat. The temperature may now be allowed to rise to 75 degrees. Let the plants be quite ten or twelve inches from the glass; if nearer, the leaves are occasionally broken when the lights are moved.

EARLY sowings of seeds of summer crops should be made soon on warm rather dry soils; but on cold damp soils there is really nothing gained by early sowing; for if bright weather brings up the plants, the next change to cold and wet kills them off, and the vexation is greater in proportion to the extent of the original promise of forwardness. Take advantage of fine weather to complete all digging and manuring; in fact, let outdoor work now take precedence of everything else. Crops that are specially valued for earliness, such as saladings, may be greatly helped by means of warm borders under good walls, and protection with straw or reeds.

MELONS for early crops to be put out on their fruiting beds as soon as they have filled five-inch pots with roots. They should be kept in vigorous growth from the first, and when turned out have an ample and healthy foliage. The dung bed should be in a sweet condition to give a lasting and steady heat, and the soil for the surface should consist chiefly of rotted turf and loam. Melons require a more free ventilation than cucumbers, and a few degrees more heat will allow of ventilation without any risk to them.

ROOT HOUSES should be properly ventilated and the stores examined frequently at this season of the year, for the fœtid air from decaying vegetables is very injurious. The best temperature for the root house is one as low and equable as possible above freezing. Protect the walls with a bank of earth outside, if exposed to the weather. It is most desirable to have these structures partly above and partly below the general level, and to bank up the soil against the walls, and then plant the banks with trees and shrubs of medium growth.

VEGETABLES IN SEASON comprise Asparagus, French Beans, Beet, Broccoli, Cottager's Kale, Carrots, Coleworts, Celery, Endive, Jerusalem Artichokes, Leeks, Lettuce, Mushrooms, Onions, Parsnips, new Potatoes, Rhubarb, Sea-kale, and Turnips.

LEGENDARY PLANTS.

By RICHARD FOLKARD, Author of "Plant Lore, Legends and Lyrics."

PART IV.

Poetical and Fanciful Legends.

THE flower legends appertaining to our third and last selection, viz., the poetical and fanciful, are so numerous that we can only just touch upon a few. The Grecian and Roman poets have left us a veritable wealth of legendary lore regarding the origin of a number of the most beautiful denizens of our gardens, and the French Jesuit Rapan, in his poem "*De Hortorum*," has enumerated several, whilst Chaucer, Spenser, and other old English poets have added to the store. From these old writers we learn that the Amaranth (emblem of immortality) sprang from the blood of Aminta. The Flos Adonis is the floral descendant of the beautiful youth whom poor Venus so loved that at his untimely death her tears, falling around his corpse, produced the delicate Anemone. Crocus, Ranunculus, and Nasturtium, classic youths, were transformed into the flowers bearing their names. The Delphinium (or Larkspur) sprang from the blood of the suicide Ajax, and bears upon its petals the initials A.I.A., at once the initials of his name and an exclamation of grief at the loss of the hero. The Hyacinth owes its origin to Apollo, who having by misadventure slain his companion Hyacinthus with a quoit, caused the fragrant Hyacinth to arise from his blood. The inordinate vanity of Narcissus having led to his untimely death, the gods, at the passionate entreaty of the nymph Echo, transformed him into the White Narcissus, whose tears are fabled to be contained in the cup formed in the centre of the flower. Legends of a similar character appertain to the Crown Imperial, Iris, Lotus, Myrtle, Orchis, Pæony, Poppy, Syringa, Daisy, and many other flowers and shrubs. Perhaps the most pathetic of the poetical flower legends is the story of poor Clytie, as narrated by Ovid. This luckless nymph, enamoured of Phœbus (the Sun), was forsaken by him for Leucothöe. Maddened with jealousy, the discarded and love-sick Clytie accused Leucothöe of unchastity before her father, who entombed his daughter, and thus killed her. Phœbus, enraged with Clytie for causing the death of his beloved Leucothöe, heeded not her sighs and spurned his embraces. Abandoned thus by her inconstant lover, the wretched and despairing Clytie wandered half distraught, until at length, worn out with distracted passion, she at length expired, and became transformed to a species of Heliotrope, which always turns its face to the sun. Popular error has associated this legend with the Sunflower; but this connection has no foundation, for Ovid described the flower as "resembling the pale Violet," and, besides, in his day, the Sunflower (a native of Peru) was quite unknown in Europe.

Rose legends are so numerous as to preclude more than a brief allusion to them. Poets of all countries have vied in singing the praises of the Queen of Flowers, and in inventing fanciful legends and stories as to its origin. We have already alluded to Sir J. Maundevile's story that the first Roses appeared on earth at Bethlehem, where a fair maiden, unjustly condemned to be burned, after praying devoutly, "entered the fire, and immediately the fire was extinguished, and the faggots that were burning became Red Rose bushes full of roses, and those that remained unkindled became White Rose bushes; and these were the first Rose trees and Roses, both white and red, that ever any man saw." "Thus," concludes Sir John, "was this mayden saved be the grace of God. And therefore is that feld called the Feld of God flourishing; for it was fulle of roses."

Rapin narrates at length a legend of a certain Grecian Princess, of extraordinary beauty who, having dared to pose upon the shrine of Diana, was changed into the rose by Apollo, the brother of the goddess thus insulted.

According to a Roumanian tradition, the Rose was originally a young and beauteous princess, who, while bathing in the sea, so dazzled the sun with the radiance of her loveliness, that he stood still to gaze upon her, and covered her with kisses. Then for three days he forgot his duty, and obstructed the progress of night. Since that day the Lord of the Universe has changed the princess into a Rose, and this is why the rose always hangs her head and blushes when the sun gazes on her.

Zoroaster, the great apostle of the Persians, and the introducer of the worship of the sacred fire, is connected in a legend with the Rose. An astrologer having predicted the birth of a child who would dethrone the King of Babylon, the monarch at once gave orders for the assassination of all women who were about to become mothers. Thousands were slain; but one gave birth secretly to the future prophet. This having come to the King's ear, he sent for the child, and tried to kill him with his own hand, but his arm was withered on the spot. Alarmed, and furious with rage, he had the babe placed on a lighted stake, but the burning pile changed into a bed of Roses, on which the little one lay quietly sleeping. Some persons present saved a portion of the fire, which has been kept up to the present day in memory of this great miracle. The King made two other attempts to destroy Zoroaster, but his temerity was punished miraculously by a gnat, which entered his ear and caused his death.

According to a superstition current in Schleswig, when Satan fell from heaven, he endeavoured, in order to ascend to the celestial regions, to make

himself a laddor with the thorns of the Eglantine or Rose-briar. God, however, would not permit the Eglantine to grow upwards, but only to extend itself as a bush. Then, out of spite, Satan turned its thorns downwards, pointing towards the earth.

The Christmas Rose (which is really not a rose at all) has also been called Black Hellebore, from the colour of its roots, and *Melampodium*, in honour of Melampus, a learned physician who flourished at Pylos, in Peloponnesus, 1530 years before the birth of Christ. Melampus travelled into Egypt, then the seat of science, in order to study the healing art, and there he became acquainted with the catbartic qualities of the Hellebore, by noticing the effect it had upon some goats which had fed upon the herb. He afterwards, with Hellebore, cured the daughters of Prœtus, King of Argos, of mental derangement,—ancient writers affirm by causing the princesses to bathe in a cold fountain after taking the drug; but, according to Pliny, by prescribing the milk of goats which had eaten this vegetable.

The Rose of the Japanese is the beautiful flower which has been happily described as:—

> "The chaste Camellia's pure and spotless bloom
> That boasts no fragrance and conceals no Thorn."

The tree was introduced into Europe in 1639, and is named after G. J. Kamel, or Camellas, a Moravian Jesuit, and traveller in Asia, who, returning to Spain from the Isle of Luzon, sought an audience of Queen Maria Theresa, and presented her with a mother-o'-pearl vase, in which grew a small shrub with glossy green leaves, bearing two flowers of dazzling whiteness. Plucking the fair bloom, she ran to the king's chamber, which he was pacing in one of his periodical fits of melancholy. "Behold the new flower of the Philippines," she cried, as her husband welcomed her with a fond embrace; "I have kept the best for you; the other you shall present to-night to Rosalez, who plays so well in Cinna at the Theatre del Principe." Ferdinand pronounced the flower of which his wife was so enraptured to be "beautiful but scentless," but in spite of the latter defect, the plant was assiduously cultivated in the hothouses of El Buen Retiro, and called after the giver the Camellia Lily.

Mythologists tell us that there was originally only one kind of Lily—the orange-coloured. The white Lily was held in the highest regard by the heathen nations, and under the name of *Rosa Junoni* was consecrated to the imperious queen of the heavens, from whose milk, indeed, the flower is stated to have originally sprung. The legend is as follows: Jupiter being desirous of rendering the infant Hercules immortal, that he might rank among the divinities, caused Somnus to prepare a nectareous sleeping draught, which he persuaded Juno take. The Queen of the Gods fell immediately into a profound slumber, and Jupiter then placed the little Hercules to the celestial breast, in order that the babe might imbibe the ambrosial milk that would ensure its immortality. The infant, over-eager to enjoy the delightful nutriment, drew the milk faster than he could swallow, and some drops falling to the earth, there immediately sprang from it the white Lily, the emblem of purity: some of the milk is also said to have dropped over that portion of the heavens which, from its whiteness, still retains the name of the milky way (*lactea via*). The Romanists, making use of this legend, relate a similar wonder with respect to the Virgin Mary.

There is a very charming legend extant as to the snowdrop; this account of the flower's creation is as follows: "An angel went to console Eve when mourning over the barren earth, when no flowers in Eden grew, and the driving snow was falling to form a pall over earth's untimeous funeral after the fall of man; the angel, catching as he spoke, a flake of falling snow, breathed on it, and bade it take a form, and bud and blow. Ere the flake reached the earth Eve smiled upon the beauteous plant, and prized it more than all the other flowers in Paradise, for the angel said to her:—

> "'This is an earnest, Eve, to thee,
> That sun and summer soon shall be.'"

The angel's mission being ended, away up to heaven he flew: but where on earth he stood a ring of snowdrops formed a posey." In some parts of England it is considered by the peasantry unlucky to take the first Snowdrop into a house—the flower being regarded as a death-token, inasmuch as it looks like a corpse in its shroud.

That sturdy old favourite, the Wallflower (the original Heart's Ease, by the way) has, notwithstanding its homely associations, a poetical origin. In bygone days, says tradition, a castle stood near the river Tweed, in which a fair maiden was kept a prisoner, having plighted her troth and given her heart's affection to the young heir of a hostile clan; but blood having been shed between the chiefs on either side, the deadly hatred cherished in those lawless days forbade all thoughts of the union. The gallant tried various stratagems to get possession of his betrothed, all of which failed, until at last he gained admission to the castle disguised in the garb of a wandering troubadour, and as such he sang before his lady-love, and finally arranged, with the aid of a serving-woman, that the maiden should effect her escape, while he should await her arrival, with a noble courser and armed men. Herrick tells us the conclusion of the story in the following lines:—

> "Up she got upon a wall,
> Attempted down to slide withal
> But the silken twist untied,
> So she fell and, bruised, she died.
> Love in pity of the deed,
> And her loving luckless speed,
> Turn'd her to this plant we call
> Now the Flower of the Wall."

Old Chaucer appears to have been passionately fond of the modest Daisy, and never tired of singing its praises. From him we learn that the Queen Alceste was changed into the flower, and that she had as many virtues as there were florets in it. Ossian gives another origin of this humble little flower. Malvina, weeping beside the tomb of Fingal for Oscar and his infant son, is comforted by the maids of Morven, who narrate how they have seen the innocent infant borne on a light mist, pouring upon the fields a fresh harvest of flowers, amongst which rises one with golden disc, encircled with rays of silver, tipped with a delicate tint of crimson. "Dry thy tears, O Malvina," cried the maidens; "the flower of thy bosom has given a new flower to the hills of Cromla."

There is a pretty legend which we find attached to two wayside plants—the Plantain and the Succory—*Wegewarte* of the Germans. The legend relates that a loving maiden anxiously expected the return of her betrothed from a voyage upon which he had long since set out. Every morning she paced the road where she last bade adieu to him; every evening she returned. Thus she wearily passed her time during many a long month. At last, utterly worn out with watching and waiting, she sank exhausted by the wayside, and, broken-hearted, expired. On the spot where she breathed her last sigh sprang up a little pale flower which was the *Wegewarte*, the watcher of the road. In Bavaria, the same legend is met with, differing only in details. A young and beautiful princess was abandoned by her husband, a young prince of extraordinary beauty. Grief exhausted her strength, and finding herself on the point of death, she exclaimed, "Ah, how willingly would I die if I could only be sure of seeing my loved one." Her ladies in waiting, hearing her desire, solemnly added, "And we also would willingly die if only we were assured that he would always see us on every roadside." The merciful God heard from heaven their heart-felt desires, and granted them. "Happily," said He, "your wishes can be fulfilled; I will change you into flowers. You, Princess, you shall remain with your white mantle on every road traversed by your husband; you, young women, shall remain by the roadside, habited in blue, so that the prince must see you everywhere." Hence the Germans call the wild Succory, *Wegewarten*.

To an old favourite field flower—the Blue or Blue-bottle—Mythology has given a fanciful origin. Its botanic name is *Centaurea cyanus*. According to the traditionary account the flower was called Cyanus, after a youth so named, who was so enamoured of corn-flowers that his favourite occupation was that of making garlands of them; and he would scarcely ever leave the fields whilst his favourite blue flowers continued to bloom. So devoted was his admiration that he always dressed himself in clothes of the same brilliant hue as the flower he loved best. Flora was his goddess, and of all her varied gifts, her Corn-flower was the one he most appreciated. At length he was one day found lying dead in a cornfield, surrounded with the blue Corn-flowers he had gathered; and soon after the catastrophe, the goddess Flora, out of gratitude for the veneration he had for her divinity, transformed his body into the *Centaurea cyanus*, the blue-bottle of English cornfields.

The Corn-flower is called in Russia *Basilek* (the flower of Basil), and attached to it is a legend that a handsome young man of this name was enticed away by a nymph named Russalka, allured into the fields, and transformed into the Corn-flower. Plants have always been a favourite means of testing the faith of lovers; and the Centaury or Blue of the cornfields was the flower selected by Margaret as the floral oracle from which to learn the truth respecting Faust.

The flower which we now call the "Forget-me-not" (a name which originally appertained to the Speedwell) has become inseparably connected with the flower, borne on the wings of the following poetic legend: A knight and his lady-love, who were on the eve of being united, whilst strolling on the bank of the blue Danube, saw a spray of these pretty flowers floating on the waters, which seemed ready to carry it away. The affianced bride admired the delicate beauty of the flowers, and regretted their fatal destiny. At this point, the lover did not hesitate to plunge into the stream. He soon secured the flowers, but the current was too strong for him, and as it bore him past his despairing mistress, he flung the fatal flowers on the bank, exclaiming, as he swept to his doom, "*Vergiss mich nicht.*"

> "And the lady fair of the knight so true,
> Aye remembered his hapless lot;
> And she cherished the flower of brilliant hue,
> And braided her hair with the blossoms blue,
> And she called it Forget-me-not."

A recent writer remarks that possibly the story of the origin of the Forget-me-not's sentimental designation may have been in the mind of the Princess Marie of Baden, that winter day, when, strolling along the banks of the Rhine with her cousin, Louis Napoleon, she inveighed against the degeneracy of modern gallants, vowing they were incapable of emulating the devotion to beauty that characterizes the cavaliers of olden times. As they lingered on causeway-dykes, where the Neckar joins the Rhine, a sudden gust of wind carried away a flower from the hair of the princess, and sent it into the rushing waters. "There!" she exclaimed, "that would be an opportunity for a cavalier of the olden days to show his devotion." "That's a challenge, cousin," retorted Louis Napoleon, and in a second he was battling with the rough waters. He disappeared and reappeared to disappear and reappear again and again, but at length reached the shore safe and sound with his cousin's flower in his hand. "Take it, Marie," said he, as he shook himself; but never again talk to me of your cavalier of the olden time."

The Italians call the *Myosotis*, *Nontiscordar di me*, and in one of their ballads represent the flower as the embodiment of the spirit of a young girl who was drowned, and transformed into the *Myosotis* growing by the river's banks. According to some investigators, the Forget-me-not is the Sun-flower of the classics—the flower into which poor Clytie was metamorphosed—the pale blossom which, says Ovid, held firmly by the root, still turns to the sun she loves. There is rather a ghastly legend connected with the Forget-me-not which narrates that after the battle of Waterloo an immense quantity of these flowers sprung up upon different parts of that sanguinary field, the soil of which had been enriched by the blood of heroes.

SUGAR IN MAHWAH FLOWERS.—At the recent meeting of the Scientific Committee of the R.H.S., Professor Church gave an interesting account of his researches into the chemical constitution of the sugary corollas of Bassi latifolia of India. It was said that it would supersede the use of beetroot and the sugar cane; but, he remarked, this would depend upon the character of the sugar. He had analyzed some samples of the sun-dried flowers, and found they yielded 56 per cent. of sugar and 15 per cent. of water; but a further analysis showed that sucrose (cane sugar) was only present in the proportion of 3·2 per cent., while glucose (lævulose and dextrose) yielded 52·6 per cent. Hence it cannot possibly be a substitute for cane or beet sugars. Of nitrogenous matters the flowers contained 2·2 per cent. The usual proportions of useful nitrogenous food should have 1 part of flesh-formers to 5 saccharine; but in the case of Bassia it was only 2 to 55. He further remarked that in the nectaries of nearly all British flowers the sugar was cane sugar; but in young grasses the sugar was glucose, and it was not until the lower leaves had begun to turn yellow that the glucose was converted into sucrose or cane sugar. In the case of the Mahwah the sugar resides solely in the corolla; a fair sized tree will yield about half a ton of fresh flowers; the seeds contain an edible oil.

New Plants, Flowers, and Fruits.

(B.M.—Botanical Magazine. I.H.—Illustration Horticole.)

CHAMÆDOREA ARENBERGIANA (*B.M.*, 6838).—An elegant palm, native of Guatemala; inflorescence very distinct.

FUCHSIA AMPLIATA (*B.M.*, 6839).—A handsome Andean plant, with beautiful foliage and long-tubed scarlet flowers.

ANEMONE POLYANTHES (*B.M.*, 6840).—A fine Himalayan species, growing one to two feet high, the leaves large, entire, lobed; the flowers in a large loose umbel, pure white.

CALLIPSYCHE AURANTIACA (*B.M.*, 6841).—An amaryllid, with the leaf of eucharis and a yellow flower like an alstromeria, with long protruding stamens.

PHACELIA PARRYI (*B.M.*, 6842).—A near ally of *P. campanularis*; flowers violet blue.

NYMPHÆA STELLATA V. ZANZIBARIENSIS (*B.M.*, 6843).—A splendid water lily, with flowers of a deep full violet blue colour.

CALANTHE NATALENSIS (*B.M.*, 6844).—A beautiful orchid, the flowers lilac-tinted white, the lip light red.

BORONIA HETEROPHYLLA V. BREVIPES (*B.M.*, 6845).—A beautiful plant, the leaves linear, flowers purplish red.

ANEMONE TRIFOLIA (*B.M.*, 6846).—A fine old plant of tall slender growth, the leaves in threes, the flowers pure white.

POLYGONUM SPHÆROSTACHYUM (*B.M.*, 6847).—A handsome Indian species that in general characters comes near to *P. affine*.

ALOE BAINESI (*B.M.*, 6848).—The finest of all the one hundred and fifty different kinds of aloe. Flowers creamy shaded red.

RHAPHITHAMNUS CYANOCARPUS (*B.M.*, 6849).—A neat growing evergreen tree, native of Chili, leaves bright green, flowers pale blue.

RHODODENDRON JAVANICUM V. TUBIFLORA (*B.M.*, 6850).—One of the many fine varieties introduced by Messrs. Veitch, flowers orange red, shading to scarlet.

POGONIA PULCHELLA (*B.M.*, 6851).—A miniature orchid, with richly variegated leaves and elegant flowers.

CROCUS KOROLKOWI (*B.M.*, 6852).—A spring flowering species from Bokhara; flowers yellow.

CROCUS AERIUS (*B.M.*, 6852).—A spring flowering species from Asia Minor; flowers pale lilac.

LILIUM POLYPHYLLUM (*I.H.*, 565).—A good figure of this fine lily.

SACCOLABIUM BLUMEI (*I.H.*, 566).—A rough figure, in black and white.

CHRYSOPHYLLUM CAINITO (*I.H.*, 567).—A handsome fruit of this interesting sapotaceous plant.

MUTISIA DECURRENS (*I.H.*, 568).—A fine figure of a good composite that is not much known.

GIROFLÉES QUARANTAINES (*I.H.*, 569).—A group of large-flowering ten weeks stocks.

LEPTOSPERMUM LANIGERUM (*I.H.*, 570).—A beautiful myrtaceous plant, from New Zealand; the leaves linear, light green, the flowers white with yellow centre.

DIANTHUS CARYOPHYLLUS (*I.H.*, 572).—A group of new carnations and picotees, one of which, named *Madame Vanden Hove*, is of a rich citron yellow, with broken picotee edge, making promise of a very showy flower.

ANACARDIUM OCCIDENTALE (*I.H.*, 573).—Figures of the cashew nut, accompanied with a sufficiently descriptive notice.

NEW STRAWBERRIES (*I.H.*, 574*).—In the issue of *I.H.* containing plate 574, are figures of new strawberries, *König Albert von Sachsen*, a large cocks-comb-shaped fruit; *Hofgarten-Direktor Jühlke*, a smallish conical fruit; *Bavaria*, smallish, angular, ovate; *Teutonia*, large, letter U-shaped; *Zulu-König*, medium size, rather long, equally rounded at both ends. They are all described as of the first quality. 578* may be given as the number of another group, *Alexander Von Humboldt*, a large, square, or angularly rounded fruit; *Comet*, large, depressed spherical; *Superintendent Oberdieck*, medium size, round; *Garteninspector Hoof*, large, roundish; *Borassia*, medium size, roundish or depressed; *Otto Laemmerhirt*, large, roundish, handsome; *Saxonia*, large, variable, and singularly ugly. These also are described as of excellent quality.

TUBEROUS BEGONIAS (*I.H.*, 575).—A showy group of single flowers raised by Messrs. Forgeot and Co., Paris.

PHALÆNOPSIS VIOLACEA V. SCHRÖDERI (*I.H.*, 576).—A lovely variety, the colours white and rose delicately blended.

ANTHURIUM ARCHIDUC JOSEPH (*I.H.*, 577).—A splendid variety raised from A. Andreanum and A. Lindeni. The spathe is of a rich vinous red; the spadix white with a tinge of rose.

TEMPERATURE OF WATER FOR PLANTS.

THE question of watering plants with cold water, raised some time ago in the *Revue Horticole*, has led to numerous experiments, fully reported therein, and one and all have given the same result, showing that the use of cold and even iced water is not prejudicial to the plants to which it is applied. Some, indeed, appear to like it, the Chinese primroses, for example, which are said to grow better, and have leaves of a brighter green.

M Henri Truchot, writing to the *Revue Horticole*, says: "I have now no doubts at all about the vexed question of watering plants with water of a different temperature to that of the house in which they grow. My plants are all in the best possible condition in the hot-house as well as in the cold-house, so that I regard my two experiments as conclusive, the more so as they were made by myself at the coldest season of the year, when the cisterns whence the water was taken were, with the exception of four days, never free of ice, whilst the temperature of the hot-house was always kept at about 64 deg. Fahr."

In the same number of the *Revue Horticole* is a letter from the MM. Roué, gardeners, Chateau d'Ablon, from which we take the following extract: "Like M. Henri Truchot, we are in a position to confirm the statement that no inconvenience whatever results from the use of cold water for watering plants either overhead or at the roots. Here are facts and proofs in support of the assertion. We had cuttings of *coleus*, *alternantheras*, and *iresines*, which had been struck in the propagating house, and were ready for potting. This having been done, they were plunged in a bed prepared for the purpose near a cistern, where the water not only was not warmed, but was covered with a sheet of ice one-tenth of an inch in thickness, except where a hole had been broken to allow the dipping in of the watering-pot. The young plants in this bed were regularly watered, overhead as well as at the roots, with water from the said cistern, and appear in nowise to have suffered from the treatment; on the contrary, it seems to suit them."

The subjoined communication from M. Roué, gardener at Chateau de Vairo, is particularly interesting, as the experiments there related were made on forced plants. "Struck by the various articles which have appeared in the *Revue Horticole* on the subject of watering with cold water, I became anxious to try it. To this end I applied it to all the plants in a forcing house heated with a thermosyphon, and obtained most satisfactory results. I used iced water, overhead as well as to the roots, for my forced strawberries, during the whole time of forcing, and now, as I write, they are colouring, and in a few days will be ready to pick. The growth of these plants has been most luxuriant; the leaves very large on short, thick foot-stalks; the flower trusses most abundant, and stronger than the earliest blossom. I should observe that a second bloom is not uncommon on forced strawberry plants, particularly in the case of Marguerite, but I have seldom seen such a show of bloom. The same treatment was applied to the melon plants, and their growth and condition are as good as can be. I felt some little hesitation in applying it to the French beans; but all my fears have been dissipated. I have not ceased to water overhead with cold water, and in regard alike of growth and productiveness my plants are all that can be desired. If my memory does not fail me, I remember to have read in a work on forcing, written by M. Pynaert, that 'cold water is the best remedy for red-spider.' Now my plants are wholly free from this pest, although in every previous year they have suffered more or less. Whether this is to be attributed to the cold water, I cannot say. But as regards the safety of the practice there can be no doubt whatever. Neither, let me add, is there any doubt in my mind as to its efficacy. Still, in so important a matter it is no doubt desirable that further trials should be made at different places and under differing conditions."

The comparative experiments of M. Durant, horticulturist, Gaillon, prove not only that cold water does not injure plants, but that it promotes their growth. Two beds were sown with radishes, one on 21st, the other on 22nd January. One bed was invariably watered with warm water, and the other with cold, or even iced water. These were the results:—"The radishes sown on January 22, which had been supplied with cold or iced water, had short, stout leaves, like early radishes grown under glass, and were ready to pull by February 20; whilst those sown on January 21, which had always been watered with warm water, were not fit for pulling until February 24th, and had leaves much more drawn out. As these two beds had exactly the same temperature, and received precisely the same amount of air, I have no hesitation in attributing the marked difference between the crops to the water. The water, by encouraging the growth of the head, retards that of the root, and so made a difference to me of four days in favour of the radishes which had been watered with cold water. I therefore recommend my colleagues to use cold water, without any misgivings as to the consequences."—*Illustration Horticole.*

HOLLIES BEARING BERRIES IN THE ROYAL GARDENS KEW.

THE Kew collection of Hollies is a fairly good one, though deficient of many distinct varieties that are scattered about the country. For a study of Ilex aquifolium and allied species it must be pronounced sufficient, as the kinds that are unrepresented are of more consequence as garden curiosities than subjects for botanical consideration. Recently the following notes were made of the hollies showing berries. The collection is planted on the skirts of a walk westward of the Temperate house. It may be found by crossing the lawn on that side, the western entrance to the house looking directly towards it.

Opaca is a handsome variety with curled leaves; it bears a smallish crop of bright scarlet berries.

Senescens carries a very small crop of roundish, wax-like berries, of a deep red colour.

Ciliata bears a large crop of brilliant scarlet berries.

Ciliata minor rarely produces berries, but on a specimen here three berries have been found; they are of medium size, and scarlet colour.

Cooki is a parallel case to the last-named, a tree having a total crop of three berries. They are of large size and a deep red colour.

Lawsoniana is another example of an infinitesimal crop; one or two berries of a dull red colour.

Scotica is a twisted-leaved plant of a dark colour, much valued for seaside planting. It bears a few berries of a bright scarlet colour.

Fructo-luteo is a tree of handsome growth, bearing a fairly good crop of yellow berries.

Crassifolia, a thick-leaved variety, has a small sprinkling of scarlet berries at the top of the tree.

Hodginsi is one of the finest of the large-leaved hollies. It may be suspected that this variety produces both male and female trees. The specimens grown at Hermitage were always female, and bore moderate crops. In 1879 they were densely covered with rich red berries. Hodginsi at Kew is female, and at this time shows an abundance of berries, which are very effective in contrast with the deep green foliage. There is no more useful holly in cultivation.

Platyphyllum is a fine variety. A magnificent specimen in this collection bears a profusion of berries evenly scattered over the tree; they are large and of a rich scarlet colour.

Pendula is as fruitful as the common Aquifolium, and the berries are of the same brilliant colour.

Handsworthiana bears a few berries of a bright red colour.

Moonlight is one of the Milkmaid section as regards leafage. It bears a middling crop of showy scarlet berries.

Aureo-picta is probably the one that in some gardens is labelled *Gold Milkmaid.* It bears a smallish crop of pale yellow berries.

Species No. 3 is a plant of sturdy growth, with medium-sized leaves, roundish oblong, with a few small teeth, the texture horny. It bears a profusion of berries of a bright yellowish red colour, presenting a quite handsome appearance.

NO ARTICLE in daily use is more adulterated than Tea, and how and where to get a good cup of it becomes more and more difficult. That usually sold is of very inferior quality, often consists of redried and exhausted leaves, is prepared for the English market by cunningly facing or colouring with powdered mineral, plumbago, gypsum, and Prussian blue, and when so adulterated it is palmed off on the unwary as "best" tea. A remedy for this evil is found by using only the world-renowned Tea of Horniman and Co., London. Its strength is amazing, its flavour delicious, its purity beyond compare. It is sold in packet at fixed prices, by Chemists and others. For local Agents see advertisements in all papers.—[ADVT.]

THE HERMIT'S GRAVEYARD.

WHEN passing through Poulton, a communicative villager advised me to call on the hermit, for said he "Old Killmequick is not a real hermit, you know, for there aint no such things now as in old times, but he's a most curus character and we call him by the name I've said because he really does kill people and bury 'em." The first thought that occurred to me was that it would be sheer foolishness to visit a man whose name described his occupation, for I had no desire to be killed and buried, however amusing to the village of Poulton the proceeding might be. But the garrulous villager was watching my countenance and interpreting my thoughts most properly, for he added "the old boy is not only curus but most interesting and perfectly safe. He does kill people to be sure, but mayhap he won't kill you; however, I'll stake my life agin yonrs, and you may visit him with safety, provided, you know, that he happens to be in a good temper."

"Ah just so," thought I. "If he happens to be in a good temper, perhaps he will spare me; but if in a bad temper, he will kill me quick and bury me." I was about to say "decent," but words have their ways, as will be seen by the story I shall tell of my visit to this hermit, and I shall begin by saying that he did not bury his victims "decent," for in truth he did not bury them at all.

To walk into the jaws of death is justifiable only in extreme cases. Alcestis did it for a reason that justified her. I was not bound to do it; and, moreover, if wounds—to say nothing of death—are in prospect, I confess I do not like even to be hurt. But a tremendous impulse of curiosity was working within me while I debated with the communicative villager, and the end of it was a resolve to see the hermit at any price. And so hoping to smooth the way and bring into the business a practical element, I persuaded the communicative one to pilot me, and, if need be, introduce me; for, as I said, and as he agreed, the hermit may be displeased with the intrusion of a stranger, and my object is, if I see him at all, to see him in his true character. "Oh," said my guide "you will see him in his true character any way, he don't never alter, and if he don't settle you pretty quick and put you in the ground, my name is not what it was when I was christened; that's all, and that's quite enough, as I should say."

The reader does not need to be told that I regarded this man's speech as an enigma, and not as a description of fact. But I felt that to ask for an explanation would surely lead to further mystification; and, in fact, I could see the fellow was schooled in a certain species of trickery that consists in telling the truth in such a way as to appear as untruth, the solution of the problem being at the discretion of the subject operated on. As a matter of course, I dismissed all fears, and pushed on to see the hermit, and within a moment almost—so near was I to the house—my guide pushed me through a little porch and rapped with his knuckles on a door and then suddenly disappeared, leaving me face to face with an old man of stern aspect, who asked rather roughly—"What do you want here?"

Now there flashed upon me in haste a thought I should have before entertained at leisure, "What right have I to disturb this man, has he not a right to murder me for an inexcusable intrusion on his privacy? If I fall as a victim, this village at least will say, 'Serve him right.'"

But I managed to stammer out that I had heard of an interesting gentleman dwelling in the village, and curiosity had prompted me to introduce myself; but if not welcome I would disappear immediately. Then I obtained admission, the hermit saying, "It is a compliment to me that you make this call, and I shall be glad to vary the monotony of life in this dull place if you will stay with me for a few hours and talk—that is, if you can talk. Do you know anything beyond the fact that this is a fine day?"

Now, I must confess that the manner of the man encouraged me, and I soon discovered the groove to travel in to ensure a proper interview with the hermit. We were soon in the way of talking, the preliminaries were disposed of like cobwebs that a touch destroys, and when the hermit saw there was a probability of a little business in the colloquial way, he begged me to excuse him five minutes that he might give directions for the preparation of a meal, "for," said he, "there is here enough for sustenance, but it needs preparing, and visitors are so few that your coming is an event of some importance, and possibly a pig or a goose may die for it." The hospitable welcome delighted me, and as the hermit left the room I walked to the window, attracted by a long spray of roses that I saw dancing outside. And looking beyond the roses into the garden my attention was attracted by a strange gleam of white to the left, and I strained my vision to interpret its meaning. Oh, the chill that I felt in my heart, and then the burning heat at my fingers' ends, and the strange sense of swimming in my head, as I grasped the purport of the gleam of white to the left—for what think you was it made of? It consisted of a row of tall tombstones in close array; all of them horribly white, and all of them seeming to me to echo the words of the communicative villager—"He really does kill people and bury 'em." It was quite a relief when the hermit returned, and I could say within myself, "Let me meet Death face to face; it might be worse were the enemy unseen!"

But the hermit merely said a comfortable meal would be ready at such a time, and he brought forth wine and cigars, and said, "Life here is deplorably dull; the people around are ignorant and abominably inquisitive. It is a rare event for me to exchange sympathies with any human being above the status of a dolt; and some that should be worthy of a better fate, I make an end of; and it is one of my amusements to set up memorials of friends that have failed in the dues of friendship." My coldness of heart returned. I suspected the wine and the cigars, and cast my eyes towards the door, in the event of having to make a spring. But the hermit said, "I shall show you a good example, for you are most welcome here; and I shall do what I have not done for months past—I shall smoke and drink, and forgot my cares." This reassured me. I put all my fears under my feet, saying within myself, "As I came here without invitation, and possibly now put the man to some inconvenience, he has, perhaps, a right to kill me if so disposed; any way, I will resign myself to circumstances that are, in great part, of my own fashioning."

The talk that followed was to me delightful; whether the hermit enjoyed it I cannot say. I found myself quite unequal to him in learning, in taste, in judgment, in expression—in everything that lends a charm to conversation. The wine was good, the cigars were good, the hermit's talk was glorious; and the comfortable meal that followed was simple enough for a peasant, but good enough for a prince. I felt no creeping of poison through my veins; in fact, I forgot that I had entered a murderer's den, and had already learned to reverence the old gentleman.

But the cold shook returned when the hermit said, "I will ask you to walk in my graveyard, for I bury people here, and they speak no more to me." I felt my fingers move involuntarily, and my knees seemed likely to give way as I walked, in all the fear of an intended victim, to the graveyard, where, before me now, the row of tombstones I had seen aslant and far off from the window, were displayed in the full front.

"Now, I must tell you," said the hermit, "that I kill people with a weapon of the imagination, and give them a kind of hypothetical burial here; these stones being proper memorials of certain persons who are dead to me!"

Now I had, what all along I had expected, a key to the mystery the communicative villager had amused himself by propounding for my discomfort. With a quickness that, I think, surprised my strange entertainer, I asked for further information, and he said—

"In the course of a man's life he meets with vexations and disappointments that are the direct consequences of human folly, selfishness, stupidity, and treachery. The man who is properly conscious of his own fallibility will always temper judgment with generosity, and will always make large allowances for the shortcomings of those with whom he has to do. Of mercy I say nothing, for it is—like vengeance—the prerogative of heaven. It is enough if generosity finds a place in our feelings when we are called upon to suffer through the mistakes and malevolences of mankind. Now, being shut out from the world, and brooding too much, perhaps, on the wrongs and misfortunes of the past, I find a kind of sour compensation in committing to the grave the enemies I have worsted and the friends who have deceived me. These monuments commemorate them. The names I alone can read; the rest is open to your interpretation."

Looking on the stone then immediately before me, I read—

IN MEMORY OF

[Here follows a line of runic or cufic letters]

WHO LEFT THE PATH OF PROPRIETY

ON THE

[Here again mystic characters]

IN CONSEQUENCE OF A PRESSURE OF PECUNIARY

LIABILITIES,

EARNING THEREBY THE CURSES OF

WIDOWS AND ORPHANS.

MAY THE MERCY OF THE LORD COUNTERBALANCE

THE ANGER OF MAN.

It needed but one example to explain the nature of the whole. This burying and raising of monuments found explanation in the workings of a morbid mind, overwrought, perhaps, by anguish, and compelled to find relief through sheer lack of better employment. I read the whole series of inscriptions, and not a few of them were of a startling nature. In one instance, a man was consigned to the grave because he habitually invited himself to other men's tables, and at the last moment made excuses, and thus annulled engagements of his own making. Another stone commemorated an idle boaster; yet another, a man wanting in moral perception and unable to keep his tongue from evil speaking. It was amusing to discover that the only offence recorded of one poor wretch was, he could never say "No," but could say "Yes," and regret having said it. The most absurd, perhaps, of the series was one commemorating "A fool who was always taking cold"; and the most reasonable (if true), the declaration that the person honoured with the memorial had been "sent out of the world because too good to continue in it," which might be regarded as ironical. To mention only one more. These were the exact words of the inscription: "He made solemn promises, and lightly ignored them." There were several blank monuments, and I was curious to know to whom they would be dedicated. But my entertainer gently advised me to be content, suggesting that I had acquired a sufficient amount of information for the present. But my curiosity was intensified by his manner of fencing me off, and I resolved to acquire, by subtlety, a key to the mystic characters in which the names of the victims were recorded; and, with a view thereto, I drew out my cigar case, and asked the hermit to have one of my cigars. He politely declined, and at the same instant opened a door in the garden wall, saying, "I will here dismiss you." I was so taken by surprise that I paused, and again offered the cigar, at the same time mildly asking if I might come again. "No," said the Hermit; "you will not live to come again; for I shall put you in the grave, and inscribe on your tomb, 'He violated sanctuary by rendering himself offensively inquisitive.'"

And as he uttered the last words, the door closed upon me, and I found myself in a muddy lane on the skirts of the village, in a state of mind that I fervently hope I shall never experience again. I got away as quietly and quickly as possible, and had the good fortune not to meet with the communicative villager, or with anyone who could ask how I had fared with the hermit.

—From Hibbord's *Golden Gate and Silver Steps.*

Correspondence.

AN ORCHID SOCIETY.

SPECIAL societies are needed, and will continue to increase in proportion as the power of the R.H.S. and other centralized institutions is diminished. Personally, I am altogether for centralization, and vote for the good of the R.H.S. before any other society whatever! Instead however of injuring existing institutions, a broadly-constituted "Orchid Society" would work in sympathy with them, not by offering money prizes whatever it might do in the way of medals or certificates. Take the National Chrysanthemum Society as an example; it has not injured Regent's Park or South Kensington, but it has increased or helped to give an impetus to chrysanthemum culture generally. So too an "Orchid Society" would increase the number of orchid growers and exhibitors on all sides. Now that the R.H.S. dinner is coming off we shall hear, no doubt, of some new move in affairs horticultural, and I for one shall be glad to welcome and subscribe to any broad and efficient new departure that will help to extricate the mother society from the slough of despond. My note in favour of an "Orchid Society" was a mere suggestion. If there is a want for it, well and good; if not, there is no great harm done to anyone.

F. W. BURBIDGE.

WRIGHT'S ENDLESS-FLAME IMPACT BOILER COMPANY, of Airdrie, N.B., have been awarded medals for their boilers at International Inventions Exhibition.

Law.

GARDENERS' PRIVILEGES.

MR. FREDERICK CHARSLEY, the defeated Conservative candidate for Mid-Bucks, of Stoke Park, near Slough, and of 10, Lewes Crescent, Brighton, appeared as prosecutor, before the justices of the latter borough, against his gardener, Thomas Douglas, and another gardener, James Tugwell, who were charged with stealing a quantity of growing celery from his garden in Arundel Road. The defence set up by Mr. J. K. Nye and Mr. G. A. Evett, (Lamb and Evett), who appeared for the prisoners respectively, was that Douglas had, earlier in the season, received some seeds and cabbage and lettuce plants from Tugwell, and that it was the privilege and custom amongst gardeners to make such exchanges. Mr. Charsley said he had positively instructed his servant to preserve the celery through the winter; also, that everything that was not required for his own consumption was to be sent to the various charitable institutions in the town. It was shown that there were lettuce and cabbage plants on the ground which the prosecution could not account for, and the Bench discharged the prisoners. Douglas, leaving the prisoners' dock, entered the defendants' box along with William Pettitt, a carter, to answer a charge (by summons), of conspiring together to defraud Mr. Charsley of £1 7s. 6d. It appeared that Pettitt had been employed to cart away rubbish from the garden from time to time, the agreement as to price being 3s. per load; and that Douglas presented a bill for £2 3s. 6d. to Mrs. Charsley. That lady expressed her opinion that it was excessive, but Douglas told her it was caused by Pettitt having to cart the rubbish to Rottingdean (about three or four miles) to get rid of it, instead of having to take it only 300 or 400 yards as before. She paid the bill; but it was subsequently ascertained that the rubbish was not carted to Rottingdean. When Douglas was taken into custody on the first charge, Pettitt's bill (with the money wrapped in it) was found in his pocket. Mr. Nye, who now appeared for both defendants, submitted that there was no evidence of conspiracy. The bill found upon Douglas was Pettitt's bill, which he would have paid had he not been arrested. Mr. Heathcote, the stipendiary magistrate, said there was, doubtless, a very gross overcharge, but a jury would not convict on this evidence, and the summonses were dismissed. Mr. Charsley then applied for a summons against his gardener (Douglas) for stealing a quantity of potatoes and other articles, stating that he had a clear case against the man in this respect. Mr. Heathcote declined to grant any further summons except upon a sworn information, which Mr. Charsley said he was prepared to make at once; and he furnished the magistrate's clerk with the necessary particulars.

PLANTS IN LIVING AND BED ROOMS.

"ARE plants in rooms promotive of health and cheerfulness?" In the case of all living rooms I answer in the affirmative. Delicate people complain of headaches and sickness from their presence, and will, therefore, have them excluded, and rightly too. Plants with powerful odours will sometimes produce that effect. I have known ladies that could not go near a jessamine; others that hated musk; some that would faint at the propinquity of a heliotrope; and others that only approved of mignonette when not nearer than a furlong. All of us have something peculiar in our likes and dislikes. It is rather ill-natured to consider such peculiarities as mere fid-fad imaginaries. Common prudence would say "Keep at a distance from whatever harms you." In bed-rooms that are shut close at night I would advise dispensing with flowers having powerful odours, even though agreeable to the olfactory nerves of the owner. If he prefers retaining them it would be advisable to place them nearer the floor than the couch on which he reposes. But why not have air in the sleeping room at night, instead of shutting it up close, when the weather is at all favourable, and thus serve the interests of the occupants and those of the plants at one and the same time? The idea of the unhealthiness of plants in living and sleeping rooms has been suggested by our chemical friends demonstrating the influence of vegetation on the atmosphere and the reciprocal action ever going on between the animal and the vegetable world. They tell us truly that animals are constantly taking oxygen gas from the atmosphere, and throwing, by exhaling, carbonic gas into it, and that, from this and other causes, but for living vegetation the air would become impure and unfit for breathing. The solid parts of plants being chiefly carbon—of which charcoal may stand as a familiar type—and every green part of a plant having the power to absorb this carbonic acid in the atmosphere during life, its quantity is thus lessened, while the action of the sunbeam enables the plant to decompose the carbonic acid thus received, to retain, add, or assimilate solid matter (the carbon) to itself and to set the other constituent (oxygen) free for the benefit of the animal world. Thus it would seem that the nearer we get to healthy vegetation the more likely we shall be to get the benefit of this fresh-forming oxygen; but, as if to damp our enthusiasm, we are presented with a lesser and a greater drawback to our satisfaction. The lesser is that all unhealthy parts of a plant —yellow leaves, &c.—and, what is more painful still, all flowers in proportion as their colour recedes from the green, vitiate the atmosphere rather than improve it, even during the day. The second drawback is that at night, or in darkness, or much shade, even healthy plants exhale carbonic acid gas and inhale oxygen, and just in proportion to their size and powers deteriorate the atmosphere like ourselves, and therefore become, especially after twilight, very undesirable neighbours in our dwelling and sleeping rooms. To this heavy accusation I reply that in general the size of flowers in proportion to green leaves grown in rooms is so small that during the day the advantage greatly outweighs the disadvantage; and though, undoubtedly, plants do give off carbonic acid gas at night, yet at that time the rooms are generally at their coolest, and as this gas is something like three to two times heavier than common air, it will, in such circumstances, fall to the floor, and only be mingled with the general atmosphere by the heat and the sunshine of the following day. Unless the plants were extra numerous the absorption of oxygen would not much influence the air of the apartment. All, or almost all, injury might be avoided by seeing that the plants were lower than the seat or couch of the owner. I believe this the more because dew, the condensed moisture in the air near the ground, holds much more of this gas in solution in general than common water does. On the whole, then, unless in the case of delicate invalids, or of plants with very large flowers having a powerful odour, I believe that healthy plants in rooms are decidedly beneficial, and promotive alike of cheerfulness and health, and that this is especially the case in large cities and towns."—*Land and Water.*

Replies to Queries.

Ashington.—Vilmorin, Andrieux, and Co., Quai de la Megisserie, Paris.

Beeston.—Your apple is Dumelow's Seedling.

Eucharis.—W. H.—The more recently introduced Eucharis candida differs chiefly from E. amazonica in having rather smaller flowers, which are especially valuable for hand bouquets. E. candida is not quite so free in blooming, but it is well worth growing in conjunction with the better known species.

Fuchsias.—G. S.—As you do not require the fuchsias in flower until late in the summer, it will not be necessary to strike the cuttings until March. The old plants from which you intend obtaining the supply of cuttings should be pruned at once, and be started into growth about the middle of February.

Cyclamens.—F.A.M.—The grubs in the pots have been introduced with the soil. From your description we conclude that they are voracious representatives of one of the beetle family. To talk of remedy would be to talk nonsense, but you will be on your guard in future to obtain, if possible, a clean compost.

Names of Plants.—J. W.—1, Balm of Gilead fir, Abies balsamifera; 2, American Arbor-vitæ, Thuia occidentalis. Alpha.—1, Pteris serrulata; 2, Begonia maculata; 3, Begonia insignis; 4, Candle plant, Kleinia articulata; 5, a variety of Asplenium marinum; 6, Pteris serrulata v. cristata. J. H. Lowry.—The chrysanthemums are: 1, Distinction; 2, Helvetia; 3, Gloria Mundi; 4, Dr. Sharpe. W. Harrison.—1, Strathiola incana; 2, Leonitus leonurus, the lion's tail, it is not hardy, but there is no difficulty in growing it well, and it is worthy of all reasonable attention; 3, the twisted pods are those of the Judas tree, Cercis siliguastrum, the pod sent contains perfect seeds; 4, Acrophyllum verticillatum.

Hyacinths and Tulips.—Young Gardener.—The bulbs may be started immediately they are well furnished with roots. In forcing both hyacinths and tulips, the two principal points are to employ a moderate temperature and to keep them within a short distance of the glass. As you have an abundant supply of leaves at command, your best course will be to make up a bed in one of the spare pits and of a sufficient depth for the surface to be within twelve inches of the glass. Tread the leaves rather firm, and when the bed is becoming warm plunge the pots containing the bulbs to about one-third of their depth. Maintain a top heat of about 65 deg., and ventilate moderately when the weather is favourable to the admission of air.

Snow-damaged Trees.—Eliphaz complains that many of his coniferous trees are damaged by snow, and asks what he is to do now? The only advice we can give him is the old ironical direction to "grin and bear it." The boughs that the snow has torn off cannot be put on, and the next heavy fall will bring down a lot more unless Eliphaz will work instead of waiting. We have so often uttered the word of warning in respect of the damage that snow will sometimes inflict that we could not say much more of late with propriety. While snow is falling the trees should be relieved occasionally, and the very first business in the morning after a fall of snow in the night should be to go round, and by any simple measures assist the trees that are distressed.

Tame Butterfly.—P. W.—You misapprehend the case. It is known to everybody, or should be, that butterflies live many days or few as circumstances may determine, and that many survive the winter and come forth fresh and bright in spring. But the case recently reported was unique. A lady had made a pet of a butterfly, and it learned to recognize her, and lived in confinement 123 days, being fed occasionally with honey and other sweets. Pet butterflies, like other pets, usually have a short life and a sad one; this one had a long life and a merry one, considering that, generally speaking, any interruption of the regular course of instinctive action is directly detrimental to the lower forms of life. Your discovery that butterflies live many days is in the nature of a mare's nest, because persons of ordinary intelligence knew that long ago.

Forcing French Beans.—T. R.—Two of the most useful French beans for forcing are Sir Joseph Paxton and Williams's Prolific. They are both dwarf in growth, and produce heavy crops of medium-sized pods of excellent flavour. Canadian Wonder, which is sometimes recommended for forcing, is very productive under glass, but it is so robust in growth as to require more space than can be afforded by the majority of cultivators. The seeds may be sown in pans, and the plants transferred to the pots in which they are to be grown when of a suitable size, or they may be sown in the pots. Those eight inches in diameter are the most suitable. When they are sown in the pots, fill to within about three inches of the rim with the prepared compost, and put five beans in each, and then place the pots near the glass. When the plants have attained a height of five or six inches draw out two from each pot, and then fill to within an inch of the rim with the compost. Those raised in pans should be transferred to the pots immediately the rough leaves are being developed, putting three in each. The soil should be rich, and the water supply liberal after they have become established.

Repotting Amaryllis.—B.C.—Cultivators differ somewhat in opinion as to the best time for repotting amaryllis. Some prefer to give the plants their annual shift immediately after they have flowered, and to assist them in pushing up their flower spikes in the following season they supply the plants with liquid manure, of a moderate degree of strength, after they have begun to grow freely. But the majority of cultivators repot the bulbs early in the year, a short time before they are started into growth, and the practice is rapidly gaining ground. There is certainly a very great advantage in giving the plants the assistance of an entirely fresh compost as compared with keeping them in the old and exhausted soil, and supplying them with liquid manure, until after the flowers have lost their beauty. The bulbs should be turned out of the pots, and have the whole of the soil shaken away from the roots, and any offsets that are required for the increase of stock should be removed. Bulbs that have reached a flowering size should be put in six or eight-inch pots, but for the majority, the smaller of the two sizes will be the most suitable. Efficient drainage and a rich open compost are alike necessary, and care must be taken to avoid injury to the roots. The most suitable compost that could probably be provided for the amaryllis is one consisting of six parts turfy loam, and one part each of leaf-mould, thoroughly rotted manure from the stable yard, or old hotbed and silver-sand. The compost should be used in a rather rough state, and be pressed rather firm. The bulbs can be started immediately they have been repotted, and those required in bloom in the course of the spring should be placed where they can have the assistance of a bottom heat of about 70 deg. Until they are beginning to grow freely, very little water will be required, and it must be borne in mind that until the young roots are beginning to run freely in the new soil, liberal supplies of water will result in the soil becoming more or less sour.

Gardeners' Societies.—Hortus writes as follows: "Will the editor of the G. M. kindly inform me, if he conveniently can, of the address of the secretary of a Gardeners' Benefit Society held in Leeds? Also, if he possesses the same, any information respecting a society called 'The Ancient Order of Gardeners?'"

[It is likely that some of our readers can answer the foregoing better than we can; and we shall be glad of assistance in the interest of "Hortus."]

Grapes Spoiled by Wasps.—W. H. R.—There is no royal road to "getting rid" of wasps, and they will take toll of the most carefully-guarded crops. One way to protect your grapes will be to put netting over the ventilations when the grapes are ripe enough to tempt the marauders, and another way will be to hang up a few wide-mouthed bottles containing a little syrup. Growing tomatoes in the house will do no more to keep wasps away than the passing of an Act of Parliament.

Pruning Dendrobiums.—K.—A few of the strong growing kinds may be pruned in the manner suggested in your letter, but even in the case of these there does not appear to be any advantage in cutting away each year the whole of the pseudo-bulbs. By those who have adopted the practice of pruning, the pseudo-bulbs are cut off a few inches above the surface as soon as the flowers have lost their beauty, and the plants are at once placed where they can have a temperature of about 90 deg. and enjoy a liberal degree of atmospheric humidity. As you have not had much experience in orchid growing, we would advise you to be content for the present with the removal of a few of the old pseudo-bulbs from plants that are becoming overcrowded.

Literature.

From Messrs. Cassell we have also received continuing parts of Morley's *Library of English Literature* and *Doré Gallery*.

Familiar Garden Flowers, with figures, by Mr. F. E. HULME, has reached part 83, and is therefore nearing completion. In the two parts before us are portraits of helichrysum, magnolia, sunflower, and wistaria, all touched with the colours of truth. The volume just completed is quite a bijou in its tasty binding.

The Fireside, *Day of Days*, *Home Words*, and *Church of England Temperance Chronicle* are published at 7, Paternoster Square, the first three under the editorship of the Rev. Charles Bullock, of Blackheath. The temperance paper is edited by Mr. F. Sherlock. *The Fireside* is an entertaining monthly, consisting chiefly of light literature, with a decidedly religious tone, and freely and elegantly illustrated. The smaller papers for younger readers are not wanting in attractions, and they are edited with taste and judgment.

Morton's Almanac for Farmers and Landowners (Cassell).—This old established annual is as fresh as ever, and a necessary item of literary furniture for all who take an intelligent interest in the larger tillage that pertains to field and forest. It contains a calendar, of course, whereto the provident editor adds a history of agriculture in the past year; a list of agricultural societies; a large list of fairs and markets; a heap of useful memoranda; and a well-digested mass of statistics. Amongst many matters of practical importance, treated of at length, silos come in for a fair share of attention.

Rosarian's Year Book, 1886, may be described as the best of the series, and that should be praise enough, because all the members of the series are good and proper components of a rosarian's library. The great feature is the "symposium on mildew," in which Messrs. Worthington G. Smith, Mr. D. T, Fish, Mr. E. R. Whitwell, and Mr. E. W. Badger take part; but there are capital papers on single roses by Mr. Girdlestone; on climbing roses by Mr. G. Paul; and the weather of 1885, by Mr. E. Mawley; besides the useful notes by the editor, the Rev. H. H. D'Ombrain, and the life-like portrait of Mr. B. R. Cant. We intend to transfer Mr. Girdlestone's interesting paper on single roses, for it should have extensive publicity; very few lovers of roses having any knowledge of the exceeding beauty of many of the single forms that may be properly designated "wild roses."

Cassell's Popular Gardening has reached part 22, and is therefore nearly completed. We are inclined to say that the work improves as it advances, but that would be unfair, because it begun so well that one might have feared for its continuance; and it continues so well that as we look through the parts before us we quite fail to see where improvement is possible. In estimating the value of such a book it must be kept in mind that to be "popular" it must be plain in terms and restricted in scope. In a book intended for scientific purposes we should object to the statement at page 145, to the effect that about half a-dozen sorts of hollies are sufficient for ordinary purposes; but that, after all, is the exact truth. And we refer to this particular instance because, having grown hollies in large collections in almost endless variety, we were curious to see what Mr. Nicholson, the author of the holly article, would have to say about them. He has drawn the line wisely, and the column devoted to the subject contains all that is wanted for the everyday enjoyment of a garden. Mr. Fish's editing of this work will enhance his honourable reputation.

The Housewife is a new candidate for a place in the home circle. It is to appear monthly, and its contents will embrace the whole round of subjects that are suggested by the title. The first number gives excellent promise, for it is at once practical, comprehensive, and attractive. If we were disposed to find fault we should say the pages are rather too closely packed, but many persons will consider that an advantage. The gardening department will be under the direction of Mr. Walter May. The publishing office is at 4, Ludgate Circus.

TRADE CATALOGUES.

W. KERR, DARGAVEL, DUMFRIES.—*Choice Seed Potatoes.*

W. M. CROWE, UPTON, ESSEX.—*Azaleas, Camellias, &c. Special offer of Carnations, Ferns, &c.*

RICHARD SMITH AND CO., WORCESTER.—*Garden and Flower Seeds.*

W. PIERCY, 89, WEST ROAD, FOREST HILL, LONDON.—*Early and Semi-early Chrysanthemums.*

H. CANNELL AND SONS, SWANLEY, KENT.—*Floral Guide for* 1886.

RICHARD DEAN, RANELAGH ROAD, EALING.—*New Potatoes, Primroses, Pansies, &c.*

SUTTON AND SONS, READING.—*Novelties in Vegetables, Flowers, and Potatoes.*

P. J. KANE, KELLS, MEATH.—*Amateurs' Seed List*, 1886.

R. H. POYNTER, CASTLE GREEN, TAUNTON.—*Seed List.—New Chrysanthemums.*

JAMES COCKER AND SONS, SUNNYPARK, ABERDEEN.—*Vegetable and Flower Seeds.*

GEORGE COOLING AND SONS, BATH.—*Vegetable and Flower Seeds and Implements.*

LITTLE AND BALLANTYNE, CARLISLE.—*Garden, Flower, and Farm Seeds.*

WOOD AND INGRAM, HUNTINGDON.—*Vegetable, Flower, and Farm Seeds, &c.*

Obituary.

ON the 20th inst., at Stanstead Park, Forest Hill, S.E., FRANCIS ERSKINE, youngest son of John Laing, in his 22nd year, after a long and painful illness.

Markets.

COVENT GARDEN.

FRUIT.

Apples ... per ½-sieve	2s. 0d.	to	3s. 6d.
Apples, American, per bar.	12s. 6d.	,,	20s. 0d.
Cobs, Kent ... per 100 lbs.	25s. 0d.	,,	31s. 6d.
Grapes ... per lb.	1s. 0d.	,,	4s. 6d.
Lemons ... per case	8s. 0d.	,,	10s. 0d.
Pears, Dessert ... per doz.	1s. 0d.	,,	2s. 6d.
Pears ... per ½-sieve	2s. 0d.	,,	4s. 0d.
Pine-apples, English, per lb.	1s. 0d.	,,	1s. 6d.
Pine-apples, St. Michaels, each	3s. 6d.	,,	7s. 6d.

VEGETABLES.

Artichokes, Globe, per dz.	5s. 0d.	,,	6s. 0d.
Beet ... per doz.	1s. 0d.	,,	2s. 0d.
Beans, French ... per lb.	1s. 6d.	,,	2s. 0d.
Brussels Sprouts ... per lb.	0s. 3d.	,,	0s. 4d.
Cabbages ... per doz.	1s. 6d.	,,	2s. 6d.
Carrots ... per bun.	0s. 4d.	,,	0s. 6d.
Cauliflowers ... per doz.	2s. 6d.	,,	3s. 6d.
Celery ... per bun.	1s. 6d.	,,	2s. 6d.
Coleworts, per doz. bunch.	4s. 6d.	,,	6s. 0d.
Cucumbers ... each	1s. 0d.	,,	1s. 6d.
Endive ... per doz.	1s. 0d.	,,	2s. 6d.
Garlic ... per lb.	0s. 4d.	,,	0s. 6d.
Herbs ... per bunch	0s. 3d.	,,	0s. 4d.
Horse-radish ... per bun.	3s. 0d.	,,	4s. 0d.
Lettuces, Cabbage, per doz.	1s. 6d.	,,	2s. 0d.
Leeks ... per bun.	0s. 3d.	,,	0s. 4d.
Mushrooms ... per basket	1s. 0d.	,,	1s. 6d.
Onions ... per bushel	3s. 6d.	,,	4s. 6d.
Onions ... per bunch	0s. 4d.	,,	0s. 6d.
Parsley ... per bun.	0s. 3d.	,,	0s. 0d.
Parsnips ... per doz.	1s. 0d.	,,	1s. 3d.
Radishes ... per doz. bunch	1s. 0d.	,,	2s. 0d.
Salsify ... per bun.	0s. 8d.	,,	1s. 0d.
Savoys ... per doz.	2s. 6d.	,,	3s. 0d.
Seakale ... per bun.	1s. 6d.	,,	2s. 6d.
Scorzonera ... per bun.	0s. 9d.	,,	1s. 0d.
Shallots ... per lb.	0s. 3d.	,,	0s. 9d.
Small Salading ... per pun.	0s. 3d.	,,	0s. 4d.

VEGETABLES—*continued.*

Spinach ... per bushel	4s. 0d.	to	6s. 0d.
Tomatoes ... per lb.	1s. 0d.	,,	1s. 6d.
Turnips ... per bunch	0s. 6d.	,,	0s. 8d.

CUT FLOWERS.

Abutilons ... per doz. bun.	2s. 0d.	,,	4s. 0d.
Acacia, French ... per bun.	0s. 6d.	,,	1s. 0d.
Azaleas ... per doz. sprays	1s. 0d.	,,	1s. 6d.
Bouvardias ... per bunch	0s. 9d.	,,	1s. 6d.
Callas ... per doz.	4s. 0d.	,,	8s. 0d.
Camellias, per doz. blooms	3s. 0d.	,,	6s. 0d.
Carnations, per doz. blms.	1s. 0d.	,,	2s. 0d.
Cyclamens, per doz. blms.	0s. 6d.	,,	0s. 8d.
Epiphyllums, per doz. blms.	0s. 6d.	,,	1s. 0d.
Eucharis, per doz. blooms	4s. 0d.	,,	6s. 0d.
Gardenias, per doz. blooms	12s. 0d.	,,	18s. 0d.
Heliotropes, per doz. sprays	0s. 6d.	,,	0s. 8d.
Hyacinths, Roman, per doz. sprays	0s. 9d.	,,	1s. 6d.
Lapagerias, per doz. blms.	2s. 0d.	,,	3s. 6d.
Marguerites, per doz. bun.	4s. 0d.	,,	8s. 0d.
Mignonette, per doz. bun.	4s. 0d.	,,	6s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 9d.	,,	1s. 0d.
Poinsettias, per doz. heads	4s. 0d.	,,	8s. 0d.
Roses ... per doz. blms.	2s. 0d.	,,	4s. 0d.
Roses, Tea ... per doz. blms.	1s. 0d.	,,	1s. 0d.
Tropæolum ... per doz. bun.	2s. 0d.	,,	3s. 0d.
Tuberoses ... per doz.	1s. 6d.	,,	2s. 6d.
Tulips ... per doz. blooms	1s. 0d.	,,	1s. 6d.
Violets ... per doz. bun.	1s. 0d.	,,	1s. 6d.
Violets, de Parme, per bun.	4s. 0d.	,,	6s. 0d.
Violets, Czar ... per bun.	1s. 0d.	,,	2s. 0d.

BOROUGH AND SPITALFIELDS.

POTATOES.

Regents ... per ton	70s.	to	120s.
Magnum Bonum ... per ton	60s.	,,	100s.
Reading Hero ... per ton	60s.	,,	70s.
Scotch Champion ... per ton	50s.	,,	70s.
Victorias ... per ton	70s.	,,	100s.
German Reds ... per bag	2s. 0d.	,,	2s. 6d.

SEEDS.—Vegetable, Flower, and Fern Seeds of the choicest quality at most moderate prices. New Illustrated Catalogue post free. Cooling's Leviathan Cos Lettuce, the best cos variety in cultivation, per packet, 1s.; Cooling's matchless Broccoli, the best spring variety, per packet, 1s.; Cooling's Omega Beet, the best flavoured kind, per packet, 1s.; Cooling's Ne Plus Ultra Dwarf Bean, the earliest and most productive forcing variety, per pint, 1s. 6d. All post free.

ROSES.—One of the most extensive and complete collections in the country. Standards, 15s. 6d. per dozen: 110s. per 100. Half-Standards, 10s. 6d. per dozen; 75s. per 100. Dwarfs, from 6s. per dozen; 40s. per 100. Tea-scented, 12s. per dozen. Pot Plants, from 15s. per dozen. Extra strong Climbers of Maréchal Niel, Gloire de Dijon, Climbing Devoniensis, &c., from 2s. 6d. each.

FRUIT TREES.—Dwarf-trained Peaches, Nectarines, Apricots, Pears, Plums, Apples, &c. Pyramidal Trees for Garden planting, and Standard Trees for Orchards. Clean and well-grown Trees of all the most popular varieties.

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Crawley, Sussex.

ROSES (Dwarfs).—Twelve superb named kinds of the leading varieties, 5s. per doz., 18s. for 50, or 30s. per 100. Eight acres to select from. Either own roots or on Manetti. My own selection. Cash with order.

W. LOWE, Rose Grower, Beeston, Notts.

LILIUM AURATUM.—Good, plump, sound Bulbs, 6s., 9s., 12s., 18s., and 24s. per dozen; extra strong, 30s. and 42s. per dozen. All other good LILIES at equally low prices.

Mr. WILLIAM BULL'S Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

D. of M.	D. of W.	ANNIVERSARIES, FESTIVALS, OCCURRENCES, HISTORICAL NOTES, &c.	SUN. Rises.	SUN. Souths After Noon.	SUN. Sets.	MOON. Rises. Morn.	MOON. Sets. After.	HIGH WATER AT London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. temp. avrg. of 40 yrs. Chiswick.	ORCHIDS IN FLOWER.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
31	S	**4th Sunday after Epiphany.**	7 43	13 42	4 46	4 54	1 47	11 30	—	8 17	8 55	39·0	Cypripedium calurum	Gard. hyb.	31
		FEBRUARY.													
1	M	John P. Kemble, actor, born, 1757.	7 41	13 51	4 48	5 42	2 38	0 5	0 34	9 30	9 59	39·1	,, Lowianum	,,	32
2	Tu	*Purification of Virgin Mary.*	7 40	13 58	4 49	6 24	3 32	0 59	1 22	10 24	10 47	39·2	Grammatophyllum Ellisi	Madagascar.	33
3	W	Biot died, 1862. [Thames, 1814.	7 38	14 5	4 50	6 59	4 30	1 43	2 1	11 8	11 26	39·3	Lælia elegans	Brazil.	34
4	Th	● New Moon, 3h. 15m. morn. Fair on the	7 36	14 10	4 52	7 30	5 32	2 20	2 36	11 45	—	39·3	,, anceps Dawsoni	,,	35
5	F	Sir Robert Peel born, 1788.	7 34	14 15	4 54	7 57	6 34	2 51	3 7	0 1	0 16	39·3	,, superbiens	Guatemala.	36
6	S	Queen Anne born, 1665.	7 32	14 19	4 56	8 22	7 36	3 23	3 38	0 32	0 48	39·3	Lycaste Deppi	Xalapa.	37

ROYAL HORTICULTURAL SOCIETY.

The PRESIDENT, COUNCIL, and FELLOWS of the ROYAL HORTICULTURAL SOCIETY will hold their FIRST ANNUAL DINNER on TUESDAY, FEBRUARY 9, the day of the Annual General Meeting, the President, Sir TREVOR LAWRENCE, Bart., M.P., in the chair. The dinner will be held at the Criterion at Half-Past Six p.m. precisely.

Tickets 30s. each (including wine), must be applied for on or before Saturday, February 6. Further information and tickets can be obtained from Wm. Lee, Esq., Downside, Leatherhead, or at the Office of the Royal Horticultural Society, South Kensington.

N.B.—Each Fellow can purchase one extra ticket for a friend.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

The ANNUAL GENERAL MEETING of the ROYAL HORTICULTURAL SOCIETY will be held in the Conservatory at SOUTH KENSINGTON, on TUESDAY, FEBRUARY 9, to receive the Report of the Council and of the Auditors, and for the Election of Members of Council and Auditors, and for the removal from the Society of certain Fellows under the provisions of Bye Law 22.

Chair to be taken at Three o'clock p.m.

N.B.—At this Meeting Candidates for Fellowship will be elected.

The President, Council, and Fellows will dine together at the Criterion, at Half-past Six p.m. the same evening.

Auction Sales for the Ensuing Week.

MONDAY, FEBRUARY 1.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Lilium auratum.

WEDNESDAY, FEBRUARY 3.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Lilium auratum, Plants, and Roses.

WEDNESDAY AND SATURDAY, FEBRUARY 3 AND 6.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, Border Plants, Bulbs, &c.

THURSDAY, FEBRUARY 4.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

FRIDAY, FEBRUARY 5.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

THE GARDEN ORACLE for 1886 is on the same plan as former issues, the present being the twenty-eighth publication of this work. It contains complete lists of the New Plants, New Flowers, and New Fruits, and a Complete List of the New Parliament.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, JANUARY 30, 1886.

MR. FROUDE'S "OCEANA" possesses more than ordinary attractions amongst recent publications, and as time advances it will acquire historical importance for its pictures of England's colonies as they now appear, and its reviews of England's present policy or want of policy in dealing with them. To the great world of farmers and gardeners and others concerned in rural industries, it makes a direct appeal, touching interests and sympathies as with the same hand; and to the Englishman who is concerned about the fortunes of his fatherland in the future, it is a storehouse of facts that may prompt reflections sad or cheerful, as the case may be, but likely in the end to result in practical conclusions. It is in some respects in the nature of a thunder-clap, and one that was wanted by way of an awakener, for not a few of our home-bred statesmen who have had charge of colonial affairs have acquitted themselves like aged ladies to whom geography is a perplexity and business a purely family concern. It is time the English people had information on the subject other than what Blue-books and newspapers supply. Mr. Froude has felt the need with many more, and he has never put his high gifts to a nobler purpose than in the present endeavour to inform us of what we possess, and the possible salvation by means of the colonies of this decaying country. We cannot govern the British islands decently, for one, at least, of the number is a disgrace to us. It is therefore matter for special thankfulness that the colonies are acquiring independence without losing their allegiance, and will submit to the weak handling of the colonial office, because they know their strength, understand their interests, and love the mother country with a love that laughs at the administrative puerilities of their quandom superiors.

Mr. Froude's book * presents an original view of its momentous subject. He has been exercised, as many more have been, about the aspects of colonial affairs as presented through the unwholesome medium of English party politics. He is a master of the world, and difficulties do not daunt him. Instead of searching books and poring over maps and commercial statistics, he transfers himself to shipboard, and makes the tour of the world to see the colonies as they are; converse with their people, enjoy the scenery, the society, the change upon change of the "Greater Britain" that is said to girdle the earth. That having accomplished this delightful feat he should write a book about it is a matter of necessity; and, as a matter of course it *is* a book; a model of style, of directness, of simplicity; precious for its truth in relation to the capabilities of the colonies, delightful for its graphic pictures of things encountered, and for its speculations on things that might be.

Prefering the long sea route to Australia to the usual road through the Suez Canal, Mr. Froude in due time found himself at the Cape, and he has much to say about the English and the Dutch; about the farming, and the ostriches, and the diamonds; and the little wars, and the great wars; the harrying of the natives; and the social characteristics that changed circumstances have developed in the Europeans there. Then away he goes across the Indian Ocean, and Adelaide receives him joyfully; afterwards Melbourne and Sydney give him welcome, and he takes toll of their ideas. And again we see him trust himself to the unstable element for that other Britain in the farther East, and in New Zealand he seems to tread enchanted ground. But nothing can hold him, and he is off again; this time to the colony that tore itself away from England because of the folly and wrong of the colonial administration of a bad time, and is now known to the world as the miracle of modern civilization, its name on the map being the United State of North America. He is in a position now to sum up advantageously for truth at least, and the summing, we must say, is not of a nature to lull Englishmen to sleep, or to fill them with vanity, or to persuade them that they are doing the best for themselves in the attitude of indifference to colonial affairs that appears to be growing upon them, and that has acquired a form of political wickedness in high places.

It must be clearly understood that Mr. Froude has not perpetrated a political essay. To ignore politics would be to trifle with this great theme, and the author of the new "Oceana" is not one of the trifling sort; such pastime is foreign to his nature. But for all that his book is descriptive chiefly; it rises and falls with the waves that bear him from colony to colony; it brings the dry wind from the desert, and the soft spicy zephyrs from the jungle, and it glows with tropical colours and takes, when needful, the all-abounding greenness of fern gullies, and of woods that hover about mysterious lakes or embrace the growing cities with their pleasant umbrage. It is a kind of picture gallery, and is not without some pleasing work of the pencil, the wondrous silica terraces of New Zealand being conspicuous in the pictorial department.

In view of the Indian and Colonial Exhibition of 1886, Mr. Froude's book will prove especially seviceable as a source of needed information. But it has a far higher value than to serve as an occasional piece, for it touches deeply the great problem of our changing agriculture, and the future of our farmers and gardeners. We have seen dark times; nay more than that, the darkness now distracts us, for it may be felt. While political parties are in conflict, and the colonial office is more concerned with domestic than colonial affairs, the people may prove more steadfast than their leaders, and political opinion outside the realm of party may stay the chafing and fretting that tends to sever ties that once

* *Oceana; or England and her Colonies.* By JAMES ANTHONY FROUDE (Longmans).

broken can never be reunited. Mr. Froude has performed for us a noble service in going forth to see and hear and to report faithfully of the glorious inheritance of Britain beyond the seas.

TAUNTON CHRYSANTHEMUM SHOW will be held November 18.

MR. J. MCNICOL has been engaged as head gardener at Bistern Park, Ringwood, the residence of John Miles, Esq.

MR. F. SCOTT has received charge of the gardens of Loch Park House, Denny, the residence of M. B. Ewing, Esq.

MR. G. SPRINGTHORPE has been engaged as gardener by R. H. Alexander, Esq., Gifford House, Roehampton.

MR. D. MORRIS, director of the Botanic Gardens, Jamaica, has been appointed assistant director of the Royal Gardens, Kew.

A MONOGRAPH OF THE HEPATICÆ, by Dr. Spruce, forms part of the recently-issued *Transactions* of the Edinburgh Botanical Society.

ASCOT AND SUNNINGHILL CHRYSANTHEMUM SHOW will be held at the Grand Stand, Ascot, November 17 and 18.

FRUITERERS' COMPANY banquet took place at the Albion on Monday, the Lord Mayor presiding.

ESSEX FIELD CLUB annual general meeting will take place this day (January 30), at the Public Hall, Loughton, at six p.m.

MESSRS. J. CARTER AND CO. offer special prizes for vegetables and melons, to be competed for at the meetings of the Royal Horticultural Society during the ensuing summer and autumn.

A NEW Market for Flowers, Fruits, and Vegetables is in course of construction at Kensington, in immediate proximity to the new National Agricultural Hall.

MR. T. FLETCHER, late of the Royal Horticultural Society's Garden, Chiswick, has been appointed gardener to W. Abbott, Esq., the Abbey, Kensington, W.

MR. SHIRLEY HIBBERD has separated from the International Potato Exhibition, with which he has been connected from its foundation in the year 1875.

DENDROBIUM NOBILE NOBILIUS, the most beautiful of the several varieties of this fine old species, is admirably figured in the recently-issued part of the "Orchid Album."

READING HORTICULTURAL SOCIETY has decided to hold its exhibitions this year on Wednesdays instead of on Thursdays as in previous years, and the amended dates are June 2 and August 25.

FRUIT IN CALIFORNIA.—40,000,000 lbs. of fresh fruit were shipped out of California by rail between January 1 and September 1, 1885—an increase of 32,000,000 lbs. over the corresponding period of last year.

COVENT GARDEN LIFEBOAT, stationed at Caistor, was successful in saving the crew of the "Syren," wrecked the other night off the Norfolk coast.

MR. J. MOORE, secretary of the Putney Chrysanthemum Society, was presented with a handsome cabinet and a suitable address on the occasion of the recent annual meeting of the society.

HUDDERSFIELD CHRYSANTHEMUM SOCIETY has achieved a full measure of success during the past two years, and it was stated by the honorary secretary, Mr. J. Bell, at the recent annual meeting that the balance to be placed to this year's account amounts to £77 4s. 10*d.*

ORCHID FLOWERS are now being contributed to Covent Garden in considerable quantities, the principal species represented in the market being Dendrobium nobile, Lycaste Skinneri, Odontoglossum Alexandræ, and Phalænopsis amabilis. The flowers of the Lady's Slippers are only useful for vases, and consequently find but little favour.

THE WEATHHR has taken the course anticipated in our note of last week. The eastern coasts have been much disturbed, and Yorkshire has had a large share of the agitations, Sheffield being the centre of an extensive snowfield. There is no present prospect of settled weather, but there are no indications of any changes of importance.

PUTNEY CHRYSANTHEMUM SOCIETY continues in a most flourishing condition, the financial statement presented to the annual meeting a few days since showing a good balance in favour of the society on last year's work. The exhibition for this year will be held November 16 and 17.

DEARD'S VICTORIA DRY GLAZING will be employed in the buildings of the Indian and Colonial Exhibition, South Kensington. A special conservatory is in course of construction for the Natal Government to receive their plants, and this will be roofed with the same kind of glazing.

RICHMOND HORTICULTURAL SOCIETY.—The testimonial to Mr. Ford, the honorary secretary of this society, will be presented at a dinner at the Greyhound Hotel, on Thursday, February 25. Sir Whittaker Ellis, M.P., will preside. Communications on the subject may be addressed to Mr. E. F. Gribble, secretary of the Testimonial Committee, 22, Great George Street, Richmond, Surrey.

PRIZES OPEN TO ALL ENGLAND at Oxford, June 29, comprise £10, £8, £5 for nine stove and greenhouse; £4, £3, £2 for six heaths; £4, £3, in two classes, for twelve pelargoniums; £2, £1 10s., and £1 for twenty-four cut roses; and £3, £2, £1 for the same number in threes. Messrs. Webb and Sons' species for vegetables amount to six and a half guineas.

THE DEFEAT OF THE MINISTRY on the amendment to the Address proposed by Mr. Collings not only necessitates a change in the relations of parties, but really brings to the front the "three acres and a cow." In so far as the defeat was accomplished by the Irish vote, the land question of course, is in no way advantaged; because the Irish vote is tactical rather than political.

TROPICAL RAINFALL.—*Nature* mentions that during the present rainy season in Jamaica, which has succeeded a period of serious drought, there was recorded at the Government Cinchona Plantations on December 21st last a fall of nearly twelve inches in 24 hours. On the crest of the Blue Mountain range, on the same plantations, the record was 31½ inches for one week, of which period three days were fine.

NATIONAL CHRYSANTHEMUM SOCIETY.—It is proposed that for the purpose of encouraging both early and late chrysanthemums, competitive exhibitions shall be held in September and January in addition to the usual November show. To carry this proposal into effect an increased income is necessary, and a special effort is now being made to augment it by means of a special prize fund, which at present amounts to about £30, in sums ranging from half-a-crown to five guineas. Contributions, which should be sent to Mr. W. Holmes, Frampton Park Nurseries, Hackney, can be placed to the credit of the prizes of either of the exhibitions.

KINGSTON CHRYSANTHEMUM SOCIETY will offer, at its exhibition in November next, a Challenge Vase, of the value of twenty-five guineas, and cash prizes of £5, £4, £3, and £2, for forty-eight cut blooms, to comprise equal numbers of incurved and Japanese varieties. The conditions will be the same as in previous years. In addition to several extra cash prizes, a silver cup, of the value of £5, will be offered for twenty-four cut blooms, consisting of twelve Japanese and twelve incurved varieties, open to growers within the Kingston Poor Law district, and a cup of the same value for the best group of chrysanthemums occupying fifty square feet.

ROYAL METEOROLOGICAL SOCIETY.—At the annual general meeting of this society, Mr. R. H. Scott, the president, being in the chair, the secretary read the report of the council, which stated that the past year had been one of great activity, as the eight committees which had been appointed had met frequently and had done much for the advancement of meteorology. The number of Fellows on the roll of the society was 537. The President, in his address, dealt with the question of marine climatology. He stated that the daily maps of Atlantic weather for the year of the circumpolar expeditions were now complete and were being engraved, and the German office had undertaken the preparation of daily weather maps for the same period for the South Atlantic. The Meterological Office had also taken up the marine meteorology of the Red Sea, and the Dutch institute had announced its intention to publish an atlas for the Indian Ocean.

FRENCH VINTAGE, 1885.—The yield was the smallest, with one exception, known for the last thirty years, and fifty per cent. below the average of the last ten years, which have themselves been distinctly "lean years." The total amount of wine made was only 642,000,000 gallons, this being just a third of the exceptionally large crop of 1875. The decline is of course due in the main to the ravages of the phylloxera, as this insect has been so busy during the last ten or eleven years that the area of vineyards under cultivation has fallen from upwards of six to rather under five million acres, this alone telling plainly of the mischief that has been done. The cultivators of the vine were further tried last year by the weather, which was very unfavourable for the grapes, both in the summer and autumn, fierce drought preceding the rain instead of following it, and this was notably the case in the Bordeaux and Champagne districts, while the vineyards in the central departments of France, including the Burgundy district, were well favoured in the matter of weather.

COLONIAL AND INDIAN EXHIBITION.—The following is a list of the Executive Commissioners: A. Dominion of Canada.—The Hon. Sir C. Tupper, K.C.M.G., C.B. B. New South Wales.— C. Victoria.—R. M. Smith, C.M.G. D. South Australia.—Sir A. Blyth, K.C.M.G. E. Queensland.—James F. Garrick, C.M.G., &c. F. Western Australia.—The Hon. Malcolm Fraser, C.M.G., J.P. H. New Zealand.—Sir F. D. Bell, K.C.M.G. I. Fiji.— K. Cape of Good Hope.—Sir C. Mills, K.C.M.G. L. Natal.—Sir W. C. Sergeaunt, K.C.M.G. M. Ceylon.—A. N. Birch, C.M.G. N. Mauritius.—J Despeissis. O. Straits Settlements.—F. A. Swettenham. P. Hong Kong.—The Secretary to the Royal Commission (Sir Philip Cunliffe-Owen). Q. British North Borneo.—Sir R. L. Alcock, K.C.B. R. British Guiana.—S. H. Hawtayne. S. West Indies.—A. J. Adderley, C.M.G. T. West African Settlements.—Sir J. Marshall. V. Malta.—Sir V. Houlton, G.C.M.G. W. Cyprus.— X. Falkland Islands.—The Secretary to the Royal Commission. Z. Indian Empire.—The Secretary to the Royal Commission.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—At the annual meeting a satisfactory report and balance-sheet were presented. The total income for the year amounted, with the augmentation fund and the balance from last year, to £8,651 2s. 7d. Of this sum £1,975 16s. 6d. were received as annual subscriptions, £199 7s. 6d. from advertisements and collections, and £550 from legacies. The augmentation fund, which was closed in February, 1885, amounted to £4,987 4s. 6d., and this has now been placed to the general account. The disbursements include the investment of £5,150 in consols, and the distribution of £1,655 1s. 4d. in pensions. Sixteen pensioners have died during the year, leaving five widows, who have been placed on the list in accordance with the rules. It was determined that, with but one exception, the whole of the applicants for pensions should be placed on the list without election. The stock now amounts to £21,100, and as this is considered a sufficient guarantee for the payment of the pensions, it has been decided that, with the exception of legacies, the whole of the annual income shall be applied to the general purposes of the institution. The anniversary dinner will be held Friday, July 2, under the presidency of Mr. N. Sherwood, of the firm of Hurst and Co.

CHRYSANTHEMUMS FOR EXHIBITION.

By J. MARDLIN, Finsbury Park, N.

HAVING given ample directions for the propagation of the plants, it now becomes necessary to point out those varieties which must be grown by those who are anxious to obtain distinctions at the exhibitions. In doing this I would impress upon cultivators the importance of growing a sufficient number of varieties to afford them plenty of choice when making up their stands without overburdening themselves with flowers that are of but little, if any, value. It is frequently asserted that growers of the chrysanthemum have too many varieties, and in some instances probably they do. But, speaking in a general way, the tendency of cultivators is to place an undue restriction upon selections, more especially of the incurved flowers. As all who have had any considerable experience in the production of exhibition blooms are perfectly aware, the plants grown must largely exceed in number the blooms required on any given date, for even the most skilful cultivator cannot depend upon cutting from each of his plants on a given date a bloom fit to put upon a show board. This being the case it is necessary to consider whether it is best to have in a collection of a given extent a small or a large number of varieties. If comparatively few, they will all be good provided the selection has been judiciously made, because there will not be any occasion to include any that are otherwise than first-class. But it may so happen that a portion of the varieties are not at their best on the date of the exhibition, with the result that although a large number of good blooms may be cut there will not be a sufficient number of varieties to make up the stand. It is of but little service to the cultivator when making up a board of twenty-four to have a dozen blooms each of Empress of India and Queen of England if there are but twenty-one other varieties in proper condition for placing upon the exhibition stage. To state how many varieties should be grown is not a very easy matter, but those who compete in the incurved and Japanese classes for eighteen and twenty-four blooms, distinct, ought to have not less than forty varieties of each class.

The incurved and Japanese varieties that will be recommended for exhibition are equally adapted for the decoration of the conservatory, and when required simply for the latter purpose, they should have the preference in making the selections. Some of the smaller Japanese flowers should be grown in addition, for the supply of cut blooms for indoor decoration, but to these it is not now necessary to refer.

INCURVED CHRYSANTHEMUMS.

Aregina.—A medium-sized flower of a pleasing rose colour; of fairly good quality, and useful for the front row in making up a large stand.

Angelina.—An amber coloured flower of medium size; suitable for the front row.

Alfred Salter.—Rich rose pink; a noble flower for the back row, and unsurpassed in its colour. Requires a long season of growth, and should be propagated in November or December.

Barbara.—Bright bronzy yellow; a medium-sized flower, remarkable for its effective colour.

Baron Beust.—Reddish brown, tipped golden yellow; desirable in a collection of medium size.

Cherub.—Deep gold shaded bronze; a well built flower, of medium size.

Empress Eugenie.—Light rosy lilac; an effective middle row flower when at its best.

Eve.—Delicate sulphur white; a neat little flower for the front row.

Empress of India.—Pure white; a noble flower for the back row, and indispensable to the smallest stand in a close competition.

Emily Dale.—Deep straw colour; a grand flower of much value for the back row. It is so similar to Golden Queen of England that both ought not to be shown in the same stand where all are required to be distinct.

Golden Empress of India.—Bright canary yellow; the finest of all the yellow incurved chrysanthemums for the back row.

Golden John Salter.—Deep gold; a very effective flower when in perfection, but exceedingly difficult to have in first-class condition. It will well repay any little extra attention it may receive.

Hero of Stoke Newington.—Bright rosy pink; rather above the medium size, of good build, and distinct and pleasing in colour. Valuable for the middle row.

Jeanne d'Arc.—Pure white, tipped lilac rose; a deep and noble flower well suited for the back and middle rows.

Jardin des Plantes.—Deep golden yellow; the brightest of the yellow incurved flowers and very effective when the centre is properly brought up.

John Salter.—Reddish brown, shading to yellowish orange in the centre; a telling flower when at its best.

Lady Hardinge.—Pale rosy pink, lighter in the centre; a very pleasing flower well able to do good service in a close competition.

Lady Talfourd.—Pale lilac with silvery turnover; a medium-sized flower of fine form.

Lord Alcester.—Delicate primrose colour; like its near relatives, the Empress of India and Golden Empress, of noble proportions and invaluable for the back row.

Lord Wolseley.—A bronzy form of Prince Alfred, and, like the type, remarkable for its high quality and constancy; should be in the smallest collection.

Mabel Ward.—Bright golden yellow; rather small, but of fine form, and well suited for the front row.

Mr. Cobay.—Purplish red; a distinct flower of good form, and somewhat above the medium size.

Mr. Brunlees.—Bright reddish-brown, tipped with gold; a useful and constant flower.

Mr. Bunn.—Bright golden yellow; a much improved form of Golden Beverley, from which it differs in having a much finer petal and a deeper colour.

Mrs. G. Rundle.—Pure white; comparatively small, but of the most perfect form, and does not require any dressing.

Mrs. Dixon.—Bright yellow; similar in character to Mrs. G. Rundle, and, like that variety, requiring no dressing; useful for the front row.

Mr. George Glenny.—Light yellow or straw colour; a medium-sized flower, of fine form, which can be had in good condition without undergoing any manipulation.

Mrs. Heales.—Creamy white; an exquisitely beautiful flower, of rather large size, which will be found to tell well in a close competition.

Mrs. W. Shipman.—Light fawn, shaded rose; a sport from Lady Hardinge, which it resembles in all but colour.

Novelty.—Blush white; a rather difficult flower to finish, but effective when at its best.

Nil Desperandum.—Red, shaded orange; a well-built flower, above the medium size, and very effective when at its best.

Prince Alfred.—Light reddish rose; a large, finely-formed and very constant flower; especially useful to beginners.

Prince of Wales.—Dark rose-purple; a well-built and effectively-coloured flower.

Princess Beatrice.—Pale pink; pleasing in colour, and of fine form.

Princess of Teck.—Blush white; a nicely-formed flower, rather above the medium size, and useful for late exhibitions.

Princess of Wales.—Pale rosy lilac; an exceedingly beautiful and telling flower, variable in colour, the flowers being in some instances so pale as to be hardly distinguishable from Mrs. Heale. Exhibitors will do well to make a note of the fact that they incur the risk of disqualification when they stage a very light flower of Princess of Wales in the same stand as a bloom of Mrs. Heales.

Pink of Perfection.—Bright pink; a medium size flower of good quality.

Queen of England.—Blush pink; a noble flower too well known to require description or comment.

Refulgens.—Rich ruby purple; a well-formed flower invaluable for its deep colour.

Sir Stafford Carey.—Reddish bronze, tipped gold; useful.

Venus.—Delicate lilac; a useful flower, pleasing in colour, and of fine shape.

White Venus.—Pure white; desirable for middle and front rows.

JAPANESE CHRYSANTHEMUMS.

Album Plenum.—White tinted sulphur, large, and bold.

Belle Pauline.—White, shaded purple; very large and fine.

Beauté des Jardines.—Amaranth purple; very effective in colour.

Boule d' Or.—Deep yellow; flowers very large and striking in appearance.

Baronne de Prailly.—Rosy lilac; large and full.

Brise du Matin.—Bright rose-shaded mauve, and with cream-coloured centre; rather above medium size and very pleasing.

Bouquet Fait.—Pale rose, shaded lilac; distinct and useful.

Comtesse de Beauregard.—Delicate rose; large and handsome.

Comte de Germiny.—Nankeen yellow, shaded bronze; very large, with broad incurved petals; very distinct and effective.

Cérès.—Blush pink passing to white, flowers very large and effective. There are two varieties under this name, but that with yellow flowers is of but little value.

Criterion.—Light amber colour; a large solid flower of high quality.

Duchess of Albany (Jackson).—Bright orange-tinted buff; large, fine, and effective in colour.

Elaine.—Pure white; large, and of the finest quality. Invaluable, especially for early exhibitors.

Fair Maid of Guernsey.—Pure white; large and highly effective.

Fernand Feral.—Light rosy mauve; a full-sized flower of great beauty.

Flamme de Punch.—Yellowish orange, suffused and striped red; a large flower of excellent quality.

Frizou.—Clear yellow; rather large and useful for early exhibitions.

Golden Dragon.—Bright golden yellow; large and effective when in first-class condition.

Japonais.—Deep gold, shaded with brownish red; large and good.

Jeanne Delaux.—Rich marone crimson, underside of petals yellow; the best variety of its colour for exhibition.

L'Incomparable.—Pale yellowish fawn, shaded brown and red; large, and of good form.

Madame Bertier Rendatler.—Light nankin, shaded reddish rose; a large flower with thread-like petals.

Maiden's Blush.—Delicate blush colour; a new flower, of high value for exhibition.

Marguerite Marrouch.—Bright reddish crimson, tipped gold.

Meg Merrilies.—Sulphur white; a large and distinct flower of much value for late exhibitions.

M. John Laing.—Rich brownish crimson; one of the finest of recent introduction.

Mdlle. Moulise.—Creamy white; a large and useful flower.

Mrs. Mahood.—Creamy white; a distinct variety, the flowers of full size, with very narrow petals.

Madame C. Audiguier.—Rosy mauve; a grand flower, indispensable for its fine build and distinct colour.

M. Henri Jacotot.—Crimson, tipped gold; useful for early shows.

Margot.—Light rose, with cream-coloured centre; very beautiful.

Madame de Sevin.—Rosy lilac; distinct and pleasing.

Mons. Astorg.—White, tinted rose; large and telling in appearance.

Mdlle. Lacroix.—White; one of the best of its colour.

Mons. Ardène.—Pale lilac; one of the best of its colour.

Roseum superbum.—Purplish-rose, pale buff in colour; very fine.

Soleil Levant.—Bright canary yellow; large and good.

Thunberg.—Bright primrose-yellow; large, and useful for its distinct shade of colour.

Triomphe de la Rue des Châlets.—Pale buff, shaded rosy red; rather dull in colour, but very useful.

Val d'Andorre.—Orange-yellow, shaded red; a large and handsome flower.

"TREASURES OF THE SNOW."

I HAVE before me a series of lithographs of flowers from the arctic regions, from paintings by Madame Ebba de Ramsay. The flowers were collected during the various Swedish expeditions to the Arctic regions by way of Behring's Sound, between the years 1858 and 1880. About sixty distinct plants have been printed, and the first series of eight have been published. They are: *Carex glareosa*, Wnbg.; *C. lagopina*, M. Fries; *Polemonium pulchellum*, Roth; *Saxifraga nivalis*, Wnbg.; *S. cæspitosa*, Wnbg.; *S. oppositifolia D.*; *Potentilla pulchella*, R. Br; *Taraxacum phymatocarpum*, Vahl.

The object of Madame E. de Ramsay in publishing the plates is to devote the profits to mission work at Wilhelmsro, Sweden. She has also presented a number of sets in aid of the "Mission to the Kabyles," in North Africa. I can truly say the pictures are not only very interesting, but beautifully executed. If any readers of these lines feel inclined to aid in a good work, they can do so by purchasing a set of the "Treasures of the Snow" from my old friend Mr. E. H. Glenny, Linton Road, Barking, Essex. They can be sent free by post, and the price is five shillings. Mr. Glenny is hon. secretary to the mission, and devotes nearly the whole of his time to the work.

J. DOUGLAS.

LATE-FLOWERING CHRYSANTHEMUMS.

WHILE there are many chrysanthemums, especially among the Japanese sections, that are truly late-flowering, much can be done in the way of retarding the period of bloom by proper management. No one would regard Elaine as a late-flowering variety, and yet, at the recent exhibition of late chrysanthemums at the Royal Aquarium, there could be seen blooms of this variety from Mr. G. Sinclair, East Linton Gardens, Peebleshire, that would have done no discredit to the early part of November. But few of the incurved varieties are available for late use, and then they, naturally enough, fail to assume that fine symmetrical appearance seen in the autumn. The best incurved appear to be Princess Teck (white), Miss Marechaux (white), Venus (white) and Jardin des Plants (golden). But the Japanese section supplies many varieties for late work. The original varieties of this section introduced by the late Mr. Fortune, were undoubtedly later in flowering than the bulk of the incurved varieties then grown; but of late years many new types have been introduced, some of them blooming very early, others at mid-season, and some very late. Of the varieties that may be regarded as late flowering mention may be made of Fair Maid of Guernsey, Triomphe de la Rue des Chalets, Cérès, a grand new white variety of great beauty; Mons. Comte, Boule d'Or, Grandiflora, a fine deep yellow; Thunberg, Fanny Boucharlet, and Madame Cabrol. To these should be added Lowe's Late Bronze, a new and striking variety in the hands of Mr. J. Lowe, florist, Uxbridge, a large number of blooms of this having been shown at the Royal Aquarium. To the foregoing may be added Dr. Audiguier, L'Incomparable, a fine pure yellow; Peter the Great, Madame de Sevin, Belle Valautinoise, yellow, worthy of being noted as a good useful decorative variety; Sarnia, Mrs. Charles Carey (white), and Nuit d'Automne, bright crimson-amaranth, one of the few high-coloured varieties that can be deemed late.

But for a thoroughly good, useful, late-flowering variety, it is difficult to find anything better than Boule de Niege. This has many excellent qualities. It is dwarf, very free, of the purest white, and of excellent form. Mr. R. Owen, of the Floral Nursery, Maidenhead, who exhibited it in good form at the Royal Aquarium, classes it among the reflexed varieties, and being one of the first to note its good qualities, has obtained a large stock of it. He is now cutting an abundance of blooms from it, and there is this advantage about it—that it cannot be got into bloom until the end of November under ordinary culture, unless only the crown buds be left. He takes out the crown bud, leaving three or four lateral ones, with the result that an excellent truss of three or four blooms can be cut. For making crosses, wreaths, and bouquets it is found invaluable. It would appear to have originated with M. Victor Lemoine, of Nancy, and it must be regarded as one of the most useful chrysanthemums yet introduced.

Mr. John Walker, of Thame, who has flowered a large quantity of chrysanthemums at Christmas, struck the cuttings in May, and then grew the plants on in a cool house, not giving them heat until absolutely necessary. He disbuds but little, hence, if his flowers are small, they are at least plentiful, and they are in great demand at the Christmas season.

During the last two months of the year, and also in January, the cultivator has two difficulties to contend with—damp and frost. Damp is, perhaps, the most formidable of the two, because it is likely to be more prevalent than frost. Fire heat is, therefore, absolutely necessary, excepting when the weather is bright and sunny, and then it should be applied with caution, and air given at the same time. Decaying flowers should be removed, because they are apt to become mouldy and in danger of affecting others. With due attention to details, and a suitable cultural process, there is no reason why chrysanthemums cannot be had in flower until the second week in February, if not later.

R. D.

ORCHIDS IN FLOWER.

ANGRÆCUMS are the most interesting orchids in bloom at the present time. The most curious is *A. sesquipedale*, which bears large round flowers of a creamy white, and in some instances greenish colour. The spur often attains a length of over twelve inches. *A. eburneum* is not so singular as the one just mentioned, and the flowers are considerably smaller, and the spur is much shorter. They should both be grown in the East Indian house.

CYPRIPEDIUMS are making a show now, and several fine species and varieties are in flower. The popular *C. insigne* and its variety *Maulei* are in perfection. These are first-rate orchids for a cool house, and of very easy culture. *C. Venustum* is a useful species from Sylhet and Nepaul. It requires a rather warm temperature for its successful cultivation. The flowers are of medium size with the petals and sepals greenish white and a lip of a similar hue. The leaves are mottled with pale green on a ground of a deeper shade of the same colour. *C. niveum* is in bloom now in some collections. This is quite a gem, the flower being of small size, snow white, saving a few light spots of brown on the sepals and petals. It is a native of the Straits of Malacca. *C. Sedeni* is a useful form nearly always in bloom. *C. Harrisianum* is a magnificent orchid when well grown; the flowers are large and suffused with purple on a greenish ground, and veined with a dark colour. *C. Spicerianum* is now well known, and is one of the best of the genus. *C. javanicum* is blooming finely. The flowers are compact, with a brown lip, and the upper sepal is green veined with a darker shade of the same colour; the petals are spotted with reddish brown and suffused with pink at the ends. *C. Schlimi* flowers at various times of the year, and is in bloom now. It is a very choice species, and was found in New Granada at an altitude of four thousand feet. The sepals and petals are mottled with a rosy colour on a snow white ground, and the lip, which is also white, is suffused with a soft pinkish hue.

The MOTH ORCHID, known as *Phalænopsis Stuartiana*, is a very lovely form, producing in a graceful raceme snow white flowers, save the lower sepals and lip, which are distinctly spotted with crimson.

ODONTOGLOSSUMS of many kinds are in bloom now. One of the most attractive is *O. nebulosum*, a very handsome species, with large, attractive flowers. *O. Alexandræ* is too well known to need description. *O. cariniferum* is a pleasing orchid, with the flowers barred with reddish-brown. *O. roseum*, or as it is sometimes called, *Mesospinidium roseum*, is a very pretty kind, with small rosy flowers.

ONCIDIUM PRÆTEXTUM is not very showy, but is well worth growing. The flowers are of comparatively large size and rich brown in colour.

MASDEVALLIAS in bloom include *M. Shuttleworthi*, which is one of the finest members of the genus; *M. tovarensis*, valuable for its lovely pure white flowers, and the gorgeous *M. ignea*.

SOPHRONITIS GRANDIFLORA is a very useful winter-flowering orchid, as the flowers are of a brilliant scarlet colour, and give life to the orchid house at this season. This grows best in small pans suspended in a light position in the cool house.

LYCASTE SKINNERI must not be omitted, as it is an orchid bearing very handsome flowers, and is easily cultivated. It is a native of Guatemala, and was introduced in 1842. The white variety named *L. Skinneri alba* is of rare beauty, but is, as yet, very scarce.

LÆLIA ANCEPS is one of the most beautiful and popular of winter-flowering orchids. A variety of this fine species, named *L. anceps Barkeriana*, calls for special mention. The flowers are large, of good form, with the sepals and petals deep rose, and the lip rich velvety purple. *L. albida* is a fine species, producing white flowers, with the lip streaked with yellow. This is a native of Oaxaca, and was introduced about the year 1839.

BARKERIA LINDLEYANA should be grown in all large collections. It thrives in a cool temperature, and does well on a block. The sepals and petals are pink, and the prominent somewhat spoon-shaped lip is of a rose colour, with a deeper shade of the same at the point.

CALANTHES we must not omit to mention, as the showy *C. Veitchi* is in full bloom, as also are *C. vestita rubro-oculata* and *C. vestita luteo-oculata*, which are well known to all lovers of orchids. These require a warm temperature for their successful cultivation.

New Plants, Flowers, and Fruits.

(I.H.—Illustration Horticole. R.H.—Revue Horticole. G.Z.—Garten Zeitung. Gt.—Gartenflora.)

VANDA ROXBURGHI V. RUBRA (*I.H.*, 579).—A beautiful variety, with rosy-red labellum.

LABISIA MALONIAUA (*I.H.*, 580).—A handsome stove plant, with richly-coloured leaves.

MICROSTYLIS BELLA (*I.H.*, 581).—A charming orchid, with flowers of a dull purplish-red colour.

VICTORIA REGIA (*I.H.*, 582).—The note by M. Rodigas touches an important point in the cultivation.

ONCIDIUM LEPTARUM (*G.C.*, 1886, 41).—An interesting orchid, from Bolivia; the flowers are sulphur coloured, with light brown spots.

LÆLIA ANCEPS OBSCURA (*Ib.*)—A fine variety, with narrow sepals and petals, all of dark colours, the sepals white at the base.

TOMATO, "SUTTON'S ABUNDANCE."

This new variety of tomato deserves special attention for its acceptable qualities, and it is with great pleasure we recommend it to our readers, to many of whom the profitable cultivation of the tomato is a matter of considerable importance. Although quite distinct from Chiswick Red, more especially in its size and beauty, it reminds us of that variety by its great productiveness and the solidity of the flesh. Our correspondent "XYZ" speaks well of the old pear-shaped variety for the preparation of tomato salads, but we can speak well of the two varieties above-named—*Chiswick Red* and *Abundance*—for the same purpose, as they both produce but few seeds, have firm rich flesh, and the least amount of core of any sorts to which they may be fairly likened. It is not known to all the growers of tomatoes that the salad test is the best of any, for the best sorts for that purpose are the best sorts for all purposes; the poorer kinds may be useful for soups and sauces, but a poor sample is worthless when a salad is called for. "Sutton's Abundance" is a smooth exhibition fruit of brilliant colour, produced in large clusters, ripening simultaneously, or nearly so.

TOMATO, "SUTTON'S ABUNDANCE."

PROFITABLE TOMATO CULTURE.

By William Cole, The Grove Vineyard, Feltham.

The estimation in which tomatoes are now held by all classes of the community has rendered their cultivation a very important phase of garden practice, and increased attention is being paid to it on all sides. It is no longer sufficient in gardens, other than those of limited extent, to grow a few plants in the open for the supply in the autumn of fruit for converting into sauce. But in those in which suitable structures are available, it is essential to maintain a supply extending over the greater part, if not the whole, of the year. To maintain a continuous supply of well-ripened fruit throughout the year is not, perhaps, so difficult as some matters that engage the attention of cultivators; but it is by no means so easy as some writers would have their readers believe. Efficiently heated houses are indispensable in the production of a continuous supply of fruit throughout the year, and with the aid of these it will be found necessary to devote much time and thought to the work.

Tomatoes do not absolutely require the houses to be wholly devoted to them, but they must have the assistance of a brisk temperature throughout the year, and during the autumn, winter, and spring it is a great advantage to be able to give them a place in a house in which they can enjoy the requisite degree of warmth, without interfering with other subjects. Moreover, when occupying a house wholly devoted to them, they can be planted in a bed of soil instead of being grown in pots, which is a decided gain, for not only do the plants require less frequent attention, but they continue in full bearing for a much longer time. A lean-to house of moderate size is the most suitable for the winter and spring crops, and a span-roof for the summer and autumn crops; but good results can be obtained by growing the plants throughout the year in either form of structure. When it is not practicable to devote two structures to the cultivation of tomatoes, it will be necessary to grow them in pots, excepting those to be fruited out of doors, and to have four sets of plants; the first batch to be raised in January, for fruiting from the beginning of May till the end of July; the second to be propagated in March, for supplying the table from the early part of August to the end of September; the third batch to be raised in June, for continuing the supply through October and the two following months; and the fourth batch to be raised in August, for the production of fruit from the end of December until the beginning of May. By this arrangement a constant succession of plants in bearing will be maintained, with the consequent result of an abundant and continuous supply of fruit throughout the year.

The stock of plants for furnishing supplies of fruit during May and two following months should be raised from seeds or cuttings in the course of January. The seed should be sown in five-inch pots, and placed in a structure where it can have the assistance of a temperature of 65 deg. or 70 deg. The pots must be placed in a position near the glass as soon as the plants make their appearance, and the latter must be potted off singly when they are large enough. When first potted off keep them rather close and moist for a short time to assist them to become established quickly, care being taken not to keep them so wet as to incur the risk of their damping off. In the matter of productiveness there is not, perhaps, any material difference between plants raised from seeds or cuttings. But those propagated by means of cuttings come into bearing at an earlier date than seedlings, and this, of course, will be a manifest advantage when a supply is required as early as possible. In raising the stock from cuttings select short-jointed shoots, take off the tops close under a joint, and when the two lower leaves have been removed insert them singly in small sixties filled with light soil, to which a liberal addition of sand has been made. As they are inserted plunge the pots in a brisk hot bed, if available, or place them

in the corner of a stove or forcing house. It will be necessary to exercise a little extra care in watering the cuttings, for they must not have more moisture than is absolutely necessary to prevent their flagging to any appreciable extent. When struck the plants must be placed near the glass to prevent their becoming drawn, and as soon as they are well rooted they will require a shift into larger pots.

The stock, whether raised from seed or cuttings, require precisely the same treatment after the plants are sufficiently advanced to be shifted from the small sixties. A mixture, consisting of turfy loam, leaf-mould, well-rotted manure, and silver sand, should be prepared for the first shift, and five-inch pots must be used. Immediately they have filled the pots with roots shift into eight-inch pots, and in due course transfer them to other pots ten inches in diameter, in which they should be fruited For the last two shifts a rather more substantial compost will be required, and one consisting of loam, four parts, and leaf-mould and well-rotted manure, one part each, will be the most suitable. A very rich compost is not advisable. But when the plants are not put in pots larger than ten inches in diameter there is not much risk of their becoming too luxuriant when the leaf mould and manure does not exceed one-third of the bulk. The pots must be well drained, the soil pressed firm, and the watering pot used very sparingly for a short time after each repotting. After the pots in which they are to be fruited are filled with roots the water supply must be rather liberal, with occasional supplies of liquid manure. A moderate amount of stopping will be required, and the shoots must be trained out as becomes necessary to stakes fixed in the pot or to a trellis immediately under the glass or against the back wall, as may be considered the most convenient. But when they are not trained within a short distance of the glass care must be taken to place them where they will enjoy a full share of light. A brisk temperature will be required from the first, one ranging from 65 deg. to 70 deg. being the most suitable. A free circulation of air, without exposure to cold currents, is essential, and the ventilation ought to have during the early part of the year the most careful attention.

The plants to be raised in March for supplying fruit at the end of the summer and the early part of the autumn may be propagated by means of seeds or cuttings as in the case of the first batch. It is, however, a very good practice, when the cuttings can be readily obtained, to strike a few for furnishing fruit at the end of July and the beginning of August, and raise the principal part of the stock from seed. The stock, whether obtained from seed or cuttings, must be grown in pots until the end of May. To avoid loss of time put the plants at first into small sixties, and as soon as they have filled them with roots shift into five or six inch pots, using a compost as advised above. Tomatoes when grown in the open cannot have too warm a position, and ought when practicable be planted against a wall or close fence having a south aspect. A moderately rich and rather light soil is decidedly the best, and when the soil is naturally cold and heavy it is a good plan to form a border at the foot of the wall or fence about two feet in width and eighteen inches above the general level. The border may be formed with soil taken from the surface of the quarter and a moderate proportion of coarse grit and leaf-mould, or with a specially prepared compost consisting of loam, manure, leaf-mould, and grit. After they begin to grow freely the shoots must be trained to the wall or fence, and be thinned where necessary to prevent overcrowding.

The stock of plants intended for supplying fruit in succession to that produced against walls and fences must be raised from seed in June. The seed should be sown in the usual way, and be placed in a pit or house in which the temperature ranges from 70 deg. to 75 deg. It will be necessary to pot them off separately, and then shift them into five-inch pots, from which they must be transferred to others nine inches in diameter, which will be quite large enough for them to fruit in. To keep them close and warm until they have recovered from the check received in being potted off will be necessary, and when the roots are beginning to run in the soil, they should be placed in a cold frame to harden. Generally speaking, by the time they are hardened off they will be sufficiently advanced to receive their first shift, which will be into pots five inches in diameter. On their being repotted, place them on a bed of coal ashes in a warm, sheltered position out of doors, and there allow them to remain until the end of August or the early part of September, according to the weather. When taken indoors place in a light and airy structure, and maintain a temperature of about 60 deg. With the necessary attention to water supply they will soon begin to ripen their fruits and maintain a successional supply until the end of December.

The fourth batch of plants which are required for producing fruit during the early part of the year must be raised from seed sown in August. The details as to potting off and shifting are precisely the same as for the June stock, and need not be alluded to. They must be kept under glass throughout, and as the sun heat declines and the nights become cold, the fire must be turned on, and a temperature of 60 deg. be maintained. Light and warmth are both necessary to the production of a good crop, and as the fruit does not set very freely after the end of October an effort must be made to have the plants well furnished with fruit before the winter is far advanced.

MR. J. TORBITT, OF BELFAST, proposes the cultivation of the potato for the usefulness of the berries, seed-balls, or plums, as well as for the tubers. He affirms that the berries are perfectly wholesome, and make an excellent article of food, and that the course of procedure he proposes is equivalent to the invention of a new industry. We shall reproduce Mr. Torbitt's paper as an integral part of the history of the noble tuber.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. WHITFIELD CROFTS.

No. 4.

The importance of the potato crop to Jersey—the trade of recent date—exports of late varieties from 1833 to 1840—the potato blight of 1845—prices obtained for late sorts—cost of cultivation—the cultivation of the potato in Jersey sixty years ago—the commencement of the trade in the early variety—Jersey quickly in the field—statistics of exports from Jersey and Guernsey—acreage under potatoes in Jersey and Guernsey.

To the Channel Islander, to the Jersey man more especially, the potato crop takes precedence of every other crop grown, not even excepting wheat,* and every year it assumes more importance, and the breadth cultivated is extended.

This has not been so for long, comparatively speaking. In 1821, in a document addressed by the Bailiff of Guernsey to the States, concerning a measure which the British Government had passed, and which the islanders considered injurious to their interest, he said: "We have not sufficient land to cultivate, yet we are to be debarred from cultivating the only field open to our industry, and one which commerce and navigation render productive." The "industry" referred to was that of the cultivation and exportation of wheat. So that the potato, though it was possibly and probably grown in private gardens, had not yet become an article of commerce. In 1828 we find an incidental mention of the export trade in potatoes carried on from Guernsey, but, no doubt, more accurate particulars are extant.

That this trade made rapid growth, and was for a number of years of considerable importance, will be seen by the following returns to October 10 of each year, in bushels of 60 lbs. Guernsey:—

	Bushels.		Bushels.
1833—4 ...	92,296	1836—7 ...	227,302
1834—5 ...	51,480	1837—8 ...	237,170
1835—6 ...	95,954	1838—9 ...	267,733
	1839—40 ...	376,160.	

But after 1840 the export gradually diminished, and almost entirely ceased with the potato blight, commencing in 1845. The loss of this prosperous trade was a severe blow to the small farmers of Guernsey. Still, the profits made in those days were by no means large, and will bear no comparison with those realized in the cultivation of the potato at the present time. Mr. Tupper tells that prices ruled from 10d. to 1s. 1d. per bushel for private use, and 24 bushels were purchased by a gentleman for his winter stock for £1. Many a cargo for Brazil, &c., was shipped at 9d. per bushel. The potatoes were sent to the West Indies, Brazil, &c., on the one hand, and on the other to London. Considerable quantities seem to have been turned into farina, brandy, &c.

A Guernsey gentleman (Mr. N. Le Beir), writing at this time, said that "out of many a field were dug, in 1836, in the aggregate to the perch, six bushels, of sixty pounds Guernsey weight, each equal to sixty-seven and a half English—a produce of 16,200 lbs. to the vergée, or about twenty tons and a quarter to the English acre."† Of course, this amount exceeds that of an average year, and so also did the prices; when being dug they sold at one shilling the bushel, and rose in the winter to one shilling and ninepence. The average produce is about four bushels to the perch, and the average price of late years has been one shilling the bushel, yielding £20 to the acre. "But lest," he adds, "this statement should induce strangers to take Guernsey for an El Dorado, I will just state that the value of good land is £7 10s. the acre, and the wages of a labourer are two shillings per day; or, to put the expenses by the side of the receipts, the cost of the culture of an acre of potatoes producing 400 bushels, at one shilling the bushel, is as follows:—

	£	s.	d.
Rent of land	7	10	0
Manure, 10 loads of *vraie venant*, carting included, 5s. per load	2	10	0
Ploughing to turn in the manure	0	15	0
Seed, 20 bushels at 1s. 6d., in the late season ...	1	10	0
Ploughing and planting	1	5	0
Rolling and harrowing	0	10	0
Weeding, at 2s. the perch	0	16	8
Digging, at 1d. per bushel	1	13	4
Cartage of the same	1	13	4
	£18	3	4

Leaving a profit only of £1 16s. 8d. to the farmer." The above, however, is rather an unfair estimate, unless we are to understand that potatoes was the only crop drawn from the land in the course of the twelve months.

An old man in one of the remote parishes of Jersey told us that sixty years ago the first of the potatoes raised by him in the sandy soil of St. Ouens realized 4d. per cabot of 40 lbs. if sold on the farm, but if carried aboard the ship 5d. per cabot was paid. The soil (nearly pure sand) yielded from ten to twenty cabots the perch.

In the same period that the Guernsey trade was prospering, Jersey

* Out of a total area of 28,717 acres, Jersey has an acreage under crops of various kinds of 19,436, of which there are under potatoes alone no less than 4,392 acres. There are 2,774 acres in wheat and 1,548 acres in turnips.

† Some authorities put the average potato crop at 300 cabots per vergée. Colonel Le Couteur (*vide* Code of Agriculture, pp. 392 and 575), puts it higher. He says the average of this crop is much above the same in Great Britain, 10 cabots a perch being an ordinary produce in the best lands, though not more than six can be obtained from inferior soils. But even this last quantity would be esteemed a good crop in England. Now the above produce, converted into English measure, will be 400 cabots of 40 lbs. each the vergée, which, multiplied by 2¼ the exact number of vergées to the English acre, is 400 × 40 × 2¼, when to bring the Jersey weight into avoirdupoise is 13 : 14 :: 400 × 40 × 2¼ 38,769 3-13 lbs. per acre—a produce far exceeding that of East Lothian and Essex.

was likewise growing large quantities of potatoes and exporting them to Malta and England* These particulars, though scanty, are particularly interesting, and especially when read by the side of facts and figures of to-day.

A few years after the disastrous blight of 1845, the import of potatoes into the Channel Islands exceeded the export, and the trade in late potatoes has never since recovered its whilom importance; but this is easily explained by the fact that the cultivation of the early varieties has been largely substituted.

Owing to the severity of the winter and the lateness of the spring in England in 1861, some of the enterprising Guernsey men grew, and forwarded to Covent Garden considerable quantities of early potatoes, which realized enormous profits. The natural consequence was, that the very next season hundreds of small farmers participated in the new trade, and the quantity exported yearly increased. As far back as 1838, however, we are told that "in warm springs well-grown new potatoes are occasionally seen in the market a week or more before the end of April," so that the novelty of the thing was not in the earliness of the crop, but in the marvellous rapidity with which the trade expanded.

It was not likely that Guernsey would be long permitted to monopolise this very profitable business. Jersey came immediately into the field, and has since proved a most formidable rival, for whereas Guernsey now exports her two or three thousand tons per annum, Jersey annually ships tens of thousands of tons. The latter island, indeed, has increased her potato trade at an unprecedentedly rapid rate, the figures within the last twenty-five years leaping by bounds from four to five thousand tons, till at the present the total quantity sent to England (not the total amount grown, for larger quantities are consumed in the island, and some consignments are forwarded to Paris) exceeds annually 50,000 tons, of 33 bushels, and the increase goes on at the same steady rate. Ten years ago the export did not exceed 5,000 tons. The quantities from Guernsey during the the last three years, of which we have the figures, were:—

1882	24,000
1883	26,500
1884	48,000

The figures represent casks and hampers averaging 1 cwt. each. The quantity exported from Guernsey last year probably exceeded 3,000 tons.

It may be as well in this connexion, perhaps, to exhibit the latest parish returns of the acreage under potatoes in Jersey and Guernsey:—

JERSEY.	Acres.	GUERNSEY.	Acres.
St. Helier's	359	St. Peter's-Port	61
St. Saviour's	440	St Martin's	58
St. Martin's	460	Forest	38
Trinity	560	St. Pierre-du-Bois	76
Grouville	330	Torteval	38
St. Clement's	230	St. Saviour's	75
St. Lawrence's	567	St. Andrew's	57
St. Peter's	589	Castel	145
St. Brelade's	398	Vale	133
St. John's	449	St. Sampson's	104
St. Mary's	316		
St. Ouen's	895		
	5,593		785

PRIMULA SINENSIS FIMBRIATA, FROM MAIDENHEAD.

MR. ROBERT OWEN, of the Floral Nurseries, Castle Hill, Maidenhead, has forwarded a box of flowers to show the strain of Alba magnifica, now associated with other colours. This fine white variety, one of the late Mr. Tonkin's seedlings, has been made good use of by fertilizers in the way of introducing size and substance into flowers of other hues. In this respect, Mr. Owen has succeeded in a remarkable degree. He has forwarded flowers of rich scarlet, purple-crimson, magenta-crimson, rosy-purple, carmine, pinkish-lilac, pink blush, and pure white, of large size and substance, the first-named being especially brilliant in hue. What Mr. Owen has done so well many others have done also, and are still doing, and it would not be difficult to get together flowers that would represent nearly, or quite, twenty distinct varieties. So fast do we progress in these days, and concurrently with advance in the size and substance of the flowers, there has come a corresponding improvement in habit also. We can remember when the leaf stalks of Chinese primroses were so tall that they almost hid from view the trusses of bloom. Now, dwarf, stocky, vigorous habits are the rule, and so both lines of improvement have greatly enhanced the value of Primula sinensis as a decorative plant.

DR. C. B. RILEY, ENTOMOLOGIST to the Agricultural Department, Washington, has just presented his collection of insects to the United States National Museum. It is said to contain 115,000 specimens of 20,000 different kinds or varieties of insects. The value of the collection has been set down at 25,000 dols., and Dr. Riley has refused several offers from European museums.

* Apropos of Jersey, an old gentleman whose acquaintance we made while in the island, writing to us since our return to England, says, "As for potatoes, I have myself heard from the lips of my grandmother, who passed away some 21 years ago, and who was then 98 years of age (you can guess how far back in the eighteenth century she could remember) that in her young days at her father's home potatoes were relegated to a small, out-of-the-way corner of the garden, never planted or cultivated, and when a few were required they were forked up each time."

LEGENDARY PLANTS.

By RICHARD FOLKARD, Author of "Plant Lore, Legends and Lyrics,"

PART V

Poetical and Fanciful Legends.

FAIRY FLOWER LEGENDS.

THE Fairies held sway over numerous plants and flowers—the Harebell, the Cowslip, the Mullein, the Oxslip, Pansy, Anemone, and many others were especial favourites; and in Central Germany certain Fairy folk inhabited the interior of hills and inaccessible caverns, which contained stores of gold, silver, and precious stones. The entrance to these was only to be obtained by means of the Primrose, the key-flower (*Schlusselblume*) of the Germans. The goddess Bertha is supposed to entice children into her enchanted halls by offering them a bunch of Primroses. There are, in Germany, many legends also relating to a mystical Luck-flower which possesses the extraordinary power of gaining admittance for its owner into the recesses of a mountain, or hidden cave, or castle, wherein vast treasures lie concealed. The legend generally runs that the fortunate discoverer of the receptacle for wealth is a man who has by chance found a beautiful flower, usually a blue one, which he sticks in his hat. Suddenly the mountain he is ascending opens to admit him; astounded at the sight, he enters the chasm, and a white lady or fairy bids him help himself from the heaps of gold coin he sees lying all around. Dazzled at the sight of so much wealth, he eagerly fills his pockets, and is hastening away when she calls after him, "*Forget not the best!*" He thinks, as he feels his stuffed pockets, that he cannot find room for any more, but as he imagines the white lady wishes to imply that he has not helped himself to enough, he takes his hat and fills that also with the glittering gold. The white lady, however, alluded to the little blue flower which had dropped from his hat whilst he stooped to gather up the gold coins. As he hurries out through the doorway the iron door shuts suddenly behind him with a crash of thunder, and cuts off his right heel. The mountain side instantly resumes its old impenetrable appearance, and the entrance to the treasure hall can never be found again. As for the wonderful flower, that has vanished, but is to this day sought for by the dwellers on the Kyffhaüser, on the Quästenburg, and even on the north side of the Harz. It was from this legend that, according to Grimm, the little blue flower "Forget-me-not" originally received its name, which at first was indicative of its magic virtue, but afterwards acquired a sentimental meaning from the tale of the drowning lover of the Danube and his despairing death cry.

The Foxglove is the special fairy flower; in its spotted bells the good people nestle. It is called in Ireland, Lusmore, or the Great Herb, and also Fairy-cap, a retreat in which the merry little elves are said to hide themselves when a human foot approaches to disturb their dances. The bending of the plant's tall stalks is believed to denote the presence of supernatural beings, to whom the flower is making its obeisance. In the Irish legend of Knockgrafton, the hero, a poor hunchback, reputed to have a great knowledge of herbs and charms, always wears a sprig of the Fairy-cap, or Lusmore, in his little straw hat, and hence is nicknamed Lusmore. The Shefro, or gregarious fairy, is represented as wearing the corolla of the Foxglove on his head.

Just as the Foxglove is the favourite flower of the Fairies, so is the four-leaved Clover their special herb. There is a Cornish fairy tale which well exemplifies this: One evening a maiden set out to milk the cows later than usual; indeed, the stars had begun to shine before she completed her task. "Daisy" (an enchanted cow), was the last to be milked, and the pail was so full that the milk-maid could hardly lift it to her head. So to relieve herself, she gathered some handfuls of Grass and Clover, and spread it on her head in order to carry the milk-pail more easily. But no sooner had the Clover touched her head, than suddenly hundreds of little people appeared surrounding Daisy, dipping their tiny hands into the milk, and gathering it with Clover-flowers, which they sucked with gusto. Daisy was standing in the long Grass and Clover, so some of these little creatures climbed up the stalks and held out Buttercups, Convolvuluses, and Foxgloves to catch the milk which dropped from the cow's udder. When the astonished milk-maid, upon reaching home, recounted her wonderful experiences to her mistress, the goodwife at once cried out: "Ah! you put a four-leaved Clover on your head."

But we must draw to a close. Legends connected with plants are really endless, and cannot be all considered in a single paper; otherwise we might have referred to the extraordinary tales connected with that mysterious plant, the Mandrake, or the Fern and its mystical seed, which can only be gathered at 12 o'clock on midsummer eve, and possesses the wondrous power of making its possessor invisible; or the singular group of plants which can shoe horses, open locks, and remove obstacles by blasting—a group embracing the Primrose, the Pervain, the Sesame, the Springwort, the Moonwort, the Hazel, the Fern, and the Mistletoe; these and many other plants possessing magical properties are worthy of separate consideration. But, as at this Christmastide we are accustomed to decorate our rooms with mistletoe and holly, it may perhaps be *apropos* to point out that the decking of dwellings is of Druidic origin; the mistletoe, as we all know, was a sacred plant with the Druids, regarded as an averter of illness, and a guard against evil spirits if hung up without having been permitted to touch the earth. Whilst in the holly boughs it was thought in Druidic times that the elves and spirits of the forest were wont to seek refuge during the storms and frosts of midwinter. Housewives should, however, be careful to remove all their Christmas decorations before Candlemas Eve, for old Herrick has enjoined—

Down with the holly and ivy all,
Wherewith ye seek the Christmas hall;
So that the superstitious find
No one least branch there left behind;
For look how many leaves there be
Neglected there. Maids! tend to me—
So many goblins ye shall see.

GARDEN ALLOTMENTS.—Sir Harry Verney has set apart seven acres of land at Steeple Cloyden, Bucks, as garden allotments for the cottagers, who are to hold only a quarter of an acre each, and to grow vegetables only. The annual rent of each quarter-acre is to be 10s.

"A SIMPLE FACT ABOUT" KEATING'S COUGH LOZENGES.—Ask throughout the world, in any country that can be named, you will find them largely sold. There is absolutely no remedy that is so speedy in giving relief, so certain to cure, and yet the most delicate can take them. One lozenge gives ease. Sold in 13½d. tins.—[ADVT.]

STRIPED ROSES.

THERE are not many striped roses and the world does not want many. But the few at our command are interesting, and every grower of roses will be careful to secure a few. A delightful article in the issue of the Magazine for April 2, 1881, bearing the signature S. H., has furnished me with a theme for the writer, in my opinion, under estimates our old favourite, *York and Lancaster*, which in my opinion is the best of the batch even now. But there is a reason for the depreciation of this old English rose, and it is that because it is old and cheap and but little talked of, it is generally poorly grown and therefore is seen at its worst instead of its best. It is not for me to dispute with the writer referred to, but, as facts are of value, I will say that I have seen it grown so well as to surpass all the other roses of its class when grown equally well, and it has the peculiar merit of constancy which has never been denied to it. If I had to make final choice of two striped roses out of the category my choice would fall upon the famous one named above and one less known, called *Tricolore de Flandre*, brought out at Ghent in the year 1845. This differs from York and Lancaster in both form and colour; it is symmetrical, with reflected petals that are very regularly striped and flaked with rosy-pink shading to purplish-pink on a pearly-white ground. A more lively rose of its class one could not desire, and it has the merit of being single as regards the centre, although the petals are so many and fold so closely over the centre that it may be described as double by those who prefer to regard facts superficially. It belongs to the Provins section and may be found in gardens labelled *Provins panaches*, but the name given above is the correct name as I have been assured by Mr. Louis Van Houtte.

A few more of the striped roses may be looked for in the rose garden, and I should recommend those named in the interesting paper above referred to. *Œillet parfait* is a very carnation-like flower, with purplish stripes on white ground. *Œillet flamand* is in the same style of colouring, but lighter and more delicate. *Perle des panachée* has the whitest ground of any of the class. A remarkably fine variety is *Unique panachée superb*, an old continental rose with large flowers striped with rich lake. This, like Tricolore de Flandre, is of the Provins section, and like the rest of its family delightfully fragrant. It is an observation of mine, that probably others have made, that roses of this class obtain less attention than they deserve because they are not in the running for prizes at exhibitions.

VIATOR.

STRIPED ROSE, "TRICOLOR DE FLANDRE."

STOVE AND GREENHOUSE PLANTS IN FLOWER.

THERE are not many plants of special interest in flower at the present time in the stove and greenhouse, but there are a few that deserve more than passing notice. We are not over-rich in gay winter-flowering subjects, and so it is important to note those that make a show at this season. Cyclamens, Chinese primroses, and forced bulbs we see in plenty, but there are many old-fashioned plants of great beauty that are comparatively unknown to the majority of gardeners, and several of those enumerated in the following list belong to this "neglected" class.

HABROTHAMNUS ELEGANS (Flowers rosy carmine).

JUSTICIA SPECIOSA possesses sterling merits, and yet is seldom met with. The rich purple colour of the flowers is unique, and a healthy specimen in full bloom has a most brilliant apearance. It is an old plant, but none the worse for that; and although not difficult to grow requires careful cultivation. It is, strictly speaking, a stove plant, but may be grown with a fair measure of success in a warm greenhouse.

AZALEAS are now in bloom, and one of the most effective in the greenhouse is the charming *Azalea amœna*, which is remarkable for its free-flowering character. The small, bright rosy purple flowers are of great value for filling epergnes and for indoor decorations generally.

POINSETTIA PULCHERRIMA has displayed its brilliant crimson bracts since November, but is not yet quite over. For winter decorations this noble plant is unsurpassed.

LINUM TRIGYNUM deserves more extended culture than it at present enjoys. There are several plants in flower at the present time. It is a native of India. For winter blooming the cuttings should be struck in March.

HABROTHAMNUS ELEGANS is especially valuable for covering a wall or pillar in the conservatory or greenhouse. It is very floriferous, of easy culture, and the flowers, which are produced in dense racemes, are of a showy carmine colour. This is a plant that amateurs should make note of, as it may be grown with but little heat. The figure shows the first head of bloom on a young pot plant. It is not a rampant grower even when planted out to furnish a pillar.

ACACIA PLATYPHYLLA.—This makes a capital pot plant, and is easy to grow. Well grown specimens in six-inch pots are very ornamental when well covered with the small globular yellow flowers.

KENNEDYA MARRYATTÆ.—In this plant we have a superb greenhouse climber. Both leaves and stems are clothed with soft hairs, and the scarlet flowers are produced in great abundance. It is a rampant grower, and will stand being cut back to keep it within bounds, but the knife should not be used too freely or there will be but a poor show of flowers.

CAMELLIAS are the most useful of winter-flowering greenhouse plants. *Alba plena* is still the best of the white varieties. *Chandleri* is a very showy sort with crimson flowers. *Chandleri elegans* produces immense well-shaped flowers of a beautiful blush colour. *Cup of Beauty* is a white, striped with rose, and is very effective. These are four first-rate varieties, and would form a good selection for a beginner in the culture of these plants. At most of the large nursery establishments, at the present time, camellias are flowering in variety.

RHODOCHITON VOLUBILE is a very interesting climber plant for a greenhouse or conservatory, and appears to be always in bloom. For a small structure it is not well adapted, as the flowers, although produced freely, make but little show. They are of a dull pinkish colour and bell-shaped. In a large house, where there is space for other climbing plants, it may be recommended.

HIBBERTIA DENTATA is a very attractive climber for a greenhouse. The foliage is of a bronzy hue, and the flowers of medium size and bright yellow. It is stated in the books to be a summer-flowering plant, but it is in bloom now.

CLIANTHUS PUNICEUS, known as the "Glory Pea," is a first-rate plant for a rafter, and the singular crimson coloured flowers, combined with an elegant foliage, render it a very attractive and desirable subject.

WHITE HOOP-PETTICOAT NARCISS, known as *Corbularia Clusiana* or *Narcissus monophyllus*, is flowering freely now in the greenhouse. It is a lovely pure white flower of chaste appearance.

HEATHS are flowering freely, and two of the most conspicuous are the well known *E. hyemalis* and *E. colorans*. The second is not of such robust growth as the first, but produces in profusion small pink flowers. In the "Garden Oracle" for the year 1860 was given a list of heaths flowering on every day throughout the year. Many growers of these plants have found the list of great value.

BEGONIA NELUMBÆFOLIA is a very distinct Mexican species of coarse growth with leaves resembling those of the Nelumbium, but far less elegant. The flower stem is two feet or more in length and bears numerous small pure white flowers. It is interesting but not beautiful.

GESNERA LEOPOLDI is a fine stove plant producing tubular flowers of a brilliant scarlet colour at this season. Small examples in five-inch pots have a very pleasing appearance.

ÆCHMEAS are valuable stove plants, and although not beautiful are remarkably distinct and handsome. *Æ. glomerata* is a vigorous plant with very large leathery leaves and pleasing flowers. *Æ. Weilbachi* is showy and curious; the stems are deep red, bracts of same hue, and the flowers of a red and violet colour. *Æ. fulgens* is perhaps the best known of this class of plants, and its rich red flowers are now specially attractive.

PITCAIRNIA CORALLINA.—This is a very fine plant, possessing leafage resembling that of Curculigo recurvata but more elegant. The flower stem, which is of a brilliant coral red colour, grows downwards, and attains a considerable length.

EPACRIS are showing a disposition to flower very shortly, and will warm the stages with their beautiful colours. It may be that *E. miniata* and *E. hyacinthflora* will be especially attractive, but some of the older kinds such as *E. rubra*, *E. grandiflora*, *E. nivalis*, and *E. impressa* still have their admirers, and are delightful when well done. In common with the heaths, they do not take to forcing kindly, and it is better to wait for them than to push them. Nevertheless, with a little coaxing they come into the winter garland.

PROFITABLE VEGETABLES.

As the seed orders of those who endeavour to keep well abreast of their work are now being made up, a brief reference to some of the most profitable of the vegetables will probably prove useful. To be really profitable, vegetables must be of high quality, as well as productive, and those only in which these two qualities are combined will be enumerated. I was glad to see that you reminded cultivators of the importance of ordering their seeds as early as possible, for when it is delayed, as is so frequently the case, until the season is so far advanced that every day is of the utmost importance, delays, more or less injurious, invariably occur. Apart from the risk of the crop being late or unsatisfactory in consequence of the seed not being sown at the proper time, the gardener and amateur should have some consideration for those engaged in the execution of the seed orders, who have to work very long hours throughout the season. In a cold winter like the one through which we are now passing there is a greater danger of the making of the seed orders being injuriously delayed than in mild winters. It is forgotten that the seeds can be dispatched equally as well in cold as in mild weather, and that they do not deteriorate through being in the bags for a short time. Seed potatoes ought not to be entrusted to the mercy of carriers and railway companies during periods of severe frosts, but all the seeds can be sent any distance with perfect safety.

BROAD BEANS are generally appreciated, and usually constitute a crop of considerable importance. When required simply for the supply of the table, size of pod is a secondary consideration. *Taylor's Windsor* and *Green Windsor* are both admirably adapted for main crops, for whilst very delicate in flavour they are exceedingly productive. *Beck's Green Gem* is a dwarf variety admirably adapted for small gardens. The pods are rather small, but they are produced in immense numbers, and are well filled with small beans, which are of a bright green colour and delicate in flavour when nicely served.

BEET will not occupy much space in the seed order, as very few varieties will suffice in the largest of gardens. Two of the best of the varieties for general cultivation are *Dell's Crimson* and *Nutting's Dwarf Red*, which have medium-sized roots, of high colour and quality. *Egyptian Turnip-rooted* is not equal to the foregoing either in colour or delicacy of flavour, but it is nevertheless useful for affording supplies in advance of the main crop.

BORECOLES AND KALES form one of the most useful groups of winter vegetables we have, for they are equally adapted to both large and small gardens, and can be depended upon to yield a plentiful supply in all but the most severe winters. The most generally useful is perhaps the *Cottagers' Kale*, but the *Dwarf Scotch* and *Tall Scotch* are both well able to do good service, the first-mentioned of the two being preferable. The most delicately-flavoured of all the kales is the *Chou de Milan*, but it is unfortunately so tender that it is cut off in a rather severe winter. When the space can be spared a moderate breadth should be grown with the chance of its passing safely through the winter.

BROCCOLIS suffer so much in severe winters that they ought not to be grown very largely by those who have a comparatively small space in which to produce the supply of green vegetables during the winter. For maintaining a supply from November until the following May the following can be recommended: *Veitch's Self Protecting* for autumn; *Osborn's Winter White*, and *Backhouse's Self Protecting* for winter use; *Cooling's Matchless*, *Leamington*, and *Chappell's Cream* for early spring; and *Carter's Champion* and *Sutton's Late Queen* for late spring use.

BRUSSELS SPROUTS will not occasion much difficulty, as all the strains offered are good. *The Aigburth* and *Scrymger's Giant* can be recommended to those who are in doubt as to which to select.

CAULIFLOWERS.—The most useful of these are *Veitch's Early Forcing* to sow in heat in the spring for early summer crops; *Early London*, and *Veitch's Autumn Giant* to sow out of doors in the spring for summer and early autumn supplies; and *Walcheren* to sow at the end of the summer to keep over the winter in frames.

CABBAGES abound, and of the large number of varieties in the lists *Ellam's Early Dwarf*, *Heartwell Early Marrow*, *Enfield Market*, and *Wheeler's Imperial* can be highly recommended.

CARROTS are limited in numbers, and of the varieties in commerce, *French Forcing Horn* for frame culture; *Early Nantes* for early crops in the open; and a good type of *James's Intermediate* and *Red Surrey* for main crops.

CELERY.—The most delicately flavoured and generally useful of the varieties are *Sandringham Dwarf White*, *Williams's Matchless Leicester Red*, and *Sutton's Sulham Prize Pink*. These are all rather dwarf, very solid, and exceedingly delicate in flavour.

CUCUMBERS are not wanting in numbers, but for general culture *Purley Park Hero*, *Model*, and *Telegraph* are the best. *Tender and True* is one of the best for exhibition.

LETTUCE.—In the selection of these the cultivator must be careful to obtain a good selection of the *Paris White* and *Paris Green Cos* for summer use, and Hicks's *Hardy White* for use in the autumn. The cabbage varieties of special excellence are *All the Year Round* for autumn and winter, *Hammersmith Hardy Green* for spring, and *Neapolitan*, *Victoria*, and *Wheeler's Tom Thumb* for summer. The last-mentioned is especially useful for hot dry soils, as it is able to stand heat and drought better than any other lettuce at present in cultivation.

ONIONS.—For sowing in spring for main crops the best are *Bedfordshire Champion*, *James's Keeping*, and *White Spanish*, and to sow in the autumn the most useful are *Giant Rocca* and *Red Tripoli*.

PEAS have now become so numerous that it is no easy task to make a selection. The following can be recommended. For first crop: *American Wonder*, *Kentish Invicta*, *Improved Ringleader*, and *William I.* Second crop: *Sharpe's Early Paragon*, *Dr. Maclean*, and *Nelson's Vanguard*. Maincrops: *Best of All*, *Stratagem*, *Carter's Telephone*, *Ne Plus Ultra*, and *Walker's Perpetual Bearer*. All the foregoing are remarkable for their productiveness and excellent quality, and the cultivator can make his selection from them according as he requires tall or dwarf sorts.

TOMATOES of special value to the general body of cultivators are *Hackwood Park Prolific*, *Sutton's Reading Perfection*, *Carter's Dedham Favourite*, and *Williams's Golden Queen*.

TURNIPS.—*Early Milan* can be recommended for the earliest supplies; *Six Weeks* for successional sowing for summer; *Veitch's Red Globe* for autumn use; and *Chirk Castle* to stand over the winter. *Golden Ball* is also a very useful and very hardy variety, and is much appreciated in Scotland, and should be grown where there is no objection to its yellow flesh.

OLD SPADESMAN.

The Household.

ORNAMENTAL SPECIES OF PYRUS are of some use in the household, and planters may be advised to note the facts. The Mountain Ash, *Pyrus aucuparia*; the Wild Service, *P. torminalis*; the White Beam, *P. aria*; and the Bastard Ash, *P. pinnatifida*, furnish fruits that make excellent jams and jellies, and that of torminalis is good when bletted and eaten as medlars are. The True Service, *P. domestica*, should not need a recommendation, but it is not sufficiently known that its fruit makes an excellent jelly, that epicures will generally prefer to currant jelly. And for a final note, those who obtain from their gardens more medlars than they know what to do with, may be advised to boil them down with sugar before they are bletted. *Utile cum dulce* may be written of many ornamental trees.

X Y Z.

Notes of Observation.

DOUBLE BOUVARDIAS.

CULTIVATORS of bouvardias are now so well acquainted with Alfred Neuner and President Garfield that it is not necessary to refer to them beyond saying that they are still indispensable when a constant supply of flowers has to be maintained. It is, however, desirable it should be generally known that these two varieties are not the only double bouvardias worth growing. During the past two years three double varieties have been introduced to cultivation, and this season they have proved so satisfactory with us that I have no hesitation in recommending them to the notice of growers of these flowers. The varieties referred to were raised by M. Lemoine, of Nancy, from a cross said to have been effected between Alfred Neuner and B. leiantha, the last-mentioned having brilliant scarlet flowers. The names and colours of the three varieties are as under: Sang Lorrain, similar in habit to Alfred Neuner, and very free blooming, the flowers of medium size, quite double, and of a bright scarlet colour, the tube crimson. Triomphe de Nancy, a free blooming variety of rather strong growth, and producing bright salmon-red flowers. Victor Lemoine, not so strong in growth as the variety immediately preceding it, but not weak; the flowers are of medium size, moderately double, and of a brilliant red, the tube purplish. The double bouvardias do not supersede those bearing single flowers, but they stand very well when cut, and are otherwise admirably suited for hand and button-hole bouquets and also for other floral arrangements for personal adornment. G. H.

THREE GOOD WINTER PEARS.

The notes on winter pears at page 31 are very interesting to an old cultivator like myself, and they should be useful to those who are not well acquainted with the numerous varieties in cultivation. The selection given by your correspondent "Pyrus" is the best that could well be prepared for the generality of soils and situations, and should be followed by those who are desirous of having the table well supplied after Christmas. As regards the keeping of the fruit this season, my experience differs considerably from that of "Pyrus." Instead of the fruit ripening more rapidly than usual, it is coming in somewhat slowly. In proof of this, I would mention the fact that I was able to send a good dish of Beurré Diel to table on the 17th inst. This variety is one of the most useful of the early winter pears, and I was not surprised to learn from your audit that it was shown a larger number of times at the Pear Congress at Chiswick than any other kinds. Some growers have, since the appearance of the audit, endeavoured to discount the value of this pear by suggesting that it is second-rate in quality and unworthy of the high position it occupied. But, according to my experience, no variety better deserves to enjoy a high degree of popularity. It is not, perhaps, quite equal in quality to a few other varieties, but it is a heavy and sure cropper, and of good appearance when upon the table. The other two kinds that I would mention as specially worthy of being generally planted are Beurré Rance and Nec Plus Meuris, both of which are very productive and of high-class quality. The last-mentioned is now in perfection, and our supply will hold out for some time hence. J. S.

CHIMONANTHUS FRAGRANS.

This deliciously scented shrub has proved very disappointing this year, and instead of the large examples with which a portion of our walls are clothed being now sheeted with the soft yellow flowers, they present as miserable an appearance as they could do. In other gardens the chimonanthus is in much the same condition as it is with us, and therefore affords but little satisfaction. There was an exceptionally good display of flowers early in the winter, but the severe frost we had at the beginning of January completely destroyed them. The destruction is, indeed, more complete this season than for many years past, owing, as I believe, to the flowers being saturated by the rain and melting snow. I did intend protecting them with canvas when the severe weather set in, but so many other matters had to be seen to at the time that the chimonanthus was overlooked, with the result here mentioned. Considering how very few flowers we have out of doors during the winter, it is rather surprising that some protection should not be afforded this shrub when in bloom. A coping of glass or canvas, sufficient to throw off the rains, and thus keep the flowers dry, would be better than nothing, but to thoroughly protect the bloom it will be necessary to provide sufficient canvas or other material to cover the whole of the tree, and to fix it in such a way that it can be readily removed in fine weather. The complete destruction of the flowers this season has induced me to resolve to take some steps for their protection in subsequent years, and I would advise other cultivators to do likewise. W. S.

JAPANESE PINKS.

Dianthus Heddewigi and its beautiful varieties are so highly prized during the summer season, when grown under conditions favourable to their full development, that it may be useful to state that one of the chief points in their cultivation is early sowing. To have them in perfection throughout the summer the seed must be sown between the middle of January and the middle of February. When sown in March, as is so generally done, the plants do not acquire a sufficient size to commence flowering soon after they are bedded out at the end of May. We sow the seed in pans filled with light sandy soil, and place them in the propagating pit or other structure in which is a brisk temperature. The seeds are pricked off into other pans when of a convenient size for handling. As soon as they are becoming crowded they are potted singly, and in due course gradually hardened off. W. B.

OAK-LEAVED HYDRANGEA.

Among the many classified beds of shrubs in the Cambridge botanic garden is one devoted to hydrangeas. The most conspicuous and beautiful amongst them were some fine plants of *Hydrangea quercifolia*. I thought it well to bring the plant under the notice of your readers, for many of them may not be much acquainted with its beauty and usefulness as a summer-flowering shrub. The time I saw them was in June, and again later. High summer is, I believe, their right season for flowering, which could not be at a better time, as most of the ordinary flowering shrubs are by that time out of bloom. The plants were four or five feet high, and as much through, and had lots of large heads of pink bloom on them of a showy character. They grow well in good turfy loam. It is by no means a new plant, but one, to my thinking, that should be more extensively planted. T. D. R.

PERPETUAL CARNATIONS.

We are now beginning to propagate the tree or perpetual-flowering carnations, for to have plants that will produce a good crop of flowers during the winter a long season of growth is afforded them. Our collection is rather extensive as my employer takes a special interest in the flowers, and I have therefore a much better opportunity for becoming acquainted with the many varieties in cultivation than the majority of growers. I have been comparing notes in accordance with my usual custom before proceeding with the work of propagation, and I have selected seven which I should grow in large quantities if I had only to consider the supply of cut flowers. These are A. Alegatiére, a dwarf growing variety producing a profusion of bright scarlet flowers. The individual blooms are not so large as those of some other varieties of the same colour, but they are of good shape, and freely and continuously produced. Irma has bright rose coloured flowers, and is simply valuable. L'Hermine, pure white, very fine and good; Miss Joliffe, salmon-pink dwarf and very free; Pride of Penshurst, clear yellow, very fine and good. Reverse, bright scarlet, and Worthington Smith, deep scarlet, the flowers very large and fine. F. W.

WINTER CHERRY.

Although *Physalis alkekengi* has been introduced into this country so many years, it is not to be found in many but the oldest gardens, and even in these it is not considered of great use, but I want to say a few words in its favour. I have made use of it for church decoration at the harvest thanksgiving, and it having proved so useful and pretty, and at the same time pleased so many, I thought I would make a note of it in order to encourage others to grow it. It is an herbaceous perennial, and will do well in common garden soil planted four or five inches deep at the foot of any wall with a sunny aspect. The plant and flower are insignificant, but when at maturity the bladder-like pods, of a deep orange or scarlet colour, are really beautiful, and most useful from August up to the time of the first frost. T. D. R.

GAILLARDIAS.

The great improvement which has been effected in the varieties of Gaillardia picta during the past few years has rendered them of special value, both for beds and the mixed border. Arranged in groups of three or four plants each in the mixed border, the large crimson and yellow flowers produce a very effective appearance. The gaillardias have the great merit of beginning to bloom immediately they are put out until late in the autumn. At one time I used to propagate the stock from cuttings in precisely the same manner as the ageratums and other of the summer bedders, but of late years I have adopted the practice of raising the plants from seed. There is a decided advantage in the renewal of the stock by the means of seed, as the trouble of inserting the cuttings in the autumn and attending to them during the autumn is avoided. Moreover, a greater diversity in the markings of the flowers is obtained, as very few of the seedlings are exactly alike. To sow the seed early is necessary; or to speak more definitely, before the third week of February. W. B.

THUNBERGIA ALATA.

Good, quaint, and pleasing old plants, which a few years ago were very generally grown for summer and autumn greenhouse decoration, are the several distinctly coloured varieties of Thunbergia alata, or, "Winged Thunbergia." Though the yellow-flowered was introduced originally from the East Indies, and the white-flowered from Madagascar, no doubt intercrossing has tended to make all plants produced from home-grown seeds equally hardy and amenable to ordinary greenhouse culture. Furthermore, properly forwarded and hardened young plants, planted out at the foot of a south aspect wall or fence, and permitted to grow up on trellis supports, give a very pleasing effect. Seeds sown during the months of April or May and potted on into 32-sized pots, with a rich soil, having for main parts an admixture of fibrous peat and loam, if maintained in a light position, quickly grow to require trellis support, which is generally given in balloon shape. Larger specimens may be secured by placing two or more plants together in 24 or 16-sized pots. A somewhat moist atmosphere or frequent syringings are requisite as a preventive of red spider, to which they are very liable. WILLIAM EARLEY.

NO ARTICLE in daily use is more adulterated than Tea, and how and where to get a good cup of it becomes more and more difficult. That usually sold is of very inferior quality, often consists of redried and exhausted leaves, is prepared for the English market by cunningly facing or colouring with powdered mineral, plumbago, gypsum, and Prussian blue, and when so adulterated it is palmed off on the unwary as "best" tea. A remedy for this evil is found by using only the world-renowned Tea of Horniman and Co., London. Its strength is amazing, its flavour delicious, its purity beyond compare. It is sold in packet at fixed prices, by Chemists and others. For local Agents see advertisements in all papers.—[ADVT.]

Work for the Week.

CONSERVATORY AND GREENHOUSE.

AZALEAS to be kept going for succession, and always to be forced as gently as possible. Those in the forcing pit will now hear a heat of 60 deg. to 70 deg., and must have abundant moistnre.

FUCHSIAS FOR DECORATIONS may be propagated to any extent from a few old plants, and a very moderate temperature will set them growing for this purpose. Take off the young shoots when about three inches long with a heel to each.

HEATHS to have a position where they can enjoy a free circulation of air about them. They must not be exposed to frost nor be subjected to more fire heat than is absolutely necessary to keep them safe.

PLANTS IN BLOOM comprise acacias, forced azaleas, amaryllis, Crown Imperials, cinerarias, crocuses, hyacinths, tournesol and Rex rubrorum tulips, lily of the valley, snowdrops, tree violets, and tree carnations.

STOVE AND ORCHID HOUSE.

ACHIMENES for early bloom must be started now, and the best place for them is the propagating house. But these and Gloxinias may be well grown in common frames with dung-heat, with seeds of melons or cucumbers, where room can be found for a few pans of them.

ORCHIDS will in many cases require to be repotted, after which they must have the warmest end of the house. Those that do not need a shift should have a little of the old surface material removed, and its place supplied with fresh; at the same time make fastenings safe, and repair blocks and baskets.

STOVE.—The temperature of the stove may be increased now with advantage. The whole of the plants will need a general revision at this time of the year; those that have been blooming all winter require to be cut back and encouraged to break, then to be shifted to larger pots, if needful, or have top-dressings; where very large specimens are objectionable, the plants may be kept in bounds by the knife; and, to obviate the use of larger pots, turn them out, remove some of the soil from the outside of the balls, and repot them with fresh compost in the same pots. Justicias are now going out of bloom, and may be progagated to any extent, to make fine specimens for next season.

FORCING AND ORCHARD HOUSES.

PEACH AND NECTARINE TREES when started must have their roots well soaked, the wood clean, and all training complete. As the trees begin to push use the syringe freely, but discontinue the syringe when they begin to flower.

STRAWBERRIES should, from the time they are placed in the forcing house until they have ripened their crop, have as much light and air as possible. When a certain number of fruit are set, so as to swell off nearly simultaneously, nip out the remaining bloom-buds, and be content with a moderate crop. Watering must be done with care, for the soil must not be allowed to become dust dry, neither must it be kept in a constant state of saturation.

VINERY.—Where the vines are breaking promote a moist state of the atmosphere, but those coming into bloom to be kept rather dry. If the inside border is at all dry, give it a good soaking with tepid water. See that all bearing rods are neatly trained; if any pruning is neglected attend to it at once. Vines bleeding through being pruned too late may be stopped by painting the wounds with "Patent Knotting." Avoid the usual error of using too much heat. A temperature of 50 deg. is the highest allowable for vines beginning to grow. As soon as they have expanded their leaves a little there may be an increase of 5 deg. to 10 deg. The temperature for vines on which the fruit is formed to be 55 deg. to 60 deg. by night, and 65 to 70 deg. by day.

FLOWER GARDEN AND PLEASURE GROUNDS.

ALPINE PLANTS are apt to suffer at this time of year from damp; the frequent covering of frames to keep out frost causes confinement and darkness, and they—formed to breathe purest mountain air—will be sure to suffer unless great care is taken. The stock should now be looked over, labels re-written if required, and many of the kinds repotted, divided, or planted out as the case may be. Keep the store plants in frames very clean, removing dead leaves, and admit as much air as possible. Generally alpine plants, though very susceptible to the influence of damp, ought never to be dust-dry; water must be given occasionally even during winter.

AURICULAS should be watered gradually as they show signs of growth, and the pots top dressed with cow-dung. Give plenty of air and beware of damp.

BEDDING PLANTS may be propagated rapidly by making a sweet hotbed to forward plants for cuttings, and to strike cuttings of such as are fit to cut from in the greenhouse. Cuttings already rooted to be potted off and helped on by a sweet moist heat. If any outbreak of mildew, increase the heat and promote a dry atmosphere; at the same time dust the plants with sulphur or fine peat dust.

BORDERS STOCKED WITH HARDY HERBACEOUS PLANTS must not be forked over unless the places are marked. If done now with no indication of the whereabouts of the plants, such things as pæonies and campanulas will be destroyed in a wholesale manner. As soon as they begin to peep through, make all clean and tidy. Herbaceous plants of all kinds may be planted when the soil is in a suitable condition, and if a little dry chippy manure is thrown over their crowns after planting, it will be a great assistance in case of severe weather. When they begin to grow they will push through it easily enough. Look over the rockeries, and take note of what deaths have occurred.

HARDY PLANTS IN BLOOM.—Arabis albida, Iberis semperflorens, Epimedium pinnatum elegans, Viburnum tinus, Daphne mezereum, and Polygala chamæbuxus.

ROSES may still be planted. Those from which exhibition flowers are to be cut should be planted in firm loam, well manured with turf and half rotten dung. Dwarf-growing varieties of tender habit, which are useful for the front lines of rosaries, require an admixture of sand and leaf-mould, or peat, to lighten the soil and promote the formation of an abundance of fibres.

FRUIT GARDEN AND ORCHARD.

TREES AND BUSHES lifted with care and replanted quickly will carry their fruit pretty well hereafter, but it is too late for large trees in bearing to be moved with a prospect of their carrying a full crop this year; there is, however, still good time to plant fruit trees, because, even if they produce little this season they will gain a season's growth on the ground, and that is so much gain. Let all pruning be completed quickly; mulch trees newly planted; prepare scions for grafting, and heel them in till wanted. Have protecting materials ready for wall trees that are likely to require it. Judicious protecting will always pay for the trouble and outlay it occasions.

KITCHEN GARDEN AND FRAME GROUND.

ASPARAGUS.—The beds should be lined if the heat is declining; the heat ought to be near 60 deg. to ensure a quick growth of eatable shoots. Quarters in which it is intended to form new beds in the spring should be liberally manured, trenched over, and the surface left in a rough state.

CAULIFLOWERS to be sown in boxes and placed in gentle heat. It is quite worth while to pot them and give them good frame treatment, as with a well-prepared soil made rich with manure, in which to plant them, large handsome heads may be obtained early in the season, when they will be worth three times as much as those that come from sowings on warm borders.

CELERY must be sown for the first main crop. The seed will soon germinate if sown in pans and boxes, and put in some odd corner of the greenhouse or forcing-pit.

LETTUCE.—To ensure an early supply of well-hearted plants, those now up in boxes must be planted out on a moderate hotbed, so as to keep them growing, and fit for planting out on sheltered borders in a month or six weeks' time. They will then lift with good balls, and if aided by a little shelter, and protected on frosty nights, will turn in when lettuces are valuable, but if the young plants are allowed to stifle each other, and become drawn in the seed boxes, they will never make fine plants.

POTATOES.—Whole potatoes are preferable to cut sets for planting at this season of the year, and they always grow better, and come to maturity sooner, if the sets are sprouted before planting, for when furnished with short, stout, hard green or purplish sprouts, with a frill of roots around them, they grow with vigour from the first.

RHUBARB may be forwarded by covering the stools with boxes, casks, and seakale pots, without fermenting material, but the latter will pay for its cost in an earlier supply, and the benefit of the crop by forking it in when the heat is spent.

VEGETABLES IN SEASON comprise asparagus, French beans, broccolis, Brussels sprouts, carrots, celery, leeks, endive, lettuce, mushrooms, onions, new potatoes, seakale, scorzonera, spinach, and turnips.

NEW CONTINENTAL GLADIOLI.

THE following are the new gladioli selected for distribution by M. Eugene Verdier:—

Amiral Coubert (Souchet).—A beautiful variety, with long spike and finely formed flowers; colour bright carmine violet, lower divisions maculated with white, and veined with cerise.

Cramoisi (B.)—Spike large and compact, flowers large and of a brilliant reddish carmine with light rose centre.

De Brazza (Souchet).—Spike very long and well arranged; flowers of full size, and of a bright carmine colour, maculated with white and cerise.

Drap d'Or (B.)—A very distinct variety, the flowers of medium size, and closely arranged in the spike; colour bright yellow, feathered with rose and spotted with carmine.

Fille des Champs (Souchet).—Spike of medium size; flowers rather small and of a bright rose cerise, feathered at the edge with purple; lower divisions white, margined with rose.

Magdalena (Souchet).—A fine variety, the flowers large and of good form; colour pale lilac, feathered at the edge of the segments with rose-carmine, the lower segments marked with violet.

Mascazille (Souchet).—Spike compact and well arranged; flowers of medium size and good form; colour bright rosy salmon, the lower divisions marked with yellow and rose.

Neige et Feu (Souchet).—Spike compact; flowers of medium size and a bright cerise colour, feathered with violet, and veined with white, the lower segments blotched with white.

Oriflamme (Souchet).—Spike large and massive; flowers large and of good form; colour rose, shaded orange, and marked with yellow and carmine.

Pharaon (Souchet).—Spike tall and compact; flowers large and of a bright rose cerise colour, veined and bordered with violet.

Sceptre de Flore (Souchet).—Spike very fine; flowers large and of a bright carmine colour, white in the centre, and marked with bright red, at the margin of the segments.

BULBS.—Heretofore it has always been thought that bulbs have no need of moisture after their leaves have dropped off, and should be kept dry. But an objection has been made to keeping the bulbs dust dry. What is called the season of repose, the writer argues, does not of necessity imply that the leaves are wholly inert; and if bulbs retain their vitality a long time when kept dry, it is because they are provided with a natural reservoir of moisture upon which they can draw to meet their wants. But it is no less true that their subsequent growth is often retarded thereby. To convince ourselves of this, it is only necessary to compare the growth of bulbs, which have been lifted, and hung up dry, with that of others left in the ground. We are inclined to think with M. Carriere, that the writer carries his inferences a little too far, and that bulbs with roots, like hyacinths and tulips, may be taken up at the proper time without harm; although he is quite right as regards bulbous plants with roots that live a long time, such as lilies and amaryllis.—*Illustration Horticole.*

ENCLOSURE OF COMMON LANDS.—Mr. G. Pemberton Leach, Assistant Commissioner, recently held an inquiry at Totternhoe, near Dunstable, regarding the proposed enclosure of the common fields and the regulation of the downs, promoted by Earl Brownlow and the commoners. There was a large attendance, all the neighbouring towns being officially represented. It is sought to enclose 1,663 acres of arable land, now only divided by grass baulks of ploughed furrows, and in strips varying from a quarter of an acre to five acres. To this there was no objection, but roads to the downs and between the different places were asked for. There are 296 acres of downs including the famous Totternhoe Knolls. Over these public rights are conceded; good approaches are to be made, the water-courses are to be improved, and recreation grounds are to be provided, suitable allotments being secured for local labourers at ordinary agricultural rents. The retention of the drovers' way was asked for, and it was also urged that Castle Hill should be scheduled as an ancient national monument. To almost everything Lord Brownlow's agent assented.

Exhibitions and Meetings.

NATIONAL CHRYSANTHEMUM SOCIETY, ANNUAL MEETING, JANUARY 25TH.

THE annual meeting of the National Chrysanthemum Society was held on Monday last, at the Four Swans Hotel, Bishopsgate Street, E. Sanderson, Esq., president, in the chair. There was a large attendance of members, many coming from long distances, and a very great interest was taken in the proceedings.

After the notice convening the meeting had been read, and the minutes of the previous meeting submitted and signed, the report and balance sheet were read by Mr. W. Holmes, the honorary secretary. The report congratulated the members on the great success which the society had achieved during the past year, the exhibition in November having been the best that had been held under the auspices of the society. The meetings of the Floral Committee had been highly satisfactory, and much useful work had been done in determining the relative merits of the new varieties. The January show, which had received much substantial aid from W. H. Cullingford, Esq., had been attended with such a large measure of success that it was believed it would prove the stepping-stone to a much larger and more important exhibition at midwinter. The scheme of affiliation which was projected last year had resulted in seventeen societies taking advantage of it, and several others were waiting to become affiliated. The medals and certificates which had been issued to the societies had given universal satisfaction. It had been suggested that in the future, exhibitions should be held in September and January in addition to the great November show; but as the increase in the number of exhibitions would entail a considerably increased expenditure, it would depend very much upon the support received as to what course should be taken in the matter.

From the balance sheet it appears that the expenditure amounted to £393 15s. 7d., as compared with £307 2s. 6d. in 1884. Of this a sum of £228 6s. 6d. was disbursed in prizes, an increase of about £28 upon the previous year, £32 6s. 6d. for medals, £39 4s. for printing, and £19 17s. 6d. for postages, &c. The income, including a balance of £1 6s. 6d., amounted to £386 2s., leaving a balance of 7s. 13s. 7d. due to the treasurer. The income included £189 16s. 6d. received as subscriptions, against £82 15s. 6d. the previous year; £103 2s. received as donations; £100 10s. from the Royal Aquarium Company, and £34 3s. sale of admission tickets. The arrears of subscriptions amounted, when the balance sheet was made out, to £12 18s., but a considerable proportion of the amount has been since received, and the balance due to the treasurer thereby reduced.

The report and balance sheet were unanimously adopted, and it was decided that the trifling amount due to the treasurer, in consequence of some of the members failing to pay their subscriptions, should be withdrawn from the reserve fund. On the adoption of the report and financial statement the election of the officers was proceeded with, and the President, E. Sanderson, Esq.; the Vice-President, R. Ballantine, Esq.; the Auditors, Messrs. Drain and Crane, and the Honorary Secretary, Mr. W. Holmes, were unanimously re-elected with acclamation Previous to proceeding with the election of the members of committee, it was suggested by a member that in future years one-third only of the members should retire annually, but, after some discussion, the matter was remitted for further consideration until the October general meeting. It was, however, decided that the committee should be limited to thirty-six members, exclusive of the representatives of the affiliated societies. Forty-eight names were submitted, and, as the result of the election, the following are the members of the General Committee: Messrs. G. S. Addison, R. Bevan, E. Berry, W. Blake, M. Butcher, E. Boyce, H. Cannell, L. Castle, W. Challis, N. Davis, Drake, R. Dean, G. Drain, sen., H. Figgures, S. Gilbey, W. Goldring, G. Gordon, C. Gibson, E. C. Jukes, E. Kemp, J. P. Kendall, C. Langdon, Long, J. J. Lowry, H. Mobbs, J. Mardlin, C. Harman Payne, R. Payne, G. Prickett, R. Reeve, G. Stevens, S. Springbett, C. Swift, J. Williams, B. Wynne, Wright. The office of honorary collector was not filled up, as, in consequence of the altered conditions of the society, that officer is no longer necessary.

The election of officers and members of committee having been completed the revision of the rules was proceeded with, and amongst other matters it was decided that all subscribers of £1 1s. annually and upwards shall be Fellows, and subscribers of less than that sum be members, the minimum annual contribution being five shillings. It was also determined that all subscriptions be paid not later than the October general meeting, instead of the November exhibition.

The proceedings, which extended over three hours, were brought to a close with the usual compliment to the chairman.

MANCHESTER ROYAL BOTANICAL AND HORTICULTURAL SOCIETY.

The fifty-eighth annual general meeting of this society was held on Monday, at the Town Hall, under the presidency of Dr. R. F. Ainsworth. Letters of apology for absence were read from Lord Derby and Dr. Watts, of whom the latter stated that he had looked carefully over the report and accounts, and thought that, considering the commercial character of the past year, the society had come out fairly well. He hoped that the whole of the proprietors and subscribers would sympathize heartily with the movement to crown the work of the last few years by the erection of a palm house worthy of the past history and present importance of the society.

The report of the retiring council was taken as read, and its adoption was moved by the Chairman and seconded by Mr. J. Hough.

In the course of a brief explanatory statement, Mr. Bruce Findlay, curator and secretary, said reference was made in the report to the new house about to be put up in the gardens at Old Trafford. Had it not been an absolute necessity it would not have been taken in hand. Anyone who would at the present time take a walk through the exhibition and other houses would see at a glance that it was a question of either destroying some two or three hundred magnificent specimen plants—some of them above a century old, and natives of various parts of the world—or providing a home for them. The council had, he thought wisely, adopted the latter course. Operations had already commenced, and by Whitsuntide the structure would be complete. He ventured to predict that the building would be an ornament to the gardens and a source of great attraction to visitors. The financial question was the only one about which there was any anxiety, inasmuch as an additional £1,000 would have to be raised during the present year to pay for the building. It was a most unfortunate circumstance that all these extraordinary items of expenditure should come upon them at once. Two years ago they had to build a new exhibition house, which cost £2,000. Four years ago the old range of glass-houses had to be removed and a new one erected, and various other additions had to be made, so that in about nine years £6,000 had been spent upon the property in the way indicated without adding anything to the liabilities of the institution. The reason for all this was explained by the statement in the report that the present was the fifty-eighth annual meeting of the society. During so long a period tropical plant houses must of necessity decay. The question was, How were they to raise the sum required? He found that they had a constituency of about 900, consisting of about 300 life members, and nearly 600 paying £2 2s. and £1 1s. per annum. His suggestion was that an appeal be made to each of these 900 members asking their kind co-operation in the way of getting an additional subscriber. If 500 of this number would each get a subscriber of £2 2s. per annum the difficulty would be overcome, and if a resolution to this effect were passed he believed it would have the desired effect. He thought it must be admitted that the society had done important public work during the period of its existence. The report stated that during the last twenty years the large sum of £25,000 had been distributed in prizes, and there could be no doubt whatever but that this had had an important influence upon horticulture in this and the adjoining counties. It was admitted that the great exhibition held at Whitsuntide was the best of its kind held in the country, and some 50,000 people were admitted annually to see these magnificent displays. It was certain that a city like Manchester could not afford to dispense with such a civilizing and humanizing agency as its Botanical and Horticultural Society; and, although the times were not propitious for an appeal of this kind, he felt sure that when all the circumstances of the case were fully made known the council would receive the support to which he thought they were fairly entitled.

The motion for the adoption of the report was then put to the meeting, and carried. In answer to a question, Mr. Bruce Findlay stated that the new palm house was to adjoin the fernery. On the motion of Mr. John G. Meller, seconded by Mr. W. Nall, thanks were recorded to the retiring council for their services during the past year. Mr. W. C. Fogg moved the election of the council and officers for the ensuing year, and the motion was adopted. A motion was next submitted by Mr. Robert Tait, to the effect that each proprietor and subscriber be asked to give his kind co-operation in securing additional subscribers. The motion was seconded by Mr. F. Robinson, and carried. A vote of thanks to Dr. Ainsworth for presiding brought the meeting to a close.

CHISWICK HORTICULTURAL SOCIETY.

At the annual meeting, held under the presidency of Mr. B. Hardy, an encouraging report was submitted. The special prizes offered in connexion with the exhibition in July last had proved singularly useful, and the thanks of the committee were voted to the donors, and also to those who had exhibited without competing. The show of chrysanthemums in November was a decided success. It was resolved that the exhibitions of the present year be held July 15 and November 18. In the appointment of officers the Duke of Devonshire was elected president, Mr. Leopold de Rothschild vice-president. The Marquis of Bute and Lord George Hamilton were also invited to become vice-presidents.

THE LATE MR. PERCIVAL'S COLLECTION OF ORCHIDS.

THE sale by the Liverpool Horticultural Company of the magnificent collection of orchids, formed by the late R. P. Percival, Esq., of Clevelands House, Birkdale, has created an immense amount of interest amongst orchidists in all parts of the country. Consequently the Garston Nurseries of the company, in which the plants have been on view since Monday, have received a large accession to the usual number of visitors during the past week. The collection, which comprises about two thousand plants, is conveniently disposed in suitable structures in the nurseries for convenience of inspection, prior to the sale which commences on Tuesday next, and in passing through the several houses, the visitor is struck as much by the thriving condition of the whole of the examples as by the unique character of the greater proportion of the specimens. As so well known to those who have had an opportunity of visiting Clevelands House, the collection is thoroughly comprehensive, and includes representatives of all the most important classes, but it is particularly strong in cattleyas, lælias, and odontoglossums, both as regards the number of examples and the high-class character of the varieties of the several species.

CATTLEYAS well deserve special mention, for C. Mendeli, C. Trianæ, C. Mossiæ, C. Warneri, and C. Percivaliana are represented by large numbers of examples. Of the last-mentioned species, which was introduced three or four years since, there is a large mass consisting of upwards of one hundred and fifty pseudo-bulbs, and alongside it is a specimen nearly as large. These are both alike, and are furnished with about one hundred flowers, which are exceedingly rich in colour, and show how highly attractive are the best varieties of the species. The specimen which furnished the flowers figured in the "Orchid Album," and that shown at South Kensington—when a certificate was conferred upon the species—are, with the examples of the white variety, especially interesting. The huge specimens of C. Skinneri are conspicuous objects, and considerable interest centres in the example of C. Skinneri oculata, which is remarkable for the depth of colouring of the flowers. The specimens of C. Mendeli include several of immense size, the largest having upwards of one hundred and fifty pseudo-bulbs, and no less than twenty flower sheaths. C. Mossiæ comprises, amongst a host of large examples, an immense specimen, with nearly three hundred pseudo-bulbs and about forty sheaths, which has not yet flowered in this country. The examples of C. Gaskelliana, C. exoniensis, C. Brymeriana, C. gigas, and C. Trianæ are not less noteworthy; some of the forms of the last-mentioned being especially good.

LÆLIAS are particularly rich in varieties of L. anceps, the most important of the specimens being those of the very beautiful forms known as L. anceps Percivaliana, L. anceps Hilli, L. anceps Dawsoni, and L. anceps Barkeri, all of which are so large as to surprise those who are not acquainted with the collection. L. purpurata appears to have been a great favourite, for the plants are numerous, and mostly of large size. The two most important are an immense mass of the type, and one of L. purpurata alba, the last-mentioned having nearly one hundred and fifty pseudo-bulbs, and fourteen flower sheaths.

ODONTOGLOSSUMS occupy considerable space, and comprise a host of selected varieties of O. Alexandræ and O. vexillarium, amongst the forms of the latter being O. vexillarium superbum Lawrenceanum, the most beautiful, perhaps, of all the varieties of this attractive species. Highly interesting also are the

examples of O. Andersonianum, O. Ruckerianum, O. baphicanthum, O. tripudians grandiflorum, and O. Halli, for they are of large size and remarkable for the high quality of the flowers.

CYPRIPEDIUMS include all the finest kinds that have been introduced, and the majority are represented by fully-developed specimens. Very fine are the specimens of C. villosum, which are now in perfection, one of the examples having between fifty and sixty flowers. Remarkable also for their splendid development are the larger specimens of C. superbiens, C. insigne punctatum violaceum, the most richly-coloured of the several forms of this fine old Lady's Slipper; C. caudatum, C. Sedeni, C. selligerum, C. Spicerianum, C. lævigatum, C. Dominianum, and C. barbatum nigrum.

DENDROBIUMS form a large and important part of the collection, and comprise a considerable number of specimens of exhibition size. To refer to all that are worthy of notice would occupy much space, but mention must be made of the huge specimens of D. densiflorum, D. Schroderi, D. Jamesianum, D. fimbriatum oculatum, D. Wardianum, D. crassinode, D. chrysotoxum, D. suavissimum, D. Falconeri, D. formosum giganteum, and D. Ainsworthi roseum, the last-mentioned being an especially fine form of this valuable hybrid.

MASDEVALLIAS include a large number of distinct varieties of the beautiful M. Harryana, especially noteworthy being the fine specimens of the Bull's Blood variety.

PHALÆNOPSIS command attention for the large size of the majority of the specimens, the most interesting example being, perhaps, that of P. Stuartiana nobilis, which has a remarkably fine flower spike; P. Schilleriana, P. amabilis, P. grandiflora, and P. Sanderiana are also represented by exceptionally fine specimens.

VANDAS include a superb specimen of the Dalkeith variety of V. tricolor, which is held in such high estimation by those who take a special interest in East Indian orchids. The comparatively new V. Sandsriana and Marriott's variety of V. Parishi are both of much interest, and the superb specimen of V. suavis presents a striking appearance.

CŒLOGYNES consist chiefly of large specimens, which are very liberally furnished with flower spikes. There are immense specimens of the Chatsworth and Trentham varieties of C. cristata, and also of C. cristata Lemoniana, which is distinguished by the lemon-coloured blotch on the labellum.

A NATIONAL SCHEME OF EMIGRATION.

AT a meeting of the Society of Arts, on Tuesday, Mr. Arnold White read a paper on the importance of a national scheme of emigration for the best interests of British commerce. In his paper Mr. White remarked that the subject of emigration, when it was analysed in detail, was found to be hedged round with a variety of political and economical difficulties which must be grappled with by the community rather than by the Legislature. The two facts of colonial repugnance to receive the surplus population of British cities, and the unfitness of the majority of those whose presence formed a burden and danger to social life, indicated that if the question of emigration was to be regarded as a remedial agent, and from a national point of view, the remedy must be applied before the persons to be emigrated had sunk into the semi-nomadic condition of casual labour in the great cities. Emigration had failed to touch, in recent years, the evils caused by the prevailing lack of employment, and one cause of the failure to cope with the volume of English distress was the absence of adequate capital. Mr. White warmly supported the proposed establishment of an emigration bureau of centralised information, and proceeded to urge most strongly the necessity of a national scheme of emigration. The financial aid of the State should only be sought in exceptional instances, and the funds should be supplied by patriotic citizens. Some national body or council, unconnected with any special interest, faith, or society, should be established, which should by no means engage in the details of sending emigrants away, but whose functions should be to receive funds from the public and distribute them impartially to societies and individuals who had proved themselves competent and economical in the transaction of previous emigration business. Mr. White sketched the possible duties of the council, and expressed the opinion that the existence of such a body would be likely to inspire the confidence of the charitable public, and thus to increase the subscriptions available for emigration. He advocated the creation of a national emigration council, the provision of funds by the community, the adoption by the State of colonising schemes as alternatives to military measures, the guidance of British emigrants to British colonies, and the revision of the Passengers' Act of 1863 as measures which would increase our trade, knit our colonies more closely to the mother country, and arrest the increase of the dangerous classes. An interesting discussion followed, in the course of which Sir Charles Tupper referred to the difficulties which lay in the way of the creation of the proposed national council. He was not disposed to depreciate the efforts which had been made by the various independent emigration agencies to which the country owed a great deal; but he quite agreed with the main principle which Mr. White laid down, that those agencies had not proved adequate to the emergency, and he should hail with delight any scheme which would aid in systematising the work which remained to be done, and carry it forward effectually. Sir Saul Samuel also spoke.

TRADE CATALOGUES.

JOHN WATKINS, WITHINGTON, NEAR HEREFORD.—*Seed Potatoes.*

BIDDLES AND CO., LOUGHBOROUGH.—*Illustrated Catalogue for* 1886.

FISHER, SON, AND SIBRAY, 4, MARKET STREET, SHEFFIELD.—*Kitchen Garden and Flower Seeds.*

WILLIAM RUMSEY, WALTHAM CROSS.—*Select Seeds for Garden and Farm.*

WILLIAM BULL, KING'S ROAD, CHELSEA.—*Flower and Vegetable Seeds.*

ERIC F. SUCH, MAIDENHEAD, BERKSHIRE.—*Chrysanthemums, Dahlias, &c.*

ALFRED PEEL AND SONS, WINDHILL, SHIPLEY, YORKSHIRE; also HIGH STREET, WOOD GREEN, LONDON.—*Horticultural Buildings, Paxton Heating Apparatus, Champion Boilers, &c.*

WOOD AND SONS, WOOD GREEN.—*Price List of Peat, Sand, Leaf-mould, Rockery Stone, &c., &c.*

BECK AND COMPANY, 130, GREAT SUFFOLK STREET, SOUTHWARK.—*Hot-water Heating Apparatus and Sanitary Fittings.*

LIVERPOOL HORTICULTURAL COMPANY, GARSTON, LIVERPOOL.—"*Percival" Collection of Orchids.*

T. W. EDMUNDS, WESTERHAM, KENT.—*Vegetable, Flower, and Agricultural Seeds.*

CHARLES SHARPE, SLEAFORD, LINCOLNSHIRE.—*Seed List,* 1886.

W. B. HARTLAND, 24, PATRICK STREET, CORK.—*Year Book of Seeds.*

Replies to Queries.

Gladioli Seed.—W. S. B.—The seed may be sown with a prospect of successful results any time between now and the end of March. Sow in pans filled with a mixture consisting of peat, loam, leaf-mould, and sand, in about equal proportions, and place in a warm pit or house.

Lilium giganteum.—W.P.—The best place for this lily during the winter, when grown in pots, is a cold frame from which the frost is excluded by means of covering of mats or other materials. The soil should be kept just moist and no more, until new growth commences in the spring.

Gloxinias.—J. H., Beds.—The roots are probably in an unhealthy condition, in consequence of their having become sour. The soil in which they are potted is probably not sufficiently open for the roots to run freely in it, and the superfluous water to escape quickly.

Names of Plants.—Specimens in tin box.—1, Epiphyllum truncatum purpureum; 2, Æschynanthus pulcher; 3, Erica hyemalis; 4, Fittonia Pearcei; 5; Paullinia thalictrifolia; 6, Centradenia grandiflora. Young Gardener.—1, Begonia Ingrami; 2, Paullinia thalictrifolia; 3, Æschynanthus pulcher; 4, Peperomia arifolia argyræa; 5, Centradenia grandiflora.

Capsicums.—W. M.—The most generally useful of the capsicums is the Long Red, and the most suitable for decorative purposes is the Princess of Wales, which has large lemon-yellow pods, and is very attractive when well grown. It will not be necessary to sow the seed until the beginning of March of either of the two kinds mentioned.

Late Chrysanthemums.—Inquirer.—The following comprise some of the best varieties to grow for the supply of cut flowers at midwinter: Princess of Teck, Grandiflorum, Cérès (Jackson), Boule de Neige, Mme Merrilies, Mons. Lemoine, and Virginale. The last-mentioned is a pure white anemone flower of much value for late flowering.

Osage Orange.—G. S.—This tree is obtainable of any of the trading firms that supply trees. We found it in the first catalogue we opened, and the price per tree quoted was eighteenpence. We name traders, when absolutely necessary, but we cannot do so in respect of articles that are in the open market.

Roses under Glass.—G. B., Canterbury.—Over-feeding is decidedly injurious, and as the roses have been so recently planted, and the border is covered with manure, the application of liquid manure at the present stage is not necessary. Syringing the foliage with water in which sulphate of ammonia has been dissolved should certainly not be adopted, but an occasional syringing with clear water will be found highly beneficial to the plants.

Pot Vines.—Young Gardener.—The vines must not be repotted, or otherwise disturbed at the roots previous to their being started, but they should receive a top dressing of a rich compost, consisting of equal parts of turfy loam, and half-rotted manure. Remove as much of the old soil from the surface as can be taken away without any material disturbance of the roots, and then place a strip of zinc four inches in width round the pot, inside the rim, and then fill to within an inch of the upper edge with the prepared compost.

Cattleyas.—B. F.—It will not be necessary to repot the plants this year, as they had a shift about twelve months' since, but a top-dressing will be beneficial. As soon as the young roots are beginning to push freely, carefully remove a little of the exhausted material and replace with fresh peat. Tough, fibrous peat is alone suitable for top-dressing, and it should be broken up into rather large lumps. If necessary, a few pegs should be inserted to keep the peat in its place until the roots have taken possession of it.

Cytisus not Flowering.—J. B. O.—The unsatisfactory condition of your plants of Cytisus racemosus is, we believe, due to their having suffered from an insufficiency of water at the roots a short time since. When large plants are kept in comparatively small pots, as in the case of those under your charge, they require liberal supplies of water at the roots when coming into bloom, and suffer severely when the soil is allowed to become dust dry even for a short period.

Violets not Flowering.—C. B. writes: "I should be much obliged if any of the readers of the GARDENERS' MAGAZINE could tell me why it is that my violets are not flowering satisfactorily. The variety is Victoria Regina, and the plants are in pots. They were grown all last year in pots, and in October they were placed in a cold frame. From this structure they were removed in the early part of December to a warm greenhouse and put on a shelf near the glass. The plants are producing large numbers of buds, but instead of their expanding they wither, and we therefore are unable to obtain any flowers. I shall, of course, be glad of advice as early as possible."

Begonias.—K.—The tubers may be started in either pots or boxes, but if the varieties are named it will be preferable to put them in pots, because of the difficulty in keeping them separate when started in boxes. If you decide to start them in pots put the medium-sized tubers in three inch and the large ones in five inch pots, as a great bulk of soil about them previous to their commencing to grow vigorously is decidedly injurious. Fill the pots to fully one-third their depth with crocks, and use a mixture consisting of loam, leaf-mould, and sand. Place them where they will have the assistance of a temperature of about 65 deg., and give sufficient water to maintain the soil in a nice moist state. A rather liberal degree of atmospheric humidity will be highly beneficial after they begin to grow.

Potato grafting.—Mr. W. Bemrose writes to inquire if any of the hybrid potatoes raised by Mr. Worthington G. Smith are to be put into commerce. It would be better to inquire of Mr. Smith than of us, but the inquiry having been made we will venture to say that the "hybrid potatoes raised by Mr. Worthington G. Smith" do not exist, and are not likely to come into existence by any process of plugging or grafting. When they appear we will eat our words as readily as any perjurer in a Chinese court of law, but we are in no state of trembling or apprehension for the present. The stage of potato culture the Scientific Committee of R.H.S. is now in we passed through twenty or more years ago, and in reporting proceedings registered our belief, as the result of observation, that the only true word that can be said for plugging or grafting is, that *there is nothing in it.* But Mr. Bemrose must not understand this to imply any kind of condemnation of Mr. Smith's hope or the expectations of the Scientific Committee. It is better always to acquire knowledge at first hand and in an independent way, and this is what the committee have in view. Young Ferguson knew nothing of maps of the stars and so mapped them for himself, and Emerson remarks it was better it should do so.

Literature.

Studies From Nature—British Foliage. By TOM KELLY. (Heywood: London and Manchester). In a commanding folio size we have here Series I. of a new venture, comprising genuine artists' sketches in black and white, the subjects being larch cones, maple, oak, filbert, and spruce fir. There is nothing like them current, and they promise to be useful to observers of nature to whom tree form is a subject of interest. They appeal first, perhaps, to the artistic eye, but they have their uses for botanists and lovers of the country. We can praise the drawings for their happy touches, but we are not quite satisfied with them. The spruce fir is too black; the larch cones do not show their colour, they are too blotchy; the maple is delightful; the filbert appears to be a poor growth; the oak apples are a trifle smaller than we are accustomed to see them, and the sketch does not (as it might) suggest the colour. But Mr. Kelly has tapped a good spring, and we hope he will continue to draw from it in the truly artistic spirit of these agreeable sketches.

Onderzoek der Ziekten van Hyacinthen. This is an inquiry into the causes and characteristics of hyacinth disease by Dr. J. H. Wakker, of Amsterdam, published under the auspices of the Corporation of Florists of Haarlem. It is a work of importance, although appealing to a quite limited circle of readers. Copies may be obtained on application to Mr. J. H. Krelage, or Mr. D. Bakker, of Haarlem.

Obituary.

ON the 21st instant, suddenly, at his residence, at Roade, near Northampton, Mr. G. M. DUNN, who for six years filled the office of Secretary to the Northamptonshire Agricultural Society.

On the 19th inst., at his residence, Pennant House, Bebington, Cheshire, Mr. JOSEPH MAYER, F.S.A., aged 83 years.

Recently, Mr. CHARLES MCDONALD, of the Garden House Nursery, Stokesley, Yorkshire.

Markets.

COVENT GARDEN.

FRUIT.

Apples	per ½-sieve	2s. 0d.	to 3s. 6d.
Apples, American, per bar.		12s. 6d.	,, 16s. 0d.
Cobs, Kent	per 100 lbs.	25s. 0d.	,, 31s. 6d.
Grapes	per lb.	1s. 0d.	,, 4s. 6d.
Lemons	per case	8s. 0d.	,, 10s. 0d.
Pears, Dessert	per doz.	1s. 6d.	,, 3s. 0d.
Pears	per ½-sieve	2s. 0d.	,, 4s. 0d.
Pine-apples, English, per lb.		1s. 0d.	,, 1s. 6d.
Pine-apples, St. Michaels, each		3s. 0d.	,, 7s. 6d.

VEGETABLES.

Artichokes, Globe, per dz.		4s. 0d.	,, 5s. 0d.
Beet	per doz.	1s. 0d.	,, 2s. 0d.
Beans, French	per lb.	1s. 0d.	,, 1s. 6d.
Brussels Sprouts	per lb.	0s. 3d.	,, 0s. 4d.
Cabbages	per doz.	1s. 6d.	,, 2s. 6d.
Carrots	per bun.	0s. 4d.	,, 0s. 6d.
Cauliflowers	per doz.	2s. 0d.	,, 3s. 0d.
Celery	per bun.	1s. 6d.	,, 2s. 6d.
Coleworts, per doz. bunch.		4s. 0d.	,, 6s. 0d.
Cucumbers	each	1s. 0d.	,, 1s. 6d.
Endive	per doz.	1s. 0d.	,, 2s. 6d.
Garlic	per lb.	0s. 4d.	,, 0s. 6d.
Herbs	per bunch	0s. 3d.	,, 0s. 4d.
Horse-radish	per bun.	3s. 0d.	,, 4s. 0d.
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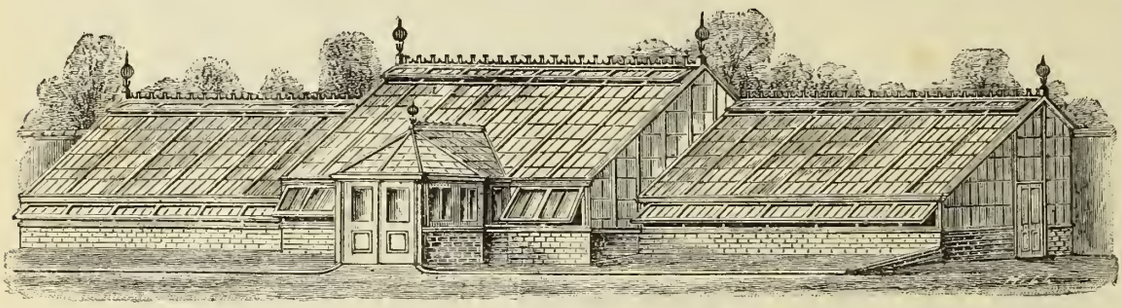

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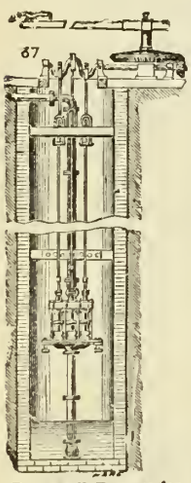

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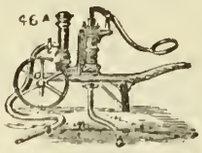

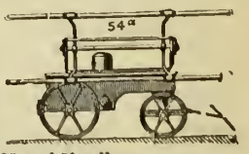

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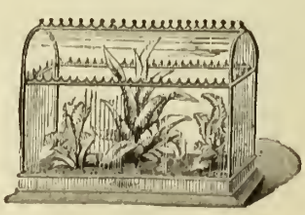

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1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.		1886
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ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE.—COMMITTEE MEETINGS, Fruit and Floral, at Eleven, a.m., in the Conservatory; Scientific at One p.m., in the Lindley Library, on TUESDAY next, February 9.

ANNUAL GENERAL MEETING at Three p.m., in the Conservatory.

At this Meeting Candidates for Fellowship will be elected.

The President, Council, and Fellows will dine together at the Criterion, at Half-past Six p.m. the same evening.

N.B.—Exhibitors' Entrance, East side of Royal Albert Hall.

Auction Sales for the Ensuing Week.

Monday, February 8.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Liliums in variety.

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Friday, February 12.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

Friday, February 12.—Messrs. Protheroe and Morris, at the Wanstead Nursery; Nursery Stock.

THE GARDEN ORACLE for 1886 is on the same plan as former issues, the present being the twenty-eighth publication of this work. It contains complete lists of the New Plants, New Flowers, and New Fruits, and a Complete List of the New Parliament.

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SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, FEBRUARY 6, 1886.

Agricultural Grasses have acquired a higher degree of importance within the past few years than they have ever had before in this country. They were never unimportant, and they can never be treated with indifference by agriculturists in such a rainy climate as it is our lot to labour in for our daily bread. In old times, when pasture was predominant, there was not much attention given either to particular grasses or to particular cultivation. As scientific agriculture advanced, the grasses had some share of attention, dating from Sinclair chiefly, for to him and his noble employer we are indebted for the first fair start in the study of the subject. But within our most immediate experiences we have seen a succession of rainy summers, with an accompanying poor product of cereals. When the seasons improved, as happily they did three years ago, very much to our advantage, the low prices ruling in the corn market had much the same effect on the routine of tillage as the previous unfavourable seasons. In the first instance nature proposed to man a limitation of the corn crop, and a corresponding expansion of pasture. Then the way of the world, which in truth is the way of nature also, made similar proposals, and again by prices the argument of the bad seasons was forced home. The returns show a steady diminution of acreage devoted to cereals, and an augmentation of green crops. What will be the final solution of the problem presented by agricultural declensions none can say; but while waiting for it attention will be given to pastures as aids to meat-making, and as affording, perhaps, the true foundation of dairying, which certainly offers a promising field for increased activities.

That the seed trade should watch the course of events is but natural, and moreover it is eminently desirable. It is many years since Mr. Martin Hope Sutton contributed to the "Journal of the Royal Agricultural Society" a paper on permanent pastures, that greatly influenced the progress of grass farming. That paper has been printed and distributed so frequently that we might, on a casual view of the case, assume that there was no need for further treatment of the subject. Yet, after thirteen editions have been disposed of, the demand for information continues, and as a matter of fact there is much more to be said than has been said, with advantage to the subject and all interested in it. For this and other reasons we receive with gladness a new work founded upon that admirable treatise, from the same house, but from a younger pen, and we will wish that Mr. Martin J. Sutton's work on "Permanent and Temporary Pastures" may have such good fortune as we have had to record of the treatise by his father.* It will not be through any lack of attractiveness that the new book will be neglected, for it is the handsomest book extant upon the subject. We have, indeed, some noble books on grasses, but this is strictly an agricultural and not a botanical treatise, and does not attempt to settle any points save such as belong to the soil and the money that may be derived from it by means of cultivation.

Many of our readers are interested in hay grasses and hay-making, and for them there are useful chapters. It should be understood, however, that the whole subject of grasses as subjects of cultivation are herein discoursed upon in plain terms, with fulness of knowledge, and with a view to profitable results. The making of the land, the selection of the seeds, the sowing down and after management; the renewal of old and long neglected grass land; the adaptation of pastures to grazing and hay-making and siling, are all treated with sufficient fulness to enable any operator to review the case before him and to form a fair estimate of probable results. On the subject of silage Mr. Sutton says: "I do not anticipate that ensilage will ever cause hay-making to be unnecessary, or that silos or silage stacks will supersede hayricks. The value of the process from a purely economic point of view has yet to be established. Already it is clear that much care has to be taken to prevent the green pitted provender from losing some portion of its nutritive properties. The idea that fermentation breaks down and partially digests the woody fibre of the crop placed in the silo is not by any means conclusively supported by recent chemical analysis; for, although the woody fibre has been rendered in a degree palateable to stock, experiment proves that the fibre passes through the animals unchanged. The fermentation also often results in a considerable loss of nitrogen in a gaseous state, for there appears to be a very distinct transformation of valuable albuminoids suitable for assimilation by stock into ammonia, which is useless as animal food. Whether these losses are greater than when hay is badly put together in stack is by no means evident. But to my mind all the facts which have been disclosed to the present time point in the direction of making ensilage the handmaid of hay-making." The entire chapter is a body of sound teaching, its general purport in respect of silage being suitable for summarizing in the words, "Watch and wait."

The "get-up" of such a book is of less consequence than its practical lessons; but, as remarked above, it is a handsome volume, and is enriched with beautiful figures of twenty-three "natural grasses." All the figures are truthful, and a few of them are especially praiseworthy as works of art. The figure of the common yarrow compels one to new admiration of this plentiful but most elegant weed. The clovers are particularly well drawn, and it surprises one that such telling pictures could be made of such lumpy things without some touch of fancy. But the pleasing effect has been secured in the good old way by simply telling the truth. Imaginative artists in the botanical line may take a lesson from Mr. Martin Sutton's pictures.

Nurserymen have their grievances. Between them and the horticultural editors, therefore, a bond of union is established; for the last-named sufferers can tell of grievances epic and agonies dramatic. Amongst the grievances of nurserymen is that of being, as they con-

* *Permanent and Temporary Pastures.* By Martin J. Sutton. (Hamilton, Adams, and Co.)

sider, over-rated. By this we are not to be understood as implying that the world bestows upon them more praise than is their due, for they never obtain the praise they are entitled to. They are over-rated for the Queen's taxes, the local taxes, and all other—if there are any other—taxes that are determined in amount by a valuation of property and business. At a meeting of the Nursery and Seed Trade Association lately, Mr. William Paul spoke, in his usual prudent manner, of this grievance, and urged his brethren of the Nursery and Seed Trades to combine and work by united action to obtain redress. Then, having been prudent, according to his character, Mr. Paul suddenly became imprudent, for he lectured the horticultural press for its apparent indifference to the grievances of nurserymen. "As a contributor to the horticultural papers," Mr. William Paul ought to know better; and in fact he does know better, but he was anxious to demonstrate his fallibility, and so, having treated his friends to a little sense, he changed his course in order to entertain them with nonsense. There are nine weekly papers, he says, devoted to horticulture, and amongst all these there is nothing done in the interests of nurserymen in respect of their grievances. The report of the meeting appears in one paper only. Whose fault is that? The nurserymen, by Mr. William Paul's showing, are held together by the finest threads, for the meeting at which the speech was made was confessedly a resuscitation. The horticultural papers will gladly help any cause that is bound up with the interests of horticulture. We can say this of ourselves, and we can for the present believe it of our contemporaries. And now, of our own motion, we venture to advise Mr. William Paul of a prudent course of procedure. We advise him to gather his friends together and read to them from Æsop's Fables the story of Jupiter and the Waggoner. They have selected one particular paper for a report of their meeting. For the present we advise them to look to that paper for the help they want. They may cry out against the others when they have, in a decent manner, recognized their existence. When a light is hidden under a bushel it is, for all practical purposes, invisible and non-existent.

The weather may be considered seasonable. Now that we have made sure of our winter, the anxious ones are asking whether we are to make sure of our summer? It is an interesting question, and the strong-minded ones who can ignore it openly might (if we knew all things) be found weak minded enough to entertain it secretly. Of the future we know absolutely nothing, and therefore none can say that we shall have a real summer, or a summer that shall be but an imitation of winter. The reader who is, as yet, inexperienced in what may be called the scientific view of life and its surroundings, will very properly ask why forecasts of the weather are made public by men who confess their complete ignorance of the unfoldings of the future? It is a fact that the forecasts published daily in the newspapers, and that have in view the forthcoming twenty-four hours at the utmost, do occasionally fail of fulfilment. On the other hand, the facts so often justify them that they are practically serviceable, and the men who know most about the weather can appreciate them and make better use of them than those who know the least. He who goes to the fountain of knowledge will be better supplied if he takes some knowledge with him. It requires much knowledge of the world and of art and literature and science to enjoy the happy and edifying nonsense of *Punch*; and it does at least require a knowledge of the difference between a barometer and a thermometer, perhaps also of a weathercock from a sundial, to make reasonable use of the forecast of the weather for one day only. But now the people are asking for a forecast of the summer, and they tell the weather prophets that they will no longer believe in them unless they tear the veil that conceals the future from the gaze of human eyes. The weather prophets that are wise will make no reply; the weather prophets that are foolish will be tempted to prophesy, and will incur the risk of being praised if right and kicked if wrong. The praise will be more than they deserve, and the kicking less, for when no one knows it is impertinence for anyone to speak.

We return to the question of the simple-minded one, Why are forecasts published by men who confess that they know nothing? The answer is that knowledge gives men a clue to probabilities. It is in *probabilities* alone that honest weather prophets trade; not in guesses, nor in thinking this and thinking that; the "thinking" they leave to fools who cannot think. Their business is with probabilities, and probabilities are deductions from large arrays of facts. Experience teaches that when the wind is in the north or east, and the barometer begins to decline, the wind is likely to shift to the south or the west, and with the change of wind a fall of rain or snow will occur. And why is this deemed likely? Simply because it has been observed so often that in the mind of man the movement of the barometer is regarded as an indication of a change of wind and increase of humidity. Now herein is the gist of all weather wisdom that is of any practical value. A hundred examples might be given, but they would all tell the same tale as regards the philosophy of the thing, and for the present purpose one is enough. The shepherds and ploughmen and sailors, and many other men that live in the open air, are gifted with practical weather wisdom, and obtain their knowledge direct from nature without the aid of instruments. But in the mind of the shepherd who has never seen instruments, and the philosopher who is in part dependent on instruments, the process is the same—it is a casting up of probabilities, no matter what may be the terms of expression employed by either party. If we were called upon to decide between the shepherd and the philosopher as regards the relative value of their several methods, we should without hesitation decide for the learned man, and for two reasons amongst a thousand. The shepherd can prognosticate for his locality alone; beyond his very circumscribed range of hills or rivers he can say nothing for the future weather; and when he does speak his wishes may be father to his thoughts, and his sensations may intensify his fallibility. On the other hand the meteorologist is enabled to take large views; the forecasts published daily tell us of the difference between observing the signs of the sky, and noting the register of the instruments. But while the scientific method comprehends this vast grasp there is another argument for science that few amongst the million have ever entertained. And here it is in the fewest possible words—*the instruments have no feelings!* A thermometer at 32 will make a weak child shiver and a strong man rejoice, the one will be crushed by the cold, the other elated by the prospect of skating. It all depends! Yes, it all depends; true wisdom may be condensed into a nutshell after all.

But we have not done with the troublesome question, What is the summer to be? nor with another question that has been lately started, How did anybody know that this winter would be seasoned with a taste of real frost? No one can say what the summer will be, and not one knew that there would be a "real taste" of frost. In casting up probabilities the first thing to keep in mind is that averages prevail. It is the lesson of experience singularly exemplified in the valuable report on the weather of the past year by Mr. Courteney Fox that had place in our issue for Jan. 23. In the summer of 1885 we suffered much from drought, and yet we learn from the instruments that the rainfall of the year was only one inch or so less than the average at Greenwich. As in one year so in a run of many years, averages will prevail. The philosopher will say they *must* prevail, but we are not addressing him, and desire his immediate removal from the court. It must be repeated, averages will prevail. Very well; we have had some very gentle winters, it was time we had a sharp one to put the averages right. We have had a run of bad summers, and a run of good summers is due to us, for the very same reason that the averages may be maintained. It should be observed, however, that experience affords us no authority for settling the dates of events in this very speculative department, for a run of good summers may come all in a lump or in a succession of interrupted pieces. After seven bad years we have had three good ones, for notwithstanding low prices and all that sort of thing, the sun did shine in a sunny sort of way in the years 1883, 1884, and 1885. We shall hope that his solar majesty will be respectful to the law of averages in the summer we are anticipating, that it may prove a summer indeed, and not a winter under false pretences. As regards these averages there is a good summer due to us, and that is all we can with confidence say at this particular juncture in the unfolding of the season. As we have yet to get through February and March we cannot say we have, as yet, done with the winter. But our weather prophet says the edge of the winter is now blunted; its force is spent, we shall have frost and fog and rain and snow and sleet and wind, but for all that we shall have softer days and milder nights until spring comes in to put things to rights. Amen to all that we can heartily say, but we shall keep in mind that our weather prophet, with all his wisdom, knows nothing more of the future than Mother Shipton's cat which had nine lives, but is now as dead as a door nail.

Trowbridge Flower Show will be held August 18.

Wiltshire Horticultural Society will hold its exhibition at Salisbury July 29.

Lee, Blackheath, and Lewisham summer show will be held July 7 and 8.

Scott's Scenery of the Border is illustrated in a series of drawings by Mr. Orrock, now on view at 133, New Bond Street.

National Chrysanthemum Society.—A meeting of the general committee will be held at the Four Swans Hotel, Bishopsgate Street, on Monday next, at 7 p.m.

Primula Conference, April 20 and 21.—The official programme was published a few days since. The secretary is Mr. James Douglas, The Gardens, Great Gearies, Ilford.

National Auricula and National Carnation Societies.—The schedules for the exhibition of southern sections, the dates of which are April 21 and July 27, have been issued, and may be obtained of Mr. James Douglas, who is honorary secretary of both societies.

Winter reigns in the north, but from the Midlands southward pleasant times have been experienced. The eastern counties have been much disturbed, as was anticipated by the forecast published January 23. There are probably many touches of winter in store for us yet, but there are signs of improvement for north and south, and a burst of spring is not unlikely for London and the south.

Glass Superseded.—Under the head of "A Remarkable Invention" the *City Press* gives an account of a substitute for glass that is possibly not available for horticulture, but, nevertheless, appears to be of great practical importance. A new material, easily applied to framed roofs or windows, has been introduced; it is of wire gauze of ⅛ in. mesh, is coated with elastic varnish to cover the wires and close the meshes. It can be coloured without affecting its transparency, and is not liable to expansion and contraction like glass roofs.

Massachusetts Horticultural Society.—The dates of exhibitions in the forthcoming season are as follow: Spring flowers, Roses, Camellias, &c., March 24, 25, 26; Pelargoniums, Azaleas, Vegetables, &c., May 8; Rhododendrons, Tree Paeonies, Vegetables, &c., June 5; Roses, Strawberries, and Fruits, June 22 and 23. Minor shows will be held July 3, 10, 17, 24, 31; August 7, 14, 21, 28; September 4. The great Annual Exhibition, September 14, 15, 16, 17; Autumn Fruits, October 2; Chrysanthemums, November 10, 11, 12. The secretary is Mr. Robert Manning, Boston.

Horticultural Club Annual Dinner took place at 1, Henrietta street on Thursday last. The date originally fixed was altered, that the event might not clash with the dinner of R.H.S. on Tuesday next, at the Criterion.

Dr. Hogg's Gardeners' Year Book and Almanac for 1886 is a handsome, bulky book containing the usual budget of horticultural and botanical information and some particularly useful notes on "newly introduced garden appliances," amongst which occur Drummond's turf-cutter, Owen's spray engine, Inglis's stand for grapes at exhibitions, &c. The lists of select vegetables and fruits will be serviceable to many who have no opportunity for making extensive and minute comparisons of the values of varieties.

A New Farming Experiment.—The lease of East Learmonth, Berwickshire, expires in May next. After that date the farm will be taken over by an association formed in the interests of landlords. There will be no tenant, and it is expected that the farm-house will be let. The land will be cultivated by a farm steward and hinds. If the land yields a return of more than 4 per cent. the surplus is to be divided between the association and the labourers. The farm, it is stated, is the property of Earl Grey.

Beautiful London is profanely called "Ugly London" by many Londoners who ought to know better. They are to be excused on the old plea that familiarity breeds contempt; but it should always be added that it is only in mean minds that this occurs. There are two new corrections at the command of unbelievers who are willing to be converted: One is an exhibition of sketches of the scenery of London by Mr. Herbert Marshall, now open to the public at 148, New Bond Street; the other is a pamphlet entitled "The Majesty of London," by Mr. E. De Lisle, F.S.A., published by Mr. Stanford. The majesty of London is more than can be mastered by any average mind in the compass of a lifetime.

Royal Gardens, Kew.—The old Rockery is in course of reconstruction, and when completed will have increased carrying capacity. In the language of the world, this means that it will be enabled to drink more; therefore, as a matter of course, the water will be laid on. The fine deodar that stood near The Brothers on the walk leading from the principal entrance past the stone pine has been taken down, in consequence of a wound on the stem near the ground line. The gardens are bright, and on sunny mornings sparkle with colour, although there is not a flower to be seen in the open quarters. The winter has touched Kew but lightly; even the great snowfall has left but few marks, and the frost has scarcely killed a twig that was worth counting.

CHRYSANTHEMUMS FOR EXHIBITION.

By J. Mardlin, Finsbury Park, N.

The incurved and Japanese varieties of special excellence for exhibition were pointed out in the Gardeners' Magazine of last week; and, to further assist the cultivators who are not well acquainted with the numerous varieties, I shall now give selections of reflexed and anemones for exhibition as cut blooms, and a list of the varieties in the several classes that are best adapted for specimen culture. The anemone flowers must now be formed into three distinct groups, and I would suggest that at all exhibitions the Japanese anemones should have a class specially provided for them. They are remarkably beautiful, and invariably attract much attention, but they are so large in size and fantastic in shape that they overpower the large anemones of the type represented by Fleur de Marie.

Large Anemones.

Acquisition.—Guard petals lilac, the centre yellow; a fine and constant flower.

Empress.—A beautiful large blush-coloured flower, with regular guard petals, and a good centre; one of the best of the class.

Fleur de Marie.—Pure white; large and finely-formed; a very telling flower when grown well.

George Sand.—Guard petals red, centre bronze; an effective flower, although not over large; useful for the front row.

Gluck.—Deep yellow; flowers large, regular in outline, and with high centre. The plant is of rather dwarf growth.

Lady Margaret.—White; a large, well-built flower, which does not fail to do good service when at its best. Rather tall in growth.

Louis Bonamy.—Rosy lilac; a large handsome flower, with a fine high centre.

Minnie Chaté.—Delicate rose-tinted pink; flowers of fine form, and when well grown large in size.

King of Anemones.—Rosy purple-shaded crimson; a large flower, very good in some seasons, but not so constant as the majority of the varieties.

Mrs. Pether's.—Rose-lilac; a good flower, but rather difficult to grow, as compared with the others mentioned.

Prince of Anemones.—Blush-tinted lilac; the flowers large, with high centre; a good and very free variety.

Princess Louise.—Rose lilac; a useful flower, with good centre.

Japanese Anemones.

Fabias de Maderanaz.—A very large and highly attractive flower; the guard petals are of great length, and of a blush-rose colour; the centre lilac tipped with white. Very telling in the back row when raised well above the board.

Duchess of Edinburgh.—Guard petals blush; centre rosy lilac, tipped white; a rather small flower, but very pleasing and useful for the front row.

Mdlle. Cabrol.—Blush pink with light rose-coloured centre; the guard petals ribbon-like, and much twisted and curled; very beautiful and highly effective when well finished.

Madame Thérèse Clos.—White suffused or tinted rose; a medium-sized flower of good quality.

Madame Bertha Pigmy.—Rich purplish magenta; the guard florets rather long and of great substance; centre rather high; a distinctly coloured and very effective flower.

Sœur Dorothée Souillé.—Delicate rosy lilac; centre very high, light rose, shaded white. A beautiful flower, equally adapted for the middle or back row.

Souvenir de l' Ardene.—Guard petals rose-lilac; centre light lilac; a bold and attractive flower.

Pompone Anemones.

Antonious.—Bright yellow; a finely formed and effectively coloured flower.

Astrea.—Delicate lilac; very pleasing.

Calliope.—Rich purplish red, with fine centre.

Eugene Lanjalet.—Bright yellow guard petals, and orange-coloured guard petals.

Firefly.—Bright scarlet with orange-red centre; invaluable for its distinct and effective colour.

Jean Hachette.—White, with yellow centre; rather late, but good.

Madame Chalonge.—Blush; a distinct flower, of high finish.

Madame Montels.—White guard petals and bright yellow centre; distinct and fine.

Marguérite de Coi.—Blush, with bright yellow centre.

Marie Stuart.—Lilac blush, centre sulphur-yellow; one of the best of its colour.

Mr. Astie.—Deep yellow; bright in colour and of good form.

Regulas.—Cinnamon-red; a nicely finished flower, useful for the distinct shade of colour it affords.

Reflexed Varieties for Cut Blooms.

Chevalier Domage.—Rich yellow; large in size and of fine form; very constant.

Christine.—Delicate peach-blossom colour; flowers large and very deep.

Cloth of Gold.—Deep yellow; a useful flower of full size.

Cullingfordi.—Brilliant scarlet-crimson; flowers large, of great depth and fine form; a comparatively new variety, of the highest possible value.

Dr. Sharpe.—Purplish crimson; flowers of large size and good quality.

Emperor of China.—Blush white; distinct and useful.

Felicity.—White, lemon yellow in the centre.

Golden Christine.—Yellowish buff; large and good.

Garibaldi.—Bright red; a large and handsome flower, with broad petals; an old and effective flower, that should be more generally grown.

King of Crimsons.—Rich marone crimson; flowers very large and full; indispensable in the smallest stand.

Madame M. Tezier.—Ivory-white; a large bold flower of fine form, and a valuable acquisition in its class.

Mrs. Forsyth.—Creamy white; same character as Christine, from which it differs in colour.

Phidias.—Purplish rose; rather small, but useful for the front row in making up a large stand.

Pompones for Exhibition as Cut Blooms.

Adonis, deep rose; *Crimson Perfection*, crimson; *Elenore*, red and orange; *Fanny*, bright crimson; *Golden Mdlle. Marthe*, *La Vogue*, deep yellow; *Mdlle, Marignae*, *Mrs. Bateman*, brownish; *Nelly Rainford*, buff; *President*, deep rose; *Rose d'Amour*, rose; *Rose Trevenna*, deep blush; *Rubra perfecta*, purplish crimson; *St. Michael*, deep gold; *White Cedo Nulli*, white.

Incurved Varieties for Specimens.

The following are all well adapted for specimens, as shown by the excellent examples contributed to the exhibitions: *Barbara, Dr. Rozas, Gloria Mundi, Golden George Glenny, Lord Derby, Mrs. G. Rundle, Mrs. Sharpe, Mr. Cobay, Prince of Wales, Rifleman, Venus*, and *White Venus*.

Japanese Varieties for Specimens.

The following comprise some of the best of those suitable for specimens: *Bouquet Fait, Dr. Masters, Fair Maid of Guernsey, Hiver Fleuri, James Salter, Joseph Mahood, L'Africaine, Lady Selborne, Mons. C. Hubert, Peter the Great, The Cossack*, and *Triomphe du Nord*.

Reflexed Varieties for Specimens.

Nearly all the reflexed varieties are well adapted for trained specimens, the following being especially good: *Chevalier Domage, Christine, Cullingfordi, Dr. Sharpe, Julia Lagravère, King of Crimsons, Mrs. Forsyth, Pink Christine*, and *Sir Edward Landseer*.

Pompones for Specimens.

The following comprise some of the best for bush, pyramidal, and other trained specimens: *Aurora Borealis, Cedo Nulli, Elenore, Fanny, Golden Cedo Nulli, Golden Mdlle. Marthe, La Vogue, Mdlle. Marthe, Nelly Rainford, President, Prince of Orange, Rosinante, St. Michael*, and *White Cedo Nulli*.

Bricks of Cork.—The waste cuttings of cork are now being employed for making bricks, which can be used for walls, impervious alike to heat or damp. The cork cuttings are reduced to powder in a mortar, and mixed with lime or clay; and from this composition the bricks are made in the usual way. When dried, they are capable of resisting a crushing strain of 3·6 kilogrammes per square centimetre (51·08 lb. per square inch). They are very light, having a specific gravity of 0·35.

BOUVARDIAS PLANTED OUT.

As bouvardias are now in so much request for the decoration of the conservatory and the supply of cut flowers during the autumn and winter months, I shall be very glad if you will allow me to briefly explain a system which I have adopted for some years past with great success. By the practice which I shall describe, not only can plants comparatively large in size and profuse in flower be obtained, but a considerable saving in labour is effected. The plants are not grown in pots throughout the summer, as is usually the case, but are planted out on a bed of suitable soil where the roots have plenty of scope for extension.

The early part of February is the most suitable time for propagating a stock, as there is then no difficulty in obtaining a supply of cuttings, and the plants have plenty of time in which to make their growth. My practice is to use five-inch pots, and to put ten cuttings in each. The pots are filled to about one-third their depth with crocks, which are covered with a layer of some loose material, such as flaky leaf mould or cocoa-nut fibre refuse. They are then filled to within half an inch of the rim with a mixture consisting of equal parts of loam, peat, leaf-mould, and sand. The soil is pressed firm and covered with a layer of clean silver sand, which is gently pressed. The cuttings, which are taken from the tops of the healthy shoots, are inserted at about equal distances apart, and when they have received a light sprinkling of water with a pot to which a fine rose has been attached, they are placed in a pit where the pots can be plunged in a brisk hotbed, and in which a temperature of about 70 deg. is maintained. They are kept rather close and moist, and in about three weeks from the time of their being inserted they are usually struck and ready for potting off. When they are removed from the cutting pots they are carefully separated and put singly in thumbs. A compost similar to that advised above is used, and the plants are placed where they can enjoy for a short time the assistance of bottom heat, and a close and rather high temperature. They are watered as frequently as is considered necessary, the principal point being to maintain the soil in a nice moist state without keeping it too wet. In a very short time they begin to grow freely, and as soon as this is the case the point of each plant is nipped out to promote the production of side shoots. The next shift is into three-inch pots, and the side shoots are pinched back, to keep the plants compact and bushy, as may be necessary according to the progress made.

In a very short time after being repotted, the roots begin to run freely in the new soil, and when they reach the sides of the pots steps are taken for planting them out, thus breaking away from the practice adopted by the majority of cultivators. A mild hotbed is made up in a two-light frame, and as soon as the heat has declined to about 70 deg. the bed is covered to a depth of eighteen inches with a light rich compost. In a short time after the formation of the bed of soil the plants are put out at equal distances apart, and receive a moderate watering to settle the soil about them, tepid water being used. The pit is kept rather close and the plants screened from the sun, but a little air is admitted at the back both night and day, to allow the steam rising from the bed to readily escape. When it is seen that the plants are becoming established in the bed, the ventilation is increased, and as soon as they are in full growth and have been sufficiently hardened the lights are drawn off altogether during the day and replaced at night. This is continued until the middle of July, when the lights remain off both night and day. No stopping of the shoots is done after the second week of the month last mentioned. The plants are lightly syringed in the afternoon or early in the evening, and they receive rather copious supplies of water at the roots.

About the second week of September the whole of the stock is carefully lifted from the bed, and the plants, which should have a nice ball of soil about their roots, are put into six or eight inch pots according to their size. As they are potted they are placed in a frame on the north side of a wall, and kept close and syringed morning and evening. After recovering from the check received they are removed to a light and airy house, in which a temperature of about 50 deg. is maintained, and here they remain throughout the winter, Under this system of culture a considerable proportion of the examples will be eighteen inches in diameter and of a proportionate height. The varieties grown are Davisoni, Dazzler, Hogarth, Queen of Roses, and Alfred Neuner, all of which are very meritorious, the last-mentioned being a useful double-white variety.

Stamford Hill. W. R.

MORE ABOUT LATE GRAPES.

After reading my last article on late grapes I felt that without at all altering the sense, I might add to it. In looking over my grapes to-day I am led to think that much may be done beforehand; that is, before cutting to make keeping a success, I make a point of reducing gradually any small lateral growth above the fruit as soon as grapes are coloured and I think it can be dispensed with. But on no account do I ruthlessly cut away a lot of foliage, &c., but break off carefully from time to time, so that by when ready to cut grapes there is no fresh cut above the fruit to be made. To be sure in all cases this cannot be done, and yet grapes will keep. But I am very favourably impressed by the present appearance of those which are prepared, so to speak, beforehand. Laterals, or rather sublaterals, below the fruit I break out last.

Now for another wrinkle in keeping, and this is a very important matter. Single bunches are the ones for keeping. Double bunches, or even bunches with shoulders on one side, are the first to go; the berries are not shrivelled, and are sound, but not only are the footstalks, but the whole stalk loses its firm greenness, and becomes, so to speak, dead. Gros Colmar is very peculiar in this respect.

Among my best Gros Colmar, a double bunch (I have only a few) cut, and, of course, grown and kept under same conditions, is very noticeable. Now, strange to say, laterals of Gros Colmar, Lady Downes, and Alicante, with two bunches on, are perfect. These bunches, though two on lateral, are quite separate, and single straight pieces. The main cause, I suspect, why grapes do not keep is for want of stones, at least this is a very early cause of shrivelling. Any berry deficient in stones shows it very quickly, even on the vine, not only in the size of berries, but also for the shrivel. Take an Alicante berry, with, say, two or even three stones, and then how quickly the fault will show itself on the side of berry where the stones are deficient. In Lady Downes stoneless berries, the small ones go even quicker than Alicante. All the above remarks are sufficiently simple, but how much lies in them I will leave for your observant readers and practical men to note, always supposing we must wait for something new before writing—I fear we must wait long.

Another note I make here is that it is not the strongest lateral that produces the best keeping bunch; but in all cases it is the bunch with the strongest footstalk that keeps the longest. I have so far confined my keeping remarks to the shrivel, because in a well-kept grape-room there should be no decay or rotten berries, or at least but very few. Decay on this head would show at once a defect either in ventilation or heating, or perhaps both. Until this season I have been doubtful of keeping grapes with wood in the wrong end; now I am fully convinced for all practical purposes one end is quite equal to the other, This is worth knowing as it sometimes happens in Alicante and Lady Downes there is not length of wood to allow grapes to hang clear. My grapes are kept in nearly dark rooms, but well ventilated. Observations proved last year that grapes, especially Gros Colmar, kept the worst, and certainly lost colour when exposed to the light and sun. This is my experience. I admit I saw last February a quantity that were being kept in the light, but the result was noted, and this year the same man has altered his plan.

The advantages of clearing vines early are many, providing a suitable place is provided to keep the grapes. All my observations prove that grapes are kept quite as well in the room as on the vine; this say up to Christmas; after then the comparison is nowhere, it being all on one side. Let me here state that it is only folly to attempt keeping, for any length of time, faulty bunches—that is bunches, with decaying berries. If grapes are sound and well done, they should be as good in March and April as at Christmas. To prove what I mean, say in my stock of 1,000 bunches in hand to-day, they will, unless my market calls for them, be in hand in March in their entirety. To meet a few pressing demands, I have sent a few away, but then these if not the best are, you may be sure, not the worst, the latter as I have before said, being the last to be sold. The grape-rooms, or rather what I call the picture gallery, is just now my hobby, and yet is the admiration of my friends and visitors in these dull, rough, wintry days.

West Lynn. Stephen Castle.

CANNAS AS POT PLANTS.

By M. Jean Sisley, Lyons.

Several years ago I related in the Gardeners' Magazine the history of the Cannas. Since then it has been more cultivated in private gardens, but not, in my opinion, as much as it deserves.

Several very fine varieties have been raised, particularly in our neighbourhood; and, what is worth noticing, from very tall plants, by artificial fecundation they have been very much reduced in height, and the flowers increased in size and in quantity.

The old tall varieties are still very worthy of attention as ornamental plants for the open border, but the new dwarf varieties are very fine for pot plants for indoor decoration, as by their foliage and blooms they contrast with all others.

These new dwarf cannas have been raised by Crozy, of Lyons, who devoted himself to their fecundation since 1846, when they were introduced from Brazil. He has now five very free-blooming varieties not higher than three feet.

The cultivation of cannas in pots for forcing into flower is very easy. Young stout tubers with a good eye must be potted in February in the smallest possible pots and repotted when the tubers have filled them with roots, and so on successively until the flower stalks appear. They can be thus cultivated in a pit or a greenhouse on slight bottom heat. But they require much light, and to be freely aired when the weather permits. When they begin to bloom they can be removed to the dwelling-house or conservatory, or under a verandah. They are very fine for table decoration.

They require when they are potted continual watering, and once a week with liquid manure.

The following are the best dwarf growing varieties I know:—

Amiral Courbet.—Yellow-striped carmine.

Capricieux.—Reddish purple shaded carmine.

Berthe Suze.—Large, light yellow spotted red.

Commandant Rivière.—Light yellow spotted red.

Edouard Morren.—Light yellow shaded dark rose.

Madame Just.—Bright red-edged yellowish.

Olbius.—Bright red.

Tonkin.—Bright yellow, centre spotted red.

Victor Gaulin.—Bright red shaded darker.

The foregoing attain about three feet when in flower, and continue to bloom for a long while.

Monplaisir, Lyons, January, 1886.

SPECIMEN POLE IVIES.

In the notes on the formation of an ivy garden, stone was especially referred to as a leading material of the more suitable kind for the display of broad masses of climbing ivies. In districts where stone is costly, the woodlands and the clearings of building land will supply valuable material for the same purpose, in the shape of tree butts and poles, for on such surfaces ivies have a natural appearance, and their colours come out with excellent effect, provided, of course, that the surroundings are what they should be; and when we have in view specimen ivies on poles the ivy garden does not alone concern us, because such specimen ivies are adapted for many positions, apart altogether from any scene in which plants of this class form a special feature. The climbing ivies make specimens far more quickly than the tree ivies, but these last are so distinct in character that we cannot afford to ignore one of them. The most striking of all for large work are the tree forms of the Irish ivy and the Asiatic ivy, the last-named forming a magnificent tree that differs from all else in the front of the shrubbery.

There is a point, however, of some importance that should have attention where gardening of this kind is in favour. It is that Nature should be humoured to the utmost possible extent. The general practice is the very opposite of this, for we see the ivies trained closely to poles, and carefully cut in, lest they should, in the exuberance of vigour, show how free and glad is the plant when allowed to make some display of its character. It is quite distressing often to see the ivies in a botanic garden, for they are generally trained to slender poles, and made to look as lean as possible, as though the science of botany might be promoted by the *suppression of plants*. I could name one botanic garden where the pole ivies are in pairs, and they are labelled alternately with the old names that have no meaning and the names in the Hibberd monograph, which are simply and truthfully descriptive. Here, for example, is a lean pole labelled "Poetica," which is a preposterous label, because poetica is a tree ivy that bears yellow berries. And here, again, is another pole of the self-same variety labelled, as in the monograph, "Lucida," which is properly descriptive, because this is a peculiarly bright glossy-leaved ivy, and the first feature we note in it is that it shines upon us.

SPECIMEN POLE IVIES.

But, passing all such matters, it may suffice now to show by a figure drawn from the life in an ivy garden how pole ivies may be grown and display to us the beauty of nature. And here occurs another point which the clippers and crushers of ivies are scarcely aware of. It is that when the climbing ivies are allowed a reasonable amount of freedom they throw out flowering shoots, and thus in one specimen we

have the two forms of the climbing ivy and the tree ivy; in other words, we have the *whole of the plant*, while those who clip and tie severely have only *half of the plant*, for suppression forbids the production of the crowning glory of its free growth and natural character.

H.

SHORT NOTES FOR SMALL GARDENS.

By the Vicar's Gardener.

Notes on Forcing.

Young gardeners and other inexperienced people like to try their hands at a little early forcing when they have a chance, and I would be the last to write a line that would be likely to damp their enthusiasm. I like to see every man's skill tested, but as failure is more likely to discourage them in the prosecution of a laudable desire than anything I may write, I will endeavour to assist them with a few practical ideas on the subject. In the first place, let me tell them that no plant or tree, whether tender or hardy, can be successfully forced into flower or fruit out of its regular season unless it has been properly prepared. What I mean by this is that they must have had a season of rest before forcing commences, or failure will certainly follow. When dealing with a variety of subjects the treatment they require is almost as diverse as the number of subjects themselves. As an instance of what I mean in this matter, I may mention that a peach tree will not submit to be forced the same season in which it is planted unless it has been prepared in a special manner and replanted early in the autumn. Roses will not flower in a satisfactory manner if they are taken from the open ground and put into pots and forced early. On the other hand, lilacs, montan pæonies, and double-flowering plums may be grown in the open ground and potted in November, and if they are introduced into a suitable temperature early in January they will flower satisfactorily. Thus it will be seen that although there are many plants that submit to being forced, a knowledge of the different treatment that each one requires is necessary to make forcing a success. I have given these few remarks as they may help to explain the cause of failure where it has occurred. I will now proceed to give a few seasonable notes on subjects that are pretty generally forced.

Forcing Strawberries.

Unless a few early fruits are required it is a decided loss to commence forcing strawberries before the beginning of February, as plants placed in heat in the dark and short days of midwinter do not give a full crop of fruit. Besides this, it requires a large number of plants to keep up a succession of fruit when forcing commences early. Before placing the plants in the forcing house, they should be cleaned from all weeds and dead leaves. A temperature of 50 deg. is high enough by fire heat for the first week; after that it may gradually rise to 60 deg. by day, and 55 deg. by night. They should be syringed night and morning, and in fine bright weather the floor of the house should be damped several times a day. It is indispensable that the plants should be placed on shelves near the glass, for they must be near the light, and be so placed that the air circulates all round them. We have strips of wood nailed to each side of our shelves, and projecting half an inch above the board on each side, so that the shelf forms a sort of tray or trough. In this tray we place a layer of cocoanut fibre refuse or leaf soil on which the pots stand. I find that this helps to reduce the labour of watering considerably, as the fibre holds a good deal of moisture, and the roots find their way through the bottom of the pots in search of it. After the fruit is set, we not only give the plants liquid manure through the soil, but the fibre is soaked with the rich liquid twice a week, independently of what may find its way through the bottom of the pots on to the shelf. When the plants are in flower the temperature by fire heat should not exceed 60 deg., and the air of the house should be kept somewhat drier. I like to go over the flowers once a day with a camel's hair brush for the purpose of distributing the pollen, as I find I get much the best-formed fruit by doing so. As soon as the principal part of the flowers are set the plants must be looked over, and the small fruit cut out with a pair of scissors. I find that half a dozen good fruit on a six-inch pot is better than a great number of small ones. As soon as the fruit begins to colour, water at the roots must be given in less quantities, or the flavour will be inferior.

Forcing Grape Vines.

In many small gardens the forcing of vines and strawberries has to be carried on in the same house. It is not a commendable practice, because if the strawberries are not skilfully managed they will stock the house with red spider, but where there are no perfect arrangements the best must be made of what conveniences there are, and in that case the strawberries must submit to the conditions provided for the vines. The first week in February is a very good time to start a vinery for the first crop, and then the grapes may be reckoned to be ripe at the end of June. If the roots of the vines are in an outside border they will require attention first by having the border covered up with a layer of leaves six inches thick, for the purpose of keeping out frost. It is not necessary to put on enough leaves or manure to create warmth; all the border requires at this season of the year is to be protected from severe frost and heavy rain, so that if there is no boarded shutters to place on the leaves to keep off the rain a covering of straight straw in the form of thatch will be better than no covering at all. At first the house must be shut up, and a close, warm temperature maintained with atmospheric moisture. This must be created by damping the floor and syringing the vines several times a day. A temperature of 60 deg. must be maintained night and day until the shoots have grown two inches long. When they have advanced that much the night temperature must be lowered to 55 deg., and in the day the thermometer may rise to 65 deg., allowing a rise of 15 deg. to 20 deg. by sun heat if a moderate amount of air is given at the same time. As soon as the young shoots have grown out long enough to be tied down a sufficient number of the strongest should be tied down to fill up the wires, and those not wanted must be removed.

The young shoots should not be stopped until they have developed two leaves beyond the bunch, and as soon as the bunches show themselves, syringing of the vines must be discontinued, and atmospheric moisture must be maintained by other means. As soon as a few of the earliest bunches open their flowers the night temperature may rise to 68 deg. and the day to 74 deg., unless it should be foggy or wet, cold weather. As soon as they go out of flower the night temperature must be reduced to 58 deg., and the day to 65 deg. by fire heat, and allowing the usual rise of 15 to 20 deg. by sun heat. A little air must be given every day, and the quantity increased according to the outside temperature. As soon as all the berries are set those bunches which are not wanted must be removed, and then the thinning of the berries must commence.

The stopping of the lateral growth beyond the bunch must be followed up, but if there is room for other laterals on the wires they may grow on unchecked until the space is filled. Overcropping must be avoided by removing all the bunches that are not wanted, and this should be done directly the berries are set. A good deal depends on the size the bunches are likely to attain as to how many should be left. Where the bunches are likely to weigh a pound and a-half or two pounds each, one bunch to every foot of rafter will be a good crop, and as much as any vine ought to carry that is expected to continue in a vigorous condition for many years.

Forcing Peaches and Nectarines.

Where there is not more than one house devoted to forcing peaches the early part of the month of February is a good time to apply fire heat to start the trees into growth, and then the crop will in a general way be ripe about a month before those on open walls are ready for the table. If there is a good selection of successional sorts planted in the house, there will be no break in the supply between those forced and those grown in the open. Assuming that forcing will be commenced on the 1st of February, the house should be shut up quite close a week previous, and at the same time the roots should have a good soaking of water if the soil about them is at all dry. As soon as fire heat is applied the trees must be gently damped three times a-day with a syringe or a fine spray from the garden engine. It is very important that the trees be brought on very gently, as hard forcing may cause the flower buds to drop before they expand. The temperature for the first week should not exceed 50 deg. by night or day, but at the end of the first week a rise of 5 deg. may be allowed. These figures, it must be understood, are the maximum by fire heat. A rise of 10 deg. to 15 deg. may be allowed by fire heat, and the amount of air to be given must be regulated quite by the outside temperature. But as soon as the flowers begin to open, more air must be admitted. Syringing must be discontinued and a considerable reduction must be made in the atmospheric moisture, for a rather dry moving air passing through the house is quite necessary to assist in drying the pollen, and to assist in distributing it to enable the flowers to set properly. I am aware that some use the brush to assist the setting of the fruit, but I never find it necessary. A brisk air moving through the house and a rap or two with the hand on the trellis to which the trees are trained are all I find necessary to obtain a good set of fruit. As soon as the fruit is set a day temperature of 60 deg., and the night 50, with the assistance of an increase with seasonable sunshine, will be sufficient to bring the crop to maturity in due time. But as the season advances there may be allowed a rise of 10 deg. beyond the figures above given as the maximum temperature. The fruit must be thinned as soon as it is large enough to handle, and then regular syringing of the trees must be carried out every afternoon when the house is closed for the night. The borders will, as a matter of course, require watering, and when moisture is given a sufficient quantity should be applied to thoroughly soak the soil 10 inches to 12 inches deep. Old trees particularly are much benefited by having a thick mulch of rotten manure laid on the surface over the roots. This should be laid on as soon as the fruit is set. Vigorous-growing trees will make more growth than can be found room for on the walls or trellis, and the weakest shoots should be removed, while the strongest and best placed branches must be carefully tied or nailed in. If green or black fly should attack the trees an effort must be made to destroy them with soapy water and a painter's brush. One ounce of soft soap dissolved in a gallon of water will, if carefully applied with a brush, destroy the fly, but where this is not effectual fumigating with mild tobacco paper on two successive nights will destroy them. But care must be taken to use a mild form of paper, for I have seen some serious mischief done with the cheap stuff sold as the genuine article.

Purloining Postmen appear to be increasing in number, complaints of the loss of letters containing postal orders and other forms of paper money having of late been more than usually frequent. The metropolis appears to be especially troubled; but, if the mischief is not checked by the action of the authorities this vice will spread to the country, and the general confidence in the Post Office will be sadly shaken. Persons who have to transmit money in any form through the Post Office are earnestly advised to adopt all known precautions to ensure their drafts against misappropriation. It should be known that postal orders may be crossed in the same way as cheques, and this should be done in all cases in which it is likely the intended recipient will not be inconvenienced.

SHOWY SUMMER FLOWERS.

By J. C. Clarke.

As the work of propagating a stock of plants for filling the flower beds during the summer months will very soon have to be commenced, I shall probably be doing some service by mentioning a few good things which are very useful for beds and borders that can be readily raised in large quantities from seed. A few directions for raising the stocks of the several subjects will also be given, with the hope that they will be useful to amateurs and the younger members of the fraternity.

Dianthus.

The numerous varieties of the Japanese pink are all very beautiful, but, perhaps, the most striking for bedding purposes are the forms of Dianthus Heddewigi, as they are vigorous in growth and profuse in flowering. As regards the shades of colour, I do not think any other genus affords such rich and varied colours as these. There are both double and single forms, but in my opinion the single ones are the most beautiful. The colours in these appear to me to be most striking, but whether one grows either or both, I do not see that it is possible for anyone to be otherwise than pleased with them. Many fail to have these Japanese pinks in flower early enough to please them, but this is owing to the delay in sowing the seed. To have the plants in full bloom by the middle of July, the seed must be sown not later than the middle of February, and the plants must have the assistance of a brisk temperature during the earlier stages of growth. As soon as the seed is sown, which is best done in pans filled with fine sandy soil, the pans should be placed in a structure in which there is a temperature of about 60 deg., and be allowed to remain there until the seedlings are potted off singly. They should be put in three-inch pots and be returned to the same quarters and remain there until established. This will probably be about the end of April. They may then have cooler and more airy quarters, such as a cold pit or frame, in which they can be hardened off. About the end of May they may be planted out. A fairly deep and rich soil is necessary, for unless the plants are kept growing, a succession of flowers cannot be obtained.

Godetias.

These are another group of annuals that have not been half so much employed for massing as their merits deserve. When planted in a fairly good soil they can be had in flower as early as the majority of summer bedders, and if the seed vessels are picked off, the plants will continue to flower until quite late in the autumn. I have seen some very pretty beds of godetias formed with a central block of Lady Albemarle, and a broad band of the Duchess of Albany outside. As a finish to the bed there was an edging of blue lobelias. I am quite sure that a bed of godetias will give as much satisfaction, when preperly managed, as the best managed bed of pelargoniums. The godetias are half hardy annuals, and the seed should be sown at the beginning of April, and it is best to sow it in deep pans filled with fine soil, and to raise the plants in a cold pit or frame. When large enough they should be put singly in small pots, or four or five plants be placed in six-inch pots. By the middle of May they must be gradually exposed to the air by having the lights drawn off them. But at this time there should be no difficulty in giving them suitable treatment, as they will bear the same exposure as other bedding plants. The bed must be well dug up, and, if necessary, a little well-rotted manure be mixed with the soil a few inches below the surface. The plants will soon find it out and make a vigorous growth. At the end of May they should be planted out eight inches apart each way, and be watered if the soil is dry, and if the weather is bright a little shade will help the plants to become established quickly.

Lobelias.

Seedling lobelias are, in many cases, better than plants raised from cuttings, as they always grow more vigorously and last in flower much longer. The only objection that can be raised to seedlings is they cannot be had in flower quite so early, and that they do not make such uniform growth as those from cuttings. But in other respects they are to be preferred, for being very vigorous they are most suitable for planting in positions where the soil is not so well prepared as it usually is in the principal flower beds. To obtain plants of a suitable size the seed must be sown early in February, and as it is very fine, sow in a well prepared pan of fine sandy soil which has previously been well watered. Cover the seed very lightly. Sufficient heat must be at command from the time the seed is sown until the plants have grown large enough to be potted off singly, or they will not make strong plants for bedding out. But as soon as they have made a moderate number of roots in the pots in which they are placed, they may be taken to a pit or frame, where they can be protected with lights in cold weather until such time as it is safe to plant them out. When turning them out of the pots break the ball of soil to pieces so as to disentangle the roots, for by so doing they will be able to push quickly into the new soil.

Petunias.

We have very few, if any, bedding plants that can be raised from seed which are more useful than the petunias. If the seed is sown in good time and the plants carefully treated they commence to bloom early, and continue to produce a succession of flowers until quite late in the autumn. Besides this, they are not very particular as to the character of the soil, provided it is not too heavy in its nature. If anyone has a bed or border in a hot, dry position, they cannot do better than to fill it with petunias. In such positions they flower freely with only a minimum amount of attention. Everyone fond of petunias should endeavour to obtain their seed from a good source, for there are good strains as well as inferior ones in the country. With reference to the cultural details, the seed should be sown at the same time as the lobelia, and if treated in the same way in the earliest stages, fine examples will be the result. After the beginning of April the seedlings will be the better if they are put singly in pots, and after they are established in them they may have a more airy position than the lobelias, as they are more hardy. Petunias are strong-rooted, so that it is necessary to put them into pots three inches in diameter, and then by the time comes to bed them out, the cultivator will have plants that will quickly come into flower. When putting them out, the condition of the soil must be the guide as to the distance they must be apart. In a strong, deep soil they should be fifteen inches apart each way. In a poor soil, twelve inches each way will be a suitable distance.

Salpiglossis.

These are not particularly striking in colour, but the hues of the flowers are so varied and quaint, and the form of the flowers so different from that of many other subjects that a good bed of them never fail to find admirers. They are also admirably suited to those who have large spaces to fill with summer bedders, but not much room in which to keep tender plants all the winter. With the assistance of a cold pit or frame any one may grow them large enough to be put out with the usual summer bedders. It is best to sow the seed about the beginning of April, as they must not be crowded whilst they are growing during the spring. The seed should be sown thinly in large pans or boxes, so that when the seedlings come up they may not be crowded, because if they have sufficient room in the seed pans they do not require to be transplanted into others, as is necessary with some others raised from seed. If the pit or frame is kept moderately close and warm the young plants will soon appear through the soil, when they will require the same care as is devoted to seedlings of other plants of a like character. By the middle of May they ought to be gradually inured to bear plenty of sun and air by having the lights taken off on fine, warm days to prepare them to bear full exposure. Salpiglossis require a rather rich and deep soil, and then they will grow to a height of two feet, and produce plenty of flowers quite late in the autumn. The first week in June is soon enough to plant them out, which should be done, if possible, in dull weather. But if the sun should be very bright it will be desirable to afford the young seedlings some amount of shade, and to give them an occasional watering.

Zinnias.

Zinnias are more tender than many people suppose, and more failures arise from sowing the seed too early than from any other cause. Not unfrequently the seed is sown early in March and the plants raised in a warm temperature; the consequence of this is they are drawn up weakly and are ready to be planted out two or three weeks before the proper time arrives. Then they have to be kept about in the pans or boxes in which they were raised, and in consequence they become drawn, and when the time comes to bed them they are comparatively worthless. They do not recover the strength they have lost through being crowded in the early stages. The first week in April is quite soon enough to sow the seed; this gives two months in which to raise the plants, which is ample time to get short, sturdy plants; a warm corner in a greenhouse will afford all the warmth they require. As they advance in growth they will require to be placed on the front stages so as to have a moderate circulation of air to prevent them being drawn. Stocky plants about three inches high with plenty of roots will be the result of such treatment, and when they are planted out they will be in a fit condition to bear exposure. The seed should be sown thinly in pans or boxes. Zinnias must have a light, rich soil, be put nine inches apart each way in the bed, and be watered if necessary.

Plants Flowering at Tresco in September.—The following list appears in the *Gardeners' Chronicle* of Dec. 26, 1885:—

Fourcroya longæva
Aralia trifoliata
Cassia corymbosa
Cytisus calycinus
Salvias, of sorts
Phormiums, flowers and seeds of nearly all the varieties
Banksia serrata
,, littoralis
Correa virens
,, speciosa
Polygala Dalmaisiana
Olea fragrans
Habrothamnus fasciculatus
Solanum robustum
,, lanceolatum
Dolichos lignosus
Phygelius capensis
Melaleuca hypericifolia
,, pulchella
,, buxifolia
Bupleurum frutescens
Candollea tetrandra
Eurybia purpurea
Erythrina crista-galli
Medicago arborea
Diplacus glutinosus
Santolina chamæcyparissus
Clethra arborea
Dodonæa viscosa
Escallonia organensis
Psoralea sericea
Elæocarpus grandiflorus

Platycodon autumnalis
Tritonia miniata
Milla laxa
Francoa ramosa
Oxalis, of sorts
Eucomis punctata
Commelina cœlestis
Colchicum Parkinsoni
Agapanthus
Neja gracilis
Lilium Harrisii
Crinum Moorei
Leucoium autumnale
Hemerocallis fulva
Dietes bicolor
Nerine sarniensis
,, Fothergilli
Clivea nobilis

Solanum jasminoides
Mandevilla suaveoleus
Clianthus puniceus

Aloe saponaria
,, spicata
Apicra pentagina
Haworthia limpida
,, semiglabrata
,, papillosa
Rochea falcata
Gasteria decipiens
[All in the open ground].

C. A. M. C.

SINGLE AND SINGULAR CHRYSANTHEMUMS.

It is too common for the world in general, and the florists in particular, to assume that a certain class of flowers has shown the whole of its capabilities, and will yield nothing more in the way of novelty to the endeavours of the most earnest and patient of cultivators. Not a few old and so-called "worn-out" mines have been reopened and found profitable, even when, according to tradition, they had yielded their last ounce of the treasure for which in bygone times they were resorted to. A sense of the impossibility of obtaining anything really novel in the way of a pelargonium has had much to do with the decline of that old favourite, and we call to mind that a famous raiser of novelties actually threw out of his garden, and would never again admit, a plant of any kind of calceolaria, because, he said, "there was nothing new to be got out of it." Surely John Salter, the indefatigable, might have said the same of the chrysanthemum. We are fully persuaded that he did not say anything so foolish, but if he had we should now recall the words as a text to moralize upon. Possibly no flower in modern times has given so many surprises, or has crowded upon us so many novel and curious forms within the space of a few years as this universal favourite. And its capability of producing striking novelties is certainly not exhausted; but the recognition of such things has something to do with their existence. When a raiser finds himself in possession of flowers that the world will probably tread underfoot he saves the world the trouble by the simple process of destroying them. Now in respect of curious chrysanthemums the world is in a liberal frame of mind, and things may now find acceptance that if submitted to public opinion some fifty years or so previously would have been ignominiously condemned. There can be no doubt whatever that the enlargement of sympathy is due in great measure to what is called the æsthetic movement, which in its turn was the recoil or echo of the pre-Raffaelite movement; which, in a sense, was an impulse of earnestness; a new phase of what may be collectively designated the love of truth.

These reflections have been suggested by remembrance of several groups of single and singular chrysanthemums brought forward by Messrs. Cannell and Sons last year, and that are now put into commerce. A few of them were brought before the Floral Committee, but obtained less attention than they deserved because, forsooth, it was impossible to judge them by any generally-accepted canons. The original form of Cineraria cruenta illustrates the case, for that obtained no special recognition, although throughout the wide world there is no lovelier object to be found in the way of a flower, many and various as are the subjects with which it might be put in comparison. It is impossible for a body of censors, acting in accordance with principles generally accepted and understood, to bestow marks of approbation on such things. Individuals may be enraptured with them, but floral committees must have things that conform in some degree to the general standard of criticism.

Mary Anderson. Snowstorm. Snowflake. Maid of Kent.
All pure white.
NEW DECORATIVE CHRYSANTHEMUMS.

It is not for florists in particular, but for the world at large, that we now refer to the group of single chrysanthemums introduced by Messrs. Cannell. Several of our esteemed coadjutors have discussed the merits of the varieties, and certainly have not agreed in their conclusions. In truth it is not to be desired that we should be all of one mind on the matter, and whether desired or not, unanimity is beyond the hope of such as have made observations on the contrarieties of human sentiment and opinion in what is called the realm of taste. It is not to be expected, therefore, that growers of show chrysanthemums will take to the new order of things with haste or equanimity. It is a large world, and there will be found in it a large school of admirers of such flowers as are figured in connection with this note. It will be seen that in a series of eight flowers three are not strictly single, but we may speak of them as singular. One group consists solely of white flowers, and includes a miniature of the Jap type with twisted strap florets; in the other group is a beauty of similar make with twisted thread florets of a beautiful rose colour, shading to white. The striking form of the flowers will amply justify their place here, and we hope this presentation of them will do something towards a settlement of the question—Are there any single chrysanthemums worth a place in a well-kept garden?

Maid of Kent is a pompon of the old type, pure white; a variety suitable to grow in quantity for decorative purposes.

Mary Anderson is of the Daisy or Marguerite type, with broad ray florets and a bold disk.

Snowflake is a single small Jap, with snake-twisted florets of the purest white; a most desirable variety for cut flowers.

Snowstorm is a small Jap, with broadish florets, delightfully irregular, and of the purest white.

Catherine Wheel is a bold anemone, with peculiar curled florets and large disk. This the Floral Committee distinguished with a certificate in testimony of their surprise at its distinctness and beauty.

Crushed Strawberry is a singular anemone Jap, delicately shaded; quite a beauty.

Lady Churchill. Catherine Wheel. Crushed Strawberry.
Lady Dilke.
NEW DECORATIVE CHRYSANTHEMUMS.

Lady Dilke is a miniature high-toned Jap, of a delicate rose, shading to white.

Lady Churchill has several floral qualities, chestnut or Indian red, shading to yellow; very distinct, quite a curiosity.

The Review of Mr. Johnston's Book on the Congo which appeared in G.M. February 28, 1885, is reproduced in the last issue (May and June, 1885) of *La Belgique Horticole*. It is admirably translated, and bears the signature "D. H. F."

THE TEMPERATURE OF WATER FOR PLANTS.

By M. Jean Sisley, Lyons.

I have read all that has yet been said in the pages of the *Revue Horticole* on the subject of watering plants with cold water, as opposed to the idea that has long prevailed that it is best, particularly in hothouses, to give water of the same temperature as that of the locality where the plants are growing. Experiments in point deserve encouragement, as affording the only means of testing the practical value of theories which, heretofore, have too generally been accepted without question. Happily, we have now entered on an era of experiment, of verification of theories by practice, which is the only sure road to improvement. Credulity has had its day in all things. Only, so far as watering of plants is concerned, it seems to me there has been too much haste in coming to a conclusion. The experiments made by M. Henri Truchot are, no doubt, very interesting and praiseworthy; but because certain plants have been watered with cold or even iced water for a fortnight without appearing to suffer, are we bound to conclude that this treatment really suits them? I think not. Do we not see cases where animals and human beings will endure an insufficient, or even injurious, diet for some length of time without the evil consequences making themselves felt until some time after? It seems to me, therefore, that a longer and more discriminating trial is needed before an opinion can be pronounced with confidence.

This reminds me that when I lived near Paris, many years ago, I had a neighbour, a market gardener, who, whenever it rained (in summer) turned out all his hands to water his beds with cold water out of the wells. Seeing this invariably done, I asked him his motive. "To prevent the salads running away to seed," was his reply. Other market gardeners told me the same thing. Evidently the practice was the result of observation, not of scientific reasoning, as none of them could tell me how it acted. Now, what are we to infer therefrom? That rain water (in summer) being usually warm, stimulates vegetation, and that cold water checks it? If such be the case, should we not hesitate before we adopt the practice of watering our hothouse plants with cold water? Very possibly they may not be killed outright by such treatment, but pending further experiment and proof of the contrary, I must certainly be allowed to think that it can do them no good. Comparative experiments are difficult to carry out, especially if we look deeper than appearances for the results. But they are worth making, all the same.

We have been told that watering with cold water has been tried continuously for three years by M. Rougier Chauvière. Allow me to say that, in my opinion, these experiments are not *conclusive*—(1) Because, probably, they have not been made comparatively, that is to say, by taking plants of the same size, and growth, and same species, and treating some with cold and others with tepid water; (2) because, probably, the same plants have not been kept under the same treatment during the whole of the aforesaid three years, seeing that in a business establishment the plants are constantly changing, and new ones taking the place of the old, as the latter are sold. Quasi-experiments of this kind appear to me insufficient to prove that cold water is better for plants than tepid water. That is the question—Is cold water better than the other? If it is not, discussion is idle, and not worth the time it occupies. Will you publish this reply, in the hope that it will stimulate comparative experiments, and a careful and well-considered study of the question?

In France new themes are soon forgotten. We start a question, and then dismiss it. No conclusion is ever arrived at. So it will be with the question of watering with cold water, because we are content with assertions. For my part, I ask a satisfactory investigation, and an answer to the question. I want not assertions, but proofs. In all that has hitherto appeared on the subject in the *Revue Horticole* there has not been a shadow of proof. M. Truchot may be convinced that his experiments of a few days continuance prove that iced water will not kill his plants. I am not convinced. We want comparative experiments, proving that cold water is better than water of the temperature of the hot-house. This question has never been raised in the *Revue Horticole*. I am not disputatious. I hate controversy, especially when I meet with so many who are ready to declare that black is white, and white black. For my part, I look for final results, and I ask that the question may be answered without stopping half-way or evading its real point. Where is the use of discussion, whether by word of mouth or with the pen, if this be not done? If the market gardener's habit of watering with cold water during summer rains prevent the lettuces running to seed, is it not a fair inference, if not positive proof, that cold water retards or arrests vegetation? I should be glad to have this explained.

I will conclude now by saying that all M. Rougier and M. Truchot have done proves nothing at all, and leaves the question just where it was. In my opinion its solution would be of great interest.

It is stated in the *Revue Horticole* that the experiments of M. Durant justify the conclusion that waterings with cold water are beneficial. I do not think this conclusion can be deduced from them. I have before cited the case of the market gardeners who watered with cold water to prevent their vegetables running to seed. They stopped the growth in this way; and M. Durant did no more, as he expressly says that cold or iced water made the leaves of his radishes short and thick. Are we thence to conclude that watering with cold water benefits the plants? I think not. There are two different classes of facts to be dealt with. Cold water may be beneficial in certain cases, as when we wish to check the growth of one portion of a plant, so as to favour another. But to suppose, on that account, that cold water is beneficial to the plant itself is a delusion. I repeat that the experiments of MM. Rougier, Truchot, and Durant have not proved the general utility of watering with cold water. They only show that plants will stand that sort of treatment for a time without appearing to suffer from it, not that they actually improve under it. What do we look for in horticulture? The most luxurious growth within the shortest time, the finest foliage, the largest show of flowers. Will cold water give us all this? I doubt it. There are, as I have said, two distinct classes of facts to be considered. That cold water will check vegetation appears to me to have been proved. That it may be used to produce a finer growth appears to me very questionable, and certainly as yet unproved.

CANKER ON FRUIT TREES.

By James Douglas.

I have recently been requested to give information about the cure of canker in apple trees, and as this troublesome disease is too common in many good gardens, a few words on its cause and cure may be useful. It has recently been stated with some degree of plausibility that this disease is caused by insect agency. I cannot think that insects are in any way the primary cause of canker; but there is nothing more likely than that insects may find a secure retreat in the jagged caverns caused by the disease. In treating any well-known subject of this kind, it would be foolish to ignore what has been written by gardeners who have carefully studied the phenomena presented, and have made practical experiments to determine their causes. Many years ago, a Mr. Reid, of Balcarras, Fifeshire, writing to the Gardeners' Magazine (vii. 55), found that in a cankered orchard the roots of the trees had entered the earth to the depth of three feet; and enquiring further, he also ascertained that during the summer months the average heat of the soil at six inches below the surface was 61 deg., at nine inches 57 deg., at eighteen inches 50 deg., and at three feet 44 deg. After getting the roots lifted near the surface by a system of root pruning, the canker disappeared and the fruit ripened well. Here we have a good practical gardener finding an orchard eaten up with canker: he sets about finding out the cause, and appears to be successful. The roots are in a cold soil, and that he supposes is the cause. He lifts the roots into warmer soil and the disease gradually disappears. The case appears conclusive.

The late Mr. Robert Thompson, of the Royal Horticultural Society's Gardens, had studied this and other diseases of the apple and pear during the course of a long life, and came to the conclusion that severe and untimely pruning induced canker. Further, he says, "Dryness at the root doubtless gives rise to a species of canker, which manifests itself on the younger branches and on the shoots." Another cause he mentions is "Sudden checks to the vegetation of the tree, especially in spring and the early part of summer; derangements of the flow of sap from vicissitudes of heat and cold, as well as of moisture and dryness, unskilful and severe pruning, and vitiation of the sap by deleterious substances in the soil or subsoil."

My own experience leans to the conclusion that the sole cause of canker is in the roots running deep into bad subsoil, but Mr. Reid's experience may teach us that even if the character of the subsoil may be right, its coldness alone might induce canker.

But the cure for the disease is very easily found out, for whether it is coldness at the roots or unsuitable subsoil the roots in either case must be lifted out of it. Generally cankered trees have been established in the ground for a number of years before they become badly cankered, and after that time it is not easy to get at the thick roots which have gone down into the deep subsoil. But there is no alternative except to cut them clean through, and this is best done in the following manner: Cut a deep trench half round the cankered tree. If the tree is large it may be at the distance of six feet. The trench may be two feet deep. The semi-circular mass of earth must be undermined with a fork, and a sharp spade must be used to cut all roots with a downward tendency clean through. Good loam can easily be obtained in some country places, and where this is available all the old soil thrown out from the trench should be removed and the loam added in its place. If one half of the tree is done this season the other half should be left for next year or the year after. To do the whole of the roots at one time would so seriously check the trees that they might fail to produce a crop the following season. The right thing to do would be not to allow the trees to become so badly cankered, but to check the disease by lifting the roots when they are first attacked.

Most cultivators of fruit trees are well aware that some varieties are more liable to be attacked by canker than others. Wellington and Cellini, amongst kitchen apples, I found were attacked first in our collection; and Ribston Pippin amongst dessert kinds. As soon as I found the canker, the roots were immediately lifted, and the disease spread no further. The reason some persons have supposed canker was caused by insect agency is that insects gather and increase in decaying wood and bark, and they may make the disease worse, certainly their occupation cannot be beneficial.

Another matter not always attended to is the drainage of the soil. It may not be always necessary to drain, but it often is, and in that case the drains ought to be cut three feet deep. Some people may say better to cut the drains four feet deep. Perhaps it is, but it costs a good deal more money, and it is more difficult to find an outfall for four-feet drains than it is for three-feet. The late Mr. Meehi, of City and agricultural renown, used to say that four-feet drains would run the water off quicker than those cut only three feet deep. I have never been able to verify this statement, but it is probably correct, as this gentleman made careful observations. The main drain into which the others run should be formed of three-inch tiles, the tributary drains should be two-inch only. The trees become covered with lichens and various species of mosses when the soil is not drained, in addition to their greater susceptibility to canker.

NORDMANN'S SILVER FIR.

Amongst the choicer kinds of coniferous trees that properly find a place in gardens, three of the piceas are conspicuous—the one before us, *Picea Nordmanniana*, the Crimean silver fir; the noble silver fir, of Northern California, *N. nobilis*; and the lovely silver fir, *P. amabilis*, which is generally labelled *P. lasiocarpa*. The esteem in which Nordmann's fir is held is in part made evident by its synonyms, which number about a dozen, the name by which it is now registered being that of J. C. Loudon, which obtained preference in Gordon's "Pinetum." When the cognoscenti went through gardens and parks, these and kindred trees were especial subjects of observation and criticism, and it is ever a matter of importance for the amateur of trees to obtain and maintain handsome examples. Nordmann's fir is particularly massive and severely symmetrical; the leaves are in a double series, curved upward, deep glossy green above, and channelled below, with a glaucous white line on each side of the midrib, giving to it a peculiar "gleam" which rivets attention. When the large egg-shaped cones appear erect upon the upper sides of the branches, the dignity of the tree is completed; it is seriously picturesque and most princely amongst the conifers.

With all such trees it is a matter of the very first importance to obtain and maintain a free growth from the first. Any considerable check, more especially when the tree has been but recently planted, will not only cause disfigurement of the lower furniture, but may prejudice the leader; and if this is not seen in the first instance it will be in due time. We may attribute to this cause the occasional appearance of two or more leaders striving for mastery, and damaging the contour of the trees. The check in the first instance acted on the proper leader, which made less than its due share of progress, but a bud or incipient shoot below it gathered strength meanwhile, and when a time of free growth occurred, this competing bud or shoot made a start, and having felt no check, as the proper leader did, is enabled to overtake it and dispute its supremacy. In such a case want of courage and promptitude may result in serious damage to the beauty of the tree; for the weakest leader should be at once suppressed, to throw the whole energy of the growth into the one that demands it. On the other hand, a check or an injury may result in the loss of the leader, and this is quite as bad a case as the conflict of two or more leaders. But time will bring things to right, more especially if the vigour of the tree is maintained, for a leader will show itself, or one must be made by training up the most suitable growth for the purpose. Here again courage is needed, and with it some faith in the generosity of Nature. A side shoot taken up as leader will lack the necessary continuity with the stem, and this must be endured; for when, by reason of its upright position, it takes the lead, it will begin to straighten itself, and as years go by will assimilate more and more to the line of the stem, and become a proper part and parcel of it.

NORDMANN'S SILVER FIR, *Picea Nordmanniana*.

This noble fir was discovered by Professor Nordmann on the summit of the Adshar mountains, at an elevation of 6,000 feet. It is essentially alpine in its habitudes, and is common on mountains on the north and east of the Black Sea, where it grows to a height of 100 feet, and furnishes a valuable timber. It is perfectly hardy, and as it grows late in the spring, the young growth is but rarely touched by frost. For a free growth of a full rich colour, a deep, strong, rather moist soil is needed, and spring planting answers well if the trees are not over large and are carefully handled. W.

Historical Introduction to Rudimentary Botany formed the subject of a highly interesting and instructive paper read by Mr. T. Green, of Leeds, at a recent meeting of the Paxton Society, at Wakefield.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory should be gay now with forced bulbs, azaleas, and hardy shrubs and cinerarias, and other subjects flowering at this season of the year. Any stove plants brought into the conservatory must be guarded against a chill and kept rather dry. The temperature of houses in which plants are growing may be increased shortly, for vegetation will soon be active. Most soft-wooded plants will now become infested with aphides unless well taken care of; good cultivation keeps such things away.

Greenhouse should be freely ventilated in favourable weather, and the atmosphere kept rather dry. Soft-wooded plants for flowering at the end of the spring and in the course of the summer should be removed to airy pits where practicable, and be protected from frost. A heated pit is preferable for pelargoniums and other of the choice soft-wood plants grown for conservatory decoration, but after the present time there will not be much difficulty in excluding frost with coverings of mats or litter.

Hard-wooded Plants of all descriptions will soon require more liberal supplies of water at the roots than for some time past; but during the next few weeks care must be taken to avoid over-watering them. It is, however, essential at this, as at other seasons of the year, to give sufficient each time the plants are watered to thoroughly moisten the whole of the ball.

STOVE AND ORCHID HOUSE.

Begonias.—The ornamental-leaved varieties will require to be repotted and started into growth within the next few weeks. A nice friable mixture of loam, peat, and leaf-soil should be used.

Gloxinias may now be started in quantity for a summer bloom. Press the roots down into the soil, sprinkle a little fine stuff over them, and then put them into a moist heat at about 70 deg. When advanced a little pot them, and again give them a nice heat for a week, after which place them in an intermediate house where the temperature is about 60 deg.

Orchids will now want much attention; some must be repotted, reblocked, and otherwise assisted as the season of the new growth approaches. Those not to be shifted may perhaps be benefited by having fresh peat or sphagnum put on the surface. After any disturbance of the roots give them the aid of a little extra heat and atmospheric moisture, but do not water them much at the roots until they begin to grow.

Stove Plants in Bloom include at the present time, Æchmea fulgens, Eucharis amazonica, Epiphyllum truncatum, Justicia speciosa, Tabernæmontana camassa.

FORCING AND ORCHARD HOUSES.

Cherries are considered the most difficult of hardy fruits to force; and perhaps the cause of the difficulty is the fear of ventilating. Admit air freely in favourable weather, and there will be no difficulty in obtaining an abundance of fruit. Cherry trees lately put in and just starting to be freely syringed.

Pines advancing in fruit must have liberal heat and moisture. The best liquid manure is a solution of soot and guano. Pot succession plants, and give the whole stock more room for a circulation of air amongst them.

Strawberries for succession to be taken in. Never place them in a high temperature at first, and prepare them, if possible, for the forcing pit by putting them into a cool house or pit for a week previously.

FLOWER GARDEN AND PLEASURE GROUNDS.

Alpines that do not need repotting will be benefited by removing a little soil from the top and replacing it with fresh sandy peat or sandy loam. Plants that make offsets freely may be increased now by division, but it is not a good time to propagate any kind of alpines from cuttings.

Dahlias must be kept going now where any quantity of stock is required. The cuttings are most easily managed. Take them off when three inches long, put them singly in small pots, and place in a good heat.

Deciduous Trees of all kinds not yet planted must be got into their places without delay. Should frost occur, planting will be delayed still further, and if no frost the trees will be so advanced in growth as to be greatly injured by the process of lifting.

Hardy Climbers planted now in well-prepared borders will have a good chance of making a free growth this season. Climbers doing badly may, if in a good soil and suitable position, be cut down close to the ground. If doing badly through the poverty of the soil dress liberally with manure.

Hardy Plants in Bloom include Arabis albida, Bulbocodium vernum, Cyclamen coum, Iberis semperflorens, Epimedium pinnatum elegans, Forsythia viridissima, Iris reticulata, Polygala chamæbuxus, and Primroses.

Roses.—Put a heavy mulch on plantations not yet dressed, and proceed with planting not yet finished, for it is quite time the trees were in their proper places.

KITCHEN GARDEN AND FRAME GROUND.

Asparagus in the forcing pit to be maintained in a progressive state to afford successional supplies. Give air and light; for the sticks should be stout, quickly grown, and purple at the top.

Beans must now be sown for main crops. For very small gardens Beck's Gem is invaluable: it is very dwarf, requires but little room, and is wonderfully productive; but for home consumption, where there is a good table, Green Windsor should be grown for general crops.

Cabbage.—During the next few weeks plant out considerable quantities of autumn-sown plants of cabbages, and continue to thin out the seed-beds as occasions offer. It would be well to sow a few sorts of cabbage now, as, if they are not ultimately wanted for planting out, they may be drawn from the seed bed for the kitchen, as they make a delicious dish.

Carrots.—Sow Early French Horn or Early Nantes on warm borders, and thin as soon as up.

Cauliflowers in seed pans to be thinned out and potted singly in rich light soil, or planted out in beds in frames.

Celery.—Sow for the main crop. Early sowings to be pricked out on beds in frames.

Cucumbers in fruiting must be kept moist above and below, to promote a free growth. Nip out any fruits that show before the plants are tolerably strong. By the time fruit may be allowed the hills will want earthing up; use nice light loamy stuff, vegetable fibre being preferable to animal manure, though a little thoroughly-decayed manure may be added to advantage. If there is a good heat in the bed give a little air all night, unless the weather is too severe for such a risk; indeed, a gentle circulation of air is at all times desirable.

Lettuces required as early as possible should be pricked out from the seed boxes into a bed of rich friable soil made up on a sweet and gentle hotbed. Sow again seed of the best Cos varieties.

Preparation of the vacant quarters for the early crops should have first attention at this moment. Ridges should be levelled, beds for onions, parsnips, and other root crops formed, and the remains of the crops of coleworts and similar subjects cleared off, and the ground manured and dug over to make it ready for summer crops. It is essential to keep well abreast of routine work.

Vegetables in Season include Asparagus, French Beans, Beet, Broccoli, the sideshoots of Cottager's and the tops of Scotch Kale, Carrots, Celery, Endive, Lettuce, Mushrooms, Onions, Rhubarb, Seakale, Spinach, and Turnips.

Law.

LOPPING A NEIGHBOUR'S TREES.

In the Queen's Bench Division, before Mr. Baron Huddleston, the action Capron *v.* Sewell was to recover damages for an alleged trespass on to certain land of the plaintiff at Richmond, known as Cranbourne House, and the cutting and lopping of a certain row or hedge of trees thereon. The defendant denied the plaintiff's title to the land in question and also the alleged trespass and damage, and pleaded that prior to September 21, 1883, one Charles Chatteris was in occupation of the house and grounds mentioned in the statement of claim as the plaintiff's and of certain other premises adjoining and situate on the south-west side thereof. By an indenture dated September 21, 1883, the said C. Chatteris assigned to the defendant all his interest in the last-named premises, and covenanted with the defendant that he (Chatteris), as the lessee and occupier of Cranbourne House, would, during the term of his lease, from time to time keep the trees growing in the garden thereof next the boundary fence which separated the defendant's land from Mr. Chatteris's at a not greater height than 20 ft. at the end nearest Cranbourne House, and 15 ft. at that nearest Belle Vue House. That this being so, in February, 1884, while, it was alleged, Mr. Chatteris was still in possession, the defendant observing that these trees were higher than they should have been, had been requested by Mr. Chatteris to cut and lop them, in conformity with the said covenant, and that accordingly that was done. In the alternative the defendant pleaded that if, as stated, the plaintiff was in possession of Cranbourne House at the time, he was equally bound by the said covenant and had taken possession with notice of Mr. Chatteris's request. The defendant further denied that he had in any way whatever improperly, as was alleged, cut and lopped the trees or that he had carried any of them away; and that what had been done was done with the plaintiff's leave and licence. The defendant paid £5 into court as sufficient to compensate Mr. Capron for any damage which he might have sustained. Upon these pleas issue was joined.

Mr. A. Cock and Mr. Leslie Field appeared for the plaintiff; and Mr. Channel, Q.C., was for the defendant.

The plaintiff's case was substanially as follows: The plaintiff, Mr. Thomas Capron, is the proprietor of the Northumberland Club, at Richmond, which he started in 1884. Mr. William Sewell is a livery stable keeper and cab proprietor at Richmond, and was then in occupation of certain property adjoining Cranbourne House—the club premises—on its south-west boundary; and he (the defendant) had since let a portion of this property to a builder, who subsequently erected houses thereon. In the month of February, 1884, the plaintiff had taken possession of Cranbourne House, Richmond, under a verbal agreement with Mr. Chatteris, that when certain alterations, arranged for, were completed, he should have it on a lease for 19½ years. He had, he stated, taken possession of the gardens some time before he got possession of the house. Shortly after taking possession he was informed by his butler that a row of lime trees which separated Cranbourne House from the defendant's land had been cut and lopped in a most wanton manner by some of the defendant's men. He (plaintiff) stated that he had accordingly gone to the spot and found that the trees had been reduced almost to poles, even lilac and laurel trees had been cut down, and a very handsome laburnum had been razed with the ground; the effect, it was stated, was to ruin the privacy of the plaintiff's gardens and grounds, and to open up a fine view of the river and Richmond Bridge from the defendant's adjoining land. It was admitted that the lease contained the covenant relied upon by the defendant—viz., that the row of trees in question was to be 20 ft. high only. The plaintiff and several other witnesses having been called in support of the case, and also a surveyor as to the damage done,

Mr. Channell opened the defendant's case, and submitted that Mr. Sewell had obtained Mr. Chatteris's consent to lop the trees in question, and that he had only done so in a perfectly proper and legitimate manner, and absolutely denied the accuracy of the plaintiff's particulars of damage, and also the suggestion that his client had carried off any substantial loppings or cuttings. It was also suggested that if any over-cutting or lopping had taken place it had been done by the plaintiff's own men, and not by the defendant's.

The defendant and several other witnesses were called in support of these contentions, including Mr. Steele, nurseryman, of Richmond, who stated that, in his opinion, the trees in question had been improved by their lopping and trimming, which, he said, had been executed in a proper manner. He also stated that Mr. Sewell had instructed him to supply and plant such trees or shrubs as Mr. Capron might require in place of those said to have been removed or damaged. He stated that he had accordingly supplied two lime trees, three laurels, and a laburnum tree. Mr. Sewell, he stated, did not limit him either as to price or number. On the second day of the trial, counsel having addressed the jury,

Mr. Baron Huddleston summed up, and in doing so commented upon the suggestion that the trees in question had been improved by the defendant's lopping, remarking that it might be possible that in forty or fifty years' time some such good result might be apparent, but, notwithstanding this remote advantage, he would certainly himself strongly protest against any neighbour of his improving his trees and shrubs in such a manner. If they found for the plaintiff, it would be for them to say what damages would fairly compensate him for what the defendant had done. They had heard the plaintiff state that it would take £40 to replace the trees; and without actually adopting that figure, it would guide them in assessing the damages, when considered with the evidence of the surveyor who had inspected the trees in question.

The jury, without retiring, found for the plaintiff, damages £45 in excess of the £5 paid into court.

Judgment accordingly.

AURICULAS AT SLOUGH.

The wintering of auriculas at Slough is now done in a long span-roofed house with a level stage on either side, and not in frames as heretofore. The house runs pretty well east and west, and on the north side there is a flow and return hot water pipe, by means of which the house can be warmed when necessary. There is ample ventilation both below and above, and save and except heat is applied only to exclude frost, the plants are grown in a thoroughly hardy character. The south stage is filled with show varieties; on the north side are the Alpines. It is computed there are about 2,500 plants in the house, and regard being had to the time of the year and the fact that the plants may now be regarded as at their winter rest, they look healthy and full of promise. There is one great advantage in having a large trade collection under glass—that the plants are under much more convenient supervision, and can be overhauled let the weather be as bad as it may. This is a matter of considerable importance. The main of the trade in auriculas is in February—at the end of the month if the weather be open and genial—and in March. There is a great demand for the leading choice varieties, and especially for those that may be regarded as of delicate habit. These will always be scarce, for they can be increased but slowly. The application of heat to the auricula house must have the effect of stimulating the plants into an earlier growth, as well as assisting in a more generous development of bloom. A great deal is gained when the effects of early frosts can be warded off from the plants when they are throwing up their flower stems and developing their pips, and a more equable temperature can be maintained than when the plants are cultivated in a cold frame. It may be objected that this is practically turning the auricula into a greenhouse plant, but there is no doubt that the leading collections of auriculas shown at South Kensington in April are treated in this way. Those who grow only in a cold frame or cold house are placed at some disadvantage in a competitive trial, but it is open to them also to apply artificial heat in order to promote the development of the flowers. Perhaps it would be only fair to have two or three classes set apart for plants grown and flowered without artificial heat, but it is doubtful if the arrangement would work in a wholly satisfactory manner. R. D.

JOBBING GARDENERS.

The smallness of many suburban gardens renders the regular employment of a gardener for the whole of his time impossible, and to some extent places the happy possessors of these small places at the mercy of the first charlatan who takes the trouble to send cards or circulars around. Now, it is necessary to do one of two things where one is possessed of only a small garden—either do the work oneself or employ a gardener for short periods each week—and although the former method is not impracticable, many reasons prevent its being followed in the general run of cases. The latter plan, therefore, has to be adopted, and on this matter I have a few remarks to make.

Connected with most town or suburban nurseries a jobbing department is attached, and, speaking generally, very decent workmen are employed, although during a press of work some indifferent men are employed at times for lack of better being obtainable. The great drawback, however, in having men from a nursery is that one is not certain of having the same man each time, in which case the personal desires of the proprietor of a garden cannot well be satisfied at all times.

The better plan for the management of small gardens is to have one man employed by two or three friends, who mutually arrange to have him so many days per week in each one's garden. By paying decent wages a skilful gardener can always be secured and satisfaction gained, the risk of having some broken-down coachman or painter or other unskilled person is avoided.

Dickens makes one of his characters assert that no one ever saw a dead post-boy, but if he had lived in the present day he would have said that post-boys past work always took on to jobbing gardening, hence dead post-boys are scarce. Speaking seriously, however, there is no reason why gardeners should not be employed instead of rough labourers, and, as a rule, jobbing work pays very well, therefore it is obviously to the interest of both employers and employed to have skilled men for this class of work. Walter J. May.

[Nurserymen have often assured us that they have given up the jobbing part of the business for two reasons. One was the difficulty of obtaining suitable men, and the other the difficulty of obtaining payment. We have looked into the matter more than once, and saw that to manage the thing well a distinct organization was needed, and without this the results are pretty sure to be mere vexation and loss.—Ed.]

TRADE CATALOGUES.

James Yates, 29, Little Underbank, Stockport.—*Vegetable and Flower Seeds.*

James Farrar, 36, Primrose Street, Bishopsgate, London.—*Wholesale Catalogue of Agricultural and Garden Seeds.*

T. Cross, Bury St. Edmunds.—*Vegetable Flower and Farm Seeds.*

T. L. Mayos, Hereford.—*Fruit and Ornamental Trees.*

James Vick, Rochester, New York.—*Vick's Floral Guide.*

E. J. Jarman, Chard, Somerset.—*Seeds for Kitchen and Flower Garden.*

James Page, Hornsey, Middlesex.—*Vegetable and Flower Seeds, Miscellaneous requisites, &c.*

Viccars, Collyer, and Co., Central Hall, Leicester.—*General Catalogue.*

T. L. Mayos, Hertford.—*Fruit and Ornamental Trees, &c.*

Exhibitions and Meetings.

THE LEWISHAM AND DISTRICT FLORAL SOCIETY.

The first annual general meeting of this society was held on Wednesday evening, the 27th ult., at the Hither Green Hall, Lewisham; S. S. Bryant, Esq., in the chair. The report, which was read by Mr. Henry Drake, the hon. sec., congratulated the society upon the success that attended their chrysanthemum exhibition in November last, and was unanimously adopted.

The rules and schedule of prizes for the exhibitions proposed to be held during the year were considered and unanimously adopted. With a view of adding to the interest of the forthcoming summer exhibition, it was decided to make roses a special feature, and to offer three prizes for the best twenty-four varieties of cut roses, open to nurserymen and gentlemen's gardeners—the first prize to be £5; further prizes for roses to be given to gentlemen's gardeners only; also to amateurs. The hon. sec. read a list of special prizes for flowers, fruits, and vegetables, which had been kindly offered by Messrs. Laing and Co., Forest Hill; Mr. H. J. Jones, Hope Nursery, Lewisham; Mr. Parish, Brockley Road, and various amateur members of the society. It was also proposed that at the chrysanthemum exhibition in November next the society offer, amongst other prizes, three prizes for the best twenty-four cut blooms of Japanese chrysanthemums, the first to be £5.

It was unanimously resolved that the society should hold a general meeting on the third Wednesday in each month, at the Hither Green Hall, Lewisham. At these meetings members are invited to bring flowers or plants for discussion. A hearty vote of thanks was passed to the committee, auditors, treasurer, and hon. sec., for their services, and also to the chairman of the meeting.

SNODLAND (KENT) COTTAGE GARDENERS' MUTUAL IMPROVEMENT SOCIETY.

At a meeting under the presidency of Mr. Wickenden, the vice-chair being occupied by Mr. Stone, there were exhibited potatoes, onions, shallots, gourds, potato-onions, &c. After the inspection of these, a discussion was opened by Mr. Cocck on the cultivation of peas, in the course of which he recommended Day's Early Sunrise as a good early sort; William the First, for a second crop; Gladiator, in his estimation, was the best main cropper; and Stratagem, the best for late crop. He advised a careful preparation of the ground, especially as regarded the subsoil. To prevent mice eating the seed it should be damped and rolled in red lead previous to sowing, and black cotton fixed over the rows would prevent birds injuring the plants.

THE WEALD OF KENT GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT SOCIETY.

The annual dinner of the members of this society and their friends took place on the 20th ultimo. The Rev. A. H. Harrison occupied the chair, supported by Dr. Joyce, F. Foreman, Esq., the Rev. R. Metcalfe, Messrs. F. H. Compton, Stokes, Kilpin, &c. There was a large attendance, and after the usual loyal and patriotic toasts had been duly honoured, Dr. Joyce gave the toast of the evening, "Prosperity to the Weald of Kent Gardeners' and Cottagers' Society." The large attendance that evening, he said, proved the great interest taken in the society. The agricultural associations in the district, representing, as they did, the solid side of agriculture, had dwindled down to one; but the horticultural and floricultural associations representing the bright or æsthetic side had taken their place. It was a good thing for gardeners to bring their work into contact with that of their fellows. Plants were exceedingly plastic, and many of them had been so improved that it was hard to recognize the stock from which they originally sprung. Take, for instance, the improvement effected in the chrysanthemum; and if flowers could be so vastly improved by culture, why should not human beings improve in the same way? Nobody could see the perfectly-formed plant without having thoughts brought into his mind calculated to make him a better man. He coupled with the toast the name of the chairman, who was president of the society. Several other toasts, interspersed with songs, followed, and a very happy evening was spent.

TUNBRIDGE WELLS GARDENERS' AND AMATEURS' SOCIETY.

The annual meeting was held at the Red Lion Hotel on the 19th ult., Mr. W. Trossell presiding. There was a large attendance, and all parties appeared satisfied with the state of affairs. The accounts will show a respectable balance in the society's favour.

Calls at Nurseries.

MR. W. BULL'S ORCHIDS, THE NURSERIES, KING'S ROAD, CHELSEA.

The majority of the numerous orchid-houses in Mr. William Bull's Nurseries in the King's Road, Chelsea, present a surpassingly bright and beautiful appearance, and the large number of plants in bloom afford the best possible proof of the immense amount of pleasure well-stocked orchid-houses are able to give during the winter, as at other seasons of the year. In a collection so comprehensive in character and large in extent as the one in question nearly all the orchids which usually flower at this season of the year are represented by flowering specimens; but of the odontoglossums, cattleyas, cypripediums, sophronites, and lælias, there is such a profusion of flowers as to produce a series of displays of surpassing beauty.

A mere enumeration of all the lady's-slippers now in bloom would occupy much space, and it must suffice to refer to a few of those of special importance to the general body of cultivators. One that will probably obtain first attention from the specialist is Cypripedium Argus Excellence, which is very beautiful, and differs from the typical form in the petals being more profusely blotched and the colour of the markings much higher. It is probably the finest variety of this highly appreciated species that has yet flowered, and therefore a decided gain to its class. C. Warneri is flowering freely, and fully asserts its claim to be considered one of the finest of the C. barbatum type to which it belongs, the colours of the labellum and the dorsal sepal being exceptionally rich, and the white margin to the latter of great breadth and very pure. The well-known and handsome C. Lawrenceanum presents a very effective appearance, as the flowering specimens are numerous and the foliage is hardly less attractive than the flowers. Amongst others made note of in bloom were C. Boxalli, C. villosum, C. Harrisianum, C. Lowi, C. calurum, C.

insigne Maulei, C. Swannianum, and C. Sedeni superbum—the last-mentioned being one of the highest coloured forms of this free and continuous blooming hybrid.

The most attractive of the odontoglossums at the present time is, as a matter of course, the exquisitely beautiful O. crispum, of which the spikes abound on all sides. The examples of this species afford a great diversity of form and colour, the majority of the varieties being remarkably good. The other odontoglossums in bloom include O. mirandum, a very distinct species, the flowers of medium size and a bright golden colour, with a broad reddish brown band down the centre of each of the sepals and petals; O. mulus, a are aud handsome form, with richly blotched flowers; O. hebraicum and O. Cervantesi, two charming species, of which the flowers are blush white with purplish markings; O. maculata, a pleasing species, with pale coloured flowers; O. gloriosum, O. pulchellum major, a large form of this pretty pure white species; O. grande, distinguished by the massiveness and rich colouring of the flowers; O. Roezli, O. Pescatorei, which, like O. crispum, possesses much beauty; and O. Rossi majus. There are scores of plants of the last mentioned species in bloom, and as they are arranged to form a large group in one of the houses they present a very attractive appearance. These afford a great variety of colouring, the flowers of some of the forms being very distinct both in the matter of size and the richness of the markings. Oncidiums are less plentiful than the odontoglots, but there are sufficient in bloom to show that they are well able to contribute materially to the attractions of the orchid house at midwinter. Some of the most conspicuous of these were O. tigrinum, O. unguiculatum, O. cucullatum, and O. phalænopsis, the last-mentioned being of exceptional beauty.

The cattleyas and lælias produced a fine effect in the several structures devoted to them. Cattleya Trianæ, which is now at its best, is represented by a considerable number of flowering specimens; and as they all differ more or less, they are very interesting, as well as attractive. The white form, known as C. Trianæ alba, is most pleasing, and C. Trianæ Imperator at once arrests attention by the depth of colour of the labellum. C. Percivaliana magnifica must be mentioned as one of the finest of the several varieties of this species, for the flowers are considerably above the average in size and the colouring of the labellum much intensified. Lælias include varieties of L. anceps, of which Barkeriana is distinguished by depth of colour; L. autumnalis atrorubens, a superb variety, with flowers of a brilliant purple-rose hue; L. Dayana, a well-known dwarf species, usually flowering during the winter; L. albida, and its two varieties known as Bella and Mariannæ; and L. harpophylla, which has orange-scarlet flowers, and presents a striking contrast to the other species.

The useful Lycaste Skinneri includes numerous distinct and very handsome varieties, chief amongst them being the rare white form. Cœlogyne cristata is now producing its flowering spikes in the most profuse manner, and the large group of specimens of the Chatsworth variety have a fine effect. This variety, it may be observed, bears much larger flowers and longer racemes than the type, and is in other respects superior to it. C. cristata Lemoiniana, which bears flowers marked with a lemon-coloured blotch, and the exceedingly rare C. cristata alba, are also well furnished with flowers. Masdevallias comprise M. ignea Massangeana, M. ignea militaris, M. Polystricta, M. Wagneri, and M. tovarensis—the last mentioned, which has pure white flowers, being especially useful for the supply of cut bloom. Ada aurantiaca presents a bright appearance, and the equally brilliantly coloured Sophronites grandiflora produces a brave display in one of the houses, there being not less than a hundred examples in full bloom. Amongst the more heat-loving subjects that are in bloom are Phalænopsis amabilis, P. Schilleriana, Saccolabium giganteum, Vanda tricolor formosa, Dendrobium Ainsworthi, D. Wardianum, and several calanthes.

LAND CULTIVATION.

The following is the complete text of a Bill to promote the better cultivation of land, which has been brought in by Mr. Bradlaugh, Mr. Labouchere, Mr. Arch, and Mr. Burt:—

1. This Act may be cited as the Land Cultivation Act, 1886.

2. From and after the 1st day of January, 1887, any person shall be guilty of misdemeanour who shall hold in any agricultural district any land of more than 100 acres in extent in a waste or uncultivated state, unless such land shall not for any purpose be cultivable with profit, or unless such land shall have been devoted to some purpose of public utility or enjoyment. That upon the trial of any indictment for such misdemeanour, evidence shall be given of the quantities and description of the land uncultivated and of the actual annual produce of such land for the preceding 14 years, and the jury before whom such misdemeanour shall be tried shall specially find such facts.

3. Upon conviction for such misdemeanour the Commissioners hereinafter appointed to carry out this Act may forthwith eject the person so convicted as to all the lands found by the jury to be so uncultivated, and thereupon the said lands shall henceforth vest in the said Commissioners.

4. The person so convicted and ejected shall be entitled to receive from the Consolidated Fund, for the term of 25 years from the date of such ejectment, an annual sum equal to the average value of the annual actual produce of the said lands, calculated over a term of 14 years prior to the date of such conviction.

5. The Commissioners shall, within one month from the date of such ejectment, cause public notice to be given in the district where such land is situate, and also through the chief London and provincial papers, inviting tenders from persons willing to become actual cultivating tenants of the said lands in parcels not exceeding 40 acres to any one person, and the Commissioners shall in their discretion let the said lands to tenant cultivators, with such conditions as to term of tenancy, rent, reclamation, drainage, and cultivation respectively as shall afford reasonable encouragement, opportunities, facilities, and security for the due cultivation and development of the said lands.

6. The Commissioners for the purpose of carrying out the provisions of this Act and of performing the duties and exercising the powers hereinbefore enacted shall be "The Commissioners of Her Majesty's Woods, Forests, and Land Revenues."

TRUTH is TRUTH till time shall end.—The Queen of domestic drinks is *Pure Tea*; it is better adapted to satisfy the craving of the human race, under all conditions, than any other beverage; but one alarming danger to the consumer is ever present: Tea in an adulterated form, painted or "faced" with mineral powder to give an unreal value, is commonly sold in this country. In health and in sickness HORNIMAN'S PURE TEA is always preferred because it is what it professes—a very strong, rich, delicious, and absolutely genuine article; supplied at London fixed prices by Agents who are constantly receiving fresh supplies from London. See list of Local Agents (Chemists, &c.), in all papers, and at Railway Stations.—(Advt.

OPEN SPACES IN PARLIAMENT, 1886.

Notwithstanding that the present session is notoriously barren of railway schemes, no less than 163 acres of open land are threatened by the comparatively few Bills which have been deposited. Such a fact shows what havoc would by this time have been played with common lands had it not been for the exertions of the Commons Preservation Society and its friends, and how necessary is constant watchfulness at all times. The chief offenders this year are two Bills which traverse different tracts of the chalk downs. A Bill for connecting Brighton and Newhaven by a direct line (one of two rival schemes) is laid out mainly along the South Downs. Five acres of two common downs are said to be actually required for the line, but no less than 50 acres are included within the limits of deviation. It is well understood that there is nothing to prevent a railway company taking possession of the whole of the land scheduled within the limits of deviation if they choose to say, when the time comes, that it is required for the purposes of the line. The Shanklin and Chale Railway Company seeks power to construct a railway from Chale to Freshwater, the connection of Chale with the Isle of Wight Railway near Shanklin having been already authorized, though not, so far as we know, actually effected. The line traverses the beautiful downs which command the south-west seaboard of the Isle of Wight and terminate on the Needles. No less than 30 acres of Compton Down and 40 acres of Afton Down are scheduled as within the limits of deviation; and though only seven acres of the one and eleven of the other are said to be actually required for the line, the powers of the company are not restricted, and the greatest injury may be inflicted on these breezy heights. Indeed, it is probably of little consequence in this case whether the less or greater quantities are taken. A gash in the shoulder of one of the giant mounds will effectually destroy its beauty, though the area absorbed by the process be reduced to a minimum.

It is proposed to carry a railway already authorized from Barnstaple to Kentisbury, from that point to Lynton. In its course the line would traverse Martinhoe Common, or Broad Moor, occupying three acres of it. This is not in itself a very serious matter; but Parliament should not omit to consider the general effect of the line on the common and the charming scenery of the district. The remainder of the total quantity (163 acres) proposed to be taken is chiefly accounted for by a line of the North-Eastern Railway, which will appropriate 14 acres of a Yorkshire moor near Pickering, and two South Wales lines, which together threaten 21 acres. In some of these cases the proposal may not be an unreasonable one, but it must always be remembered that the public are in every instance deprived, without compensation, of land to which they have hitherto had free access.

Two Bills encroach upon village greens. A cross line projected to connect the South-Eastern Railway at Lee with the North Kent line at Erith threatens a quarter of an acre of Eltham Green, an open space of about seven acres; but it is possible that permanent appropriation may not be contemplated. The other is a more serious case. The South-Eastern Railway are promoting a cross line, under the name of the Appledore, Hythe, and Sandgate Railway, which appears to have been deliberately taken through the town green of Hythe, more than four acres of which are within the limits of deviation. The green was in a poor part of Hythe and is obviously the last kind of open space which should be curtailed. The company should certainly be bound to avoid the spot altogether or to provide suitable ground for recreation in place of that which they take from the public. A nice question is raised by another Bill, which, on the face of it, appears harmless enough. The Muswell Hill Estate and Railways Bill purports merely to transfer the railway serving the Alexandra Palace to a separate company, with a view to its being worked as an ordinary line. It was, however, in consideration of the right to make this railway that the Muswell Hill Estate Company entered into an obligation to Parliament to preserve the grounds of the Alexandra Palace as pleasure-grounds in perpetuity. The Alexandra Palace is a failure, and sooner or later the grounds must become a public park if nothing is done to enable the owners to build upon them. It is by no means clear that the present Bill may not indirectly compass that end, and it would be well that such an effect should be distinctly negatived.

The time has, happily, passed when the only Bills relating to open spaces were those which proposed their appropriation. Every session now sees schemes for the dedication of land to the public. This year the Corporation of London seek power to accept from the Ecclesiastical Commissioners the Highgate Woods and land at Kilburn which have been generously and wisely offered to the public. The *Times* has repeatedly urged upon the Corporation the propriety of accepting this handsome gift, and it is most satisfactory to find that the reluctance of that body to face what will, no doubt, be a considerable expenditure on the drainage of the land at Kilburn has been overcome. We trust that before the session is much older the Metropolitan Board of Works may similarly be converted to the wisdom of acquiring the lovely tract of land at Highgate which is the inseparable companion of Hampstead Heath as the public know the Heath. It has been repeatedly pointed out that not only is this land most valuable in itself, but its conversion into building land will spoil the best prospects from the Heath, and reduce the only common of North London to the rank of a second or third rate open space. The committee over which the Duke of Westminster and Mr. Shaw-Lefevre preside, undaunted by the inaction of the Metropolitan Board, has introduced a Bill to enable that body to acquire the land by agreement from its present owners. It is understood that the committee is at present busily engaged in negotiations which it has good hopes of bringing to a favourable issue, and all London must warmly wish success to its efforts. Meantime the Metropolitan Board adds something to London's open spaces in Little Wormwood Scrubs—an area of 32 acres at Fulham—and Highbury Fields. In the latter case the parish of Islington handsomely finds half the cost—£70,000—by a special rate on its own constituents, a precedent which should be borne in mind when final arrangements are made for securing Lord Mansfield's land at Highgate. On the other hand, the most strenuous efforts of all who wish to keep London airy are required to secure the withdrawal or rejection of the Bill of the Governors of the Charterhouse, which would not only doom to destruction buildings of unique historic interest, but would cover much open ground in the heart of the town with shops and warehouses. If the societies interested in open spaces have not already turned their attention to this Bill, they should lose no time in sounding the note of opposition.—Abridged from the *Times* of January 30, 1886.

"THERE IS UNQUESTIONABLY" no better remedy in the whole world for all cough and throat troubles than Keating's Lozenges—any medical man will assure you of this fact. Relief is speedy; they contain no strong acting, but only simple drugs; the most delicate can take them. Sold everywhere in 13½d. tins.—[Advt.]

Replies to Queries.

Peach-house.—W. H. We should prefer for your purpose Barrington and Grosse Mignonne peaches and Elruge nectarines. If you want another nectarine take Rivers's Albert.

Boiler for Greenhouse.—W. H. C.—The boiler you mention is admirably adapted for heating a greenhouse of the dimensions stated. The manufacturers will select a boiler of a suitable size if you give them the number of feet of piping that you require to be heated.

White Plume Celery.—Amateur.—This celery has not justified the expectation of cultivators, and we would not advise you to grow a larger number of plants than will enable you to determine how far it is adapted to your requirements.

Early Flowering Gladioli.—B. H.—The early flowering gladioli of the type represented by Colvilli must be planted with as little delay as possible to ensure their blooming at their proper season. One of the most useful varieties to grow in quantities for the supply of cut flowers for indoor decorations is Colvilli alba, or The Bride.

J. R. S.—The drainage from stables and dungheaps, etc., is everywhere employed as liquid manure, and the practical men who have no time for measuring and testing follow a rough method that answers perfectly. They dilute it with water until it is the colour of pale ale, and then it is safe for use where wanted.

Small Forcing Apparatus.—H. J. S.—There are several small contrivances for raising seeds and cuttings, and they answer very well. Perhaps your best course would be to write to Messrs. Toope and Co., 1, Ben Jonson's Road, Stepney, and to Mr. Bruce, 90, Blackman Street, Borough, asking each for printed prospectus. You could then make choice of apparatus likely to suit you.

Zonal Pelargoniums.—J. B.—It is not as a rule advisable to keep zonal pelargoniums after the second year; but two-year-old plants usually bloom most satisfactorily when bedded out. The examples that have been pruned will make a more satisfactory growth if they are repotted when the shoots are between one and two inches in length, previously reducing the balls of soil by at least one half and shortening the longest of the shoots.

Rhubarb.—G. S.—One of the best of the varieties of rhubarb for early forcing is Hawke's Champagne, which is as early as the Early Red Albert, but of finer colour and flavour. The most useful variety for late crop is Victoria, which is a good cropper, and of excellent flavour. The latest of all is Stott's Monarch, which has bright green stalks, and is remarkable for its robust habit, the stalks under favourable conditions attaining an immense size.

Dressing Grape Vines.—N. C.—Grape vines receive an annual dressing of some approved insecticide annually for the purpose of destroying any insect pests with which they may be infested. If the vines are perfectly clean, they will not require dressing or painting. One of the best preparations to use is Gishurst Compound, prepared by dissolving it in hot water at the rate of four ounces to the gallon.

Exhibition Chrysanthemums.—W. S. asks: "Will some successful cultivator of the chrysanthemum tell me how to ripen the young growth? Last season I had a number of plants of the large flowering kinds that made very strong growths, but the flowers were comparatively small. This I attribute to the shoots not being properly ripened. I would also ask, Which is the best manure for chrysanthemums? Is sulphate of ammonia good for them? If so, when and how should it be used."

Shading Greenhouse.—J. B. (Grange-over-Sands).—Very little, if any, shading will be required by greenhouse plants until the end of March. The unsatisfactory condition of your plants last year was probably due to their not having had sufficient air. If you ventilate freely, the general stock of greenhouse plants will not be injured by full exposure to the rays of the sun at any time before the middle of April. The plants may perhaps have suffered from the soil having become sour, in consequence of the drainage being wanting in efficiency.

Striped Roses.—H. A. W. complains that his York and Lancaster Roses have run into self-reds, and are therefore less varied than formerly. He does not say how they have been treated. Now, we have found the striped roses run away when grown in heavily manured ground, and we should always be content to aid them with a top dressing, rather than allow their roots to make acquaintance with stimulants. And there is yet another method of keeping them true—and that is to propagate a new stock occasionally, so as to keep up a supply of flowers from young plants.

Marechal Niel Rose.—I have a rose tree in a pot in a greenhouse which is kept just warm enough to ensure the exclusion of frost. The plant is well set with buds, but every leaf shortly after its appearance and before it has attained any size falls off. The plant is thus perfectly bare with the exception of the buds. Can you tell me what is wrong, and so oblige one who has been a subscriber to the Gardeners' Magazine for many years? B.L.

[The rose tree is evidently in a very unsatisfactory condition at the roots in consequence, probably, of an impoverished and sour condition of the soil. It will be advisable to allow the plant to remain undisturbed until after it has flowered, and then it should be pruned and repotted. The shoots should be cut rather hard back, and when the new growth has attained a length of four or five inches shift it into a pot one size larger, and in doing this remove a portion of the old soil and cut away all the roots that are in a dead or decaying state. If you can conveniently do so place the tree when repotted in a structure in which it can for a short time be kept rather close and enjoy a temperature rather higher than that of the greenhouse. But it must not be subjected to the temperature of a forcing house, and a satisfactory growth will be made in the greenhouse. From the present time until repotted the supply of water to the roots must be sufficient to maintain the soil in a moist state and no more.—Ed. G.M.]

Begonias.—Young Gardener.—As stated in these pages on several occasions tuberous begonias raised from seed in the spring are not so suitable for bedding as plants raised in the year previous. They do not as a rule attain a sufficient degree of strength to bloom satisfactorily until an advanced period of the summer, and from the diversity in the habit and the colour of the flowers they do not as a rule present a very effective appearance. The proper course is to raise the seedlings in February or March, and at the end of May plant them in the mixed border or reserve ground. In the course of the summer they can have tallies put to them, and so marked as to indicate their habit and the colour of the flowers. When this is done and care taken to sort the tubers when lifted in the autumn it will be a very easy matter to form the most effective beds in the summer.

Names of Plants.—Amateur.—Callicarpa purpurea. F. Compton.—1, Cytisus alata; 2, Habrothamnus elegans; 3, Justicia speciosa (not well grown, probably not warm enough); 4, Linum trigynum. R. H. B.—The ivy is a variety of the British Hedera helix; its rich bronzy colouring is the product of local circumstances. If grown in London it will lose that character.

Golden Gate.—Our esteemed correspondent, W. Bartram, writes that "'Golden Gate' is so delightful in its transitions from grave to gay and from folly to philosophy that I would not ask a question about it save and except that my question is for the public good. Tell me then, however briefly, if the flower figured on the title page is a 'fancy flower,' such as you raise a laugh at in the paper on 'Botany in a Bonnet Shop,' or a real flower that has some right to a place on the title page of a book that is so peculiarly Hibberdish from beginning to end." To this kind inquiry we can reply, "for the public good," that the cognizance or badge on the title page of the book is a kind of punning rebus. The flower figured is Hibbertia volubilis, whether appropriately or otherwise it is not for us to say. It is sufficient to deal with the fact that the figure is suggestive of a natural entity.

Markets.

COVENT GARDEN.

Fruit.

Apples .....per ½-sieve	2s. 0d.	to 3s. 6d.
Apples, American, per bar.	12s. 6d.	,,15s. 0d.
Cobs, Kent.... per 100 lbs.	25s. 0d.	,,31s. 6d.
Grapes .....per lb.	1s. 6d.	,, 4s. 6d.
Lemons ..... per case	8s. 0d.	,,10s. 0d.
Pears, Dessert....per doz.	1s. 6d.	,, 3s. 0d.
Pine-apples, English, per lb.....	1s. 0d.	,, 1s. 6d.
Pine-apples, St. Michaels, each.....	3s. 6d.	,,10s. 0d.

Vegetables.

Artichokes, Globe, per dz.	3s. 6d.	,, 4s. 0d.
Asparagus, English, per 100	7s. 6d.	,, 9s. 0d.
Asparagus, French, per bun.	15s. 0d.	,,20s. 0d.
Beans, French ...per lb.	1s. 0d.	,, 1s. 6d.
Beet .....per doz.	1s. 0d.	,, 2s. 0d.
Brussels Sprouts ..per lb.	0s. 3d.	,, 0s. 4d.
Carrots .....per bun.	0s. 4d.	,, 0s. 6d.
Cauliflowers .....per doz.	2s. 0d.	,, 3s 0d.
Celery.....per bun.	1s. 6d.	,, 2s. 6d.
Coleworts, per doz. bunch.	4s. 0d.	,, 6s. 0d.
Cucumbers .....each	1s. 0d.	,, 1s. 6d.
Endive .....per doz.	1s. 0d.	,, 2s. 0d.
Garlic .....per lb.	0s. 4d.	,, 0s. 6d.
Herbs .....per bunch	0s. 3d.	,, 0s. 4d.
Horse-radish .... per bun.	3s. 0d.	,, 4s. 0d.
Lettuces, Cabbage, per doz.	1s. 6d.	,, 2s. 6d.
Leeks.....per bun.	0s. 3d.	,, 0s. 4d.
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Hyacinths, Roman, per doz. sprays	0s. 9d.	,, 1s. 6d.
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Roses .....per doz. blms.	2s. 0d.	,, 4s. 0d.
Roses, Tea ..per doz. blms.	1s. 0d.	,, 1s. 6d.
Snowdrops . .... per bun.	0s. 6d.	,, 1s. 0d.
Tropæolum ..per doz. bun.	2s. 0d.	,, 3s. 0d.
Tuberoses .....per doz.	1s. 6d.	,, 2s. 0d.
Tulips ...per doz. blooms	0s. 9d.	,, 1s. 0d.
Violets.....per doz. bun.	1s. 0d.	,, 1s. 3d.
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Literature.

THE SCHOLAR'S FRUIT GARDEN.

Fruits and Fruit Trees, with Descriptions, Histories, and other Particulars. By Leo H. Grindon. (Simpkin and Co).—We must say of this book that had it been less interesting we should have noticed it earlier, for it might have been put on the shelf and forgotten. What in that case we should have said of it is of no consequence. But being attracted to it by its abounding interest, we put it aside not only for critical consideration, but for leisurely enjoyment, and in the dark days that have of late prevailed it has proved to us—with the aid of food and fire—a capital substitute for sunshine. Mr. Grindon cannot write a bad book, but as he is not a cultivator of fruit he might have missed his mark in some way in preparing the book before us. Now it appears that his innocence of the practice enhances his strength in the story, for he has been enabled to treat of fruits in a scholarly way, as a lover of books, as a collector of fables and fancies as well as of facts. Possibly no thorough fruitist could have assailed the subject in the same way with such perfect freedom. His knowledge of work and his local notions would have proved incumbrances deadly to the ideal view of the subject the literary treatment in some degree requires. Indeed, Mr. Grindon in this very book exemplifies the desirableness of considering the history of a fruit apart from the approved methods of cultivation, for in treating of the apple and the grape he forgets his first principles and wearies us with lists of varieties, suggesting what we are sure is not the case, that he is, in the pages so misappropriated, in a state of starvation for suitable matter. This book on "Fruit and Fruit Trees" will acquire a respectable place in the library, and the author will have an opportunity of improving those lists out of existence. In the meantime, we introduce the book to our readers as one that will afford them some useful instruction, for it contains much that will be new to most people; while those who know everything already will find it full of pleasant gossip, anecdote, and commentary that will render it an acceptable companion for the fireside.

It treats of the history of all fruits known to our markets, whether indigenous or foreign. The fruits are classed as pomes, berries, nuts, and so forth. Henry Phillips would have written just such a book had he possessed the requisite knowledge, but he did his best for the "Pomarium Britannicum," which has been a small storehouse of literary gatherings for lecturers and newspaper writers during the past sixty years. It is now for any such purposes, quite superseded by Mr. Grindon's fuller and more agreeable performance, which may be described in a word as the proper book, for any lady or gentleman can enjoy a gossip on fruits delicately flavoured with the spices of a suitable erudition.

An interesting budget of curiosities will be found in this volume. We learn of the pomander that was carried by dandies in the tims of Queen Elizabeth, that it was formed of the outer shell of an orange from which the pulp had been scooped out from a hole cut in the top, and, being dried, was filled with spices or fragrant flowers. It may be seen occasionally in old portraits, and is a frequent cause of perplexity to the unlearned. We are indebted to the orange, Mr. Grindon says, for the invention of the greenhouse, for it was to shelter this particular fruit tree that glasshouses were first constructed, and we all know how the orangery combined the idea of a classic temple with a house for plants, an ugly thing differing as dark from light when compared with the present orangery at Sawbridgeworth, or the warm fruit house in any private garden. In discoursing on lemons, Mr. Grindon says lemonade should never be made by pouring boiling water on lemons, but by squeezing the lemons into cold water, adding the cut-up rind of *one* (he does not say how many are to be squeezed), refined sugar to the amount needed, and, when procurable, a few crushed strawberries. The "forbidden fruit" obtains mention, of course, and we are glad to find that no new conjectnres are hazarded as to its identity. It is agreeable to learn that the apple has run wild in the park-like prairies of Chili, where the self-sown trees produce excellent fruit. In Brazil the orange has spread in a similar manner, the parrots being the means of distributing the seed. In the discourse on the barberry there is nothing said of its relation to certain fungi that prey upon the wheat plant, but this is a matter of some importance, and a lot of new light is available for the painstaking bookmaker. Mr. Grindon makes generous mention of our indebtedness to the Romans, to the monks, and to the crusaders for contributions to our fruit gardens, and to our knowledge of the cultivation of fruits. The indigenous Briton doubtless had enough to eat, but beech nnts and acorns do not, from the present point of view, compare favourably with apples and psars. Wild fruits and nuts must always have abounded here, and were doubtless fully appreciated long ore proper tillage was understood. The nuts were of some service to the founders of society, and Mr. Grindon discourses agreeably about them. He is at a loss for the origin of the word filbert, but the sound contains the key to the explanation, and fixes the name as comparatively modern. On August 22 nuts are rips or ripening, and that is the day of St. Philibsrt. In North Germany nuts are ripe about September 17, which is the day of St. Lambert, and the Germans call filberts Lambert's nuts. The date of the first saint is 684, and the othsr 709. Something more about the butternut seems wanting, for there are several nuts so called. The etchings in the book are, in their way acceptable, but they represent somewhat of a waste of force. The expenditure requisite to their production might, with more advantage to the reader, have been devoted to fignres in aid of the text. There are a few such, and they suggest the need for more. However, we must take the book as it is offered, and we have found it snch pleasant reading that we advise our book-loving readers to include it in the list of literary desiderata.

Obituary.

On January 22nd, at his reeidence, Merriott Nurseries, Crewkerne, Mr. John Scott, in his 79th year. Mr. Scott, who took a special interest in fruit culture, was the author of *The Orchardist*, and a frequent contributor to these pages until a few years since, when failing health compelled him to relinquish literary work.

Recently, at his residence, Cambridge, U.S.A., Professor C. E. Hamelin, of the Harvaid Museum of Natural History, with which he has been long connected.

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3 pkts.	Broccoli	1 pkt.	Parsley
3 pkts.	Cabbage	2 ozs.	Parsnip
½ oz.	Savoy	4 ozs.	Radish
3 ozs.	Carrot	3 ozs.	Spinach
2 pkts.	Cauliflower	1 pkt.	Scorzonera
2 pkts.	Celery	3 ozs.	Turnip
1 pkt.	Cours Tronchuda	1 pkt.	Vegetable Marrow
4 ozs. & 1 pkt.	Cress	4 pkts.	Herbs, Sweet & Pot
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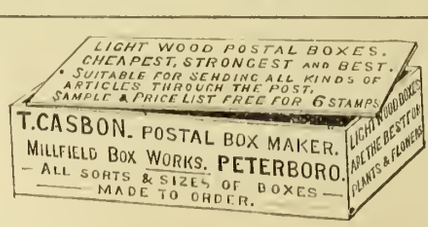

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1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
14	S	**6th Sunday after Epiphany.**	7 18	14 24	5 10	—	3 20	8 54	9 35	5 42	6 19	39·0	Cologyne cristata	Nepal.	45
15	M	Cardinal Wiseman died, 1865.	7 16	14 21	5 12	1 34	4 21	10 19	11 1	7 0	7 41	39 0	Cypripedium sedeni	Gar. hyb.	46
16	Tu	Melancthon born, 1497.	7 14	14 17	5 14	2 44	5 16	11 40	—	8 26	9 5	39·1	Dendrobium Pierardi	India.	47
17	W	Michael Angelo died, 1563. [1546.	7 12	14 13	5 16	4 0	6 4	0 15	0 46	9 40	10 11	39·1	Lælia anceps Barkeri	Mexico.	48
18	Th	○ Full Moon, 6h. 15m. after. Luther died,	7 11	14 8	5 18	5 20	6 45	1 13	1 40	10 38	11 5	39·2	Masdevallia tovarensis	New Grenada.	49
19	F	Cethin Colliery Accident, 1861.	7 9	14 2	5 19	6 43	7 19	2 4	2 29	11 29	11 54	39·3	Masdevallia Shuttleworthi	New Grenada.	50
20	S	Princess Louise Victoria of Wales born, 1867.	7 7	13 55	5 21	8 2	7 51	2 52	3 15	—	0 17	39·4	Phalænopsis Stuartiana nobilis	India.	51

CRYSTAL PALACE FLOWER SHOWS and FRUIT SHOWS during 1886.—Dates of all these Shows are fixed, and Schedules may be had from Mr. W. G. Head, Garden Superintendent, Crystal Palace, S E.

READING CHRYSANTHEMUM SOCIETY.—The 1886 show will be held on November 12 next. Amount off red for prizes considerably increased. Schedules of the Secretary, Wm. Smith, 97, London Street, Reading.

Auction Sales for the Ensuing Week.

Monday, February 15.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Liliums from Japan.

Wednesday, February 17.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Lilium auratum, Iris, Bulbs, Roses, &c.

Wednesday and Saturday, February 17 and 20.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, Shrubs, Border Plants, and Bulbs.

Thursday, February 18.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

Friday, February 19.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

THE GARDEN ORACLE for 1886 is on the same plan as former issues, the present being the twenty-eighth publication of this work. It contains complete lists of the New Plants, New Flowers, and New Fruits, and a Complete List of the New Parliament.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C., to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a colnmn, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, FEBRUARY 13, 1886.

The Report of the Royal Horticultural Society, as submitted to the annual general meeting, contains some items of special interest, but is strikingly laconic in its references. The fortunes of the Society are about the same as for several years past, and therefore there remain reasons for discontent—all of which, possibly, will be found to converge to one point. The financial case is after the old pattern: the concern is pinched, but is not embarrassed; the year's income is slightly deficient, but the balance on the wrong side is of small amount.

The paragraph which has been most freely commented on is that which announces that the Commissioners of the Exhibition will not consent to the renewal of the customary transferable tickets. It is a distinct reminder to the Fellows of their position; and as they are perfectly helpless, the less said about it the better. The Commissioners happen to know—and it would be strange if they did not know—that the transferable ticket is in most cases kept so actively in use that the privilege tells against their gate-money. The question has two sides, and it is not surprising that the views of the stronger party should at last prevail. The tickets will be at the command of Fellows in the usual way, and according to established rules, with the sole exception that the word "transferable" is expunged. That, we must confess, makes a difference; and the only comfortable course of procedure appears to be to liken the loss to the spilled milk that we have heard of.

The proposed exhibition by the Society in Liverpool in the coming summer is the subject of a hopeful paragraph; but the proposed Jubilee Exhibition in 1887 is the subject of a paragraph of a doleful kind. The Liverpool show is in favour; as regards the other, the Commissioners may be said not to jump at it. None but themselves can at present judge of their policy; but as outsiders, it may be fair for us to express an opinion that a comprehensive exhibition of the vegetable kingdom and its products would have as good a chance of success as anything yet attempted at South Kensington, and would afford a most suitable background for a series of horticultural exhibitions. But the refusal of the Commissioners to treat does not, of necessity, tie the hands of the Society: the hands may be tied, indeed, but they can free themselves when the will is ready; and it must not, even in these dark times, be said that the R.H.S. cannot manage an exhibition without the aid of the Royal Commission.

The references to Chiswick are as brief as the rest, but there is comfort in them. The work is to go on in the old way; the trials of roots, vegetables, flowers, and fruits will be continued, and special mention is made of collections of ivies and hollies. The ivies are planted; the hollies are not. It will be found impossible to make room for them without a considerable clearance of the old pear trees, most of which have fully served their purpose, and might be cleared off to the advantage of horticulture in general and the Society in particular. It is not alone sufficient to collect and compare the varieties of hollies and ivies; the pæonies, irises, phloxes, pyrethrums, and many more good things that are grown in collections, might be taken in hand with benefit to all who are interested in them, and with special reference to the present juncture in the society's affairs.

"The present juncture" derives its chief interest from the suppression of the transferable ticket. We confess that the Commissioners have a strong case, for their first duty is to guard their gate-money. But the cessation of a privilege is usually felt as a vexation, and it is within possibility that the Commissioners have made a mistake to their own injury in their zeal of self-defence. The R.H.S. has contributed in no small measure to the success of the International Exhibitions; but it has no legal standing there, and the connection bristles with disadvantages. We speak of the work at Chiswick; and we do not forget, and we hope the Fellows generally will endeavour to keep in mind, the fact that South Kensington cripples Chiswick by its immense absorption of energies that horticulture needs and does not obtain. In plain truth, Chiswick is starved, and the present juncture brings the fact home to us. The Commissioners will not grant transferable tickets, and will not speculate on a Jubilee Exhibition; but, for all that, the Society is in bondage, and can only dance in fetters upon such planks as the Commissioners provide. Not a few of the Fellows must be sighing for freedom. To those who sigh we commend the words of the noble poet—"They who would be free, themselves must strike the blow."

The annual meeting and the first dinner of the R.H.S. were of a quiet nature, but there ran through both the interest that attaches to a prospect of better things. The "revolution" of years gone by was the result of a surrender of the Council to extravagant demands made by Her Majesty's Commissioners. The present Council does better than simply surrender: it submits to the inevitable, which is an act of prudence; but it declares its intention to acquire complete independence, and therein it will have the hearty co-operation of the Fellows. The dinner afforded the occasion for a declaration of policy. The Chairman, Sir Trevor Lawrence, M.P., said, in effect, that the connection of the Society with the South Kensington concern was drawing to a close. The public would support them in re-establishing the corporation as the representative of horticulture apart from other and perhaps antagonistic undertakings; and their one great want was a place in which to continue the fortnightly exhibitions, which had been, and still were, the most useful and most vital of the Society's operations. Professor Thiselton Dyer promised that better business would be done in the future than in the past; and Professor Michael Foster spoke of a fresh habitation as being absolutely needful, the connection with South Kensington having lasted longer than was good for the Society or the work it was appointed to accomplish.

York Floral Fete will be held June 23, and two following days.

Mr. W. C. Leach, late gardener at Fineshade Abbey, has succeeded the late Mr. W. Kemp at Albury Park, Guildford.

Mr. S. Taylor has been engaged as gardener at Clopton House, Stratford-on-Avon.

Lewisham Horticultural Society will hold its summer exhibition June 29 and 30, when special provisions will be made for roses.

Twickenham Horticultural Society will hold its summer exhibition June 29; and autumn show November 4 and 5.

Oxfordshire Chrysanthemum, Primula, and Fruit Society.—Annual Exhibition Tuesday, November 23.

Mr. W. Rae has received charge of the gardens of Dankeith, Symington, the residence of J. D. White, Esq.

Bristol Spring Show will be held in the Colston Hall March 17 and 18.

York Floral Fete will be held June 23, 24, 25. The schedule includes prizes amounting to £50 for orchids.

Dr. Maxwell Masters, F.R.S., has resigned the post of Foreign Secretary of the R.H.S., which he has filled for many years with signal advantage to the society.

Sensation Begonias are finely figured on a large plate of coloured portraits we have just received from Messrs. Laing and Co., Forest Hill.

Messrs. Webb and Sons had an important trial of agricultural machinery on their Kinver seed farms on Tuesday, at which the leading agriculturists in the Midland Counties were present.

The proposed Provincial Exhibition of R.H.S. at Liverpool, referred to hopefully in the R.H.S. report, progresses fairly well, but there remains little time now for completing the organization.

"Kew and its Work" is the title of a lecture given by Mr. J. G. Baker at Westminster, the text of which appears in *Gardeners' Chronicle* of February 6 and 13. It is the best account of Kew Gardens we have seen—far better than that in the official guide-book.

National Chrysanthemum Society has decided to revise its catalogue, and publish a new edition as soon as possible. Mr. C. Harman Payne has been appointed secretary of the Revising Committee.

M. Simon Delaux, of Toulouse, has promised to offer a cup of the value of £24 for plants, and a medal of the value of £4 for cut blooms, of his new chrysanthemums at the exhibition of the National Chrysanthemum Society, 1887.

Dene Holes appear to be illustrated in the Etruscan necropolis on the Esquiline Hill described in Mr. Middleton's "Ancient Rome," just published by Messrs. Adam and Charles Black. Tombs that were reached "by a descending shaft, with holes cut at intervals for foothold," seem to bring the dene holes before us.

Sulphate of Ammonia as Manure is the subject of a brief treatise by Professor A. H. Church, published in pamphlet form by Mr. Slater, of Sheffield. The paper is of considerable importance to all who employ artificials, and the comparison between sulphate of ammonia and nitrate of soda tends directly to true economy in high farming.

Two comets of exceeding brightness are expected by astronomers to adorn our heavens in April next. Comets sometimes bring fine summers, sometimes rainy summers, and sometimes they bring nobody knows what. To the people who believe comets are signs of something or other it will be quite stimulating to have a promise of two "exceedingly brilliant."

Cattleya Trianæ was represented at the meeting of the R.H.S. on Tuesday by several exceptionally fine varieties, chief amongst them being C. Trianæ Schroderiana, from Baron Schroder's collection, and C. Trianæ Ernesti shown by Mr. Measures. The first-mentioned is remarkable for the large size and superb colouring of the flowers; and the other is distinguished by the large wedge-shaped blotches of bright rose at the points of the petals.

"Imperial Federation" is the title of a substantial paper projected "for the purpose of advocating and diffusing information in reference to the Federation of the British Empire. The subject to which it is devoted will be treated of from time to time by eminent authorities in Great Britain and the Colonies." It is published monthly at present. If it is to make an impression it must be published weekly. The offices are at 2, La Belle Sauvage Yard, London, E.C.

Turner Memorial Fund.—A meeting of the committee was held at South Kensington on Tuesday, when it was decided that the amount received on the closing of the fund be invested in Consols, and Mr. H. J. Veitch, Mr. H. M. Pollett, and Mr. H. Turner were appointed to act as trustees of the fund. It was also resolved that the competition for the prizes offered under the trust should be limited to amateurs. The treasurer's statement showed that the sum of £175 had been received, and, after a brief discussion, it was decided that the subscription list should remain open a short time longer.

The smallest white daffodil is named "Minnie Warren," it is said to be violet-scented; the perianth lobes are a little less in length than the trumpet, which is very prettily crenated. The colour is cream-tinted white, and if it is not absolutely coloured, then there are no selfs in nature, whatever Mr. Brockbank and others may say. It comes near to Cernuus in general tone. Mr. Hartland, to whom we are now indebted for a bunch of fresh flowers, believes it to be the single form of Capax. By that we understand him to mean the single form of Eystettensis.

SINGLE DAHLIAS FROM SEED.

Unless single dahlias are required in distinct colours for any special purpose, I have come to the conclusion that named varieties are not worth the trouble they take to preserve them through the winter, and the labour entailed in keeping them correctly labelled. I secure seed that has been carefully saved from a good strain, such as those of Mr. Ware, of Tottenham, and Messrs. Cannell and Sons, of Swanley. I have a great variety of colour, and flowers quite equal in form to the best named sorts. I made a clean sweep last autumn of a rather large collection of single dahlias (except Paragon), which I had been collecting for several years, because, having grown at the same time a good number of seedlings, and made comparisons, I found that for all the purposes of garden decoration, and for the production of cut flowers, the seedlings were quite equal to the named varieties. I discarded the whole lot that I had carefully preserved for so long; and until I can see varieties that are really worth keeping, I intend to depend on seedlings. In fact, they will be treated as annuals; and unless I am very unfortunate in obtaining the seed, I feel sure I shall not regret doing so, and at the same time save time and labour.

Single dahlias are so easily raised from seed that any number of plants may be obtained if only room can be devoted to them. It is necessary to sow the seed in good time, and to provide a suitable temperature in which to raise the stock. If the seed is sown by the middle of February, and the plants grown on for two months in a house where the temperature is maintained at or about 60 deg., they can be had large enough to flower as early as those raised by cuttings from old roots. Sow rather thinly in pans filled with fine sandy soil, and as soon as the seedlings are large enough to handle they should be potted singly in four-inch pots. I like to give them a fair amount of space at first, as then they do not receive any check by being repotted. If placed in pots of the size advised, they will not require larger ones, but will attain to a good size in them by the time they are wanted for bedding out. But to have them of a suitable size they must be provided with sufficient warmth and shelter until the middle of May, so as to keep them growing. After that time they may be taken to a cold pit or frame, and kept rather close for a week, when the lights may be taken off during the day, so as to gradually harden them.

Every one has his set time for beginning to bed out, against which I have nothing to say. But I know that with regard to planting out dahlias there is nothing gained by being in a great hurry. The first week in June is, in most cases, early enough to put out such a delicate plant, but much depends upon the locality and the condition of the plants, so that not wishing to be dogmatical in this matter, I will say let every one choose their own time to plant them out. R. H. B.

PRUNING ORCHIDS.

For two or three years past we have heard a good deal about the advantages and disadvantages of pruning orchids. I have not joined in the discussion, because I knew that very few of those who advocated pruning knew exactly what was understood by the term. That I was perfectly right in my conjectures has been sufficiently proved during the past month. We were told that by pruning the dendrobiums, lælias, and a few other classes, the plants would make a more vigorous growth than would otherwise be the case, and that they would present a much more attractive appearance. To support these assertions a specimen of Lælia anceps was exhibited at the January meeting of the Royal Horticultural Society. But this it wholly failed to do. It was a remarkably fine specimen, and reflected the highest credit upon the cultural skill of the exhibitor, the foliage being in the best possible condition, and the flower spikes grand. But it failed to show the advantages of pruning, simply because the plant had not been pruned. The exhibitor had very wisely been content with removing the old pseudo-bulbs as they became leafless; and, from the appearance of the plants, it is doubtful whether one of them had been removed before it was five years old. There is nothing new in this; for it has long been the practice of all the good growers to remove old pseudo-bulbs when they become unsightly, or were likely to injure the plants by overcrowding. I have alluded to the matter now, because the question is still being discussed; and I think it desirable it should be generally known that both sides are doing nothing more nor less than fighting a shadow. It is not my intention to engage in such unprofitable work; but as the result of a long and successful experience, I would say that the dendrobiums should be thinned when becoming overcrowded by the removal of the old pseudo-bulbs, and that the pseudo-bulbs of lælias and cattleyas may be removed without injury when they have lost their leaves. But in the case of the two last-mentioned, the only advantage is the improvement in the appearance of the plants.

Orchidophilist.

Galanthus Elwesi, one of the finest of the Giant Snowdrops, was admirably shown at South Kensington on Tuesday, and received the distinction it so well deserves. Examples were shown from frames, and from sheltered positions out of doors—the latter having much the finest flowers.

Haite's Plant Studies.—Mr. Quaritch announces the completion of this series of drawings of plants, comprising fifty plates and five hundred cuts to elucidate the text. The work is intended chiefly for the use of artists and designers, who may consult it with advantage, not only for its immediate suggestiveness, but as a corrective in respect of details of character and expression in which often the decorators make grievous mistakes. The price of the complete work is three guineas.

PREPARATION OF SUMMER BEDDING PLANTS.

By William Earley.

If there is one thing in gardening more than another that taxes the ingenuity of the amateur grower, it is the preparation of the needful stock of bedding plants for the future season's display in the flower garden. It is only by beginning to propagate early and well that this can possibly be done successfully.

One of the chief considerations in connection with this work is to secure a goodly stock of autumn-struck cutting plants, or in some shape secure such a store as will afford a quantity of needful cuttings in the early spring months, and by early spring we mean not later than the months of February and March. There exists, however, a very great difference between the several subjects grown and employed for this purpose. Some are very tender, difficult to keep through the winter months, and require, therefore, not only more heat to maintain them in health throughout the winter, but more skill than others. Amongst tender subjects I may refer to Coleus, of which the good dark-leaved bedding variety known as Coleus Verschaffelti is an example; and all the alternantheras, which will not subsist in a lower winter temperature than 50 deg., and then only when kept moderately dry. As a matter of course, they do perfectly in a higher temperature. As most growers desire these rare and high-class subjects, it may be well first to refer to them. Where they may have been successfully kept thus far, and through the most trying period of the whole year, it will be well now to give them more warmth, to cause them to grow and produce cuttings. This is best done by placing them at the warmest part of any moderately cool structure, if there is no stove or propagating pit, and then giving them a little more water. In the afternoons of sunny days a slight sprinkling overhead with tepid water will be beneficial.

It will, in all cases where possible, be best to form a hotbed; place a frame over it, and when the excessive steam is reduced to a minimum, to place the old plants on the bed. The hotbed may be made up with stable litter or leaves. The material should be thrown into a cone-shaped heap to heat for about a week or ten days. By these means steam will be engendered, and much noxious gas will be carried away. Unless the materials are very rank and strong, this would suffice; and the next effort should be to make these materials up into a bed. Such a bed should be at least six inches larger on all sides than is the exact size of the frame to be placed upon it. The materials must, in process of forming the bed, be well shaken up and separated; and the bed must be built up quite square, with the back about one foot higher than the front. To ensure a proper degree of warmth the bed should be not less than two-and-a-half feet in depth. As soon as the bed is formed, the frame should be placed upon it. Air must be admitted at the back, and the frame remain unoccupied for a week—and, indeed, until steam has risen freely and again declined in volume. Then tread the bed evenly and place about two inches of coal ashes upon the surface on which to stand the pots containing the plants. Air must be given to a limited extent at the back, accordingly as the heat is high or low and steam is engendered. The temperature may be moderated or increased by these means so as to range from 58 deg. to 68 deg.

When the plants are placed in the frame growth will soon commence, and as soon as the young shoots are long enough to furnish cuttings remove the plants into the greenhouse. When this has been done take the ashes off, shake up anew the materials forming the bed, and add a little more if the heat has materially declined. Again tread all evenly down, replace the ashes, and at once take the young shoots off the plants. Prepare them for insertion by cutting them sharply across, or diagonally, immediately below the pair of lower leaves. Insert in pots filled with sandy material and well crocked, and stand the pots upon the layer of ashes in the frame. Take care to press the soil down firmly, and to fix each cutting securely in the soil. Water them well in before the pots are placed upon the ashes. If care is taken to give air and sprinkle the cuttings occasionally with tepid water, they will soon strike and furnish a second crop of cuttings.

To the propagation of hardier subjects which suit amateurs much better than the foregoing I will now refer. These include calceolarias, pelargoniums, echeverias, &c., with which I will first deal. It may be that these will not be quite enough, especially of the newer kinds, to fill all the beds, which it is desirable they should occupy. It will be well, therefore, to now push them along with a little additional water and heat, so that the shoots of desirable kinds which may be long enough can be taken off and formed into cuttings as early in the month of March as possible. The cuttings should be taken off just above the lower leaf, and inserted in shallow pans filled with sandy soil. They will soon strike and form young plants, besides which the headed-down plants will also form other shoots, and again grow rapidly. The heads of all other young plants may likewise be taken off at that time. Echeverias and all such succulents should also be divided. Every small offset will form a plant rapidly, if taken off the parent stem and properly inserted firmly into soil.

There are many hardier plants than the above, which very materially aid the amateur, and indeed all others, in making up a display with limited means. They consist of such subjects as Cerastium tomentosum, Mentha pulegium Gibraltaricum, and Violas—all of which, and more, are most suitable to the best forms of ribbon and carpet bedding. The above are all propagated by means of division and cuttings; and a stock of either once obtained need not, if but these simple rules of propagation be observed, be again lost. In these cases the former is white-leaved, the second a very dwarf cushion-like green plant, and the latter are all but perpetual summer-blooming plants of the most pleasing colours.

Yet one other channel for good aid exists, and is to be found in sowing sundry annual seeds, such as those of the Amaranthus melancholicus ruber, a large mulberry-purple-leaved plant; Oxalis corniculata rubra, a purple-leaved form of a pleasing and very dwarf type. There is also the Golden Feather, so well known for its effectiveness. The two former should be sown in boxes indoors about April 20; and along with them the tall-growing Perilla may likewise be sown, though the latter must not be placed in heat, because seeds of Perilla will not germinate in a high temperature. In regard to the Golden Feather the seeds cannot well be sown too soon. Indeed, to form strong young plants for bedding out in April and May, it is often well to sow during the autumn months.

REPOTTING CHRYSANTHEMUMS.

By J. Mardlin, Finsbury Park, N.

In the directions for the propagation of chrysanthemums which were given at page 46, it is stated that when the cuttings are struck they should be put into three-inch pots and placed in a pit where they can be kept rather close for a short time. We have, therefore, now to consider the conditions most favourable to the plants making a strong growth, and the way in which they should be repotted.

In the first place it must be said that when the new roots begin to run freely in the soil, as indicated by the plants beginning to grow freely, the frame must be ventilated rather liberally, in accordance with the state of the weather. If it is cold and accompanied with keen winds, a moderate amount of ventilation will suffice to ensure their having sufficient air; but in warm, genial weather it will be necessary to admit the air more freely. It ought at all times to be borne in mind that if chrysanthemums are kept too close when in a young state, they will become weak and long-jointed, and have their value, whether intended for the production of exhibition blooms or the decoration of the conservatory, materially reduced. The lights ought, indeed, to be tilted a little at the back during the night, when there is not any likelihood of a frost. In mild weather the lights should be removed altogether, for the plants will be greatly benefited by the full exposure when it can be done with safety. The latest varieties will, as a rule, be ready for repotting by about the middle of April, and the early kinds by about the end of the month. The varieties which should, in the usual course, be repotted first are Queen of England, Lord Alcester, Golden Empress of India, Empress of India, Alfred Salter, Emily Dale—which, it may be here mentioned, is of much finer quality than Golden Queen of England, to which it bears such a close resemblance—Eve, Cherub, and White Venus. There are three varieties that, comparatively speaking, seldom have a place on the exhibition boards, and these are Mrs. George Rundle, the best of the white incurved; Mrs. Dixon, a yellow flower of splendid colour and quality; and Mr. George Glenny. They are not too small for exhibition, as is sometimes said to be the case, when well grown, and they have the great advantage of not requiring any dressing. If potted at the period mentioned they will produce capital blooms at a time when they will be found most useful for the early exhibitions.

When the plants receive their first shift they should be put into five or six inch pots, according to their strength and the character of growth of the varieties. It is essential to have both pots and crocks quite clean and dry when used. To wash pots is a very simple matter, and the crocks can be readily made clean by putting them in a sieve or wicker basket, and then placing them under a pump or tap for a short time, and keeping them well stirred as the water runs upon them. As an efficient drainage is necessary, a moderate quantity of rather small crocks should be carefully placed in the bottom of each pot, and be then covered with a layer of the roughest part of the loam to prevent the fine soil mixing with them and impeding the egress of the superfluous water. The compost most suitable for this, as for subsequent shifts, is one consisting of substantial fibrous loam, partly decayed manure, and fine burnt ballast. The loam and manure is used in the proportion of three parts of the former to one of the latter, and a small quantity of fine burnt ballast is added to keep the soil open. I do not use any silver sand after they are put into the three-inch pots, as the roots work better in the ballast than in the sand. It is an advantage to mix the loam and manure together a month or so before it is wanted for use, and turn it over twice. It may, perhaps, be useful to state that the manure ought not to be too much decayed when incorporated with the loam, as the chrysanthemum is less particular in that respect than most soft-wooded plants. Before using the compost it is desirable to pass it through a coarse sieve to take out the rough part; but it must not be made too fine, or it will become so close as to prevent the roots running freely. In shifting the plants care must be taken to press the soil moderately firm, and to make it of the same degree of firmness all round the ball, that there may be no danger of the water running more freely on one side than the other.

The stock will require a place in the pit until they begin to make new roots to assist them to recover quickly from the check received. Give the plants as much room as the space afforded by the pit will permit, and ventilate freely. The lights should, indeed, be drawn off when the weather will allow of its being done with safety to prevent the plants being drawn. As soon as the season is advanced sufficiently for there to be no danger of their being injured by frost, remove them to a position in the open. Select a situation where they will be sheltered from the north and easterly winds, and provide a good bed of ashes on which to place the pots. Each example should, when taken from the pit, have a small stick put to it to prevent its being blown about and injured. Occasionally dust the foliage with tobacco powder to keep down the green fly, which is very partial to chrysanthemums, and will do an immense amount of mischief if not kept in check, as many growers have found to their cost.

REARING CHICKENS BY THE AID OF A LAMP.

The artificial incubation of poultry forms a most interesting subject, and a correspondent of a country paper gives some details by which any person can make for himself the machinery. From a circular box 14 or 15 inches diameter, such as the American cheeses come packed in, remove the bottom, and then to the hoop fasten four legs made of board; let them be about two feet in length and three inches wide; take two tin pans seven or eight inches deep and about 14 inches in diameter at the rim, and have one of them more levelled or less sloping than the other, the handles or "ears" of the latter resting on the rim of the former. Set the pans in the hoop frame, cutting notches in the hoop for the ears of the lower basin. Next take some paper—a couple of newspapers will answer the purpose—folded several thicknesses, and paste them around the frame from the bottom of the legs to the top of the pans, turning the paper over at the top and bending it over into the pan an inch or two, the object being to make the apparatus as tight as possible, to retain and utilise the heat of a small lamp placed under the centre of the pans. With a sharp round-pointed instrument punch a hole in the inside of the upper pan, about three inches from the top or edge, and not more than a quarter of an inch in diameter. Take a small funnel, and, inserting it in this hole, fill the cavity between the two pans with water till you see it rise up level with the orifice; plug up the hole with a wooden or india-rubber stopper. Put a small thermometer inside the top pan, in such a position as will ensure its recording the greatest heat, should there be any difference in this respect. The removed bottom of the box, with an aperture cut in the centre, over which must be pasted a piece of window-glass for the purpose of admitting light for observation, will now serve as a cover to the machine, and is better let into the wood a little, as it will not then be so easily displaced. Light your lamp, place it under the pans, through a door which should be arranged in the paper casing; turn on a pretty good flame, and in about 20 minutes the thermometer will indicate about 90 degrees. Now turn down the flame gradually as the mercury ascends, till you have such a light as will cause the thermometer to stand at 100 degrees. Place in the upper pan one layer of eggs (about 30), marking them with pen and ink with the date of entry. In two days more put in another layer, writing the date on each egg as before. The object of doing this is to have a part of them to hatch out a day or two sooner than the rest, so that about the 20th day these earlier eggs may all be placed uppermost, thus avoiding the chance of pressure on the eggs that are "pecked" or "billing," as it is sometimes termed—that is, the chick, preparatory to its coming out of the shell, breaks a hole through it with its bill. So place the thermometer that the lower end of it will rest on the pan where the bottom joins the side or end of the slope of the pan, as here there very likely may be a degree or so greater heat at times. The water, when once raised to 98 or 100 degrees, will change but very slowly, and with a burner that is easily turned the flame and resultant heat are so readily regulated that the mercury will not show a degree's variation in eight or ten hours, provided of course that the apparatus be kept in a place not affected by sudden serious changes of the atmosphere. A closet or unused room serves the purpose very well for carrying out the experiment in. From 65 to 70 eggs will hatch nicely and comfortably in this way, and the trouble is certainly not great. After the fifth day turn the eggs every morning and sprinkle them with tepid water, scattering it on them with a whisk broom. The cover should be taken off and the light removed for 20 minutes in the middle of the day to air them. A higher temperature should not be allowed than 102 degrees, and from that down to 95. 'Blood heat," or 98 degrees, is found to be about the average heat of hens when sitting. A small hollow vessel of water placed on the eggs ensures beneficial moisture in a gentle way. If attended to with the reasonable patience that it merits (say looking at three times a day or so, and not allowing the heat to exceed 100 degrees nor falling below 94), 90 per cent. of the eggs placed in the incubator which is made after the above manner will hatch and do well. Fill the cavity between the pans with luke-warm water once a week. Feed the chickens with the yolk of hard-boiled eggs as soon as they will eat, and continue this food for five or six days, when they will eat almost any kind of food for birds. To keep the little things warm the first few nights, particularly if it happens to be a cold period of the year, put them in an old tin basin with a small lamp under it, and a layer or two of some soft woollen material in the basin for them to rest on, as a nest, throwing over all when they are in their bed a piece of flannel to cover them up. Some people tack strips of flannel to the inside of the lid of the receptacle that contains the chickens, letting the woollen strips, when the cover is put on, drop on and among them, thus acting as an artificial mother to the young brood.—*Morning Post.*

Obituary.

On the 1st inst., at The Grove, Hunton, Maidstone, Mr. John Robson, for many years gardener at Linton Park, Maidstone, the seat of Viscount Holmesdale. Mr. Robson resigned his charge at Linton Park ten years since, his employer granting him a pension.

On the 2nd inst., at Bramston, Lincoln, Mr. Charles Frisby, in his 71st year. Mr. Frisby, who had charge of the gardens of Blankney Hall, Sleaford, for upwards of forty years, retired a few years since on a pension generously granted by his employer.

On the 3rd inst., Mr. Henry Boller, of the Woodfield Nursery, Harrow Road, London.

TRADE CATALOGUES.

James Guyon Belton, Great Yarmouth.—*Chrysanthemums.*

C. Shilling, Hartley-Wintney, Winchfield.—*Vegetable Seeds.*

John Turner, Wetherby, Yorkshire.—*Vegetable, Flower and Farm Seeds.*

Frank Law, Oldham Road, Rochdale.—*Vegetable and Flower Seeds.*

Paper Mulberry (*Broussonetia papyrifera*) is a small tree, seldom over 30 feet high, cultivated solely for the sake of the bark, which is beaten out and made into cloth. The process is a very simple one. The bark is taken off in long strips, steeped in water, scraped, placed on a log of wood, and beaten with a mallet, two strips being beaten into one to add width and strength. The pieces are joined together without difficulty, the sap being slightly glutinous. Some of this bark cloth was shown at the International Exhibition of 1851.

Replies to Queries.

Tomatoes.—Inquirer, Hampshire.—The plants are evidently suffering from an excess of moisture at the roots, and we would suggest that the water supply should be materially reduced. Like potatoes, tomatoes suffer severely when the soil is kept in a constantly saturated state.

Tiplant.—R.P.—The Tiplant is *Dracæna terminalis.* It is abundant throughout Polynesia, growing from six to ten feet high. The leaves make excellent fodder for cattle. The roots, which are something like parsnips, are baked and eaten; a juice is extracted from them, and also a coarse sugar.

Names of Plants.—W. G.—Your pretty lillywort is a variety of Lachenalia tricolor. It has probably not had light enough to bring out the colour. J. M. B.—The seeds represent a pretty half-hardy trailer, Eccremocarpus scabra. J. Barber.—1, Strelitzia regina; 2, Gloriosa superba; 3, Clerodendron fragrans. H. W. R.—Clianthus Dampieri, differing from the type only in being very poorly grown. R. H. Curtis.—Ledum canadense.

Benthamia, &c.—F. A. I. W.—The Benthamia should thrive in the Isle of Wight if sheltered from sea breezes. Any good loamy soil will suit it. The Moræa will probably thrive in the border with you. In London it is a frame or greenhouse plant. The soil for it should be sandy. In constitution it is the same as ixia. To propagate Pittosporum undulatum, take cuttings of young shoots in May; put them in sandy peat, and keep close in a frame without bottom heat until rooted.

Lily of the Valley.—Young Gardener.—With proper management, the imported crowns will produce ample leaves in conjunction with the flower spikes. It is therefore quite unnecessary for you to act upon the ridiculous suggestion of writers who are unable to grow the lily of the valley successfully, and force English roots for the production of leaves, and the imported roots for the supply of flowers. When forced too hard, the flowers will come without leaves whether the roots be home grown or imported.

Dahlias.—J. B.—It will be well for you to begin with pot-roots if you can secure such sorts as you require, and it will be well also to start your own roots at once, on a moist mild heat, to obtain home-grown cuttings early. When the cuttings are large enough take them off and strike them. The business is of the easiest nature throughout, but you must not trust to a cold frame for it. Some growers snap off and throw away the strongest shoots that first appear and strike those of the second crop. We advise you to secure the best cuttings you can get, and to wait until you are expert in dahlia growing, when you may, if it suits you, destroy the first strong shoots that appear. The reason for destroying the strong shoots is that often the weaker shoots produce the finest flowers; but it is not always so.

Rhubarb.—B. C.—The most suitable kinds for the supply of the table are Hawke's Champagne for early use, Royal Albert for forming a succession to it, and Victoria for late use. To cultivate rhubarb with a full measure of success, the soil must be rich and deep, and as your soil is shallow the proper course to take in the formation of the new bed will be to remove the subsoil to a depth of twelve inches and replace with new soil. Rather strong loam will be preferable, but any soil that is available may be utilized. This should be supplemented by a liberal addition of manure and well-rotted vegetable mould. If you increase the depth of the soil to two feet, and liberally enrich it with manure and vegetable refuse, the plants will retain their full vigour for many years. After the first year the crowns should receive an annual dressing of manure or vegetable refuse in a half-decayed state, but the manure will afford the most substantial assistance.

Books.—R.B.—It will be far better for you to obtain a few good books than such a swarm of little ones as you appear to have in your mind. Loudon's Encyclopædia of Plants, and ditto of Gardening, will cost you about thirty to forty shillings each, and if you do not obtain the latest editions, it is not of great consequence. Thompson's *Gardener's Assistant* is published by Blackie, at thirty-five shillings, and is cheap at the price, considering its comprehensive and substantial character. A certain number of the smaller books will be useful. Amongst those in your list we advise you to secure Smith's *British and Foreign Ferns* at once, as it is of special value for reference.—W. Harding.—The Treatise on Home Culture of Water Cress is published by Allen, price half-a-crown. Shop Cresses have been worthless for a long time past, but those grown with the aid of shelter have been of the finest quality throughout the winter.

Dahlias.—W. Smith.—As you are desirous of raising a rather large number of plants from a comparatively small stock of roots, it will be necessary to begin at once to enable you to obtain a second crop of cuttings. Shorten the fleshy tubers by about one half, and then put the roots in six-inch pots and place them where they will have the assistance of a brisk temperature. After they begin to grow freely they must occupy a rather light position to ensure the production of short-jointed shoots. Propagation may commence when the shoots have three joints each, the proper course of procedure being to take them off immediately under the second or middle joint, and then remove the lower pair of leaves. The cuttings can be put singly in small sixties, or several together in pots of large size, but the preferable course is to use the former. In a very short time a second crop of cuttings will be produced by the shoots that have been cut back, and these should be taken when about two inches in length. Place the pots containing the cuttings on a hotbed; keep rather close, and water carefully, as too much moisture is decidedly injurious.

Slugs.—C. H. P.—In gardens where slugs abound and are very destructive to vegetable crops, systematic trapping and hand-picking must be resorted to. Cabbage-leaves over which a small quantity of lard has been thinly spread form most effective traps. They should be laid in the evening where the slugs abound, and in the morning all slugs destroyed. The most simple way of killing the slugs is to drop them into a pail or other vessel containing salt and water. Slugs are very partial to brewers' grains and bran; and by placing small heaps of either of these in suitable positions a considerable number may be caught. The heaps should be examined early in the morning, and those in which the slugs have congregated be gathered up, and thrown into a pail of water in which a little salt has been dissolved. In using lime for the protection of growing crops from these pests a moderate quantity must be sprinkled on the surface alongside the rows or about the plants, as the case may be, at rather frequent intervals, or, to speak more definitely, every second, third, or fourth day, according to whether the weather is wet or dry. It is not of any use to apply a dressing of lime and then dig it in for the purpose of destroying the slugs.

EVERGREEN CREEPER.

Ampelopsis sempervirens.

This fine plant requires a place in the world of books, and until it obtains such a place its merits are not likely to be appreciated. It is *Ampelopsis sempervirens*, or *Vitis striata*, or (possibly) *Cissus quinquefolia* of B.M. 2,443. We place it here under Ampelopsis, because it is worthy of consideration only as an ornamental plant, and the distinctions between the three genera cited are too shallow to be of any importance in the present connexion. We are enabled to figure this fine plant by favour of Mr. Sidney Ford, the accomplished gardener and pomologist at Leonard's Lee, near Horsham, who submitted fruiting samples at a meeting of R.H.S. in the past autumn. The vine is decidedly evergreen, having a three to five parted leafage, and bearing an abundance of dark purple berries. It is a fine companion plant to the pepper vine figured in G.M. August 4, 1883.

EVERGREEN CREEPER, *Ampelopsis sempervirens* (Berries purple).

Primula sinensis alba magnifica is named in our report on Mr. Owen's novelties, at page 61. Messrs. J. and J. Hayes, of Lower Edmonton, write to us on the subject, saying, "We raised it, and disposed of it to Mr. B. S. Williams, of Upper Holloway."

THE BEGINNER IN ORCHID GROWING.

A correspondent signing "Ambitious" asks for aid in the first steps of orchid growing. We forwarded his letter to one of our coadjutors whose *forte* it is to grow orchids in considerable variety, both for the market and the exhibition stage. The following is his reply:—

How to buy Orchids.—The proper course for the amateur to take in making a beginning is to obtain established orchids from a nursery. If after he has gained some experience he is disposed to engage in buying newly-imported orchids and starting them into growth, well and good, but no such course should be made at the commencement. In the first place, some judgment is necessary in buying orchids as they come from the cases in which they are received, and in many instances the most skilful management is necessary to start them into growth. But by starting with thrifty examples well furnished with roots there will not be much risk of failures occurring at the outset. Moreover, there will be no occasion for disturbing them at the roots or repotting them until they have been had long enough for the cultivator to become fairly well acquainted with their peculiarities. Purchase examples of moderate size and furnished with two or three young growths each, in preference to the small plants with one old pseudo-bulb and a new growth. It is sometimes advised that orchids should be purchased when

in bloom, and if the buyer is prepared to pay the extra price for fine varieties the advice should be followed. But the amateur who is desirous of forming a collection as cheaply as possible will have no occasion to trouble himself about the plants being in bloom, as at any of the nurseries he will obtain full value for his money. Moreover, choice high-priced varieties ought not to be taken in hand until some acquaintance has been formed with the cultural requirements of the respective kinds.

Cheap Orchids for the Cool House.

The following kinds will form a capital collection for an amateur to begin with, for the whole of the kinds, whilst reasonable in price, are very attractive, and not difficult to cultivate. We will first deal with those that will thrive in the cool house:—

Ada aurantiaca.—This is a very distinct and beautiful orchid, well adapted for the amateur. The flowers, which are of a bright orange-scarlet colour, are borne in long racemes, and they appear during the early spring months, lasting in perfection for several weeks. This should be grown in a pot.

Mexican Tulip, *Cattleya citrina*, derives its popular name from the resemblance of the flowers to those of our wild tulip, *Tulipa sylvestris*. It is an interesting and beautiful species, and invaluable to those who have not the appliances for the cultivation of the more heat loving orchids. It should be highly prized, for not only are the flowers of a clear lemon colour, and of great substance, but they are deliciously fragrant. It is an epiphyte growing in its native country upon the branches of trees. Grow it upon a block, and make it secure to the latter with copper wire. There is one point to take note of, and that is, fasten it on the block with the growing point downwards, as it refuses to grow when standing upright.

Noble Dendrobe, *Dendrobium nobile*, requires, properly speaking, the temperature of the intermediate house, but it will do fairly well with the cool species. It is the finest and most popular of orchids, and deservedly so, for few are so cheap, easily grown, and attractive. It is evergreen, and is a native of China, having been introduced in the year 1836. The flowers are produced in profusion, and are of large size. In colour they are pink and white, and the base of the lip is blotched with rich velvety crimson. With exhibitors, this is a very favourite orchid, as it may be readily grown in specimen form; and a large well-shaped plant when smothered with the showy flowers, presents a fine appearance.

Mexican Epidendrum, known as *Epidendrum vitellinum majus*, is not so popular with orchid fanciers as Dendrobium nobile, but it possesses sufficient beauty to justify its having a place in a small list of cool orchids. It is cheap, and easily cultivated, growing best in a pot. The flowers are fleshy, and of an orange-scarlet colour, and they last for a considerable time in beauty. It blooms during the summer months.

Skinner's Lycaste, *L. Skinneri*, is a capital species for the amateur, and should not fail to be grown. It thrives in a cool house, bears large, remarkably handsome flowers, and is cheap. Another point in its favour is that it is a winter-blooming species, and the flowers, if kept dry, last for weeks in good condition, even when in a cut state, and kept in the drawing-room. In colour the flowers vary somewhat, but the sepals and petals are generally white, tinted with rose, and the lip is of a similar hue, but having the base spotted with crimson. There is a pure white variety of this, but as yet it is very scarce, small plants being worth as much as ten guineas each.

Masdevallias form a useful group of cool house orchids, but we will recommend three species only for the beginner. One is *M. Harryana*, a gorgeous orchid, with flowers of a lovely magenta-crimson colour, but they are very variable, in some varieties the colours being remarkably rich. Another useful masdevallia is *M. ignea*, which, as its specific name suggests, has fiery red coloured flowers. It is of easy culture, and where showy orchids are required it should be cultivated. *M. tovarensis*, unlike the foregoing, is pure white, and the chaste flowers are of great value for indoor decorations during the winter months. It was found in Columbia, growing at an elevation of several thousand feet, and should be grown by every amateur who intends to cultivate orchids.

Nepaul Lady Slipper, *Cypripedium insigne*, is essentially an amateur's orchid. It may be grown with success in a warm greenhouse, and even in a drawing-room; but, of course, it never thrives so well in such a position as when placed in a proper plant house, where a suitable temperature is maintained. Although the flowers are neither gorgeous in colouring nor so curious in form as some orchids, they are very attractive. In colour they are green and brown, and the lip, which is a distinguishing feature of the cypripediums or lady slippers, is neatly formed and prominent. There is a variety named *C. insigne Maulei*, which has larger and handsomer flowers than those of the type.

Odontoglossums are general favourites, and as there are dozens of attractive species it requires care to select those most suitable for the beginner. One of the best is undoubtedly the famous *O. Alexandræ*, of which there are several magnificent varieties in cultivation, but they are high-priced, and, therefore, cannot be included in the present selection. The species under notice is very beautiful, and the flowers, which are usually of a rose and white colour, are produced in graceful racemes. This orchid is frequently to be seen at exhibitions, and it is not difficult to cultivate. It was found in Bogota, at an altitude of eight thousand feet. *O. cirrhosum* is a charming species, the flowers being spotted with purplish brown on a pure white ground. *O. citrosmum* and *O. citrosmum roseum* are both deserving the amateur's attention. *O. grande* and *O. Halli* are two excellent forms of easy culture. The former produces large flowers, striped and blotched with yellow and brown; the sepals and petals in the other kind are pale yellow, spotted with reddish brown. *O. luteo purpureum* is a useful orchid, bearing brown and white flowers. *O. gloriosum* must not be omitted, as the flowers are remarkably beautiful, being spotted and blotched with dull purple on a whitish ground. There is another odontoglossum deserving of mention, and that is *O. Rossi majus*, which is one of the cheapest. It is very pretty, easily grown, and the flowers are attractively coloured. The sepals and petals are white, striped with purplish crimson; the lip is large and pure white. It blooms during the winter months, and lasts a long time in perfection.

Oncidiums are useful, and the best for the amateur are: *O. flexuosum*, flowers yellow, spotted with a brownish colour; *O. leucochilum*, flowers greenish yellow, except the lip, which is pure white; *O. ornithorhynchum*, an easily-grown orchid, producing elegant spikes of sweetly-scented flowers of a pinkish colour.

Large-flowered Sophronites, known as *S. grandiflora*, is a valuable winter-blooming orchid, as the flowers are of a dazzling scarlet colour, and last, if kept dry, for a very long time. It was introduced in 1837, and is a native of the Organ Mountains of Brazil. It can be grown in either a pot or basket.

Trichopilia suavis has claims upon the amateur, as it is easy to grow, and the flowers are very pleasing; they are white, spotted with rosy pink. It was discovered in Costa Rica, at an altitude of eight thousand feet.

Cheap Orchids for Intermediate House.

In this list we will enumerate several of the grandest of orchids, producing flowers of large size, superb form, and gorgeous colouring.

Calanthes are very beautiful, and of easy culture. One of the best is *C. Veitchi*, a deciduous species, bearing in graceful spikes rich rose-coloured flowers. *C. veratrifolia* is of chaste appearance, but is rather expensive. The flowers are delicate white, and appear during the spring. It is a native of India. *C. vestita luteo-oculata* is an elegant variety, bearing white flowers, the lip having a yellow blotch in the centre.

Cattleyas must be included, although they are not of such easy culture as the other orchids mentioned. *C. Mendeli* has richly-coloured flowers, and the same remark applies to *C. Mossiæ*, *C. Skinneri*, and *C. Trianæ*. They should be grown in pots, and have a peaty soil.

Cœlogne cristata is a popular orchid, and justly so, for the flowers are produced in long racemes, and are pure white, with a yellow blotch on the lip. For indoor decorations the flowers are of great value. It grows best potted in peat, sphagnum, and small crocks, with abundant drainage.

Lady Slippers we must refer to again, for there are three kinds that succeed well in the intermediate house, but will not thrive in a lower temperature. *C. barbatum* is useful and cheap, and the foliage is beautifully spotted, constituting an attractive feature of the plant. The flowers are of a purplish and white colour. It blooms at different seasons of the year. *C. Harrisianum* is also cheap, and the flowers are not wanting in beauty. The sepals and petals are purplish, and the lip is rich vinous in colour, tinged with green. *C. villosum* is an old-fashioned species, bearing large flowers of an orange-red and purple colour, with the lip light brown. This was found in Moulmein five thousand feet above the sea.

Dendrobiums suitable for the intermediate house are many, but we will only mention four species for the beginner. They are cheap, and of easy culture. *D. chrysantham* is one of the showiest, producing bright yellow flowers, with the lip spotted with red. It flowers at different periods of the year. *D. formosum giganteum* is a splendid orchid, with flowers from four to five inches in diameter, and of a clear white colour, except the lip, which is spotted with yellow. *D. Pierardi* has beautiful white flowers; *D. Wardianum* is undoubtedly the king of Dendrobes. The sepals and petals are tipped with magenta on a white ground, while the lip is orange and spotted with crimson. It thrives best in a basket.

Lælias are general favourites, and in this genus there are many handsome species and varieties, but three will suffice for the amateur, and one is *L. albida*. The flowers are pure white, the lip striped with yellow, and they are sweetly scented. *L. anceps*, flowers rosy lilac, the lip dark purple. *L. purpurata*, a Brazilian orchid of rare beauty, with white sepals and petals, and rich crimson purple lip.

Odontoglossum Roezli and *O. vexillarium* are two species well worthy of cultivation. The flowers are of attractive colouring, and nice healthy plants can be procured at a comparatively cheap rate.

Oncidium sphacelatum bears yellow and brown coloured flowers, and is a very desirable kind. *O. varicosum* is a choice winter blooming orchid, bearing in profusion rich golden yellow flowers of large size. *Phajus grandifolius* has noble leafage, and it blooms during the winter. The flowers are large, and of a white and brown colour. It is a native of China, and of easy culture.

In the foregoing list we have of necessity omitted many beautiful members of this large family, but we have chosen those that are of easy culture, cheap, and attractive, as being the most suitable for amateurs.

Pots and Soil for Orchids.—As soon as the plants require a shift into larger pots or baskets it will be necessary to provide supplies of peat and sphagnum. There is not much difference in the quality of the latter, which can be obtained at most of the large nurseries and of the dealers in soils and sand, but there is a very great difference in the quality of the peat in the market. The best for orchids is that which contains plenty of tough fibrous matter, as it does not so quickly decay and become sour as samples consisting chiefly of decayed moss. In ordering peat the purpose for which it is required should be distinctly stated. A supply of pots, shallow pans, and baskets will also be required. The large specimens should be grown in pots, and the plants of small and medium size in shallow pans. The latter can be had from

three inches in diameter and upwards, and are especially adapted for small newly-imported plants. Some kinds can be grown most successfully in baskets, those made of teak being decidedly the best, because of their lightness and durability.

CHOICE PEAS.

To ensure a full measure of success in supplying the table with peas during the summer, it is not less necessary to select varieties suitable for the production of a successional supply throughout the season than it is to have the ground properly prepared and the seed sown at the proper times. The reason of this is so obvious that it need not be referred to at any great length. But it may perhaps be useful to some readers to say that the most satisfactory return is obtained for the labour when the supply is made to extend over as long a period as possible, and is at all times just sufficient to meet the requirements of the household, and no more. Great gluts of vegetables are at all times extremely wasteful, and they are more likely to occur with peas than with almost any of the other crops that have a place in the kitchen garden. They cannot always be avoided, because in some seasons the weather will set in hot and dry at the early part of the summer, and so hasten the successional crops that they will be in full bearing a fortnight or so before their proper time, and furnish supplies at the same time as those sown for succeeding the first earlies.

One of the chief points in the case of the inexperienced cultivator is to avoid having a large number of varieties, because of the difficulty in so arranging the time of sowing that they will form a regular succession. The best course is to select a few sorts that are thoroughly good, and to sow breadths of each proportionate to the demand. To select a few from the large array of names to be found in the trade catalogues is not a very easy matter to those who are not acquainted with the peculiarities of the several kinds. I would, therefore, advise cultivators of this class to be content with the varieties I shall enumerate, or so many of them as they require. No mention will be made of varieties other than those well-adapted for supplying the table, as I am anxious to be as brief as possible, and to avoid confusing the reader by giving selections of exhibition and table varieties at the same time.

First Crop.

For the earliest supplies we have not amongst the old-established varieties one to surpass that known as Ringleader or First Crop. It is not particularly productive, but it is as good a cropper as any other round pea of its season, and it is so hardy that it can be sown either in the autumn or early in the year. McLean's Blue Peter is a dwarf variety, the average height being twelve inches. It is a very good cropper, comparatively hardy, and the produce is of good quality. It is very useful for frames and for sowing at the foot of a south wall and other warm sheltered positions, where it can be readily protected. The best of the peas for frame culture is American Wonder, a wrinkled marrow, ranging from nine to twelve inches in height. It is the most productive of all the dwarf first earlies that I have grown, and it is of excellent quality. It is also very useful for sowing in the open; but, like other wrinkled marrows, it cannot be sown so early as the round peas, especially on naturally heavy soils.

My practice is to select a border on the south side of a wall for the earliest peas, and Ringleader is sown across it at a distance of six feet apart, the intervening spaces being filled with Ashleaf potatoes; each space affording sufficient room for four rows. The other two sorts are also sown across the border, but as it is not advisable to mix them up with other crops, the rows are arranged two feet apart. Two sowings of Ringleader are made—one in October and the other in February, as the autumn sowing cannot be depended upon to come safely through the winter. The other two varieties are sown at the end of February, the exact date being determined by the weather and the condition of the soil.

Only one of the dwarf varieties will be required in the same garden, and American Wonder should be grown where the soil is well drained and comparatively light. But on heavy soils there is a danger of the seed rotting in the ground when sown early, and therefore for these Beck's Gem should be selected. Peas sown early should be covered with light soil drawn from the surface; and where the staple is close and retentive, a little refuse soil from the potting-shed should be brought into requisition. One of the chief difficulties with which we have to contend in the production of early crops of peas is the protection of the "plant" from sparrows—so partial are these persevering marauders for the juicy tops during March, when there is but little green food available. Worsted stretched along the rows will, if the colours are changed at frequent intervals, help to keep the birds off; but there is nothing so effectual as the wire guards, which are now comparatively inexpensive, and with care will last several years.

Second Crops.

For forming a succession to the foregoing, the most generally useful of the established varieties are Kentish Invicta, a round-seeded blue pea, which is hardy, productive, and of good quality; Early Sunrise, a hardy and robust marrow, producing heavy crops of well-filled pods; and William I., an early and productive green marrow. If only one variety is required, the first-mentioned may be selected, because of its being hardier and somewhat earlier than the other; and where there is space for two kinds, Kentish Invicta and William I, should have the preference. When these two are grown, Kentish Invicta ought to be sown about the third week of February, and William I. a fortnight or so afterwards. By this arrangement they will afford a supply during the interval between the early and the main crops. The second earlies may be sown in the open quarters or on sheltered borders, as may be most convenient. In all cases the rows must be far enough apart for each side to obtain the fullest possible benefit from the light and air. Six feet is a good distance at which to put them, as they then receive sufficient exposure, and there is enough space between the rows to grow lettuces, Ashleaf potatoes, and other vegetables of dwarf growth. As in the case of the earliest kinds, it will be advisable to cover the seed with some light soil and to protect the growth when pushing through from the depredations of the sparrows.

Main Crops.

To render the reference to them as clear as possible, the main-crop varieties that will be recommended will be divided into two groups. In the one will be placed those which in average soils and seasons do not exceed three feet six inches, and in the other the varieties of greater height. For gardens of moderate extent, and where sticks are difficult to obtain, the dwarf varieties will be the most suitable; but where there is plenty of room, and the sticks are not difficult to obtain, the tall sorts are preferable, as they are the most profitable. The dwarf main-crop varieties that can be recommended are—Dr. Maclean, an immensely productive wrinkled marrow of high-class quality; Stratagem, a large-podded wrinkled marrow, very productive, and with but few equals in colour and flavour; and Veitch's Perfection, which still holds its own against a crowd of new comers. The tall sorts that can be strongly recommended are Huntingdonian (a very productive and rather early form of Champion of England), and Telephone, which is now so well-known for its general good qualities.

The first sowing of the main-crop varieties should be made early in March, and the second a fortnight later.

Late Crops.

The two best tall sorts for the latest crops are Ne Plus Ultra and British Queen; and the most useful of the dwarf sorts are Omega and Walker's Perpetual Bearer. The cultivator must select tall or dwarf sorts according to his requirements; and where only one is required, that placed first should in each case have the preference.

General Management.

The soil for main-crop and late peas cannot well be too rich or too deeply stirred, and where the staple is naturally light and poor there is a great advantage in sowing them below the general level in trenches prepared in much the same manner as for celery. The best of all fertilizers for peas is farmyard or stable manure in a half-rotted state, and when the supply will allow, sufficient should be spread over the surface to form a layer five or six inches in thickness. Deep digging is not less essential to the production of heavy crops than liberal manuring, and in all cases the soil should be stirred to a depth of twelve inches. Where the staple is of sufficient depth it should be trenched over in the course of the winter, and the manure be incorporated with it. But it is now too late to trench over the ground, unless it is exceptionally deep and friable, and the cultivator must be content with applying the dressing of manure and then digging it over. The importance of allowing plenty of space between the rows cannot be too strongly urged. The main-crop and late varieties of dwarf growth should be not less than six feet, and the tall sorts not less than eight feet apart, the intervening spaces being cropped with vegetables of moderate height. Where the space will not allow of the rows being far enough apart for other crops to be grown between them, those of the dwarf sorts must have a space of four feet and those of the tall kinds six feet between them. If they are much closer together than this, the growth will be weak and the crop comparatively light. Watering is, generally speaking, of but little use to peas, but a heavy mulch of some loose material will afford them material assistance during periods of heat and drought. G. H.

COE'S GOLDEN DROP PLUM.—A MISTAKE.

I have twelve trees of Coe's Golden Drop plum planted against walls in three different aspects: one on a west aspect, two on a southern aspect, and nine on a direct eastern aspect. Now, herein is the mistake; for my contention is that the planting should have been entirely reversed by whoever planted them. I will now give my reason. The crop of fruit last year was a heavy one on all the trees alike, and the size quite satisfactory; but as to flavour, "what a difference!" Those planted on the south and west walls possessed the brisk and delicious flavour characteristic of that famous plum; while the fruit on the nine trees on the east wall were but third or fourth rate in flavour, the skins were thick and tough, and much less flesh considerably than in the others, and in no way—excepting bearing qualities, and coming in for use later than the others—were they to be compared to those planted more favourably. I am told they have always been disappointing, but the trees are too old to move. I have therefore planted some on the south and west aspects in order to remedy the mistake. Although this plum is a late one, and hangs well on the trees, my experience guides me to the conclusion that it requires a good position and all the sun this climate affords to bring it to perfection by the time the month of September is out. And as there is yet time for planting, I hope these few notes will have the effect of preventing the flavour of this famous plum from being spoilt through an injudicious selection of an aspect.

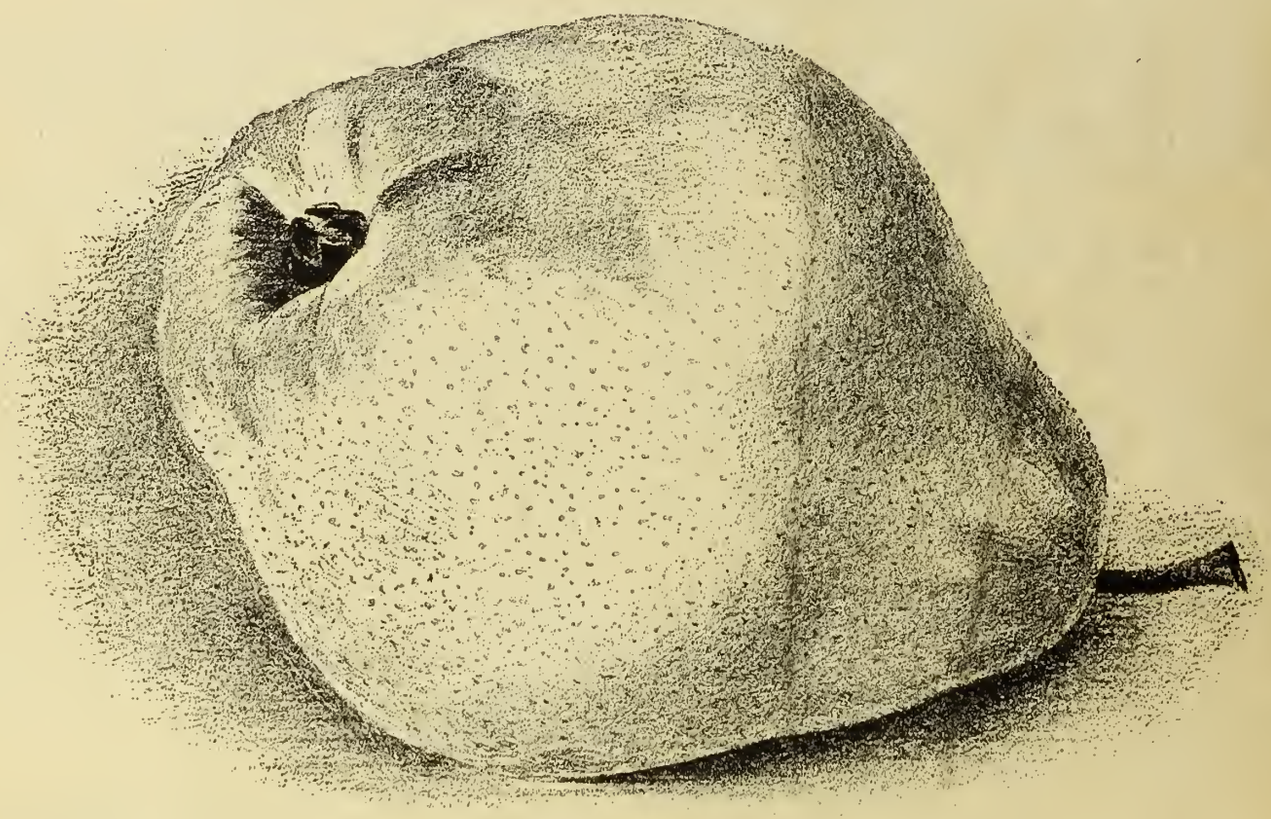
T. D. R. Royston.

TRUTH is TRUTH till time shall end.—The Queen of domestic drinks is *Pure Tea*; it is better adapted to satisfy the craving of the human race, under all conditions, than any other beverage; but one alarming danger to the consumer is ever present: Tea in an adulterated form, painted or "faced" with mineral powder to give an unreal value, is commonly sold in this country. In health and in sickness HORNIMAN'S PURE TEA is always preferred because it is what it professes—a very strong, rich, delicious, and absolutely genuine article; supplied at London fixed prices by Agents who are constantly receiving fresh supplies from London. See list of Local Agents (Chemists, &c.), in all papers, and at Railway Stations.—(Advt.

CONGRESS PEARS.

Kieffer Pear was described at page 671 of last year's issue, both as shown in the congress collection and as judged by sample fruits received from Messrs. Viccars, Collyer, and Co., of Leicester, who have introduced the variety for cultivation in this country. The frequency of certain sorts in the great display of seven thousand dishes at Chiswick in October last suggested to the connoisseurs of dessert fruits that certain considerations must be entertained by men who grow fruit to sell as distinct from the considerations that engross attention from the amateur's point of view. And yet not distinct, perhaps, altogether; for beauty of appearance comes into the category of desirable qualities, although from the high pomological standard the flavour is of the first importance.

The Kieffer pear is of the largest size, and has a commanding appearance. In form it is roundish rhomboidal, the prominent bulge and squared ends being distinct and constant features. When ripe, the colour is a fine citron-yellow, much overlaid with streaks and patches of pale russet. The flesh is very juicy and fragrant, and is reported to be of the finest quality. The samples that we have tasted were good, but not of the highest quality, and there was a decided quince flavour corresponding with the quince aroma. The fame of this pear with the orchardists of the United States is a great recommendation; for in some respects our conditions are more favourable to the growth of pears than the average conditions on the other side, and, beyond all question well-grown English pears are pre-eminent for melting flesh of the finest flavour. For the present the Kieffer pear is a showy candidate for market culture, and its immense fruitfulness should obtain for it a fair trial with all who are bound to take the commercial view of the subject. The season of English-grown fruit will probably last from October to Christmas.



KIEFFER PEAR (Colour citron yellow, patched with pale russet).

DOUBLE-BLOSSOM PEACHES.

I have read Mr. Thurtell's remarks respecting the fruiting of double-flowered peaches with him last year, and I note that he attributes the fact to the production of single flowers. I do not wish to question the correctness of his statement, but I may say that we grew the double-flowered peaches here for several years; and although I did not notice that they produced any single flowers, they frequently bore fruit which used to ripen sufficiently to admit of being preserved. But perhaps climate alone is enough to account for the trees fruiting and ripening more frequently than they do in Surrey. J. C. Clarke.

POT VINES.

By J. C. Clarke.

Grape vines are best propagated from eyes made from strong, thoroughly-ripened wood. The proper way to secure suitable eyes or buds is at pruning time to select the strongest shoots of such sorts as are wanted, and to stick them in a pot filled with soil, and keep the pot containing the cuttings on the floor of a cool house, or in a cold pit or frame. They must not be kept in a high temperature, which would be likely to excite them. There should be no attempt to start the eyes until a temperature of 70 deg. can be commanded. But to grow the vines to a fruiting size in one year, it will be necessary to provide the requisite degree of heat at the beginning of February, and to start the eyes at that time. I am assuming that the vines will be wanted for early forcing, as in that case they will require to be ripened early in the autumn, so as to give them time to rest before forcing commences; but if they are not expected to ripen their fruit before the end of the summer, the eyes need not be started until the 1st of March.

With the understanding that the canes will require from the first the temperature of a regular vinery, we must say a word with regard to the kind of structure in which to grow them. In private gardens a large number of canes is not often required, and a lean-to house is the best, as the vines can be trained up near the glass. But the most economical way as regards space that I am acquainted with is to grow the young vines between those which are fruiting. Then the same house will suffice for both. It is simply necessary to stand the fruiting canes a little further apart, and then the young vines can be grown between them. Before I proceed further I would mention that all are not successful in growing the canes to a fruiting size in one year, and when that is the case it is best to depend on cut back plants, which are those which have been raised in the year previous. It is not necessary to grow them to a very large size the first year. If they make a cane four feet long and fill a seven-inch pot with roots, they will be large enough at the end of the first year. The cane is cut down to within two or three buds of the soil. Part of the soil is then shaken away from the roots so as to disentangle those round the sides and the bottom of the pot. It is then put into the pot in which the crop is to be produced.

It is necessary to say that pot vines require a substantial compost, and that there is nothing better than a mixture of good turfy loam and well-rotted hotbed manure, in the proportion of three parts of the former to one of the latter. It is very necessary that the loam should be free and open, for a sticky loam that is destitute of fibrous matter

is unsuitable, it being impossible to obtain good grapes from vines growing in it. A mistake is made when more manure is used than the quantity stated, because with a larger proportion the soil will become sour and pasty. The pots in which they are to fruit should be not less than fourteen inches in diameter; for unless the roots have a good body of soil to sustain them, they cannot support a good crop of fruit.

As a matter of course, the drainage will require to be sufficient to allow the superfluous water to escape readily from the soil. But when providing drainage it is necessary to bear in mind that it is not so much the quantity of material used as the manner in which it is placed to allow a free escape of the water. Three or four fairly large crocks and a dozen smaller pieces will, if carefully packed together and a few pieces of rough turf placed on the crocks, be of as much service as double the quantity carelessly thrown into the pot.

We must now return and deal with the treatment of the eyes. These may be cut out and put in at once. I like to put each eye separately into a three-inch pot, using rather sandy soil, and burying it sufficiently to allow the point of the bud just to show above the surface. The soil in the pot must be kept moist by very gentle waterings. The eyes will start sooner if the pots are stood on a hotbed, or where they can have the aid of bottom heat. If there is no propagating pit, a cucumber or melon frame, in which there is a brisk heat, will do. But they must not stay in the frame after they have produced one or two leaves, for they are likely to be scorched by the hot steam. If after this they are afforded a brisk temperature and a moist atmosphere, they will quickly produce enough roots to reach the sides of the pots; and when they have done so they should be put into seven-inch pots, and a small stick placed to each in readiness to support the young cane as it advances in growth. Any fairly light position will do for them until they have filled these pots with roots, as they need not be placed in their permanent quarters until they are put in their fruiting pots. It is very important to keep them shifted on as fast as they fill the pots with roots, or the latter will become so entangled that they cannot be parted without injury. Besides, when potted afresh in such a condition the roots do not strike out vigorously and quickly obtain a firm hold of the new soil. When put into their fruiting pots the compost should be fairly dry, to admit of its being well rammed round the sides.

A good deal of the success is fruiting pot vines depends upon the way the young plants are handled while they are forming the canes which are to produce the crop the next year. In the first place it is necessary that the pots are stood in a position that the young growth can be readily trained near the glass. They must be fully exposed to the light, and no shading whatever should be allowed, unless it be for a couple of days after they have been repotted. At other times they must have the full benefit of the sun. After April 1, the night temperature ought not to be less than 60 degrees, and the day temperature 70 degrees, by fire heat. With strong sunshine the thermometer may rise to 95 degrees, provided plenty of atmospheric moisture is maintained in the house, and a moderate quantity of air on at the top ventilators. When the canes are four feet in length the top should be pinched off. This pinching will give strength to the cane, but it will cause the lateral growth to push out, which must be allowed to grow unchecked for a week or two. In fact, the laterals must be allowed to grow until the leading shoot has attained a length of six inches. The laterals below the leader may then be pinched back at one leaf from the stem, but the leading shoot must not be pinched at the same time: not, in fact, until it reaches a height of seven feet, which is long enough for a fruiting rod for all ordinary purposes. Should the leading shoot break again and produce growth, it should be pinched back, and any laterals below it must be dealt with in the same way.

KIEFFER PEAR—FRUITING TREES IN THE NURSERY ROW.

With regard to watering pot vines at this stage, I find that I obtain the most fruitful canes by growing them in a thoroughly good soil without the assistance of liquid manure. A moderate-sized sturdy cane that is well ripened will show more bunches than one that is larger and comparatively soft and indifferently ripened. If the vines are required for early forcing, they should be ready to be taken out of the house by the end of August, as it is necessary they should have a good rest before they are started again. The best place to rest them is to place them against a south wall, with the pots covered with long litter, and the canes secured to the wall. The little pruning that is necessary should be done six weeks before forcing commences. If they are not wanted for early forcing, they need not be taken out of the house at all. During the resting season, the soil about the roots must not be allowed to become dry, or many of the young roots will perish.

We have now brought up this subject to the point at which the vines are ready to produce a crop of fruit. What further I have to say on the subject will be applicable whether they are to be forced early or allowed to come on naturally. The first point requiring attention will be to place the vines in the position in

which they are to remain to mature their crop. Either a bed of soil must be prepared, or a bench provided very near the front of the house, on which to stand the pots. When they are to stand on a wood bench I like them to have something cool for the pots to rest on. If there is nothing better, a green turf, with the grass downwards, may be placed underneath the pots. But I prefer to fill some large pans with good fat manure and stand the pots in them. This not only keeps the roots cool, but it reduces the amount of water required, and as the vines begin to make growth the roots find their way through into the manure and draw a good deal of nourishment from it. At the same time I like to pack a layer of manure on the surface of the pot, as I find the roots take possession of the manure, and no doubt they find something in it which they like. The canes, as a matter of course, must be trained under the glass, and they ought not to be more than sixteen inches from it. Sufficient space must also be allowed between the plants to allow the laterals being trained out without their crowding each other.

With regard to watering, I would say that pot vines at all times require a liberal supply of moisture at the roots, but they want more after the berries are set than they do before; and to assist them to produce a good crop of fruit they must have regular supplies of liquid manure. In bright weather, when the berries are swelling rapidly, they will require watering twice a-day; and if there is no ordinary farm-yard liquid to be had, supply with guano-water, prepared by adding one ounce of guano to one gallon of water. But three times a week will be often enough for stimulants of that character to be given to them, as it is more excitable than liquid from fresh animal manure.

In other respects pot vines require the same attentions as vines planted out. That is to say, the young shoots require tying out and stopping at two leaves above the bunch; and the best bunches must be selected to remain, remembering always that it is possible by over cropping to jeopardize the crop, and render all the attentions of no avail. I have proved in my experience that eight fair-sized bunches on a vine six feet long, and growing in a pot fourteen inches in diameter, are as many as can be finished in a satisfactory manner. When I have attempted to have a greater number the berries have invariably been indifferently coloured.

Notes of Observation.

A POTATO CROP.

I have read with much interest the articles on "Market Gardening in the Channel Islands." The footnote, page 60, estimates the yield of potatoes at 38,796·3-13 lb. per acre. In October last, from a plot of Magnum Bonums of 8½ poles I lifted 35 bushels, which would equal 650 bushels per acre, or 36,400 lb. per acre. Soil, strong clay. I should be interested to know what is considered a good average crop in the South Midlands. The allotment-holders can grow at the rate of 60 to 80 bushels of Rivett's wheat per acre. The only holder of four acres in this part grew 60 bushels per acre, which, at the present low price of corn, he considered made him a fair return. But the farmers proper, with 100 acres and upwards, grew 20 bushels to 35 bushels per acre, which they consider does not cover cost of production, rent, &c. In my opinion an entire revolution in preparing heavy land for cultivation is needed. I do not see why farmers should not make their land grow 60 bushels of wheat per acre, or 500 bushels of potatoes per acre, as easily as allottment holders. North Bucks.

[We have recorded a potato crop of 35 tons to the acre as grown near London; but it was on the well-managed ground of a potato fancier who spared no expense, and made a hobby of the proceeding. In the first volume of the second series of *Transactions of the Horticultural Society*, Mr. Knight records the digging of 670 bushels of 80 lb. each, or 53,600 lb.; and, again, 964 bushels and 43 lb., or 77,163 lbs. per acre in the year 1832.]

MID-WINTER CHRYSANTHEMUMS.

Those who intend growing chrysanthemums for the supply of cut flowers for decorative purposes during the Christmas and New Year's festivities cannot do better than grow all the varieties mentioned in the excellent notes of "R. D." at page 58, for they are all more or less good, and under a proper course of culture can be had in bloom at mid-winter. In addition to those mentioned, there are two others which should be grown—and these are Virginale and Perle des Blanches, both of which have pure white flowers, and are of a high degree of merit in their respective classes. Virginale is an anemone pompone, with disc and ray florets of the purest white, and considering that it has long been in cultivation, and is by no means unknown, I was much surprised that it was not represented at the January exhibition of the National Chrysanthemum Society. The flowers are of a very suitable size for hand bouquets and filling vases, and would, I am quite sure, be found as useful as those of either of the white varieties that can be had in bloom at mid-winter. Perle des Blanches belongs to the Japanese section, and is practically unknown, for hardly a private grower is acquainted with it, and of the trade catalogues to which I have access the only one in which it has a place is that of Mr. N. Davis, of Camberwell. The flowers are somewhat similar to those of Meg Merrilies, but they are pure white instead of creamy-white, and the petals or florets are narrower. Mr. Bettesworth, gardener to R. Ewing, Esq., of Burton Grange, Cheshunt, exhibited several flowers in his stands of cut blooms and a large specimen well furnished with blooms, the latter attracting considerable attention. The specimen, although it had been placed in a structure in which the temperature was rather high to push it into bloom, was furnished with a considerable number of buds as well as flowers in various stages of development. I was informed by Mr. Bettesworth that he had grown it two or three years, and in no season had it come into bloom until December. As it does not produce its flowers until some time after the majority of the varieties, it is not difficult to understand why it has received so little attention from the general body of trade and private growers, until the present time. G.

SMALL *VERSUS* LARGE VEGETABLES.

The remarks of "W," at page 48, on the subject of small Brussels Sprouts explains the condition of many of us, if we had the spirit to make the confession—that in regard to big vegetables we have erred, and erred in a way that is not creditable to our capacity for discrimination. There are not many gardeners who have not had a passion for growing big vegetables, and altogether ignoring the merits of the small and really more handsome specimens. I write thus plainly advisedly, because whoever tasted a big cabbage or a big cauliflower that was as tender and delicate in flavour as small ones?—and for that matter we may include peas, beans, carrots, vegetable marrows, and indeed almost every vegetable in common use. The verdict would be the same. I trust the note of "W" will be a home thrust to many more besides myself, and thus induce us to improve the taste of cultivators in this matter, so that we shall no longer aim at securing size merely, but quality also. It must be understood that gardeners are not altogether to blame. Employers must bear their share, for they are as much in favour, generally, of big vegetables as the gardener. I therefore advise them to read and digest "W.'s" remarks, and be bold in showing that they are now prepared to have quality before quantity; and then gardeners will have no excuse. R. H. B.

TILLANDSIA LINDENI VERA.

Few plants in our stove present at the present time so charming an appearance as the examples of Tillandsia Lindeni vera that are now in bloom, and certainly none attract more attention from visitors. This Tillandsia has been a favourite of mine from the time of its introduction, and, as advantage has been taken of every opportunity for the increase of stock, we have twelve plants, of which half at least are now in bloom. The foliage is of a dark bronzy-green hue, rather narrow, and elegantly recurved, and from the centre rise the flower spikes. These are clothed throughout the greater part of their length with large bracts of a bright flesh-pink colour, and produce for a considerable period in succession flowers about two inches in diameter, and of the most lovely blue. T. Lindeni vera is far superior to T. Lindeni, for it is more elegant in habit and commences flowering at a much earlier stage. Both are well worth growing, but those who have very little space at their disposal should grow the first-mentioned of the two. W. B.

FREESIA REFRACTA ALBA.

By J. Macdonald.

For winter-flowering this Freesia promises to be of very great value when its requirements become properly understood. But this must not be understood as implying that it is in any way particular in its wants or difficult to manage. On the contrary, I look upon it as being very easy to cultivate in every way; but, as a matter of course, it requires more heat than an ordinary greenhouse affords to have it in flower at mid-winter.

The batch of bulbs we have now (January 20) in flower were in the same condition last April. Soon after they went out of flower the leaves faded, and we dried them off, and, in fact, had forgotten them. In the hurry of work they were stood on the floor of the peach-house, where, no doubt, they obtained moisture sometimes from the engine used to wash the peach trees. Be that as it may, in July I found they had commenced to grow again. I had them shaken out of the soil, and the bulbs sorted into two sizes. The largest were then put in six-inch pots, twelve in each, and when potted they were taken to a low span-roof house in which we keep a temperature of about 55 deg. during the winter. In this structure they remained until they came into flower, about the date above-mentioned, and very few winter-flowering plants have given us less trouble. As regards soil, they had only an ordinary mixture of loam and leaf-mould and some sand, and they had water when required. But they were near the glass, and had a rather liberal circulation of air when the weather was favourable. On examining the plants I find that every bulb grew and produced flowers. On some of the stems there are three heads of flowers, and some heads contain from nine to ten individual blooms. Most of them have seven or eight. Altogether, I am immensely pleased with the plant, for there is something so light and elegant about its growth, and the delightful fragrance is not the least of its merits, for one of our plants is enough to thoroughly scent a room.

I am quite satisfied that this freesia does not want a long season of rest, like other bulbous plants, and if properly treated I believe the same bulbs may be had in flower at the end of every eight months. Not the least striking characteristic is the rapidity with which the bulbs increase. Two years ago we began with a dozen, and now we have at least six times that number in different sizes. It is right I should mention that the growth attains a greater height when grown in a warm house during the winter than when kept in a cooler temperature. The specimens now in flower with us are about fifteen inches high; generally when grown in a cool house they do not exceed eight inches.

"ANY DOCTOR WILL TELL YOU" there is no better Cough Medicine than Keating's Lozenges. One gives relief; if you suffer from cough try them but once; they will cure, and they will not injure your health; they contain only the purest and simplest drugs, secretly and skilfully combined. Sold everywhere in 13½d. tins.—[Advt.]

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory should be maintained in as bright a condition as possible by the introduction of fresh batches of plants in bloom as those which have been some time in the structure lose their freshness and beauty. Cinerarias, cyclamens, and primulas will now be especially useful for enhancing the attractions of the conservatory at this season of the year.

Heaths and New Holland Plants generally demand a great deal of attention now. Continue to shift such as require it, and any that are looking out of health turn out of their pots to see if the drainage is right and the stuff sweet and porous. In repotting use plenty of fibry peat in rough lumps, sifting out the fine dust if needful, which will be useful in propagating and to put young stuff in from the cutting pans.

Soft-wooded Plants for summer exhibitions and for decorative purposes ought to be growing freely now, to give time for stopping, so as to have fine round full heads before allowing them to run into bloom. Cinerarias required extra large may be potted on, and if trusses show nip them out. Pelargoniums will require another shift, as also will herbaceous calceolarias. A confined condition of the roots will throw plants into bloom quickly if they are in a suitable temperature; but stopping and shifting on will keep them growing larger and larger, and after the last shift a period of six or ten weeks will generally suffice to bring them into bloom, if the pots are full of roots and stopping is discontinued.

STOVE AND ORCHID HOUSE.

Orchid House.—As a large number of orchids will now be commencing to make new growth, a slight increase in the temperature of all the structures is necessary. The plants must not be subjected to excessive heat, or the growth will be comparatively weak. Those which are still at rest should for the present be kept comparatively cool and dry.

Stove Plants need a general revision at this time of year. Those that have been blooming all winter require to be cut back and encouraged to break, then to be shifted to larger pots if needful, or have top-dressings. Where very large specimens are objectionable, the plants may be kept in bounds by the knife; and to obviate the use of larger pots turn them out as soon as they have commenced to make new growth; remove some of the soil from the outside of the balls, and repot them with fresh compost in the same pots.

FORCING AND ORCHARD HOUSE.

Figs in the forcing-house must have a free circulation of air about them, but cold draughts must be guarded against.

Peach and Nectarine Trees to have their fruit thinned, and the shoots trained in by degrees. To thin out all the surplus fruit at once, or train in all the young shoots close in one day, will be injurious.

Pines growing freely will require more liberal supplies of water at the root. Those in bloom or fruit must not be wetted overhead; and plants with fruit that is beginning to colour to have as much air and light as possible.

Vinery.—Large bunches must have the shoulders carefully tied with worsted or matting. The air of the house where berries are swelling must be kept moist, and it will be well to make a special examination of the border, as this is sometimes wet enough upon the surface and quite dry a few inches down. In watering use water a few degrees warmer than the soil.

FLOWER GARDEN AND PLEASURE GROUNDS.

Hardy Annuals may now be sown in quantities where the soil is in a suitable condition. It is yet too early to sow where the soil is close and heavy in texture.

Show and Fancy auriculas to be top-dressed with good sweet decayed cow-dung and leafmould. Give them more water, and examine the under side of the leaves to see that they are free from vermin.

FRUIT GARDEN AND ORCHARD.

Outdoor Grapes.—In the cultivation of grape vines out of doors a moderately fertile sandy loam will be found the best adapted for securing a firm, well ripened growth. Rich soils and fat manures are not at all desirable for the growth of outdoor grapes; and in a cold wet summer the vines on the poorest and driest borders will do better than those on moist well-manured borders. It must not be supposed, however, that the grape vine can live upon nothing; indeed, it would be a folly to plant grape vines on a worn-out, sour, or pasty loam on which nothing else could be grown satisfactorily. Should it be necessary to prepare a border for vines, two feet depth of prepared earth will be sufficient, and this should rest on a dry bottom; if on a stratum of stones or bricks all the better; but this is not needful.

Strawberry Beds formed last autumn must now be trodden to make the ground firm. A coat of manure may then be spread over the ground. Old beds must be cleared of dead leaves and weeds, and have a good coat of rotten dung laid on. If it buries the crowns it will do no harm; they will soon push through.

KITCHEN GARDEN AND FRAME GROUND.

Artichokes will soon require to be dressed for the spring. If frost prevails, leave them alone for the present; but if mild, open weather, remove the protecting material, fork over the ground between the rows, and give a good dressing of rotten manure and wood-ashes.

Cauliflowers in the seed pans should have a little dry earth or wood-ashes strewed amongst them occasionally to prevent their damping off. Autumn-sown plants in frames must have the lights drawn off in mild weather to keep them stocky and prevent their "buttoning." The most forward should be planted on sheltered borders or be placed under hand glasses and ground vineries if the soil is in proper condition.

Cucumbers for ridge culture to be sown now or within a week or so. Sow also for frame culture to succeed plants now bearing, and to maintain a supply during the summer season. It is preferable to sow in three-inch pots at the rate of two seeds in each, the strongest plant in each to be kept, to avoid damage to the roots by shifting, so as to have them strong and short for turning out.

Onions required to be very large may now be provided with a deep, well-manured bed in a rather dry position. Transplant into this bed from the seed bed of autumn-sown stock, putting the bulbs nine inches apart; if only serviceable bulbs be required, put them six inches apart. After planting strew wood-ashes or fine siftings of charred rubbish over the bed.

Parsnips, although less popular than many other vegetables, should have good cultivation where grown. To produce large handsome roots, which alone are worth cooking, it is essential to sow the seed towards the end of the month, in liberally-manured and deeply-stirred soil, and thin out as soon as the plants are of sufficient size. The drills should be fifteen inches apart, and the plants thinned to nine inches apart in the rows.

Peas and Beans sown on strips of turf or in pots or boxes should be hardened by exposing them gradually to the open air. After eight or ten days' exposure, they may be planted, provided the weather is favourable.

Vegetables in Season comprise beet, Brussels sprouts, broccolis, carrots, cottagers' and Scotch kales, celery, endive, leeks, lettuce, onions, Jerusalem artichokes, salsify, and turnips. From the forcing-pit and mushroom house may be obtained asparagus, French beans, mushrooms, new potatoes, seakale, and rhubarb.

Calls at Nurseries.

ORCHIDS AT MESSRS. J. VEITCH AND SONS' NURSERIES, CHELSEA.

Amongst the large number of orchids in the Chelsea Nurseries of Messrs. J. Veitch and Sons are several beautiful hybrids now flowering for the first time, and two or three species that are practically unknown to English orchidists. The latter include the very rare and singular Cypripedium Lindleyana, which is now flowering for the first time in this country, and C. reticulatum, which, if hardly so showy as many other of the lady's-slippers, possesses sufficient beauty to commend itself to the notice of cultivators. C. Lindleyanum is of robust growth, and produces long bright green leaves and tall spikes bearing several flowers which are rather small and have a very peculiar shaped pouch, or labellum. The labellum is brownish-green, and the sepals and petals are green, veined with bright reddish-brown. The flowers of C. reticulatum are bright green, and have rather long and slightly twisted petals, and present a very pleasing appearance in contrast with those of which the flowers are richly coloured. One of the first of the new hybrids to claim attention is Cypripedium Germinyanum, which has been obtained from a cross effected five years since between C. Villosum and C. hirsutissimum. It is of bold growth, and the flowers, which are of large size, are richly suffused with purplish-rose on a greenish ground, and are particularly attractive. Equally important and beautiful is a hybrid resulting from a cross between C. Drueryi and C. villosum, which is as yet unnamed. It has foliage very similar to that of the first-mentioned of the two parents, and the flowers are yellowish, the labellum and the petals tinted with purple, and the dorsal sepal marked with marone crimson. Note was also made of a seedling phalænopsis, which will be in bloom in a few days hence; and it is not surprising that the expansion of the flowers is watched with much interest, as up to the present time no artificial hybrid phalænopsis has flowered in this country.

The immense cattleya house is now gay with colour, and presents a wonderfully attractive appearance. Cattleya Trianæ contributes most liberally to the attractions of the display, there being an immense number of examples in bloom; and it is interesting to note that whilst the flowers of hardly two plants are alike, either in form or colour, they are all exceptionally good. Of the few varieties of this fine species that have had a distinctive name, mention may well be made of C. Trianæ Cobbiana, which is remarkable for the large size of its flowers, and the rich purple blotch on each of the petals; C. Trianæ delicata has white sepals and petals, and a tinted labellum; C. Trianæ purpurata is very rich in colour, the labellum bright purple with deep orange coloured throat; and C. Trianæ rosea, which has blush-coloured sepals and petals, and a delicate rose-coloured labellum with golden throat. One of the most attractive examples in the structure is an exceptionally fine form of C. Percivaliana, the flowers of which are above the average in size, and have very deep rose-coloured sepals and petals, and a brilliantly coloured labellum. The rare C. bicolor is also flowering freely, and the stately Lælia superbiens is producing its tall spikes, and presents a striking appearance. The general effect of the house is materially enhanced by two or three dozen examples of the chaste Cœlogyne cristata suspended alongside the roof. In other houses there are numerous huge specimens of this beautiful orchid, which are now a mass of flowers, and at once arrest attention. The form known as C. cristata Lemoiniana, which is distinguished by the lemon-coloured blotch on the labellum, is also well represented.

The cypripediums in bloom, in addition to those enumerated above, are so numerous as to constitute a large group. They comprise C. Boxalli, C. Harrisianum, C. Haynaldianum, C. villosum, C. ænanthum superbum (one of the most beautiful of the numerous hybrids raised in the nurseries of the firm), C. calurum, C. Sedeni candidibulum, C. Lowi, C. Lawrenceanum, and C. insigne Sylhetense. Amongst the plants of C. Lawrenceanum, was a form with enormous flowers, the dorsal sepal measuring nearly three inches across. C. insigne Sythetense is very distinct from the type, and has flowers of a much brighter hue. The dendrobes included D. Ainsworthi, D. Domini, D. Splendidissimum, D. speciosum, D. heterocarpum, D. nobile, D. Wardianum, and D. Ruckeri, all of which are well known with the exception of the last mentioned, which is a very rare species producing golden yellow flowers. Calanthes were represented by C. Turneri, C. nivalis, and C. Veitchi (three forms of the highest value for winter flowering), and the several varieties of C. vestita. In the houses devoted to the ærides, vandas, saccolabiums, and similar subjects, are an abundance of flowers of Angræcum sesquipidale, A. eburneum, and Saccolabium giganteum, the last-mentioned being one of the most attractively coloured orchids flowering at this season of the year. In the phalænopsis houses there is no dearth of flowers of P. amabile and P. Schilleriana, and the prettily marked P. Stuartiana is also in bloom. With these is associated the elegant Angræcum citratum, now flowering with remarkable profusion.

The species in bloom in the cool houses would of themselves form a goodly list, but it must suffice to say that the most important are—O. Alexandræ, O. Pescatorei, O. Andersonianum, O. Bictoniensis, O. hystrix, O. Uro-Skinneri, O. Cervantesi, O. nebulosum, O. cordatum, Oncidium Jonesianum, O. incurvum, Lycaste Skinneri in great variety, L. cruenta, and Sophronites grandiflora, which for brilliancy of colouring is unequalled by any other flower of its season.

It may be of interest to mention the fact that the amaryllis are just beginning to push up their flower scapes, and promise to produce a display far surpassing that of any previous season.

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, February 9.

Annual Meeting.

The annual general meeting of the Royal Horticultural Society was held on Tuesday last in the Albert Hall; the president, Sir Trevor Lawrence, Bart., M.P., occupying the chair. The attendance of Fellows was rather larger than for several years past, and the members of council present were Dr. Hogg, William Lee, Esq., G. T. Wilson, Esq., the Hon. and Rev. G. T. Boscawen, Professor Michael Foster, M.D., Major Mason, Mr. T. Thiselton-Dyer, and W. Haughton, Esq. The secretary having read the notice convening the meeting, and the minutes of the last annual meeting, the election of Fellows was proceded with, when fifteen candidates were unanimously elected. Dr. Masters and Mr. J. Douglas were appointed scrutineers for conducting the ballot for officers and members of council. The president then proposed that, in accordance with the usual custom, the report should be taken as read, which was agreed to without dissent. The report is as follows:—

ANNUAL REPORT FOR 1885.

The Accounts and Balance-sheet are submitted to the Fellows in the usual form.

The Council have engaged in protracted negociations with the Royal Commissioners of the Colonial and Indian Exhibition with the view of obtaining the same terms of admission as were enjoyed by the Fellows during previous exhibitions. They regret to state that the Royal Commissioners, having finally referred the matter to their Finance Committee, have felt themselves unable to grant these terms. The terms finally agreed upon with the Royal Commissioners are the following, viz.:—

40 Guineas Life and 4 Guineas Annual Fellows receive Two Non-transferable Tickets each, and One Book of 40 Orders; 20 Guineas Life and 2 Guineas Annual Fellows receive One Non-transferable Ticket each, and One Book of 20 Orders. The tickets will admit to the Exhibition free of charge, whenever open to the public, except on the opening day, the closing day, and on any special occasions which the Royal Commissioners may wish to reserve; on which occasions the holders of these tickets will be liable to enter the Exhibition on payment of half the admission for the day. 10 Guineas Life Fellows and 1 Guinea Members receive One Non-transferable Ticket each.

The above terms differ from those of previous years in the fact that the tickets are not transferable.

The Council have had under consideration the practicability of holding a Great International Horticultural Exhibition and Conference in 1887. After two meetings, largely attended by prominent horticulturists, they entered into communication with the Royal Commissioners of the Exhibition of 1851. They regret to state that the encouragement the Commissioners felt able to hold out to them was not sufficient to justify them in undertaking so large a responsibility, especially in view of the very serious financial obligations such an Exhibition would necessarily entail. The Council are unanimously of opinion that the time has come for such an International Exhibition, which would, they have reason to believe, be supported by amateur and professional horticulturists in all parts of the kingdom, and they are anxious that the subject should not be lost sight of by the Royal Horticultural Society.

The Council propose to resume the provincial shows which have, in past years, been of use in stimulating local interest in horticulture, in several important centres of population. They hope shortly to conclude arrangements for holding a show in the summer at Liverpool.

Major Mason vacates the office of Secretary under the provisions of the Charter, and does not offer himself for re-election. The Council wish to record their sense of the great service which he has, at much personal inconvenience, rendered to the Society during the time he has held his office. They recommend Mr. William Lee, of Downside, as his successor.

The thanks of the Society are due to Sir Henry W. Peek, Bart., for his liberal donation of £20 for Prizes for Marguerites.

The Council regret to record that Dr. Maxwell Masters, F.R.S., has resigned the post of foreign secretary, the duties of which he has discharged for some years with signal success, and to the eminent advantage of the Society.

The Orchid Conference held in May last, at South Kensington, fully realized the expectations of the Council. The plants exhibited were numerous and many of them of great rarity and beauty. Several Papers of great interest, including three communications from Professor Reichenbach, and a valuable memoir on the Hybridisation of Orchids, by Mr H. Veitch, based on original observations, were read, and important discussions took place. A general report of the Conference, with special horticultural and botanical reports on the plants shown, by Mr. Burbidge and Mr. Ridley respectively, is in the hands of the printer, and will shortly be obtainable by Fellows on application to the Secretary.

A Pear Conference was held in the Chiswick Gardens, from the 21st October to the 4th November. About 7,000 dishes of fruit, sent from nearly every part of England, were shown, and opportunities were afforded for comparison, correction of nomenclature, and the mutual exchange of information between the growers and other specially interested. The unfavourable weather interfered considerably with the attendance of the general public, but in no way impaired the usefulness of the Conference. A full report, with the result of the labours of the Conference Committee, is being prepared by Mr. Barron.

A Primula Conference will be held on the 20th and 21st April. This has already attracted the attention of primula growers abroad and at home, and will form an interesting feature in the Society's work.

The Scientific, Fruit, and Floral Committees at South Kensington carried on their labours as usual during the year. The Society is indebted to them for much valuable work. The number of first-class certificates awarded was 238, of which 59 were for Orchids, which seem to be rapidly increasing in popularity.

A most interesting Exhibition of Daffodils was held on April 14th, when further discussion on questions relating to Narcissus took place, and the report of the Committee of the Conference held in 1884 was adopted.

The Exhibitions in the Conservatory during the Inventions Exhibition were of a very high class, especially those of Fruits and Vegetables, and proved a great attraction to the visitors.

The Council have to thank many of the Fellows for their exhibition of valuable plants at the various meetings; especially Mr. Ware, of Tottenham, for his continuous and attractive display of cut hardy flowers during the entire season.

The practical work of the Society at Chiswick has been satisfactorily conducted, and the gardens maintained in their usual high state of efficiency.

The trials by the several Committees have given good results. Those of the Fruit Committee comprised—Potatoes, 200 varieties; Peas, 72 varieties; Cauliflowers and Strawberries; in each of which classes several certificates were awarded. Those of the Floral Committee embraced Fuchsias (180 varieties), new Pelargoniums, Single Dahlias, Begonias, Carnations and Picotees (of which the Society possesses a large collection), and Ivies, of which 80 varieties are now planted against the walls of the Gardens.

Facilities were again afforded to the International Potato Exhibition Committee for testing new varieties of Potatoes.

The experiments instituted by the Scientific Committee for the prevention of the potato disease, by what is termed the Jensenian system, were continued, and an interesting report has been prepared by Dr. Masters.

Experiments have been instituted at Chiswick by the Narcissus Committee on the doubling of Narcissus, and for the purpose of determining points of nomenclature.

It is proposed during the present season to continue trials by the Fruit and Vegetable Committee of the newer varieties of Peas, Potatoes, Cabbages and Strawberries; and by the Floral Committee, of Fuchsias, Ivy-leaved and Zonal Pelargoniums, Carnations and Hardy Annuals. The making of a complete collection of the different varieties of Holly is under consideration.

The crops of Grapes and other Fruits were generally good. The Council hope that in future Fellows will avail themselves more extensively of their privilege of purchasing first class grapes at prices far below those of the market.

The collections of Apples and Pears in the gardens having now been proved and their merits recorded, worthless varieties have been disarded.

Applications from Fellows for Plants, Seeds, and Cuttings continue to increase. During the year, 1,110 Fellows were supplied with 22,180 plants, 46,000 packets of seeds, and nearly 10,000 cuttings of Vines and other Fruit Trees.

At the request of various Colonial Governments the Society has received and taken charge of large consignments of Tree Ferns and other plants from Victoria, South Australia, New Zealand, Ceylon, and the West Indies, intended to be shown at the forthcoming Exhibition. These plants occupy a considerable space in the Chiswick Gardens, and have necessitated the heating of the large Rose House for their accommodation. As many of them may not be sufficiently established to be exhibited, Fellows of the Society who may have large spare plants representative of the Flora of any of these countries are invited to place them at the disposal of the Society for the purposes of the Exhibition.

An exhibition of Flowers held by the Chiswick Horticultural Society in the Gardens, on July 16th, proved very attractive and a source of interest to the Fellows in the district.

Donations of Plants and Seeds have been received, amongst others, from the Royal Gardens, Kew; Colonel R. Trevor Clarke, Sir Ferdinand Von Müller (Melbourne), Dr. Schomburgk (Adelaide), Dr. Masters, Messrs, Veitch and Sons, Messrs. Cannell and Sons, Messrs. Barr and Sons, Mr. C. Turner, and Mr. John Fraser: to whom the thanks of the Society are due.

The thanks of the Society are due to the Auditors, Messrs. John Lee, Jas. F. West, and W. Richards, who have discharged gratuitously, and with efficiency and despatch, the arduous duty of auditing their accounts.

During the year 29 Life Fellows and 29 Annual Fellows died; 63 Fellows retired from the Society, and 239 new Fellows were elected.

AUDITORS' REPORT.

To the Council of the Royal Horticultural Society,

Gentlemen,

We beg to report our having audited the accounts of the Society for the past year, and we have compared the vouchers with the books and found them correct.

We regret to announce that the revenue of the year shows a deficiency of £120.

The Auditors take the opportunity of calling especial attention to the accurate manner in which the books are kept by Mr. J. Douglas Dick.

We have the honour to remain,
Gentlemen,
Your most obedient Servants,
John Lee,
Jas. F. West, } Auditors.
W. Richards,

January 27th, 1886.

Balance-sheet, 31st December, 1885.

Dr.	£	s.	d.
To Sundry Creditors	595	1	7
,, General Revenue Account—Balance carried forward	2,662	15	3
	£3,257	16	10

Cr.	1884.	1885.		
By Debtors, viz.:—				
Annual Subscriptions outstanding		£75 12 0		
National Apple Congress Report	£21 12 0	11 17 7		
Garden Produce	3 4 0	19 12 6		
Orchid Conference—Advertisements		17 18 6		
Schedule Advertisements		39 11 0		
		164 11 7		
Victoria Commission		218 15 10		
New Zealand do.		10 5 6		
Ceylon do.		15 0 3		
	24 16 0	408 13 2	£433 9	2
By Investments—				
3 per Cent. Consols			1,892 11	3
,, Cash at London and County Bank			923 0	8
,, Petty Cash in Hand			8 15	9
			£3,257 16	10

We have examined the above Account, with the Books and Vouchers, and we find the same correct.

John Lee,
Jas. F. West, } Auditors.
W. Richards,

27th January, 1886.

Annual Revenue Account for the Year Ending 31st December, 1885.

Dr.

	Cash paid. £ s. d.	Debts payable. £ s. d.	Totals. £ s. d.	Totals. £ s. d.
To Establishment expenses—				
Salaries	322 0 2	25 0 0	347 0 2	
Wages	61 6 0		61 6 0	
Printing and Stationery ..	112 15 8	29 16 0	142 11 8	
Postage	73 13 9	14 14 0	88 7 9	
Gas	13 1 9	5 11 7	18 13 4	
Miscellaneous	144 15 2	17 18 3	162 13 5	
				820 12 4
To Special Expenses in relation to Horticulture—				
Plant and Seed Distribution	207 0 0		207 0 0	
Fruit and Floral Committees	112 5 6	3 12 0	115 17 6	
Grants in aid..	110 0 0		110 0 0	
National Apple Congress Report	30 0 0		30 0 0	
Frost Reports	45 0 0		45 0 0	
Orchid Conference	36 19 8	9 9 0	46 8 8	
Primula Conference ..	2 19 0		2 19 0	
Pear Conference	24 18 6	25 10 0	50 8 6	
				607 13 8
To Chiswick Garden Expenses—				
Rents, Rates, Taxes, & Insurance	238 5 1	29 2 4	267 7 5	
Labour	942 9 6		942 9 6	
Implements, Manure, &c. ..	146 17 10	23 3 0	170 0 10	
Coal and Coke	155 15 6	27 4 0	182 19 6	
Repairs	81 15 1	34 15 7	116 10 8	
Trees, Plants, Seeds, &c. ..	96 15 0		96 15 0	
Superintendent's Salary ..	150 0 0		150 0 0	
Water	8 0 8	11 15 0	19 15 8	
Miscellaneous	129 16 8	2 18 9	132 15 5	
				2,078 14 0
To Kensington Garden Expenses—				
Superintendent's Salary ..	100 0 0		100 0 0	
Labour	542 1 5		542 1 5	
Repairs	31 1 6	3 9 3	34 10 9	
Coal and Coke	34 2 0	18 12 0	52 14 0	
Implements and Manure ..	16 10 0		16 10 0	
Miscellaneous	3 0 0		3 0 0	
				748 16 2
To Exhibitions—				
Advertising..	87 1 0	8 18 0	95 19 0	
Prizes and Medals	33 13 0	13 1 9	46 14 9	
Do. do. Inventions Exhibition	829 15 6	74 12 9	904 8 3	
Bands..	25 16 0		25 16 0	
Superintendent of Flower Shows	25 0 0		25 0 0	
Labour	113 4 11		113 4 11	
Judges' Fees..	34 13 0		34 13 0	
Miscellaneous	7 6 11	10 17 6	18 4 5	
Police	29 12 0		29 12 0	
Schedules	35 16 9		35 16 9	
				1,329 9 1
	£5,195 4 6	390 0 9		
				£5,585 5 3

Cr.

	Cash Received. £ s. d.	Debts Receivable. £ s. d.	Totals. £ s. d.
By Annual Subscriptions	3,200 8 0	75 12 0	3,276 0 0
,, Promenade Shows	26 2 6		26 2 6
,, Inventions Exhibition Maintenance ..	600 0 0		600 0 0
,, ,, ,, Prizes	904 8 3		904 8 3
,, National Apple Congress Report	0 12 6	11 17 7	12 10 1
,, Garden Produce	410 9 5	19 12 6	430 1 11
,, Packing Charges	52 10 0		52 10 0
,, Miscellaneous Receipts	30 10 9		30 10 9
,, Orchid Conference, Catalogues and Advertisements	13 7 0	17 18 6	31 5 6
,, Schedule Advertisements	....	39 11 0	39 11 0
,, Dividends, David Bequest, & Parry Legacy	61 13 8		61 13 8
	£5,300 2 1	164 11 7	5,464 13 8
To Balance to General Revenue Account ..	.. ..	.. ..	120 11 7
			£5,585 5 3

We have examined the above Accounts, with the Books and Vouchers, and we find the same correct.

John Lee,
Jas. F. West,
W. Richards, } Auditors.

27th January, 1886.

General Revenue Account, 31st December, 1885.

Dr.

	£ s. d.
To Annual Revenue Account—	
Balance for the year 1885	120 11 7
To Balance carried forward	2,662 15 3
	£2,783 6 10

Cr.

By Balance of Revenue Account brought forward 1st January, 1885 ..	£2,596 17 6
,, Capital Expenditure Account—	
Balance of that Account transferred	186 9 2
	£2,783 6 10

We have examined the above Accounts, with the Books and Vouchers, and we find the same correct.

John Lee,
Jas. F. West,
W. Richards, } Auditors.

27th January, 1886.

Sir Trevor Lawrence, in referring to the Report, said he did not think it necessary to trouble the meeting with many remarks. But there was one subject to which he was anxious to allude, and that was the alteration which had been made in the privileges of admission to the South Kensington Gardens during the year. As stated in the Report, the tickets would not be transferable, as in previous years, although every effort had been made to come to such terms with the Council of the Colonial and Indian Exhibition as would enable the Council to give the Fellows the same privileges as those which they had so long enjoyed. With regard to the question of holding an International Horticultural Exhibition, it was felt the Council were not justified in incurring the heavy financial responsibility inseparable from carrying out a great exhibition extending over a prolonged period. It was, in fact, considered no part of the duty of the Royal Horticultural Society to engage in providing the various attractions that would be necessary, in addition to the productions forming the exhibition, to attract the public. But it was evident, from the communications received by the society from all parts of the United Kingdom, there was a very general desire that an International Horticultural Exhibition and Congress should be held, and he hoped that the question would be considered as in abeyance and not as abandoned.

The Chairman then referred to the large accession that had been made during the past year to the list of honorary and foreign members of the society, and to the great success which had attended the Orchid Conference in May and the Pear Congress in October. With reference to the latter he was quite sure the report which was being prepared by Mr. Barron would be a valuable addition to our knowledge of pears. What had been done by the society might, indeed, be regarded as of national importance, as increased attention was being paid to the cultivation of fruit and vegetables. It was perhaps a misfortune the Society could not interest itself in small dairy and poultry farms, because he believed it would be a great advantage to the country. But he did not suggest that the Society should engage in any work other than the promotion of scientific and practical horticulture. With reference to the connection of the society with South Kensington, it was felt that it was not possible for it to remain in the position it had occupied for several years past. It was not likely the exhibitions would be continued in the gardens after the present year, but it was extremely probable the gardens would very soon be built on. He was sure that if the Society was placed on a satisfactory basis it would be so well supported as to be able to survive the shock of separation from South Kensington. Feeling the importance of reviving the provincial shows, arrangements had been made to hold an exhibition at Liverpool during the coming summer, and there was every reason to suppose that it would prove a great success. The Mayor and Corporation had placed at their disposal the Botanic Gardens and a portion of the adjoining park for the purposes of the show, and were evidently desirous of affording the Society all the assistance possible.

The adoption of the report was moved by the Rev. C. Wolley Dod, and seconded by Mr. Chancellor, and after a brief discussion, was carried unanimously. On the motion of Sir Trevor Lawrence, hearty votes of thanks were accorded to the auditors, and to the retiring secretary, Major Mason, for the ability with which their respective services had been rendered. Sir Trevor Lawrence than said he was anxious to express the high appreciation of the council for the services rendered by Mr. Barron, and he was sure they would all agree that he was the right man in the right place. Major Mason, in acknowledging the vote of thanks accorded him, said that his labours as secretary had been very materially lightened by the great ability with which the assistant secretary, Captain Bax, Mr. Dick, and the officials at Chiswick, performed their duties.

As the result of the ballot for officers, Sir Trevor Lawrence, Bart., M.P., was elected president; W. Haughton, Esq., treasurer; W. Lee, Esq., secretary; and Messrs. J. Lee, J. F. West, and W. Richards were elected auditors. The vacancies caused on the Council were filled by the election of Sydney Courtauld, Esq., A. B. Mitford, Esq., C.B., and Baron Schröder.

The proceedings terminated with the usual vote of thanks to the chairman.

Floral Committee.

Present: G. F. Wilson, Esq., in the chair; Rev. W. Wilks, Dr. Lowe, Major Lendy, and Messrs J. Douglas, W. B. Kellock, E. Hill, H. Cannell, J. O'Brien, H. M. Pollett, J. Dominy, R. Dean, W. Holmes, H. Herbst, G. Duffield, H. Bennett, J. Laing, J. Walker, G. Paul, T. Baines, and H. Turner.

Notwithstanding the severity of the weather, and the risk incurred in the transmission of tender plants, there was a very large and highly-attractive display of flowering, plants amongst them being several orchids of great beauty and high value.

Cyclamens and primulas constituted a feature of great interest. Mr. C. Turner, Slough, contributed twenty-four large and splendidly flowered specimens of a beautiful strain of white cyclamens, and was awarded the bronze Banksian medal. Mr. H. B. Smith, Hanwell, was awarded the silver Banksian medal for a collection of cyclamens remarkable alike for the excellence of the plants and the high-class character of the strain. From Messrs. H. Cannell and Sons, Swanley, came a beautiful group of single primulas and two stands of cut flowers of single and double varieties, and a vote of thanks was accorded the firm. Chief amongst the single varieties shown were—Improvement, on which a first class certificate was conferred; White Perfection, a superb white fern-leaved variety; and Queen of the Stripes, an exquisitely beautiful variety, the flowers large and freely striped with rose on a blush-coloured ground. The double varieties comprised Earl Beaconsfield, Annie Hillier, Princess, and Miss Eva Fish. From the society's Chiswick garden came a very distinct strain of primulas, with foliage like that of the Malva and blush-coloured flowers. Mr. J. James, Farnham Royal, Slough, showed two beautiful cinerarias, and a like number of primulas. The cinerarias were Paragon, a fine variety, with large stout flowers of a deep crimson colour; and Triumph, a distinct variety, the flowers deep marone with broad rose-coloured band immediately surrounding the disc. The primulas were Mary James, declicate rose pink with white centre; and Purity, a fern-leaved variety with pure white flowers of superb form. Mr. Woolthorpe, gardener to A. Palmer, Esq., East Thorpe, Reading, sent nicely bloomed plants of a good strain of primulas with white flowers.

Orchids were contributed in larger numbers than for some time past, and they included several extremely beautifnl varieties of Cattleya Triana, those from Baron Schroder's collection being exceptionally fine. Messrs. Heath and Son, Cheltenham, exhibited a gronp of nicely-flowered plants of Odontoglossum Roezli, and its exquisitely beautiful white variety, and were awarded the bronze Banksian medal. Mr. J. Nevill Wyatt, Lake House, Cheltenham, received a vote of thanks for a well-coloured variety of Cattleya Percivaliana. Mr. Ballantine, gardener to Baron Sohroder, The Dell, Egham, exhibited a large fine-flowered specimen of Cattleya Trianæ Schroderiana, one of the very finest of the many bsautiful forms of this attractive species, and an equally good example of C. Trianæ Russelliana, a very handsome variety, with flowers rather above the average in size, the sepals and petals pink, and the labellum bright amethyst purple. Mr. Noaks, gardener to Dr. Duke, The Glen, Lewisham, submitted a very attractively coloured variety of Cattleya Trianæ, and an example of the recently introdnced C. Lawrenciana, the flowers of which are very similar in form to those of

C. Percivaliana, and have rose-coloured sepals and petals, and a deep purple labellum. G. F. Wilson, Esq., Weybridge, contributed a finely developed spike of the lovely Phaius tuberculosus. As this species is very difficult to bloom satisfactorily, it may be of interest to state that the spike which had twelve flowers was cut from a plant that had produced two other spikes simultaneously with it. Mr. J. Douglas, The Gardens, Great Goaries, Ilford, contributed a remarkably good spike of the elegant Odontoglossum cirrhosum, and was awarded a cultural commendation. R. T. Measures, Esq., Camberwell, submitted a very distinctly coloured variety of Cattleya Trianæ, for which he was awarded a first-class certificate; and Cypripedium Measursianum, a new species from Borneo, with prettily-worked foliage, and small flowers of which the petals and labellum are lurid purple, and the dorsal sepal bright green. Mr. Pollett, Fernside, Bickley, contributed a good example of Cattleya Measursiana, a very distinct species, with tall slender pseudo-bulbs and medium-sized flowers, the sepals and petals green, and the labellum bright rose.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, staged a very beautiful group of perennials, comprising exceptionally well-grown examples of Cyclamen coum roseum, C. coum album, C. Atkinsi pur pureum, Iris reticulata, and its two varieties known respectively as Purpurea and Cyanea, Primula floribunda, Galanthus Elwesi, and G. plicatus. The silver Banksian medal was awarded to Mr. Ware for the collection, and a medal of like value was awarded to Messrs. Collins Bros. and Gabriel, Waterloo Road, S.E., for a very attractive and interesting collection of daffodils. Amongst other kinds represented were Narcissus spurius, N. pallidus præcox, N. corbularia, N. corbularia citrinus, N. triandrus, N. spurius coronatus, N. maximus, N. princeps, N. poeticus ornatus, N. obvallaris, N. bicolor Horsfieldi, N. incomparabilis Stella, N. nanus, N. obvallaris, N. moschatus, and N. nanus. Messrs. Barr and Son, King Street, Covent Garden, W.C., sent cut flowers of several beautiful varieties of Helleborus orientalis. and examples of Galanthus Elwesi. Mr. F. Ross, gardener to Sir G. Macleay, Pendell Court, Bletchingley, contributed a specimen of Bromelia macrodosa, a bold-growing species, producing large drooping racemes of green flowers enclosed in large bright salmon-coloured bracts. Mr. E. S. Dickens, Coolhurst, Horsham, sent an attractive collection of single and semi-double camellias, which were recognized by the award of the bronze Banksian medal.

Fruit Committee.

Present: H. J. Veitch, Esq. (in the chair), and Messrs. T. B. Haywood, R. D. Blackmore, J. Smith, J. Woodbridge, W. Denning, J. Willard, G. T. Miles, Harrison Weir, P. Crowley, J. Barnett, W. Paul, G. Bunyard, and Dr. Hogg. The novelties submittted were few in number; but three collections of apples, comprising nearly three hundred dishes, were staged, and produced a very attractive and highly instructive display. Messrs. G. Bunyard and Co., Maidstone, who were awarded the silver Banksian medal, exhibited a collection of about one hundred dishes, in which all the finest varieties now in season were represented by remarkably fine examples. Especially noteworthy were: Peasgood's Nonsuch, Cox's Orange Pippin, Cellini, Sykehouse Russet, Golden Noble, Emperor Alexander, Tower of Glamis, Small's Admirable, Smart's Prince Arthur, Alfriston, New Hawthornden, King of the Pippins, Stone Apple, Winter Peach, Blenheim Pippin, Belle Dubois, Melon Apple, Hambledon deux Ans, Warner's King, Cornish Aromatic and Annie Elizabeth. Messrs. T. Rivers and Son, Sawbridgeworth, staged a collection of one hundred dishes, all of which were more or less good, and were awarded the silver Banksian medal. The collection contained, amongst other fine examples, exceptionally good fruits of King of Tomkins County, one of the largest and most handsome of the winter apples. Messrs. J. Cheal and Son, Crawley, contributed eighty dishes of apples, the fruit throughout being of high quality and the award of the silver Banksian medal was made to the firm. Special mention may well be made of the examples of Lane's Prince Albert, Lincolnshire Holland Pippin, Annie Elizabeth, Hawthornden, Egremont Russet and Ribston pippin, the last-mentioned being very brilliantly coloured.

Several dishes of seedling apples were shown, but none of them were considered sufficiently meritorious to justify their recognition by the committee. Mr. Draper, Seaham Hall Gardens, Sunderland, exhibited a kale which promises to be a valuable addition to the list of winter vegetables.

Novelties.

First-class certificates were granted as under:—

To Mr. Ballantine, for—

Cattleya Trianæ Schroderiana. A magnificent variety, the flowers exceptionally large, the petals of great breadth and with the sepals of a pleasing blush colour, the labellum bright amethyst purple with golden throat.

To R. T. Measures, Esq., for—

Cattleya Trianæ Ernesti. A very beautiful variety; the flowers of average size; the petals and sepals blush, the tips of the first-mentioned being marked with large blotches of deep crimson rose; the labellum crimson-purple, with yellow throat.

To Messrs. H. Cannell and Sons, for—

Primula Improvement. A highly-coloured variety in the way of Swanley Red, but with larger and more finely formed flowers. A valuable addition to the single varieties.

To Mr. T. S. Ware, for—

Iris reticulata cyanea. An exceedingly beautiful variety, with bright blue flowers, the falls marked with purple and gold.

Primula floribunda. A neat-growing species, producing a profusion of bright yellow flowers; it is nearly hardy, and specially adapted for cool-frame culture.

To Mr. T. S. Ware and Messrs. Barr and Son, for—

Galanthus Elwesi. A very distinct species, and one of the very finest of the Giant Snowdrops, the flowers being pure white, and of immense size.

To Messrs. Heath and Son, for—

Arum Palestinum. A very distinct and handsome arad; the leaves are similar in shape and colour to those of the Calla, and the spathes are velvety maroon and the spadix nearly black.

NATIONAL CHRYSANTHEMUM SOCIETY.

At a meeting of the General Committee held on Monday, it was decided to hold at the Royal Aquarium an exhibition of early chrysanthemums in September, and of mid-winter varieties in January, in addition to the November show. It was also decided to offer prizes for dahlias, gladioli, and other flowers in September, and for primulas and other subjects in January, the money for that purpose being provided by the Royal Aquarium Company. The exact dates of the two supplementary shows are not yet fixed. The question of issuing a revised edition of the society's catalogue was discussed, and as the result it was determined to prepare a new edition, and publish it as quickly as possible. Mr. C. Harman Payne, Mr. N. Davis, and Mr. Springhett were selected for taking the necessary steps in the matter.

Amongst other business transacted, the Floral Committee was elected, its constitution for the current year being as follows: Messrs. E. Berry, M. Butcher, Bevan, H. Cannell, R. Dean, N. Davis, Gibson, G. Gordon, C. Herrin, E. Kemp, J. J. Lowry, J. Mardlin, G. Stevens, J. Springhett, C. Swift, and W. Wright.

A large and beautiful bouquet of flowers of Mdlle. Lacroix, one of the finest of the white Japanese varieties, was shown by Mr. J. Springbett, who considers it one of the very best for flowering at mid-winter.

TWICKENHAM HORTICULTURAL SOCIETY.

The annual meeting of the above society was held recently at the Town Hall, Twickenham; the Rev. D. Anderson in the chair.

The report shows that the past year has, on the whole, been satisfactory; but the committee have only a small balance in hand, and they ask the old members to continue the support which they have given and to use their best efforts to obtain new subscribers. The summer show of 1885 was the largest yet held under the auspices of the society, there being more exhibitors, and the majority of the prices offered were awarded. Notwithstanding this, the balance was on the wrong side, owing in part to a falling-off in the subscriptions. This deficiency was, however, more than made up by the autumn show, which was a decided financial success.

Mr. Gwyn moved that the balance-sheets and report be adopted, and stated that so long as the committee continue to exert themselves no fear need be entertained with regard to the future of the society. The committee having been elected, Dr. Murphy stated that Mr. Allfrey, who had filled the post of hon. secretary for upwards of three years, had resigned his office, and a resolution, thanking the treasurer (Dr. Ward) and Mr. Allfrey for their services during the past year, and expressing sincere regret at the resignation of Mr. Allfrey, was moved and adopted. Mr. Pugh was appointed in his place, and it was resolved that the summer show for the present year be held on Tuesday, June 29, and the autumn show on Friday and Friday, November 4 and 5.

THAME HORTICULTURAL SOCIETY.

This old-established society (which is affiliated with the Agricultural Association) held its annual meeting on Wednesday, February 3, at the Abingdon Arms Hotel, under the chairmanship of Mr. J. S. Stevens. The attendance of subscribers was large. A report was read by Mr. J. J. Shrimpton (one of the hon. secretaries), which referred "to the show held on September 10 last as a large and varied display, well attended, and financially successful. The only drawback to the society's progress was the loss of so many old subscribers through death and removals." A suggestion was thrown out in favour of renewing the art exhibition, which for several years had been most attractive. The balance-sheet submitted showed that the receipts from all souces (including a balance of £8 from 1884) were £137 13s. 3½d., and the payments to £130 13s. 3½d., giving a loss on the year of £1. A very influential executive was elected for 1886, Messrs. J. J. Shrimpton and John Walker being re-elected hon. secretaries.

OXFORD ROSE SOCIETY.

This society held its thirty-fourth annual meeting at the City Court, Town Hall, Oxford, on Friday, February 5. W. Wootten-Wootten, Esq., the president of the society, conducted the proceedings. The attendance of members was not large. The report, which was adopted, spoke of the general excellence of the display held on July 9 last, at Headington Hill Park, by permission of the High Sheriff of Oxon and Mrs. Morrell, who arranged that the exhibition should be open free, recouping the society with a donation of £59 10s. as an equivalent to gate-money, the result being that from twelve to twenty thousand persons inspected one of the best exhibitions ever held by the society. The balance-sheet showed that the receipts during the year amounted to £129 6s. 6d., and the payments (including £62 1s. as prizes) to £119 7s. 8d., giving a clear gain on the year of £9 18s. 10d.; and this, with £10 5s. 3d. balance from 1884, leaves the society with £20 4s. 1d. in hand. The whole of the officers of 1885 were re-elected.

CHRISTCHURCH (CANTERBURY, NEW ZEALAND) ROSE SHOW, December 8, 1885.

The annual exhibition of roses, pinks, orchids, cherries, strawberries, &c., held on the above date under the auspices of the Christchurch Horticultural Society, proved a most attractive affair being graced by the presence of several ladies of rank and position, who conducted a sale of flowers in aid of the society's funds. During the afternoon, his Excellency the Governor of New Zealand visited the show.

As is usual at the rose shows in this part of the world, a considerable portion of the display consisted of groups of greenhouse and stove plants, orchids, ferns, &c., the competitive classes being limited to roses, delphiniums, pinks, cherries, and strawberries. The two last named subjects were staged in perfection; but the roses, alas! had to combat with a spell of dry, scorching weather, which, detracted from the general high character attained here in ordinary seasons.

Among the plants was a noble Medinella magnifica, flowering for the first time in the neighbourhood, a fine specimen of Cypripodium barbatum, some gloxinias; and of orchids Cattleya; Mossiæ, C. Warneri, C. Trianæ, and Oncidium Lanceanum, were the most largely shown. The pinks were very fine and were mostly local seedlings. There was also a fair show of delphiniums, and a collection of violas in variety, which helped to swell up the miscellaneous exhibits.

Among the best roses staged were large well-formed blooms of Triomphe de Rennes, Baroness Rothschild, Paul Neyron, Alfred Colomb, Captain Christy, Jean Liabaud, Celine Forestier, Belle Lyonnaise, Madame Falcot, President Thiers, Goubault, Bouquet d'Or, Duc de Caylus, Duke of Wellington, Eugène Appert, Maréchal Niel, Lord Macaulay, Monsieur E. Y. Teas, Louis Van Houtte, Jean Cherpin, Marquise de Castellane, Pierre Notting, Fisher Holmes, A. K. Williams, Madame Lambard, La France, President, and Madame Willermoz.

In the open classes for cut roses the most successful exhibitors were Messrs. Nairn and Son, Mr. A. Garrick, Mr. D. Craw, and Mr. J. B. Armstrong; and in the classes set apart for amateurs the prizetakers were Mr. S. Anstey, Mr. J. G. Davis, and Mr. J. Rogers. The champion cup offered for forty-eight

roses was awarded to the Hon. E. C. J. Stephens. Pinks were well shown by Mr. J. G. Davis, Mr. J. Rogers, and Messrs. Guntrip and Line; and delphiniums by Mr. J. B. Armstrong and Mr. D. Craw. The prizes for strawberries were awarded to Mr. D. Craw, Mr. W. Horrell, and Mr. S. Anstey; and in the class for cherries the awards were made in favour of Mr. F. H. Jones and Mr. D. Craw.

A GARDENERS' SOCIETY FOR BIRMINGHAM.

On the occasion of the annual dinner of the Birmingham Chrysanthemum Society, held a few weeks ago, a suggestion was thrown out that it was advisable to form a gardeners' society for Birmingham; and with this end in view a meeting of gardeners, employés of the nursery and seed trades, &c., took place at the theatre of the Literary Institute on the 4th inst., the Mayor in the chair, to consider the matter. After an address from the chair in favour of the proposal, it was moved by Mr. William Dean, florist, Walsall, and seconded by Mr. G. Latham, of the Botanical Gardens, Edgbaston, "That it is desirable a gardeners' society be formed in Birmingham for the purpose of imparting information, on the mutual principle, by the reading of papers and exhibition of objects of interest, and by the formation of a horticultural library." This was carried unanimously, and the names of nearly 160 persons, of an attendance of something like 170, were handed in as the original members. A provisional committee was formed to draw up rules and regulations, and this new venture may be said to have been started with every prospect of an assured success.

UNITED HORTICULTURAL BENEFIT SOCIETY.

The annual meeting of the members of this society took place at the Caledonian Hotel, Adelphi Terrace, W.C., on Monday, the 6th inst. Mr. Richard Dean (one of the honorary members) presided, and there was a full attendance of members. The balance-sheet read by the secretary showed that the balance in favour of the benefit fund in January, 1885, was £1,927 1s. 11d.; interest during the year on the same £57.; subscriptions of 169 members, £255 17s. 9d., which, with other items, amounted to £2,241 6s. 5d. The expenditure, on the other side, had been—sick pay, £16 16s. 6d.; paid to the widow of Edward Rowe, £34 12s. 4d.; small amounts, 8s. 10d.; proportion of interest of non-paying members, £6 11s.; balance carried forward £2,183 8s. 6d. The balance in favour of the benevolent fund in January, 1885, was £972 15s. 10d.; interest on ditto, £28 10s.; interest from non-paying members, £6 11s.; subscription of 157 members, £19 3s.; subscription of 10 honorary members, £10 10s.; small items, 13s.; making a total of £1,038 2s. 11d. Out of this a sum of £20 had been voted by the committee to the orphan children of the late Mr. and Mrs. Rowe, leaving a balance of £1,018 2s. 11d. to be carried forward. The management fund showed a balance brought forward from last year of £3 18s. 7d; subscriptions of 157 members, £19 12s. 6d.; arrears of subscriptions, 5s.; total, £23 16s. 1d. The total management expenses were £18 18s. 5d.; leaving a balance of £5 7s. 9d., which sum was voted to the secretary, Mr. J. F. McElroy, as a honorarium, his services being purely honorary, this being the only sum received by him in the way of salary. During the year an additional sum of £300 had been invested in Consols, making the entire sum standing to the credit of the society £3,300. It was also reported that eleven new members had joined during the past year. The adoption of the report was moved by the Chairman, who congratulated the members on the highly satisfactory character of the financial position of the society, and eulogized the services of the secretary, who, although not a member, devoted much time and attention to the affairs of the society. This was duly seconded and carried. Votes of thanks were passed to the trustees, Messrs. J. George, J. Wheeler, and G. Wheeler; to the treasurer, Mr. J. Hudson, whose absence through illness was unavoidable; to the secretary; and to the auditors and chairman, which closed the proceedings.

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Parsnips.....per doz.	1s. 0d. ,, 1s. 3d.
Radishes ..... per doz. bunch	1s. 0d. ,, 2s. 0d.
Rhubarb .....per bun.	0s. 6d ,, 0s. 8d.
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Eucharis, per doz. blooms	4s. 0d. ,, 6s. 0d.
Gardenias, per doz. blooms	15s. 0d. ,,30s. 0d.
Heliotropes, per doz. sprays	0s. 6d. ,, 0s. 8d.
Hyacinths, Roman, per doz. sprays	0s. 9d. ,, 1s. 6d.
Lapagerias, per doz. blms.	2s. 0d. ,, 3s. 6d.
Lilac, French ....per bun.	2s. 6d. ,, 5s. 0d.
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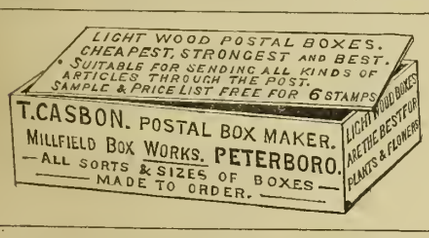

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WRIGHT'S GROVE RED, WHITE, PINK, and GIANT WHITE.
Extract from "Gardeners' Chronicle," October 31, 1885, report of show at South Kensington, page 567: "Turning to the single dish classes, we found no less than twenty lots of Celery in sixes, generally very fine and clean. Here Mr. Richards, of Somerley Park Gardens, was first with a superb, clean, solid sample of Wright's White, as good as could be desired."
GROVE RED and WHITE have also been awarded First Prize. Packets 1s. each; four varieties, 3s.: post free.
CUCUMBER, PARAGON, also PRINCE OF WALES, packets, 1s. each, free.
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CHRYSANTHEMUM CUTTINGS for Christmas flowering. Best Whites, Princess Teck, Ethel, and Countess of Grenville; also Splendens, Dr. Masters, Mrs. Sharpe, John Salter, Peter the Great, Mrs. G. Rundle, Mrs. Dixon, Hiver Fleur, and Peogne. 5s. per 100; 9d. per dozen.
S. MORTIMER, Swiss Nursery, Rowledge, Farnham, Surrey.

Sales by Auction.

Wednesday next.

2,000 splendid Bulbs of Lilium auratum and numerous distinct varieties of Iris received from Japan, in very fine condition; a consignment of Cypripedium spectabile, Sarracenias, and other plants from New Jersey; Liliums and Calochorti from California; Camellias, Azaleas, Palms, &c., from Belgium; 400 Standard and other Roses, all named; and Fruit Trees from an English nursery; 300 Carnations and Picotees, and a general assortment of hardy English-grown Lilies and Bulbs.

MESSRS. PROTHEROE and MORRIS will SELL the above BY AUCTION, at their CENTRAL SALE ROOMS, 67 and 68, CHEAPSIDE, E.C., on WEDNESDAY next, FEBRUARY 17, at Half-past Twelve o'clock precisely.

On view morning of sale, and catalogues bad.

Friday next.

Large Importation of Cool Orchids.

1,000 ODONTOGLOSSUM ALEXANDRÆ; thousands of Odontoglossums in variety, and other Orchids.

Important to the trade and large buyers.

MESSRS. PROTHEROE and MORRIS are instructed to SELL BY AUCTION, at their CENTRAL SALE ROOMS, 67 and 68, CHEAPSIDE, E.C., on FRIDAY next, FEBRUARY 19, at Half-past Twelve o'clock precisely, as follows, in large quantities, to suit the trade and large buyers, by order of the New Plant and Bulb Company and Messrs. Shuttleworth, Carder, and Co.: Established Orchids, Orchids in Flower, and an importation of Freesia refracta alba.

On view morning of sale, and Catalogues had.

SALES FOR NEXT WEEK.

MR. J. C. STEVENS will SELL BY AUCTION, at his GREAT ROOMS, 38, KING STREET, COVENT GARDEN, during the ensuing week, as follows, at Half-past Twelve precisely each day:—

MONDAY.—12,000 Liliums in variety from Japan, Tuberoses, Calochorti, Gladioli, Eucharis, &c.

WEDNESDAY and SATURDAY } Standard and Dwarf Roses, Fruit Trees, Shrubs, Border Plants, and Bulbs.

THURSDAY.—Valuable and extensive importation of Orchids in variety, from Mr. F. SANDER.

On view mornings of sale, and catalogues bad.

THE "PERCIVAL" COLLECTION OF ORCHIDS.

THE

LIVERPOOL HORTICULTURAL CO.

(JOHN COWAN), Limited,

WISH to announce that the REVISED CATALOGUE of this fine Collection of ORCHIDS is now ready, and will be sent post free on application.

The Collection still includes magnificent specimens of all the leading varieties of Orchids.

INSPECTION INVITED.

The Vineyard, Garston, Liverpool.

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VIOLIN.—Grand solo instrument; perfect condition, labelled Antonius Stradarius, Cremona 1743; with silver-mounted bow and brass-mounted lock-up case, lined through with baize. Sacrifice the lot, carriage paid, 17s. Satisfaction guaranteed, or money returned; inspection invited.—A. GILDERS, Oyster Merchant, Brightlingsea, Essex.

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ALDERSGATE STREET.—Large, light, and lofty WAREHOUSE TO BE LET, of three floors Rent £200, free of taxes. Suitable for any light manufacturing business.—Apply at the "City Press" Office.

LIGHT FACTORY in Farringdon Road (a few minutes' walk from the station M. and D. Railway, Ludgate Hill, and Fleet Street).—A WARE-ROOM or light FACTORY, on second floor; capital light. Rent £60 per annum. Debenham, Tewson, Farmer, and Bridgewater, 80, Cheapside.

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Packages and Packing free, and delivered to any London Station.

100 Squares of Glass, Quality Guaranteed:—

15-oz.	s. d.	21-oz.	s. d.
13½ by 8½ for 10 0	for 14 0	Or 300 squares, 15-oz.,	8 by 6
12 by 9 for 10 0	for 14 0	,, 250 ,, ,,	8½ ,, 6½
12 by 10 for 11 0	for 15 6	,, 220 ,, ,,	9½ ,, 6½
14 by 10 for 13 0	for 19 0	,, 170 ,, ,,	9 ,, 7½
14 by 12 for 17 6	for 24 0	,, 150 ,, ,,	10 ,, 8
12 by 12 for 13 0	for 20 0	For 10s.	
18 by 12 for 21 0	for 31 0	Glass cut to any size at the	
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Best LINSEED OIL PUTTY, 1d. per lb.; PAINTS, ready mixed for use, in tins of 1 lb. to 14 lbs., at 5d. per lb. Special quotations given for large quantities.

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Wholesale Lead and Glass Warehouse,
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Wanted.

GARDENER (Head, Working) WANTED, where seven are kept.—Must thoroughly understand his business.—State experience and full particulars, by letter, to J. COOPER, Horley House, Purley, Surrey.

WANTED, GERANIUM CUTTINGS, Vesuvius, Madame Vaucher, Mr Turner. State lowest price per hundred or thousand.—G. JONES, Besson Street Nursery, New Cross, S.E.

Situations Wanted.

A LADY, who has given up her stove plants, recommends a respectable young MAN, who has been with her 10 years; age 26; unmarried; understands gardening and houses in every department.—Direct, Mr. J. WHITE, Cowbridge, Malmesbury, Wiltshire.

A SITUATION Wanted by a Respectable, Industrious, Middle-aged MAN and Wife (without encumbrance)—the man as gardener, thoroughly experienced in all branches; the wife as plain cook or assist in housework; and also willing to take charge of house when employers are absent from home; good reference.—Apply, H. S. C., Selborne Terrace, Peel Road, Woodford, Essex.

AN ACTIVE LAD of 16 is anxious to get into a gentleman's garden; is willing to make himself generally useful; to live in the house preferred.—Address W. SAXTON, Spring Road, Abingdon, Berks.

AS GARDENER (Single-handed or otherwise).—14 years' experience in Greenhouses and Kitchen and Flower Garden work; age 27; good personal or written character can be had.—Apply S. MAY, Peninsula Cottage, Bedfont, Feltham, Middlesex.

AS GARDENER (Single-handed or otherwise).—Fourteen years' practical experience; age 29; single; three years and eleven months' good character from last employer, and nine previous.—S. BROWN, 3, Clare Cottages, The Green, Barnes, S.W.

AS GARDENER (Single-handed, or where help is given); single; age 24; and can have three years and nine months' good character from present employer.—Address D. W., care of W. Martin, Bookseller, Sutton, Surrey.

AS IMPROVER (Under Glass).—Age 21; total abstainer; seven years' experience; can be well recommended.—For reference apply to JAMES BURGE, Greenford, near Southall, Middlesex.

FOREMAN, in a good place, understanding in and out door work; or Gardener where two or three are kept).—Good reference from present and previous employers; age 26.—E. EGLESTONE, Mayfield, Shooter's Hill, Kent.

FOREMAN, in a private establishment; ten years' experience.—GEORGE BOSHIER, Hatley Park, Gamlingay, Cambridgeshire.

FOREMAN, in a Nobleman's or Gentleman's establishment.—Age 22; eight years' experience in first-class establishments; good reference from present employers.—P. FRY, Waverley, Farnham, Surrey.

GARDENER (Head, Working), or Foreman in a good establishment.—Age 27; single; thoroughly practical in all branches; good references; abstainer.—R. J. WALTERS, Leighton, Ironbridge, Salop.

GARDENER (Head, Working).—26; good practical experience in all branches of profession; total abstainer, and member of C.E.; 11 years in last situation.—T. R. POOL, 16, Belvedere, Weymouth, Dorset.

GARDENER (Head, Working).—Age 30; married; 17 years' practical experience in all branches of the profession, including orchids; highly recommended.—R. THOMAS, Coombe Lodge, Half Moon Lane, Herne Hill, S.E.

GARDENER (Head, Working).—Thoroughly understands the management of vines, pines, melons, and cucumbers; 3 years' good character; leaving through death; married; age 30. Please state wages.—Address D. C., 1, Warren Terrace, Nursling, near Southampton.

GARDENER (Head).—Age 28; thoroughly understands stove and greenhouse plants, grapes and peaches, cucumbers, and melons; also flower and kitchen garden; personal character if required.—A. H., The Gardens, Casino House, Herne Hill, S.E.

GARDENER (Head).—Single man; age 30; well-up to vines, peaches, cucumbers, tomatoes, stove and greenhouse plants, flower and kitchen garden; 15 years' experience in good establishments; no objection to grow stuff for market.—Address J. DOWNES, Shardington Lodge, Cheltenham.

GARDENER (Head, or good Single-handed).—Age 36; married, no family; wife as laundress; well up in early and late forcing; six years' character from last situation.—GARDENER, J. Warren, High Street, Fortune's Well, Portland, Dorset.

GARDENER (Head, where one or two are kept; or good Single-handed, where help is given occasionally).—Age 34; married; good character.—Address H. BERRY, Choveydown, Bracknell, Berks.

GARDENER (good Single-handed).—Twelve years' experience; willing to be useful; good character; age 29; married.—H. G., 5, Simpson's Road, Bromley, Kent.

GARDENER (good Single-handed, or otherwise).—Twenty years' experience in general routine of work in all its branches; married; no encumbrance; good character.—T. TAYLOR, 4, Grove Road, Maidenhead, Berks.

GARDENER (Single-handed, or where help is given).—Married; 16 years' experience in fruit, flower, and vegetable growing; good character.—J. N., 13, Athelstane Road, Finsbury Park, London, N.

Situations Wanted.

GARDENER (Head, where more are kept).—Age 27; experienced in Stove and Greenhouse, Orchids, Fruit, &c., and the general routine of a good garden; two years in present situation as general foreman.—W. PIERCE, The Gardens, Gifford House, Rochampton, Surrey.

GARDENER.—A gentlemen recommends his Gardener, who lived with him eight years; married; age 33; experienced in all branches.—S. B., 9, Hawthorn Terrace, Chase Road, Southgate.

GARDENER (Single-handed).—Understands stove and greenhouse plants, vines, &c.; flower and kitchen garden; age 24; good character; abstainer; married when suited.—H. HARRISON, 28, Stamford Terrace, Stamford Hill.

GARDENER (Single-handed, or where one is kept).—Experienced in vines, stove and greenhouse plants, flower and kitchen garden; nine years' experience; age 24, single; good character.—Address THOMAS PROCTOR, 20, Guildford Street, Brierfield, Burnley, Lancashire.

GARDENER (Single-handed, or otherwise).—Understands fruit, flower, and kitchen garden, also glass; age 25; good character from previous and present employers.—E. C. MAYFIELD, Shooter's Hill, Kent.

GARDENER (Single-handed, or where help is given).—Age 26; nine years' experience; can be well recommended.—Address J. T., 13, Kemerton Road, Coldharbour Lane, Camberwell, London.

GARDENER (Single-handed, or where another is kept).—Understands Flower and Kitchen Garden, Vines, Melons, Cucumbers; married; age 31; good character.—W. M., 6, Crescent-terrace, Beckton, E.

GARDENER (Single-handed, or good Second).—Nine years' experience in vines, melons, cucumbers, flower and kitchen garden; two years' good character; age 24 years; married.—H. F., Mill Lane, Prestone, Wingham, Kent.

GARDENER (Second, where three or four are kept, or Under), in a large establishment; nine years' practical experience in and out doors; excellent character.—H. CLARKE, Fyfield, Andover, Hants.

GARDENER (Under).—Used to kitchen and flower garden; age 35; married, one child; four years and three months' good character.—Address W. P., 9, Lytton Road, New Barnet.

GARDENER (Under).—Age 22; strong, active, and willing; total abstainer; 2½ years' excellent character.—Address G. T., Skinner's Cottages, Sevenoaks, Kent.

GARDENER (Under, or Second, where three or four are kept).—Age 22; two years' good character.—Apply A. S. W. G., 14, Upper Killiper Road, Woolwich.

JOURNEYMAN in the Houses.—Highest references; age 21; total abstainer; bothy preferred.—Apply R. THOMAS, care of Mr. R. Crossling, The Nurseries, Penarth, Glamorganshire.

JOSEPH LILYWHITE, Florist, Spring Grove, Kingston-on-Thames, wishes to recommend a young man as UNDER GARDENER or IMPROVER in gentleman's garden; age 20; five years' character.

JOURNEYMAN (in a good Establishment).—Age 22; two years in present place.—F. TRUST, The Gardens, Brownsea Island, Poole, Dorset.

JOURNEYMAN (age 24).—H. AUBERTIN, Bulwick Park, Wansford, would have much pleasure in recommending a young man; 3½ years in present place (in the Houses).—Address as above.

RICHARD SMITH and Co. beg to announce that they are constantly receiving applications from Gardeners seeking Situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

SITUATION WANTED, by young man, age 24, as JOURNEYMAN in the houses; 11 years' good character.—Address D. FRENCH, The Gardens, Haddon Hill, Christchurch, Hants.

WANTED, by a young man, age 22, a situation as FIRST JOURNEYMAN, or Second Gardener; nine years' experience; two years' good character.—For particulars apply H. BLAKE, The Gardens, Gunnersbury House, Acton, W.

WANTED, a Situation by a strong active young MAN in good gardens; houses preferred; 4½ years' experience; age 19.—Apply to J. BATTRAM, The Oaklands, Belstead Road, Ipswich.

WANTED, a Situation as GARDENER (Single-handed, or otherwise).—Thoroughly experienced in all branches, and with good character; age 30.—T. BROWN, 41, Besson Street, New Cross, S.E.

WANTED, a Situation as GARDENER (Under, or Single-handed).—No objection to cow or pony-chaise; good character; age 29: please state wages.—Address W. WOODS, Blunham, Sandy, Bedfordshire.

WANTED, a Situation as GARDENER (Single-handed or where a boy is kept).—Age 23 years; experienced in all branches; good references; single.—Address to E. B., Thong, near Gravesend, Kent.

WANTED, a Situation as PLAIN GARDENER, or to work in Market Garden or Nursery; used to Nursery Work; married; age 27.—Address W. B., MRS. DUMMER, Upperton, Petworth, Sussex.

WANTED, Situation by respectable young man as IMPROVER in gentleman's garden; highly recommended.—BIRD, Delbury Hall, Craven Arms, Salop.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Southing After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
21	S	**Septuagesima Sunday.**	7 5	13 48	15 21	9 20	8 19	3 36	3 58	0 40	1 1	39·4	Cœlogyne cristata	Nepaul.	52
22	M	James Bary died, 1806.	7 3	13 40	15 25	10 36	8 47	4 20	4 43	1 23	1 45	39·6	Brassavola glauca	Mexico.	53
23	Tu	Sir George Smart died, 1867.	7 1	13 32	15 27	11 45	9 17	5 3	5 22	2 8	2 28	39·7	Cattleya Wakeriana	Brazil.	54
24	W	*St Matthias, Apostle.* [died, 1723.	6 59	13 23	15 29	Morn.	9 49	5 42	6 3	2 47	3 7	39·8	Ansellia Africana	Fernando.	55
25	Th	☾ Last Quarter, 5h. 11m. after. Sir C. Wren	6 56	13 13	5 30	0 51	10 23	6 25	6 48	3 28	3 50	40·0	A. gigantea	"	56
26	F	Thomas Moore died, 1852.	6 54	13 3	15 32	1 53	11 2	7 14	7 40	4 13	4 39	40·1	Dendrobium nobile	India.	57
27	S	John Evelyn died, 1706.	6 52	12 53	5 34	2 50	11 45	8 9	8 44	5 5	5 34	40·4	D. macrophyllum giganteum	Manilla.	58

Auction Sales for the Ensuing Week.

Monday, February 22.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Lilium Auratum from Japan, and other Bulbs.

Tuesday, February 23.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids in Flower.

Tuesday, February 23.—Messrs. Protheroe and Morris, at Cranston's Nursery, Hereford; Nursery Stock. Two days.

Wednesday, February 24.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

Wednesday and Saturday, February 24 and 27.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, Border Plants, Bulbs, &c.

Wednesday, February 23.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Lilium auratum, Iris, Roses, Plants, &c.

Thursday, February 25.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

Friday, February 26.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

Friday, February 26.—Messrs. Protheroe and Morris, at the Exotic Nursery, Tooting; Herbaceous Plants.

THE GARDEN ORACLE for 1886 is on the same plan as former issues, the present being the twenty-eighth publication of this work. It contains complete lists of the New Plants, New Flowers, and New Fruits, and a Complete List of the New Parliament.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C., to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, FEBRUARY 20, 1886.

The Sale of Produce from Private Gardens occasions much unpleasant comment in the horticultural world, and clashes directly with the interests of a certain class of commercial cultivators. No one denies—or, to put the case differently, no reasonable person denies—the right of a proprietor to do as he pleases with his own property: if he offends against the law in so doing, as a matter of course those who are aggrieved have at command a legal remedy. So long as the owner of a garden simply transfers the produce of it to a market of any kind, taking in return the purchase-money, none can complain of the proceeding. But if it happens that the non-trader who becomes a trader on occasion, or while professing to be a non-trader is a trader always, obtains by that profession of non-trading advantages which the commercial cultivator is denied by the normal action of the law, then there is reason for complaint, and the proper policy of the commercial cultivator is to secure before the law an equality of conditions for both parties. It is a fact that needs not to be insisted on that the machinery of production in the professedly non-trader's garden is less heavily taxed than the corresponding machinery in the garden of the man who is confessedly a commercial cultivator, and dependent for subsistence on the produce he can place in the market. The two gardens thus brought into the consideration are assessed according to different ideas: the one is for enjoyment, and taxed less heavily than the one that is for business. To the commercial man the assessment is in the nature of an estimate of profits for the concession of a licence to sell; to the other the assessment is in the nature of an estimate of value for licence to enjoy. Both are taxed in respect of actual income, and that part of the question we have nothing to do with. When the man who in the eye of the law and in the judgment of assessment commissioners is in the position of a non-trader, enters the market with his produce, he has an advantage over the avowedly commercial cultivator in the lower scale of his taxation; and therein is a grievance, which is in no degree lessened by saying the non-trader sells only his "surplus" produce, or that his sales are accidents of an occasional kind only.

The first step towards the discovery of a remedy seems to be to represent the case to the assessment commissioners, and the movement thereto must be purely local in the first instance. Perfection of law is unknown; abstract justice is impossible; the word "practical," in reference to taxation and all other details of government, means the adoption of the best means at command to secure fair play, and the avoidance of minute questions that only make a fret and can never be disposed of. Proceeding on this understanding, it is quite within the domain of practical politics for the commercial cultivators in any district to challenge the assessments of persons who compete with them in the markets while enjoying the advantage of the lesser degree of taxation that relates to occupation for domestic as distinct from commercial purposes. This, so far as we know, has never been done. There appears to be wanted a test case which might govern the case at large, and serve as a possible basis for remedying what, for the present purpose, may be assumed to be a defect in the local apportionment of the burdens of taxation. That the proceeding would be justified by events may at least be believed, and certainly hoped for; and while that conclusion obtains attention it may be worth while to ask if anything can be said on the other side.

In justification of discrepancies of assessment we have nothing to say. The man who should pay twenty shillings to local or imperial taxation, but escapes by payment of eighteen shillings, has virtually robbed the community of two shillings, and the community has the best imaginable right to see that he pays his full shot in future, to say nothing of arrears. But the question still remains whether the non-trader has not to face disadvantages that much more than counterbalance his gain through the leniency or blindness of assessors.

The commercial cultivator, generally speaking, can beat the other at every point of practice—from the purchase of raw material in the way of seeds, bulbs, and the like, to the final marketing of the produce. He gives his whole mind to the business; he is skilled in small economies; he is ready with ways and means to meet emergencies; he is alert in respect of values, and better understands the handling of every subject he takes in hand, for the amateur competitor, however shrewd and skilful, has his attention divided, and the man has not been seen on this planet who could divide his attention and perfectly succeed in all things alike. Growing for the market is a curious business, whether the crop be early radishes or forced flowers, or pines, or orchids, or grapes. It is not the knowledge of twenty or ten or even five years back that will carry a man through: it is the knowledge of the day and the hour; and that must be turned to account by vigilant hands and keen eyes, and the spirit known to the world by the happy phrase "pegging away."

Nor is this general and commanding advantage the only point worthy of attention. It must be remembered as somewhat of a set-off against the assumed laxity of assessors that their customary rule is to assess everywhere as high as possible; and of late years this has been carried so far that appeals against assessments are the commonest of events in local administration. It is fair to assume that wherever and whenever a case for increased assessment can be established, the authorities will be found willing to take advantage of it in the public interest; for the life of their work consists in squeezing every man as much as they dare; the crying out against high assessments does not soon alarm them, and public opinion will sustain them in this course so long as they keep on the safer side of oppression and injustice.

As regards the larger aspects of the case it must be borne in mind that while the expenses of the private garden are necessarily higher than that of the commercial cultivator when tested by aggregate of produce, the glass, the labour, the material must all be paid for; there can be no cheating of necessity in respect of such matters.

It is known that a certain few of the men who contribute largely to the markets of what they call "surplus" produce incur heavy expenses and lose by every transaction that comes within the range of business. If it be asked why they maintain large establishments in order to feed the markets at a loss, we confess we cannot answer the question. We could tell of wealthy men who own acres of glass and do a considerable amount of marketing that certainly does not "pay" in the customary sense of the term; but if the returns reduce the aggregate of the outgoings and enable the owner to roam over a large garden and see pines and grapes growing in quantities far beyond his own requirements, there can be no reason for anyone to complain provided only the taxation takes consideration of the circumstances. In one sense, however unintended, it certainly does; and the commercial cultivator may properly consider how he stands in comparison with the amateur competitor in respect of house tax, servant tax, carriage tax, and some other taxes.

Great Eastern Railway Company has offered to contribute fifty guineas per annum for three years towards the expenses of the intended Agricultural Exhibition in Norfolk.

The Business of Raynbird, Caldecott, Bawtree, and Dowling is formed into a Limited Company; capital £50,000, in 5,000 shares of £10 each. The offices are at Basingstoke.

R.H.S. Provincial Exhibition at Liverpool will be held in the Botanic Gardens and Wavertree Park from June 29 to July 5.

Mr. George Easton, formerly gardener at Copt Hall, Hendon, has been appointed to the gardens of W. M. Molyneux, Esq., Losely Park, Guildford.

Edinburgh International Exhibition will be opened May 4 and closed October 30. It is "hoped" that the Queen will personally inaugurate the show on May 4.

Professor E. Morren's Discourse on vegetable irritability and the movements of plants has been published by F. Hayez, 108, Rue de Louvain, Brussels. It is entitled *La Sensibilité et la Mobilité des Végétaux.*

Tillandsia umbellata, figured and described in a recent issue of the *Revue Horticole*, promises to prove a most desirable addition to the bromeliads in cultivation. It is similar to the well-known T. Lindeni in general character, and the flowers are of a brilliant blue.

Farmers' Co-operative Cake and Meat Company has for its object the manufacture of feeding-cakes for cattle, and to supply, at first hand, "the nobility, gentry, private families, hotel and restaurant-keepers," with meat, poultry, game, eggs, butter, and cheese. The capital is £100,000, in 20,000 shares of £5 each. The offices are at 62, Mark Lane, London.

"All about Blackberries" is the title of a small treatise by Viccars Collyer and A. W. Crews, published by J. Fleming and Co., Leicester. It professes to show "how to obtain a comfortable living simply by growing blackberries," which we hope and believe is actually being done by Viccars Collyer and Co.—although a little differently, perhaps, to the plan recommended.

Catasetum tubulare, which is remarkable for the similarity of its flowers to the open mouth of a snake, was exhibited at the last meeting of the Scientific Committe of the Royal Horticultursl Society. The two antennæ closely resemble the fangs; while a thick tongue-like elevation extending down the labellum assists to make the likeness more complete.

Narcissus Committee held a meeting at Sonth Kensington on the 9th inst., when it was decided to continue the work of correcting and ratifying nomenclature, and to hold conferences for the purpose of encouraging the culture of daffodils, and bringing collections together. Three conferences will be held during the ensuing spring, the dates being March 23 and April 13 and 27.

A Catalogue of Chrysanthemums has long been wanted, and the publication of several such has rather augmented than satisfied the want, for the simple reason of the inaccuracies by which they are severally prejudiced. Could we have found a trustworthy catalogue we should have spared the devotion of any part of our much-crowded pages to such a purpose. But we felt bound to take up this business and carry it through in the best manner possible. It is our singular good fortune to have secured the able assistance of Mr. C. Harman Payne, who will at once present our readers with a correct catalogue of the Continental chrysanthemums. This will be followed by a catalogue of English-raised varieties.

Leaves and Dew.—At the recent meeting of the Scientific Committee of the Royal Horticultural Society, Mr. Smee read a very interesting communication on some observations he had made during the summer of 1885 on the relative amount of dew deposited on leaves of different plants. The observations extended over nineteen consecutive days, and were made at nine a.m. and seven p.m., the subjects selected for examination being the Quince, Mulberry, Syringa, Brussels Sprouts, Peach, Rose, Evening Primrose, and Dahlia. It appeared from the observations that the quince and mulberry are always the last to be coated with dew, and are never wet at any time. Dahlias and Brussels sprouts become coated with dew sooner than any other plant. Whilst in the former drops of dew hang from the points of the leaves, the leaves of the peach, rose, and evening primrose are never so wet as the dahlia, but always have more moisture deposited on them than those of the quince and mulberry.

Tunbridge Wells Chrysanthemum Society will hold its annual exhibition November 11 and 12.

Registration of Plumbers by the Plumbers' Company will be commenced on the 1st of March at the Guildhall of the City of London. This proceeding is likely to prove of great advantage, and probably in all the great towns something similar will be attempted. The plumber carries in his hand the plumb-line of sanitation, and when incompetent, or wanting in sense of responsibility, may become a powerful, and perhaps secret, enemy of life and property.

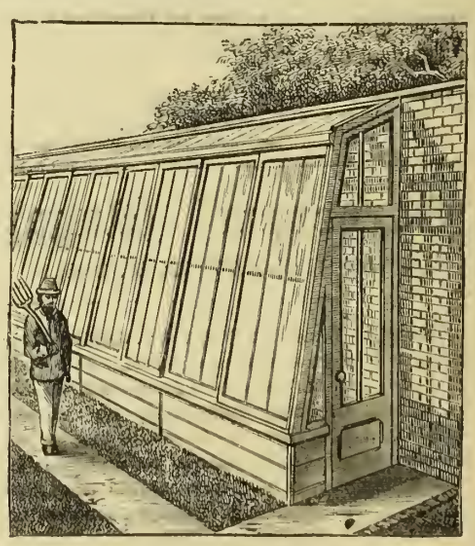
Substitute for Hops.—Arrangements are being made to hold a conference of hop-growers at Maidstone, at which an effort will be made to devise an analytical test to discover what substitutes for hops are used in the manufacture of beer. A similar attempt was made about seven years ago, but failed for want of co-operation. When the substitute for hops is discovered beer will go out of fashion. The adoption of substitutes for barley has reduced the consumption of (so-called) malt liquors.

York Floral Fete.—The committee are evidently determined to maintain the high character of the horticultural gatherings at York; for the schedule of prizes offered for competition at the exhibition to be held June 23, 24, and 25 is even more liberal than in any previous year. Prizes of £20, £14, and £8, are offered for sixteen stove and greenhouse plants, of £12, £8, and £5, for twelve orchids, and for twelve pelargoniums; and in the several classes provided for roses the prizes amount in the agregate to £108.

The Weather continues seasonable, and is therefore unpleasant. The change anticipated in the note published February 5 was of a quiet nature, but useful as a temporary relief from the mixture of frost and fog of which we have had so much. The frost broke up on the 10th, when the maximum temperature at the Meteorological Office in London was 34 Fahr. On the 11th the thermometer rose to 38; the 12th, 44; the 13th, 46; the 14th, 43. Then winter returned with leaden skies and a temperature near the freezing point. At the time of writing the barometer is steady, and the wind easterly. It is a season for rain, snow, and wind; but the prospect does not include any special horrors, and improving conditions may be looked for.

"DARLINGTON" FRUIT WALL COVER.

Under the above designation Messrs. W. Richardson and Co., of Darlington, have brought out a new and exceedingly cheap glass protector for fruit walls, and, indeed, for walls generally, not a few of the ornamental wall trees being as much entitled to protection as the fruit trees. For a large proportion of English gardens such a contrivance settles at no great cost a very vital question in fruit culture, for the vital question everywhere is how to carry the trees safely through the season of flowering, while, perhaps, east winds prevail with occasional snow showers and frequent attacks of frost. We thoroughly approve of Messrs. Richardson's method, having had similar wall protectors in use during many years with singular advantage, though costing three



"Darlington" Glass Wall Cover.

or four times the rate charged by Messrs. Richardson, who have the advantage of spreading first cost over a large surface, machinery being the mainstay of the undertaking as regards the price. All protectors for wall trees must agree in allowing the cultivator control in respect of shutting close against a storm and admitting air freely on the mild, breezy mornings, when the pollen is plentiful and healthy and the temperature favourable to "setting." The admirable protectors in use at Sion by Mr. Woodbridge, described in our issue for June 3, 1876, are on precisely the same principle, but curtains take the place of glass, and hence greater vigilance is required in the management. It will always pay to protect fruit walls except in the few fortunate places where the spring frosts make no difference to the crop.

"A SIMPLE FACT ABOUT" KEATING'S COUGH LOZENGES.—Ask throughout the world, in any country that can be named, you will find them largely sold. There is absolutely no remedy that is so speedy in giving relief, so certain to cure, and yet the most delicate can take them. One lozenge gives ease. Sold in 1½d. tins.—[Advr.]

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory should be kept warm enough to prevent flowering and other plants brought from the stove and forcing-pit receiving a check. On the other hand, the temperature must not be maintained so high as to force the permanent occupants into growth. Camellias will require liberal supplies of water at the roots for some time hence, and specimens that are growing out of shape should have a few of the shoots cut back as soon as they are going out of flower, but systematic pruning of these shrubs must not be adopted, for it is not only unnecessary but decidedly injurious. This is a good time for transplanting any specimen plants in the borders, for when moved at this season of the year they seldom receive any check, provided the work is done expeditiously and with a fair amount of care.

Greenhouse must be ventilated freely when the weather is favourable, as both soft and hard wooded plants must enjoy a free circulation about them when there is no risk of their being exposed to cold winds. The various plants that have a place in the structure will require increased supplies of water as the days lengthen and the sun acquires power, but the watering must not be overdone.

Plants in Flower in the conservatory and greenhouse comprise Chorozema flava, scandens, varia, and spectabilis; Acacia armata, spectabilis, rotundifolia, dealbata; Boronia pinnata, latifolia; Hovea purpurea; Callistemon rigidum, speciosum, semperflorens; Bossiæa ovata, tenuicaulis, cordifolia; double-flowering plum, peach, and cherry; camellias, azaleas, Hibbertia flexuosa, Cytisus of various kinds; also primulas, cinerarias, cyclamens, and pelargoniums.

FORCING AND ORCHARD HOUSES.

Cherries in the forcing-house will probably have black or green fly. A dry heat will always fill cherry trees with fly; therefore syringe freely except when they are in bloom, and give air in plenty at all reasonable and seasonable opportunities. Hand picking is the only way to deal with caterpillars; every curled leaf should be examined, and the worm removed and killed without injury to the leaf.

Peach and Nectarine Trees in the early house will now need training in and disbudding. Secure wood where wanted, and suppress that which is superfluous. Keep the borders moderately moist only until stoning is completed, and then commence to thin the crop by degrees.

Pines.—Succession plants will now be in the mood to grow freely. Fruiting plants will require a liberal top heat and plenty of water, and as much air as can be given safely to assist the colouring.

Strawberries swelling their fruit must be well supplied by means of liquid manure. Strawberries showing colour now will acquire an admirable flavour with the aid of sunshine, and the more so if they have plenty of air. Keep them as near the glass as possible, and take care that they are well fed. If they get quite dry at the root the crop will be anything but satisfactory.

Vinery.—Vines that are in a poor condition should be allowed to carry nearly all the wood they make, or at least only those laterals should be removed that have no chance of a due share of daylight. Cultivators often forget that when a tree is allowed to make a free head it will at the same time make a free root; and, on the other hand, if we check the growth above ground by pruning and pinching, the growth below ground will be equally retarded and restrained. Vines with swelling bunches must have every needful care, and especially as to the thinning of the bunches—a matter in which every grape grower should seek to become dexterous. For these the day heat may be 70 to 85 deg., night 55 to 60 deg.

FLOWER GARDEN AND PLEASURE GROUNDS.

Bedding Plants may be multiplied to any extent with the help of a good hotbed and the necessary plants to begin with. To secure a supply of cuttings, place the plants from which they are to be obtained in a genial and rather moist atmosphere—say, in a frame placed upon a bed of fermenting materials, in a nice sweet condition, or if it is placed in the coolest part of the stove it will soon throw out a number of small shoots. When these shoots are an inch long they may be slipped off with what is termed a "heel"—that is, removed by separating them at the point where they are articulated to the stem, or they may be cut through with a sharp knife. These soft shoots only require to have one or two leaves removed, so as to make a bare space sufficient to allow of their being planted firmly, and they are ready for insertion.

The simplest and surest way of dealing with them is to dibble them firmly into pans filled with silver sand, placing them close together, and then place the pans on the hotbed, and shut them up close. If the heat is about 60 deg., and never exceeds 70 deg., every one of those little cuttings will make roots. When the points of the cuttings assume a lively green hue you may be sure they have formed their roots and are about to grow. Let them grow a short time before disturbing them, and then remove them carefully so as not to injure the delicate roots, and put them singly into thumb-pots, or pot them three or four together in six-inch pots, using for the purpose fine, light, rich soil. A mixture of equal parts mellow loam, very old hotbed manure, leaf-mould, and silver sand, well broken up together, will do admirably for nearly every kind of greenhouse plant at the first potting—certainly for all kinds of bedders.

Hardy Plants in Flower comprise, in warm, sheltered situations, Aubrietia deltoidea, Sisyrinchium grandiflorum, Hepatica angulosa, Saxifraga cordifolia, Adonis vernalis, Pulmonaria rosea, Draba azoides, Viola odorata, Viola collina, Fumaria cava, Ranunculus ficaria, Potentilla fragaria, Anemone pulsatilla, snowdrops, crocuses, and Narcissus nanus.

KITCHEN GARDEN AND FRAME GROUND.

Cucumbers.—Where the growth proceeds freely, woodlice will proceed freely too. Make them proceed more freely than they intended by watering round next the woodwork with boiling water—provided, of course, that the roots have not extended to the sides of the frames. If this is done occasionally in the middle of the day, it will prove an effectual settler. Plants fruiting to be kept well fed, and the temperature steady. If any need for linings, let there be no delay in applying them, for if the roots are a few degrees too cold to sustain the demands upon them the fruit will be lost. Always supply the roots with tepid water. The simplest way of obtaining it is to keep a shallow can or pan in the frame and fill it as needful. If any sun heat, shut up at 80 deg. or 85 deg.

Kitchen Garden Work should be pushed on as fast as possible when the weather is open, so as to have the ground in readiness for the reception of the general main crop of vegetables which will have to be sown or planted early next month. Land ridged up to the frost will be mellow and fertile, and ground laid up in ridges in the autumn should soon be levelled down. As ample notes on outdoor work have been given during the past few weeks, reference may be made to them, and arrears must be made good by extra activity.

Edible and Ornamental Gourds are now frequently grown in collections and add very much to the interest of the kitchen garden, while a few of the smaller-growing kinds are invaluable for decorating trellises, arbours, summer-houses, &c. As to the use of gourds, it is well know that most of them may be boiled when young in the same way as the common vegetable marrow. The common pumpkin of the cottage gardens, cut when as large as a good-sized turnip, and boiled, is exceedingly good, although not equal to the small fruit of the best vegetable marrows. If the seeds are sown in the open ground on small hillocks on the 1st of May a good crop of fruit may be expected; in fact, all the gourds may be grown by this simple method. But it is much better to sow on a gentle hotbed about the middle of March, and have all the plants potted in good time, and plant out early in May on beds prepared for the purpose and raised a little above the general level, both to catch the earliest rays of the sun and to throw off excess of water during heavy rains.

Vegetables in Season include Brussels Sprouts, Cottager's Kale, Beet, Broccolis, Celery, Endive, Leeks, Lettuce, Onions, Jerusalem Artichokes, Salsify, Scorzonera, Spinach, and Turnips. From the forcing-pit and mushroom house may be obtained Asparagus, French Beans, Mushrooms, new Potatoes, Seakale, Small Salading, Rhubarb, and Tomatoes.

Replies to Queries.

Lachenalias.—W. W.—When in full growth the plants must receive an abundant supply of water. They may after the end of this month have their pots stood in saucers containing water.

E. T.—You must either remove the astilbes from the water-pans or give them a little more heat. We have seen thousands lately doing well in 70 deg. to 80 deg.

Chrysanthemums.—F. S. H.—Your chrysanthemums are badly mildewed; they are too cold and too damp. They will grow out of it as the weather improves, but it may help them to dust the foliage delicately with flowers of sulphur, which any drysalter or druggist can supply.

Rhubarb.—P. B.—It is not a very uncommon occurrence for rhubarb roots to decay in the same way as the specimen received when they attain a great age, especially when the soil is naturally wet and cold. But in your case the decay is due more to the unsatisfactory condition of the soil than to the age of the roots, and probably an improvement in the drainage would prevent further losses.

Names of Plants.—W. W. and J. S.—1, a bromeliad that cannot be named without flowers; 2, Saxifraga (Megasea) ligulata; 3, Loquat, Eriobotrya japonica; 4, Sempervivum Youngeanum; 5, Eryngium Lassenauxi; 6, cannot be named from the leaf alone; 7, Gymnogramma calomelanos; 8, Polypodium (Phymatodes) Billardieri; 9, Aspidium (Cyrtomium) Fortunei; 10, Lomaria alpina.

Propagating Dracænas.—H. W.—The dracænas with coloured leafage can be readily propagated, and this is a most suitable time for commencing the work of increasing the stock. Select for propagating purposes those plants of the several kinds that have lost their lower leaves and are becoming unsightly. Cut them down to within five or six inches of the surface, and then remove all the leaves with the exception of three or four at the top. The top should then be taken off, just below the base of the lowest of the remaining leaves, and be inserted in a three-inch pot. The remaining portion of the stem is then to be cut into lengths of about two-and-a-half inches, which are to be inserted singly in small sixties, or several together in five-inch pots, or in pans, according to the number of cuttings of each kind. The portion of stem remaining when the plants are headed back will soon break; and if the young shoots are taken off when about two inches in length, nearly the whole of the buds will start. It is advisable to take them off with a small slice of the bark to secure a firm base. A mixture consisting of peat, leaf-mould, and silver sand, should be used, and the pots, if it be practicable, be plunged in a brisk hotbed.

Pitcairn.—W. Holmes inquires if the breadfruit is indigenous to Pitcairn. The natural range of the tree is described as strictly tropical, and its occurrence in Pitcairn, as noticed in the interesting paper in Christmas number of G.M., suggests an occupation of that island long anterior to the mutiny of the *Bounty*. In reply to this question we have been favoured with the following note from the author of the paper: The *Breadfruit* (*Artocarpus incisa*) is thought by botanists not to be indigenous to Pitcairn, as it has never been found anywhere else so far south. It is confined to one locality, and will not grow on other parts of the island. It was evidently planted by the former inhabitants, who were probably Tahitians. This remarkably ornamental tree is sometimes 40 feet high, with glossy green leaves from two to three feet long, deeply indented. It begins to yield at five years old, and goes on bearing for fifty years, the fruit ripening for eight months in succession. These "penny loaves," as Captain Dampier calls them, are green at first, changing when ripe to a golden yellow, rather larger than a cocoanut, and rounder. They begin to ripen in October. The eatable part is between the skin and the core, and is a soft white pulp, slightly sweet, and very nutritious. It is always roasted by the natives, and is best when cooked directly it is gathered, but can be kept for several months. A large tree will yield several hundreds of these fruits, which grow singly or in clusters of two or three, attached to the branches by thick short stalks. In the library of the museum at the Botanic Gardens, Regent's Park, there is an oil-painting of the leaves and fruit, which gives a very good idea of the character of the tree. Attempts to introduce this marvellous plant into our greenhouses have not hitherto been very successful.

TRUTH is TRUTH till time shall end.—The Queen of domestic drinks is *Pure Tea*; it is better adapted to satisfy the craving of the human race, under all conditions, than any other beverage; but one alarming danger to the consumer is ever present: Tea in an adulterated form, painted or "faced" with mineral powder to give an unreal value, is commonly sold in this country. In health and in sickness HORNIMAN'S PURE TEA is always preferred because it is what it professes—a very strong, rich, delicious, and absolutely genuine article; supplied at London fixed prices by Agents who are constantly receiving fresh supplies from London. See list of Local Agents (Chemists, &c.), in all papers, and at Railway Stations.—(Advt.

Correspondence.

PAYMENT OF JUDGES' FEES.

About this time last year you favoured me by publishing a communication of mine, in which I complained of the want of courtesy on the part of managers of flower shows towards those whom they invited to act as judges. It is not my intention in this note to again open the question of treatment. But I wish to mention the fact that I have now received my fee (a guinea) for acting as a censor at a show held just three months ago. However, let me say I was a day and a-half away from home, as I could not otherwise reach the place of the show early enough in the morning. I had, therefore, to stay at an hotel for the night, and, as most of your readers know what that means—a considerable outlay—I will only add that I have now determined to wash my hands of the whole busines of judging; for I cannot afford to lay out my money on travelling and hotel expenses, and then wait three months before it is refunded. A Judge.

ROYAL HORTICULTURAL SOCIETY.

In the able article on the annual meeting of the R.H.S., page 87, are these words: "'The revolution' of years gone by was ths result of a surrender of the Council to extravagant demands made by her Majesty's Commissioners." I agree with you that there is now a prospect of the society being put in a sounder position than its present one, and think that, while considering the prospects of its future, it is desirable that there should be no mistake as to its past. At the time of "the revolution," her Majesty's Commissioners were in a very difficult position. The only hope of their exhibition being successful was in getting readier access to all its parts, and the only way to get this was through the gardens, then in the hands of the society. Her Majesty's Commissioners, through their secretary, General Scott, made what I for one thought a high bid. They offered to take over the society's share of the debenture debt, to free it from paying rent, and to give what was estimated to amount to £1,000 a-year. The Council was then a strong one; they wished to accept the offer, but a section of the "horticultural party," combined with a section of the Kensingtonians, led by Sir Alfred Slade, induced a majority of the meeting to refuse it. The Council adjourned the meeting for a fortnight, and stated that they felt so strongly the advantages of the proposal, that if it was not carried they would resign office. Mr. Rucker and I had just retired from the Council under the seniority rule; but I was behind the scenes, had friends on both sides, knew that all was genuine, and did my best to clear away doubts, but in vain. The adjourned meeting refused to accept her Majesty's Commissioners' offer, and the Council retired. I need not discuss the dissensions which arose among its successors, but must say that I think a golden opportunity was lost, and that in the most uncomfortable way, through misconception, and the society had afterwards to clear itself from any responsibility as to its share of the debentures by means of an expensive law-suit. George F. Wilson.

Heatherbank, Weybridge Heath, Feb. 13, 1886.

You compare the recent meeting with that of the year 1871, and all will agree that there is a difference. But there is a difference of another kind to that suggested by you. The horticulturists in the year of revolution were divided: now they are united. When we lost the South Kensington element we knew our numbers were greatly reduced; but our gain corresponded to our loss, for we became once more a society of horticulturists. Were a champion of discontent to arise now, no matter whether named Slade or Godson, he would have no following; but in 1871, the following into the wrong lobby comprised many horticulturists who might have done better by saving the Council. The society has paid a heavy penalty for becoming associated with South Kensington. Now let us look at the future, and take note of the fact that with unity we now have deadness, whereas with disunity in the year of revolution we had life and plenty of it. We want now life without strife, interest without conflict, a competition of spirits for the advancement of the society in the field of horticulture—not of illuminated fountains, or tea houses, or classical music. And how may we quicken the life that now appears dormant? By the old remedy for all stagnation—popularize the representation! The Council may be described, in the words of our editor, as "self-elected." It is true the Fellows have to *approve*, but they do not have to *choose*. What we want is that the Fellows should nominate, and this could be done without denying to the Council the exercise of discretion up to a certain point. I call upon the wise ones to frame a scheme by which the Fellows shall be represented without detriment to the dignity of the governing body. An old F.R.H.S.

LIVERPOOL SHOW OF R.H.S.

If you will permit me to do so, I should like to suggest that if the R.H.S. intends holding an exhibition at Liverpool in the course of the ensuing summer, steps should be at once taken to determine the dates, and prepare the schedule. I am not quite sure that it would not have been better for the society to have deferred its visit to Liverpool for the present, as the great shipping exhibition which is to be held in the city this year must necessarily absorb much of the energy of the citizens, that would otherwise be devoted to the gathering of the R.H.S. The authorities at Liverpool, and the governing body of the R.H.S evidently consider that the holding of a horticultural exhibition at the same time as the one devoted to shipping, will be an advantage to both; or, at all events, that the former will gain by there being other attractions to draw the people to Liverpool. It may do so; and as the Mayor and Corporation of Liverpool have a better opportunity than I have for arriving at correct conclusions on this point, I shall not pretend to question the expediency or otherwise of holding the show this year. But it ought not to be forgotten that the provincial exhibitions of the R.H.S. were attended with but little success so long as they were held in conjunction with the shows of the Royal Agricultural Society. The object I have in view in writing is not to question the judgment of those concerned in holding a show at Liverpool this year, but to urge upon them the importance of determining upon the plan of action at once, to give cultivators plenty of time to make their preparations for taking part in the competition for the prizes.

The Birmingham exhibition in 1872 was the most successful of all the shows the society has held in the provinces, although the weather was very unfavourable during the greater part of the time it was open. Much of this success was undoubtedly due to the action of the members of Council who took an active part in carrying out the arrangements, and to the ability evinced by the local committee. But I am fully persuaded that the chief cause of success was the length of time allowed for making the necessary arrangements. The exhibition was decided on in the autumn of the previous year, and the local committee was formed and in full work by the middle of January. There was, therefore, plenty of time for rousing the enthusiasm of the residents in the town and district, and obtaining from them substantial aid in the form of contributions to the prize fund. But we are now rapidly approaching the end of February, and nothing appears to have yet been done beyond the acceptance of the offer of the Mayor and Corporation of Liverpool of the use of the Botanic Gardens and the adjoining park for the purposes of the exhibition. We have not heard anything about the formation of a local committee, or a guarantee fund. Neither does any active steps appear to have been taken in obtaining special prizes for supplementing those to be offered by the society. It is quite certain that something should be done in these matters; for if the society has to provide the whole of the prize money, and bear the heavy expenses incidental to the exhibition, the surplus, it is to be feared, will be very small, even if the weather and other circumstances are highly favourable. There is no cause to fear that the exhibition will be otherwise than satisfactory, provided the prizes are fairly liberal, because the cultivators of the district are well able to produce unaided an exhibition of large extent and high quality, of which the annual gatherings of the Liverpool Horticultural Association afford such a good proof.

With reference to the dates most suitable for holding the show, I shall not say much, as I am desirous of occupying as little of your space as possible. The last week of June would be in some respects suitable, as it would catch the pelargoniums and stove and greenhouse plants on the one hand, and the roses on the other. It would be full early for fruit, and the southern growers would alone be able to compete for the prizes for roses. It is also necessary to bear in mind that if held in the week mentioned, only a fortnight will elapse between the date and the great exhibition of the Manchester Royal Botanical and Horticultural Society, at Old Trafford; and it does not appear to be good policy to have two exhibitions of such magnitude, in what is practically the same district, within so short a time of each other. The York flower show is held in the third week of June, but the two cities are too far apart for the attendance at the respective flower shows to be materially influenced by their being held within a few days of each other. If the show of the R.H.S. is held far in the month of July, it must necessarily interfere with the exhibition of the Liverpool Horticultural Association, which usually takes place at the end of the month. Probably the best solution of the matter would be for the Liverpool Horticultural Association to combine with the R.H.S. this season, and for the two bodies to hold one exhibition, from about Friday, July 30, to the following Tuesday or Wednesday, so as to include the Bank Holiday, August 2, which has been found one of the best days for a flower show at Liverpool. The end of July is perhaps rather too late for roses, excepting those grown in the north; but no better time could well be had for fruit, and there will be no difficulty with regard to stove and greenhouse plants, and a host of other subjects. Moreover, it will afford more time for completing the preliminary arrangements.

Practical Horticulturist.

[The show will be opened June 29, and continue to July 5.]

JOBBING GARDENERS.

It seems strange to read the advertisement pages of the G. M. and other horticultural papers and to know that there are out of employment lots of professional gardeners who know their business thoroughly, but who cannot easily get situations, on account of their having a "family" ("gentlemen" having apparently some peculiar ideas of their own on that subject), and then to read that the villa residents of the suburbs are at a loss to get their gardens kept in order. Jobbing gardening has one great drawback in such a winter as this, as there is often not enough work to keep a man employed more than half time; and that means half starvation.

If Mr. W. J. May and two or three other gentlemen will guarantee me a cottage in his neighbourhood and £1 per week all the year round, I shall be only too glad to settle there, and do the work of as many villas as I can conveniently and properly look after, and will thank Mr. May for having given publicity to the subject. Practical Gardener.

TEMPERATURE OF WATER FOR PLANTS.

I have read with interest the remarks relating to temperature of water for plants, that you have transferred from a Continental paper. It is a matter of great importance to gardeners, as watering is one of the principal duties that a gardener has to attend to.

I do not know that any advantage will be gained by adopting the methods described in the article, as in most modern horticultural erections there is a tank provided for water, which keeps it about the same temperature as the structure. In old houses years ago it was no uncommon thing to see many cans of water ranged by the flues to warm for use. I do not think there are many gardeners who would care to water their pines in winter with water from an outside tank. Neither would they water their early cucumbers, melons, vines, orchids, stove plants, &c., with iced water. It is contrary to practice to do so, and I do not think the cold water system has much to recommend it. As regard the frames of radishes, &c., my practice is to get a can of chilled water from one of the houses early in the season, rather than water them with cold water. Perhaps some of your valued correspondents will experiment and report on the matter, and then if they find an advantage in using cold water no doubt it will be more generally adopted. But until then I think it is better to follow the plan of using water of about the same temperature as the house the plants are in. Cheshire.

Obituary.

On the 8th inst., at 26, James-street, Covent Garden, after a short illness, Mr. John Bell, for over 60 years a salesman in the market, aged 85 years.

On the 12th inst., at St. Augustine, Florida, U.S.A., whither he had gone for the improvement of his health, Mr. Randolph Caldecott, the eminent artist, whose book work has acquired high renown, more especially in the humorous "picture books" comprising "John Gilpin," "The House that Jack Built," &c., &c. He was born at Chester in 1846, and attained the age of 30 years before he was known to the public, when he acquired fame suddenly by his illustrations of "Bracebridge Hall."

On the 14th inst., at Talbot Road, Westbourne Park, James Sowerby, aged 83 years.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 5.

Seed potatoes, whence derived and sorts grown—preparation of the sets for planting—preparation of the ground—fertilizers employed, and how employed—cost of cultivation—value of land—planting in Jersey and West Cornwall contrasted—time of drawing—frosts and winds—prices realized—mode of packing and sorting superior to that in West Cornwall—the scene at the harbour—number of steamboats employed in the carrying business—rates.

The seed is drawn principally from the north of England and from Scotland. Last year Jersey imported nearly 5,000 tons of potatoes, and Guernsey about half that quantity, that for seed costing £6 per ton. The bulk of the crop consists of *Myatt's Ashleaf;* next come *The Prolific, Rivers's Ashleaf,* and the *Early Fluke,* which goes under other names in England. In wet seasons very excellent crops of the sort known as *Prince of Wales* are grown mostly in the sandy district of St. Ouen's. This is a large cropper of inferior quality, being a soft, soapy potato; "but," said one of the growers to us, "we find that Londoners like a big article for their money, and quality is often of secondary consideration." Another grower gave it as his opinion that it ought not to be grown in Jersey, as it is likely to injure the credit of the island.

It is surprising what pains the growers take with this crop to ensure the earliest possible maturity. The seed is all set up by hand in small shallow boxes, a single layer in each, with the eye end upwards, entailing a very large amount of labour where many tons are to be planted. When they are set up in autumn, as is the usual practice, the boxes are packed away one on the other in such a manner that the air can circulate freely between them, and by planting-time every set has strong healthy shoots and roots.

The mode of culture followed is much the same in all the islands. The ground is ploughed or spade-turned—preferably, of course, the latter. Too much labour cannot be put into this part of the work, and the labour is seldom spared, as the potato is to many of the farmers by far the most important crop of the year.

With regard to manure, seaweed still takes the first place in respect to bulk, though other fertilizers have of recent years been introduced and largely employed, and farmyard manure is extensively used. We have already spoken of the custom of collecting and harvesting the *vraic,* the season for which is fixed by the island legislature, and is named twice-a-year, commencing generally in February, beginning at the first new or full moon after the first of the month and lasting five weeks; and again in June, beginning in the middle of the month, and lasting ten weeks, terminating absolutely on the 31st August. "The first crop," adds Professor Ansted, "is wholly for manure, the second partly for burning as fuel. The *vraic venant* is allowed to all persons from sunrise to eight o'clock at night all the year round. The summer cutting is limited for the first month to the poor, or people who have no cattle, who are not allowed to carry it by barrow to a cart, but must carry it above springtide, to be carted thence." In some parts of the island these stacks of seaweed are quite a feature in the landscape. The ashes from the burnt seaweed sell, we believe, at 9d. per bushel, 20 of which are required for one vergie, or 45 to 50 bushels per statute acre.

As we have already shown, the seaweed cut from the rocks, or *vraic seié,* and the drift seaweed, or *vraic venant,* are not of equal value. One cartload of the former is computed to be worth two, and sometimes three, of the latter. The fertilizing properties of both sorts, again, vary considerably according to the period of the year at which they are cut or collected, the summer being much more esteemed than the winter. Formerly the farmers depended entirely, or almost so, for manure on this weed, and applied it to the land at the rate of about four loads to the vergée. In the cultivation of the potato it is now seldom used alone.

From the immense quantity of potash and soda contained in this weed its value in potato culture is very considerable. Someone, writing 50 years ago, complains, however, that the management of this root is not the best, "for the use of fresh seaweed as manure on rich lands procures a crop of potatoes unfit either for the table or for exportation. I have had," continues the writer, "opportunity of observing the use of seaweed as a manure in the western parts of Ireland; and it is worth mentioning that there potatoes are constantly manured with fresh seaweed, which is universally considered to be the best of manures for this plant. I need not say that potatoes in Ireland are generally of an excellent quality; but the different effects of the manure may probably be owing to the different soils of Jersey and of the bogland of Connaught." However, it does not appear that this fault holds good at the present time. But it should be mentioned that with many of the market gardeners and farmers it is now the custom to lay the weed up for some months before being used, the whole being covered with a thick layer of sand. In this way the weed is in a better condition to be immediately assimilated by the growing crop, and the sand prevents the escape of the fertilizing gases arising from fermentation, absorbing them, and so rendering the entire mass more valuable.

After the soil has been dug and well broken up, the manure is carefully spread and thoroughly incorporated with the soil. Some apply more, some less. Many farmers or market gardeners (for they are as much one as the other) spend, so Mr. Ziucke says ("Fortnightly Review," No. cix., 1876), about £40 an acre, but we think this is rather an exceptional figure, and applies only to land in the best localities, where the grower is certain of reaping an early harvest, and so ensuring a profitable return on his investment.

The following, supplied to us by a Jersey man, may be taken as a fair estimate of the average cost of cultivating an acre of land in the Channel Islands with potatoes and broccoli:—

Potato seed, 30 to 35 bushels	£6	10	0
25 loads of stable manure (or same value of seaweed)	7	0	0
3 cwt. guano	3	0	0
*Rent of ground ... £6 to	8	0	0
Freight and commission, 7½ per cent.			
Broccoli plants, 10,000, at 10d. per hd	8	3	4

The guano is put as a good thick sprinkling under the sets, which are brought out from the sheds, a box at a time, and as carefully handled as eggs or fruit. The mode of planting in Jersey and West Cornwall is strikingly different; for whereas in the latter country the sets are cut up by the children, and in no very scientific manner, and flung promiscuously into baskets, carried thus to the field and planted with the greatest despatch; in Jersey there is no such rough treatment, the result being that the shoots are uninjured, make their appearance above ground much sooner, and with greater regularity.†

Planting begins in January and ends in February. The after treatment is to loosen and stir the top soil as soon as the shoots appear above the ground, and later on to earth up the plants, when their culture is completed until the crop is ready to lift. Of course frost is to be apprehended, but it does not often make an appearance in a very severe form, and frequently there is no frost throughout the entire winter. But the business is risky, inasmuch as very severe frosts do occasionally visit the islands, and have been known to kill the potatoes under glass, considerable quantities being raised in this manner in Guernsey. The dry east winds of spring sometimes do damage amongst the crop.

All going well, the earliest digging will commence by the end of April. Mr. Pond, of Jersey, told us that in 1863 he dug potatoes, grown in the open air, without any protection whatever, on April 14th. This is probably the earliest date on record in the islands. Digging does not become general until the middle or end of May, and extends into the second or third week of June. The scene presented at this season in all parts of rural Jersey and Guernsey is an exceedingly animated one. The women in their hoods, and the men in the short blue frock (a similar dress to that worn by the Swiss, French, and many of the German farmers and peasants), look rather picturesque.

The very earliest potatoes from the open ground have sold for 1s. to 1s. 6d. the pound; this is £150 a ton, and with a crop of five tons to the acre this would give the very profitable return of £650 an acre. But of course this only applies to a few extra early ones on warm and sheltered spots. The price obtained now for the earliest is £1 a cabot, or at the rate of £50 a ton. This is frequently made. A price of £25 a ton is quite common, and this with a five-ton crop gives a return of £125 an acre, a price well worth striving to obtain. The latest of the early potatoes will realize £3 a ton.

They are mostly packed in barrels, less hampers being used every year, as it is found that the former are cheaper (costing no more than hampers in the first place and lasting three times as long), and that the tubers do not receive the rubbing and bruising which result from being despatched in hampers. This is one of the reasons why the Jersey produce always, or almost always, commands a higher price than the consignments from West Cornwall. The latter are invariably packed in hampers or baskets, and generally arrive in the markets so shaken up, and often skinless and blackened, that they are naturally worth less money. Another reason why the Jersey grower secures a better price for his produce than the West Cornwall grower is that he pays greater attention to the packing itself. The Jersey growers make three samples—wares, mids, and size, the two first only being sent to market. The Cornish on the other hand make only two sorts—wares and chats, or, as they are sometimes called, large and size (pills and chips), and then very often there is a quantity of chats among the ware. The Cornish market gardener might well take a leaf out of the Jerseyman's pocket-book, and unless he does it pretty soon he will find that his more powerful rival will have driven him entirely off the field.

The last scene, and the last we shall have to say on the subject, is an exciting one. Indeed, if the reader wished to get a graphical idea of the great export potato business of Jersey, we should at once propose a visit to the harbour of St. Helier, on a Monday or Tuesday night, some time in June. The sight to the stranger is an astounding one. In fact, it is at this season admittedly *the* sight of Jersey.

From early morn till the last thing at night the carts and vans laden with the precious tubers pour into the town by the numerous approaches in a continuous stream. They are immediately bought by one or other of the salesmen, who have extensive premises in the vicinity of the harbour. Here an army of men with their shirt sleeves turned up, and the perspiration streaming from their faces, is kept hard at work sorting, packing, and weighing the potatoes, and subsequently despatching them to the steamships.

As darkness comes on, the interest of the scene increases. The huge packing-sheds are lighted up by a number of flaring lamps, and some twenty or thirty men in each are working with might and main

* Rents for the best land are as high in Guernsey as in Jersey, but there is a greater proportion of second-rate land in the former island. In Guernsey land is also highly cultivated, and, as in Jersey, produces enormous crops. £8 to £12 an acre is the rent paid for good land, but farms are mostly occupied by the owners. As in Jersey, the owner is usually the descendant of a family dating back for centuries, who would not, except under compulsion, part with his land. The little places which sometimes change hands sell at £100 to £200 an acre.—D. F. S.

† It may be said of the Channel Islander as it has been said of the French peasant: "They carry in the least details of their undertaking an attention and care which are productive of the most important advantages. There is not a corner of their land of which they do not know all the special qualities and capabilities, and to which they do not know how to give the peculiar treatment and care that it requires."—"Systems of Cultivation in France, and their Influence on Social Economy," by M. Passy.

hammering down the heads of the barrels with wooden mallets, sorting, weighing, crying out numbers and figures, shouting and bawling and running hither and thither, and all seemingly at sixes and sevens, and hopelessly off their heads. But method and despatch are the outcome of all this commotion and apparent disorder, and the potatoes emerge from the ordeal snugly packed, nailed down, tied over, weighed, labelled, checked by the clerks, and eventually hoisted into the vans, and conveyed away to the scene of embarkation.

While this is proceeding, the harbour presents an even more lively and exciting spectacle. The principal arm of the harbour is rather over a quarter of a mile in length, and thirty or forty feet in breadth. Along one side of this there is a raised promenade, lighted by gas and furnished with seats; and after dark it is usually resorted to by large and interested crowds, as it commands a capital view of the shipping operations.

As many as twenty-five large steamships are engaged in the carrying business, and frequently the whole number are to be seen alongside loading at the same time. The vans, laden with the packed potatoes, extend in a double line, often upwards of half a-mile in length. In addition to the lights supplied by the harbour authorities, lights and lamps of every description are pressed into service and hung from the masts and yard-arms of the vessels alongside the quay, thus brilliantly illuminating the whole immediate neighbourhood. The din, as the result of the simultaneous loading of so many vessels, may be better imagined than described. Both compartments of the boats are loaded at the same time, thus necessitating the employment of some forty or fifty cranes. The noise of the machinery in motion, the rattle of chains, the hoarse shouts of the men, the numerous conflicting cries, &c., fairly outrivalled any similar concatenation of noises we had ever heard before; while the moving light and shadows along the entire length of the harbour, contributed not a little to the production of one of the strangest scenes that we ever came across. And this is kept up until perhaps two o'clock in the morning, and even later, in order that the boats may depart with the earliest tide.

It is puzzling to the uninitiated to understand where the profits are to come from after paying—first the farmer for his crop, then the cost of packing, shipping, unshipping, carriage to the markets* (where there must still remain a margin for profit), and the many incidental expenses which arise in the course of these transactions. Yet there is a profit for all the parties concerned in the business, and a good one too, or it would not be assuming such dimensions as it is doing—not merely in Jersey, but in other countries more remote from England.†

ORCHIDS IN FLOWER.

In every well-stocked orchid-house there is always something of interest to be seen in flower, no matter what the season of the year may be. At the present time the singular angræcums are in perfection; cypripediums are flowering gaily; odontoglossums and oncidiums of many kinds are in full bloom; and we may also enumerate several choice dendrobes, lælias, cattleyas, masdevallias, and other good things.

Cypripediums in flower now comprise several species and varieties of great interest and beauty. One of the most attractive is *C. conchiferum*, a very elegant lady-slipper, producing flowers of refined and pleasing appearance. They partake somewhat of the "caudatum" character, the petals being tail-like, twisted, and in colour rosy marone. The dorsal sepal is lined with pink, as also is the lower one, which forms a handsome background for the yellow pitcher-shaped labellum. This is a very distinct form, and worthy of a place in the most select collections. The useful *C. insigne*, and its variety, *Maulei*, are still in their prime; and *C. Harrisianum*, *C. Sedeni*, *C. venustum* are making a show. A fine variety of C. Sedeni is one named *superbum*, which blooms at this season, and bears flowers of a richer colour than those of the type.

Moth Orchids flowering now include *Phalænopsis amabilis*, a magnificent species, as all lovers of this family know well. The elegant racemes of flowers are produced at various seasons, and most welcome are they during the winter months. Another species of rare beauty is *P. Schilleriana*, a native of Manilla, and introduced about 1858. We must not omit *P. Stuartiana*, which, although not so attractive as the above-mentioned, is yet a very desirable kind.

Odontoglossums are great favourites with orchidists, and deservedly so, for we are never without their flowers even in the depth of winter. The charming *O. Alexandræ* is in full feather, and of this we have innumerable varieties, some of very fine form, and richly spotted. *O. gloriosum* is a popular species, which hails from New Grenada. Not only are the flowers of attractive colouring, but they are deliciously fragrant. Another fine odontoglot is *O. grande*, appropriately named, for it is the grandest member of this genus. The flowers frequently measure over four inches in diameter, and are of a glossy yellow colour, banded with brown. It is a native of Guatemala. Other species in bloom now are *O. Rossi majus*, useful and free-flowering; *O. maculatum*, a pretty kind, flowers yellow, blotched with brown; *O. Roezli*, white and purple; *O. nebulosum*, white and rose; and *O. pulchellum majus*, a robust form of this well-known species.

Oncidiums flowering now include the showy *O. tigrinum*, which bears large flowers, with the sepals and petals barred with yellow on a brownish ground; the lip is about an inch and a half in diameter, and bright yellow in colour. *O. obryzatum* produces yellow and brown flowers, powerfully but not very agreeably scented. Two others deserve mention, namely: *O. unguiculatum*, a Guatemalan species, bearing, in a branching spike of great length, flowers of a yellow hue; and *O. phalænopsis*, well-known to all orchidists as a species of remarkable beauty.

Sophronitis grandiflora continues to make the orchid-house gay with its brilliant scarlet flowers. But while speaking of this genus we must not forget the claims of *S. violacea*, a very pleasing species found upon the Organ Mountains of Brazil at an altitude of eight thousand feet. The violet-coloured flowers appear in abundance throughout the winter, and remain for a considerable time in good condition.

Lælias in bloom include the exquisitely-beautiful *L. anceps*, famous for the rich colouring of its flowers, and a variety named *Barkeri*; *L. harpophylla*, orange-scarlet; and the charming *L. albida*.

Cattleya Trianæ is a first-class orchid for producing a rich display. Of this there are several fine varieties—some white, others of the richest purple.

Cælogyne cristata is one of the most popular orchids blooming at this season of the year. Its flowers are of great value for decoration, and no collection should be without it, however small.

Dendrobiums are useful orchids, and our old friend *D. nobile* is in full bloom. This needs no praise, as it is known, or ought be, to all gardeners. *D. Wardianum* is a magnificent East Indian species; and *D. Linawianum*, or *D. moniliforme* of gardeners, although not so handsome as the above, is a very interesting form. It is of chaste appearance, the flowers being of a rose and white colour. *D. luteolum* is pleasing; the sulphur-coloured flowers are about two inches in diameter, and the edges of the sepals and petals are straight, not curled, as is the case in the majority of dendrobes. *D. aureum* is a very desirable kind, with creamy yellow flowers, the inner surface of the lip studded with brown hairs.

Besides the foregoing there are many others in bloom at the present time. *Lycaste Skinneri* is in full beauty; so also is the showy *Ada aurantiaca*, the pure white *Masdevallia tovarensis*, the useful *Calanthe Veitchi*, *C. vestita luteo-oculata*, and *C. rubro-oculata*, *Zygopetalum Mackayi*, and *Saccolabium giganteum*.

SPECIMEN CHRYSANTHEMUMS FOR THE CONSERVATORY.

By J. C. Clarke.

Having to fill up a large conservatory with chrysanthemums when in flower, we last year adopted the plan of growing on a few old plants, to have them of large size for the purpose of filling the space. The plan was so successful that we hope to increase the number of plants this year; indeed we have already set aside the requisite number to be dealt with, a little later on, in the manner that will be here described. But before proceeding further, I wish to say that I do not think it possible to obtain such large and perfectly-formed flowers on these old plants as are to be had from those raised from cuttings early in the season. But I have no hesitation in saying that we have much larger plants from the old stools, and a corresponding increase in the number of flowers. In the matter of the size of the flowers, I would say that they are not to be despised if the plants are well grown; certainly they are large enough for all the purposes of home decoration. Last year we had flowers on such varieties as Mrs. Heale, Venus, Guernsey Nugget, Jardin des Plantes, and other incurved varieties, that, if they had been exhibited, would have stood well in a close competition. This year we have set aside a number of Japanese varieties to be treated in the same way, and from these I hope to have a good deal of satisfaction. From the present time to the beginning of April the plants will be kept as cool as possible. At present they stand on the floor of a cool peach-house, but as soon as all danger of severe frost is past they will be taken to a cold frame. Early in April they will be turned out of their pots; all the crocks will be removed, and about one-third of the old soil shaken away from the roots. The long roots will be cut off close back to the soil. They will then be put in the pots in which they are to flower. They will vary in size from ten inches to fourteen inches in diameter, and, as a matter of course, the strongest growers, and those with the greatest number of young growths will have the largest pots. In the matter of soil we prefer a good fibrous loam, used alone, as it is more holding than any elaborate mixture. As soon as they are potted they are returned to the frame again, where they remain until about the third week in May, when they are placed in their summer quarters. About a week before they are taken out of the frame each example is examined, and the number of growths on each ascertained. On such strong growers as Mrs. Heale, Queen of England, and Jardin des Plantes we allow three stems in a ten-inch pot; but Mrs. G. Rundle and its varieties have eight stems in pots fourteen inches in diameter. The strongest growths were, of course, selected to remain. The others were cut clean away from the roots, and, at the same time, those shoots which were left had the points taken off. They were then grown on all the season without any more stopping or training, except that each shoot had a stick to support it as soon as it had grown high enough to require supports.

Before the hot, dry weather set in the pots were plunged to their rims in a bed of coal ashes; and with reference to water they had as much as they wanted, for they were frequently watered twice a-day. Once a-day they had a dose of liquid from a tank, into which the water from the hotbeds drains. A few times during the season, when the other liquid was running short, they had a dose of guano water,

* The Weymouth and Channel Islands Steamship Company (G.W.R.) charges the following rates per ton: To London, 25s.; Birmingham, 35s.; Manchester, 40s.; Wolverhampton, 35s.

† Since writing the above we learn that, although prices in 1885 ruled low, three hundred additional acres have been changed into potato ground. The Jersey Agricultural Society raised a note of caution, and warned the islanders that this additional land "might suddenly prove an extremely disastrous speculation."

prepared at the rate of one ounce of guano to one gallon of water. I was surprised to see how the colour of the plants changed for the better after the applications of guano water. The difference plainly showed that they like a change of food. All that it is necessary to say, further, is that in other details of management these specimens received the same treatment as those raised from cuttings.

STOVE AND GREENHOUSE PLANTS IN FLOWER.

Azaleas make a pleasing display in the conservatory and greenhouse at this season. Those belonging to the "Amœna" section are particularly useful, and there are several remarkably fine varieties. The old *A. amœna* still remains one of the best, as we have nothing to surpass the rich colouring of its flowers, which are produced in great profusion. *Miss Buist* forms a nice contrast to the above, the flowers being pure white. *Mrs. Carmichael* is a very handsome kind, the colour of the flowers being of a magenta hue; so also is *Duke of Connaught*, a very distinct variety. One of the best of those for winter flowering belonging to the "Indica" section is *Fielder's White*, a lovely kind with pure white flowers. But to enumerate all the first-class azaleas in cultivation would occupy too much space; suffice it to say, that they are the most valuable winter and spring flowering plants we have.

Primulas are now in perfection. The single varieties are the most showy and the easiest to cultivate; but no one should be without the old double white known as *Alba plena*. The flowers are small, but they are produced in abundance, and are invaluable for bouquets and indoor decorations generally. Another very fine double kind is *Marchioness of Exeter*, which has well-formed flowers of a pinkish colour. If colour is wanted, *Chiswick Red* will be found useful, as this is one of the brightest of the single varieties.

Epacris flowering now include *E. elegantissima*, flowers of a pink colour and produced in abundance; *C. hyacinthiflora*, pale pink; *E. onosmœflora nivalis fl. pl.*, a choice variety, distinct and pleasing. The flowers are perfectly double, and of a pink colour. *Alba odorata* is a very useful form, and the same may be said of *Carminata*, *Impressa coccinea*, *Hyacinthiflora candidissima*, *Lady Alice Peel*, *Viscountess Hill*, *Miniata splendens*, and *The Bride*.

Correas are rather difficult to manage, and therefore it is not very often we see them in first-class condition. They are, however, interesting subjects; and those in bloom now include *C. magnifica*, leaves heart-shaped and the tubular flowers creamy yellow; *C ventricosa*, deep pink, tipped with green; *C. speciosa*, similar to the last mentioned; *C. Harrisi*, pale pink; and *C. cardinale*, the most showy of all the flowers' being of a brilliant scarlet colour.

Monochœtums are useful plants for a warm greenhouse. One of the best is *M. Lemoniana*, which bears at this season large showy flowers of a rosy purple colour.

Glory Pea, or *Clianthus puniceus*, is in full splendour. This constitutes a valuable plant for a rafter, and the flowers are not only showy, but curious.

Sericographis Ghiesbreghtiana is one of the most attractive plants in bloom at the present time in the stove. It is an acanthaceous plant, and the flowers are tubular and of a brilliant red colour. Examples in forty-eight sized pots are very useful for the embellishment of the greenhouse and conservatory during the winter months, as when in flower they may be removed to these structures without harm.

Begonias we must not omit to mention, for several ornamental species and varieties are now flowering in the stove. One of the most familiar is *B. manicata*, a robust Brazilian species, with large leaves and white and pink flowers. *B. suaveolens* will be valued for its small white sweet-scented flowers. Begonias of this class are not well-adapted for the amateur, but a few should find a place in large establishments.

Brunfelsia is a useful genus of scrophulariaceous plants requiring stove culture. *B. macrantha*, with delicate lilac flowers, and *B. nitida* pale yellow, are now in flower, and make an agreeable change suitable to the season.

Rhododendrons of many kinds are now flowering under glass; and conspicuous amongst them is the grand old *R. arboreum* with its massive crimson flowers. More beautiful, though less showy, is *R. argenteum*, with a great display of gauzy blush tinted flowers. A host of the Sikkim rhododendrons are swelling up their buds for flowering, and the pretty blue-leaved *R. hybridum*, the famous cross between rhododendron and azalea, is making a liberal promise of its delicate flowers.

HANDSWORTH SILVER HOLLY.

The Handsworth silver holly is the most distinct of the creamy-margined varieties, and may be picked out of a mixed lot with "half an eye" by a holly man, or any other man who has once recognized it by name. It is of good habit, growing freely, and inclining to pyramid form; the leaves are of medium size, oblong, broadly margined with creamy variegation in a kind of waved line, and the spines are long and project in obscure correspondence with the wavy variegation. It is a female variety, and bears a smallish crop of scarlet berries in average seasons, but we have had it at Hermitage heavily laden and correspondingly high coloured. It is entered as *Handsworthanum* in all good catalogues, and well-grown trees are worth a little extra money, as the nursery stocks at present are somewhat limited. We had a white-leaved variety, that was taken charge of some years ago by Messrs. Veitch; but removal altered its character, and it was considered not suitable for propagation.

S. H.

Notes of Observation.

NARCISSUS NOMENCLATURE.

The editorial note on Mr. Hartland's Minnie Warren (page 88) implies that the name Eystettensis has a more distinctive purpose than capax; but this last name is now the accepted one, and Eystettensis may be considered obsolete. Anything that editor of *G. M.* may say about narcissi is of importance; for, as a member of conference and a cultivator of a collection, he can speak with knowledge and authority. It is well, therefore, that if a slip of the pen has occurred we should know how the case stands, for to make names correspond with things is of the first importance; and the nomenclature of narcissi being formally settled, we desire to rest and be thankful. Daffodowndilly.

[The reference to Eystettensis in the editorial note is altogether proper to enable readers to understand clearly Mr. Hartland's meaning. There are in the old catalogues several differing things called "capax." Herbert calls calathinus *Ganymedes capax* (p. 308), and makes reference to Redouté (Lil., 3, 177). Haworth calls it *Assaracus capax*, and refers to Salisbury (Hort. Trs., 1, 353) for *Queltia capax*. Now Minnie Warren is not a calathinus but a true trumpet, and the double form in the conference list is called *Capax plenus*. The name "Eystettensis" may be obsolete in a general way but no word is obsolete when we need it to define exactly what we mean. The generally accepted name is *Capax plenus*, but to cut away the "plenus" is a singular proceeding, not to be approved by the faculty.—Ed.]

MOUNTAIN-OF-GOLD HOLLY.

There is no holly in cultivation bearing the name suggested by the head line, but there is one (and only one) that might bear the name appropriately. It is truly a mountain of gold, and the reason is that the leaves are nearly of a clear self-yellow colour, that in the mass is singularly effective. In both form and colour the leaves are certainly not of high character, I would, if I dared, speak of the character as commonplace. But the growth is compact, and the yellow colouring, though pale and impure, so predominates, that in the morning sun the appearance of a good specimen is at once brilliant and unique. The variety is probably of the male sex, but on that point I cannot speak with decision—save in the negative way that I have no record of its bearing berries. S. H.

ROYAL BEGONIAS.

As one of the oldest of the cultivators of tuberous begonias I have, through the courtesy of Messrs. J. Laing and Co., received one of their coloured plates of begonias. In first looking at the magnificent plate, on which eight varieties are depicted, it is extremely difficult to avoid coming at once to the conclusion that the flowers are very greatly exaggerated, and I have no doubt that many into whose hands the plates come will regard the flowers as impossibilities. My first thought as I unrolled the plate was that the flowers were over-done, but when I came to compare the portraits with some measurements I had made in the course of last summer I found that there was no exaggeration whatever. All the varieties forming the "Royal" group have flowers of immense size and grand form, and with reference to the individual blooms I cannot refrain from expressing an opinion that they are rather too large for the conservatory, as we hardly want in that structure varieties bearing flowers similar in size to an average tea-saucer. But for exhibition purposes the flowers are none too large, as when the plants are grown into specimens the huge size of the flowers will be an advantge. If I am disposed to grumble because the firm have raised varieties with flowers of such immense proportions that it is somewhat difficult to believe in their existence, I cannot refrain from congratulating them on the great success which they have achieved in the improvement of those flowers. They have greatly improved the habit of the plants, and they have, whilst increasing the size of the flowers, given us a considerable number of quite new shades of colour. The varieties represented in the plate are all named after members of the Royal family; hence the designation of "Royal" begonias. In the centre of the group is Queen Victoria, a very fine variety with purplish-crimson flowers, about six inches in diameter. Immediately below is the *Prince of Wales*, a superb variety with rich crimson flowers of the finest shape; and to the right is the *Princess of Wales*, a well-formed flower of a lovely shade of rose. The other varieties represented are *Duke of Edinburgh*, dark velvety crimson; the flowers of medium size and superb shape. *Duchess of Edinburgh*, deep orange yellow shaded red; *Princess Louise*, pure white, a great improvement on the white varieties at present in cultivation; *Princess Victoria*, white shading to vermilion, very distinct; and *Prince Albert Victor*, rich orange scarlet. I would mention that the several varieties have single flowers.

Begonia Fancier.

GERMINATION OF SEEDS.

It is surprising what a number of instances of the peculiar behaviour of seeds one meets with in the course of a long experience. Here is a case worthy of a note. Last season I saved some seed of Chionodoxa Luciliæ, and sowed it as soon as ripe. During the summer and autumn I examined it to see what progress it was making, but although the ground was moist and the seed buried an inch below the surface, it showed no signs of germinating. To-day (February 11th) I have examined it again, and I find it just beginning to vegetate. In contrast to this I would mention that I sowed some freshly-gathered seed of Milla biflora in the autumn, and in less than three weeks a number of plants made their appearance. There is nothing, perhaps, very remarkable in this, but at the same time it shows how much cultivators can find to interest them in the work of a garden. J. C. Clarke.

BIG VEGETABLES.

I am very glad indeed that the relative value of large and small vegetables is being discussed in your pages, because it is quite time the question should come under discussion and something be done to check the growing taste for esculents of gigantic proportions. For several years the practice has obtained amongst a large body of cultivators of estimating the value of vegetables by their size alone, as if they were grown to please the eye instead of the palate. If a new pea or a new potato is introduced cultivators are much too ready to ask, What is its size? rather than, Is it of good quality and appearance when upon the table?

The cause of the prominence which has of late years been given to vegetables of large size may, unless I am much mistaken, be traced to the liberal provisions that have, during the past ten years or so, been made for vegetables in the schedules of the horticultural societies. The object the societies have in offering these prizes is undoubtedly a good one, and I should much regret if they were to be reduced either in number or value, for the prizes are certainly not so much to blame as the judges selected for awarding them. In the course of the year I have an opportunity of visiting a considerable number of exhibitions, and, as the result of my observations, I am strongly of the opinion that in no department of a horticultural exhibition are the prizes awarded so unsatisfactorily as in that devoted to vegetables. In the plant and cut flowers classes you will see the judges paying the fullest attention to the quality of the specimens, as well as to their size; but directly they come to the vegetables they proceed on lines altogether different, and award the prizes to the exhibitors staging the largest examples of the respective kinds. This being invariably the case, the prize winners are encouraged to select those kinds which attain the largest size, and, by special culture, to develop them to the fullest possible extent; and those who are unsuccessful are induced to do likewise. But the influence of the awards is not confined to the exhibitors, but extends to some, at least, of the visitors. In due course are to be seen in gardens on all sides varieties of peas, beans, and other classes, that have but little to recommend them beyond their dimensions, and the most strenuous efforts being made to have examples as large as those in the winning collections. The whole system of judging vegetables is in need of revision, and not only should greater care be taken to select judges of the highest ability, but the rules should be so framed that quality will not fail to ensure due consideration.

Your correspondent "W.," by whom the discussion was initiated, alludes to the great superiority of small Brussels sprouts as compared with those of the size which find favour on the exhibition stage, and I can fully support what he says with reference to them. The sprouts, about the size of a small walnut, minus the husk, are not only tender and delicious in flavour, but they are of a much better colour, and possess a higher dietetic value than sprouts which may be likened to the large thin-shelled walnuts plus the husk. Although the smaller sprouts are so much better in every way, the large ones alone obtain recognition from judges at exhibitions, it certainly being a very rare thing for the big sprouts, however rough they may be, to be placed otherwise than first. The produce of some of the so-called "improved" strains of this important vegetable is hardly less obnoxious on the table than an immense cabbage or savoy, old enough to be on the point of bursting. If the lower sprouts of these strains are examined it will be found that they have long thick stalks, which give to them a most objectionable odour when cooked, and certainly do not improve their flavour. Even the smaller sprouts of these strains have a larger proportion of stem than those of the type which used to find favour twenty years since, and is still grown in gardens where quality is considered of the most importance. It is supposed by some writers and growers that the larger strains are the most profitable. But there is no justification for this belief; for to obtain full-sized sprouts the plants must have additional room, and as the water can readily effect a lodgment between, a considerable proportion of the produce is invariably rendered of but little value in severe winters.

If we turn from the Brussels sprouts to the broccolis and cauliflowers we shall find that the judges invariably give the preference to those having immense heads. A few years since we used to meet with the Walcheren cauliflower at the autumn exhibitions; but now, instead of the snow-white elegant heads of that variety, we invariably have examples of Autumn Giant, large enough to afford a substantial repast, with suitable accompaniments, for half a-dozen hungry ploughmen. The judges, by regarding size as of the most importance, are chiefly to blame for this; certainly more so than the exhibitors, for the latter cannot be expected to stage productions with which they have no chance of winning. It is not alone at the horticultural gatherings in remote country villages that large cauliflowers are encouraged. The same thing is done at the metropolitan gatherings, and visitors to the exhibitions of vegetables at South Kensington during the past two years must have a lively recollection of the gigantic cauliflowers to which the prize tickets were attached.

At the exhibition in 1884, to which cauliflowers had a special class provided for them, several excellent triples of the Walcheren were staged, but they were all passed over for Autumn Giant, with the result that last year three heads only were staged, and probably by a cultivator who was not conversant with what was done the year before. I mention this because the awarding of the prizes was entrusted to the best men who could be engaged. But it appears to me to very closely border on the ridiculous for two or three men to be seriously engaged in awarding prizes to gigantic vegetables, which they would not think of sending to their employers' tables, and rejecting the examples which they so well know would be the most highly appreciated. I should like to ask those who have done so much to encourage big vegetables what is gained by having a cauliflower weighing fourteen pounds? The plant that produces it must have much more space than one suitable for the production of a head about the size of a breakfast cup. It is impossible to place it upon the table in a presentable manner, and it is certainly altogether wanting in delicacy of flavour. But heads four or five inches in diameter present an elegant appearance when placed upon the table, and do not fail to please the palate. These remarks apply with equal force to broccolis and cabbages, which invariably have their value estimated by size. Especially are cottagers encouraged to produce big cabbages, because it is supposed that to a working man mere bulk is everything, but as a matter of fact, the hard white cabbages are of very little value indeed as food.

Protest must also be made against the prevailing belief that the peas and beans bearing the biggest pods are the best, for, speaking in a general way, they are the least desirable on the table, which is the proper standard to judge them by. The large size of the pod would not be any great objection to varieties belonging to either class, provided the pods were produced in the same numbers as those of medium size, and were well filled and contained well-flavoured peas or beans as the case may be; but the largest-podded varieties are the least productive, and certainly the least desirable in point of quality. The pods are sparingly produced, indifferently filled, and the produce poor in flavour. If we require the table to be well supplied, both as regards quantity and quality, we must grow varieties of which both pod and seed is of medium size.

Kitchen Gardener.

POMPONE CHRYSANTHEMUMS.

By J. Mardlin, Finsbury Park, N.

Pompone Chrysanthemums are of much service for the decoration of the conservatory, and, as is so well-known, they form most effective specimens. The cultivation of the plants for decorative purposes is exceedingly simple, as will be seen from the directions that will be given, and the production of specimens will not be found very difficult.

When the stock is required simply for the conservatory, and for the production of cut blooms, the cuttings should be struck in February or the early part of March, but the propagation of plants from which exhibition flowers are required must not be delayed long after the end of the month first mentioned. The cuttings should be prepared and inserted in precisely the same way as the large flowered varieties. They must as a matter of course be kept rather close, and it will be a decided advantage if they have the assistance of a little warmth at night until nicely rooted. When this is the case, pot them off separately, and return to a pit or frame, and keep rather close until it is seen by the progress made that the roots are beginning to run in the new soil. The next step will be to gradually harden off, and as soon as the weather will permit, place them outside and afford a little protection at night. Before removing them from under glass it will be necessary to stop their growth by nipping out the points of the shoots.

In April the plants can be bedded out, either in the open quarters or in vacant spaces in the mixed borders, as may be the most convenient. They will require very little attention indeed during the summer. In dry weather they should have an occasional supply of water, and they ought also to have two or three stakes put to them, and have the shoots stopped once. In September or October, carefully lift and put each plant in a pot proportionate to the size of the ball of soil about its roots, and then place in a pit. It will be advisable to give them a good soaking of water before they are lifted and immediately after they are potted. With ordinary care they will hardly feel the effects of the lifting, and will produce a most satisfactory display of flowers during the season.

In all cases where specimen plants are required the cuttings should be struck as early in the autumn as they can be obtained. They must not be rooted too quickly, or they will become drawn and weakly, and have their value materially reduced. As soon as the plants are well-established in the pots in which they are first put, nip out the points, and in doing this be careful to see that they have a clear stem of six inches. They will require to be shifted on as the pots are filled with roots, and also be stopped as becomes necessary. But at no stage must stopping and repotting be done at the same time. It is not less important to avoid allowing them to remain in the pots until they are pot-bound—excepting, of course, those in which they are to bloom—for when this happens they receive a check from which they are a long time in recovering.

As soon as the plants are established remove them to an open position out of doors; and, to prevent injury to the roots by the heat, stand the pots in others two sizes larger and fill the intervening space with coal ashes. Supply them with water at the roots according to their requirements, and in hot weather syringe overhead twice a day. The foliage must be kept free from green fly by dusting it with tobacco powder immediately the pest is seen on the leaves. Training must be commenced at a rather early stage and receive alteration at intervals according to the progress made. Very stiff and formal training ought to be avoided, as the specimens are far more pleasing and effective when the growth presents a somewhat natural appearance.

The most desirable of the numerous pompones for specimens are: *Andromeda, Adonis, Fanny, Golden Mdlle. Marthe, Golden Cedo Nulli, Lilac Cedo Nulli, Mdlle. Marthe, Orange Beauty, President, Rosinante, St. Michael*, and *White Cedo Nulli*. The anemone pompones especially useful for specimens are: *Antonius, Astarte, Calliope, Madame Chalonge, Madame Montels, Marguerite de Wildemar, Marie Stuart, Mr. Wyners, Regulus, Dick Turpin*, and *Firefly*.

GREAT PANICLED CONVOLVULUS.

Ipomœa paniculata.

The figure now presented of this magnificent plant was prepared by Mr. Alfred Slocombe, from a sketch made in the lily house at Kew last year. Very many of our readers will remember the noble specimen growing in a pot plunged in the lily tank, its bountiful growth trained on the iron fence, and showing a wondrous wealth of purplish rosy flowers. Not often is the plant met with in so luxurious and perfect a condition, and we hope to see it again in the same position, repeating the pleasant tale of its complete adaptiveness to pot culture under such simple though perhaps peculiar conditions. This is the *Ipomœa paniculata* of Botanical Register, t. 62; the *Convolvulus paniculatus* of Hortus Kewensis, i. 334. As figured by Edwards, the flowers are considerably smaller than in our figure, the leaves less distinctly digitate, and the majesty of the thing altogether less strikingly suggested. Roxburgh describes the plant as common in the hedges in the East Indies, where it flowers during the wet season, and affords acceptable provender to cattle. Jacquin describes it as plentiful in the Isle of France, where it climbs the trees to the height of twenty feet; but if we may judge by the Kew specimen, it could accomplish forty or even sixty feet as easily as twenty. It was introduced by Mr. Thomas Gibbs, in the year 1779.

PANICLED CONVOLVULUS, *Ipomœa paniculata* (Flowers lively purplish rose).

Literature.

ENGLAND'S COLONIES.

Oceana; or England and Her Colonies. By James Anthony Froude (Longmans).—The notice of this most welcome book in our issue for January 30 has quickened the curiosity of our readers, and we are assured that in the way of general literature and books of travel there are none more sought by gardeners than those that report truthfully on the colonies. In the book before us gardening obtains a reasonable share of attention; indeed, every point pertaining to the review of the colonies obtains reasonable attention, for Mr. Froude is an accomplished observer as well as a keen critic. We have given a general sketch of his enviable excursion, and now we will accompany him to South Australia, in order to learn that "Adelaide is already a large child for its years. Its streets are laid out in anticipation of a larger future—broad, bold, and ambitious." Wisely, he went to the Botanical Gardens, of which, at the invitation of Dr. Schomburgk, it is our custom occasionally to discourse. And what does Mr. Froude say of them? He says: "Whether it be the genius of the country, or some development of the sense of beauty from the general easiness of life, or the readiness of soil and climate to respond to exertion, certain it is that the public gardens in the Australian towns are the loveliest in the world, and that no cost is spared in securing the services of the most eminent horticulturists. . . . Trees from all parts of the world are gathered together in that one spot of the rarest kinds. The flowers with which we are familiar as exotics in our forcing-houses luxuriate as in their natural home. The oleander towers and spreads in pale pink glory. The crimson hibiscus glows among the bananas; passion-flowers—blue, purple, and scarlet—hang in careless festoons among the branches. The air is loaded with perfume from datura, orange flowers, stephanotis, and endless varieties of jessamine."

The public gardens at Melbourne eclipse those of Adelaide. They "extend for a mile with a large sheet of winding water in the middle of them. As at Adelaide, no expense has been spared; and I think I observed more attention to scientific arrangement in the grouping of the trees. Broad lawns, kept carefully watered, open out at intervals with flower-beds blazing with splendour. The lake has islands in it, approached over pretty bridges, and it will be one day beautiful when the water is filtered. Here was all which the heart of visitor could desire: avenues to stroll in which a vertical sun could not penetrate; with the glory of colour which nature lavishes on leaf and petal to look at."

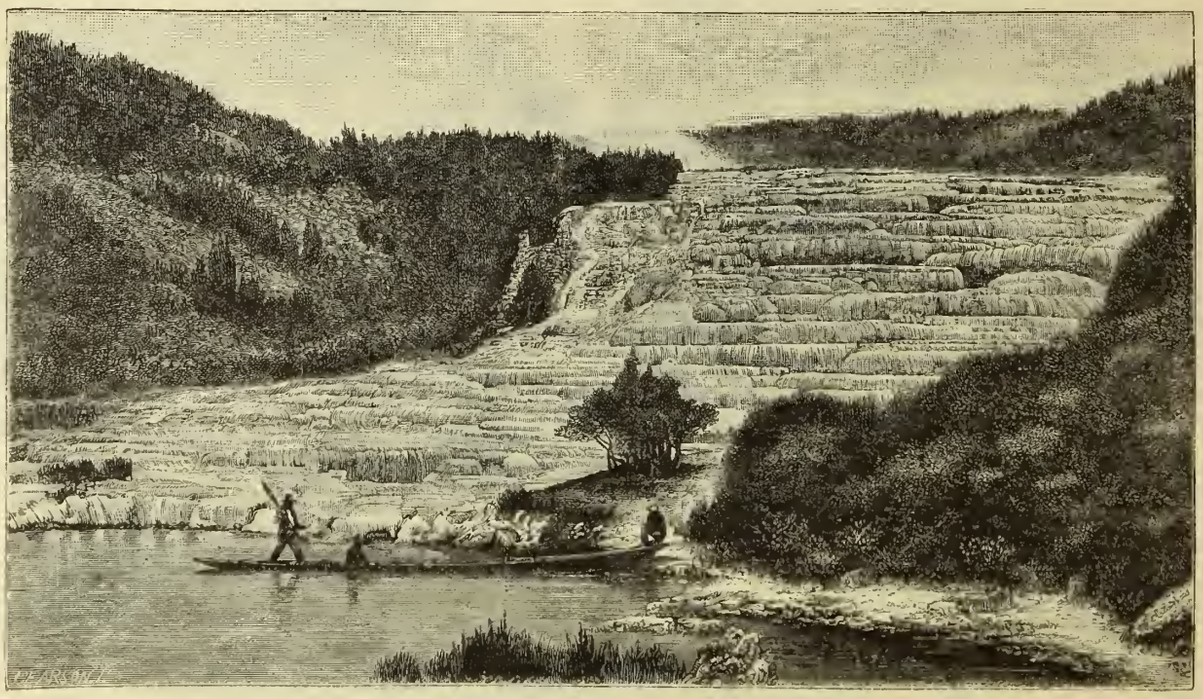
Away again to Ballarat, the Eldorado of forty years ago. "Ballarat was then an arid treeless hollow lying between low hills, with a scanty brook trickling down the middle of it." Now it is a handsome town embedded in vegetable beauty; in the immediate vicinity are plantations of pinus insignis, eucalyptus, and magnolia, with parrots, small and large, flying like cuckoos from tree to tree, flashing with blue and crimson. He was driven to the house of an Englishman, where he found an English family—English in everything except that they were Australian-born, and cultivated, perhaps, above the English average. Here he found beautiful grass lawns, tennis grounds, bright flower beds, walls overrun with ivy and climbing roses, water and willows, and parrots flashing and glittering, for the outdoor setting of the scene; and within the house books and reviews, the latest first-class English newspapers, good pictures, and all the accessories of refinement and high intelligence.

The visit to Sandhurst is as interesting as any, for it takes us into the midst of the gum trees on the Yarra. These grow in wild ravines; the clean stems rise 200 feet before the lowest branch occurs. "Unique as these trees are, they ought to be preserved; but the soil which nourishes them is tempting from its fertility, and they are being rapidly destroyed. The Government makes laws about them, but in a democracy people do as they please; custom and inclination rule, and laws are paper. A notch is cut a yard above the ground, the bark is stripped off, the circulation of the sap is arrested, the tree dies, the leaves at the top wither, the branches stand for a few years bare and ghostlike, and then it rots and falls. Sometimes the forest is wilfully fired; one sees hundreds of trunks, even when there is still life left, scorched and blackened on one side."

As we must make an end as well as a beginning, we will transfer the view to the lake country of New Zealand, the wonders of which have been pictured often, but no one has more graphically placed at our command the peculiar wonders of the "terraces." Mr. Froude is here under the guidance of two Maori women, Kate and Sophia, and is troubled in mind because he and his son and his companion are to bathe, and it is a question if the women are to assist in the operation. In a light boat, they were first taken by a party of men on the smooth waters of Tarawara:—

"The colour was green as of a shallow sea. Heavy bushes fringed the shore. High, wooded mountains rose on all sides of us as we left the creek and came out upon the open water. The men rowed well, laughing and talking among themselves, and carried us in a little more than an hour to a point eight miles distant. Little life of any kind showed on the way; no boat was visible but our own; there were a few cormorants, a few ducks, a coot or two, three or four seagulls, come from the ocean to catch sprats, and that was all. Kate said that the lake held enormous eels, as big round as a man's leg, which were caught occasionally with night lines; but we saw nothing of them, and did not entirely believe. At the point, or behind it, we came on a Maori farm on the water's edge. There were boats, and nets hung up to dry, a maize field, an orchard, and a cabin. We stopped, and they offered us crayfish, which we declined, but bought a basket of apples for the crew. We were now in an arm of the lake, which reached three miles further. At the head of this we landed, by the mouth of a small rapid river, and looked about us. It was a pretty spot, overhung by precipitous cliffs, with ivy-fern climbing over them. A hot spring was bubbling violently through a hole in a rock. The ground was littered with the shells of unnumbered cray-fish which had been boiled in this caldron of Nature's providing. Here we were joined by a native girl, Marileha by name, a bright-looking lass of eighteen, with merry eyes, and a thick but well-combed mass of raven hair (shot with orange in the sunlight) which she tossed about over her shoulders. On her back, thrown jauntily on, she had a shawl of feathers, which E—— wanted to buy, but found the young lady coy. She was a friend of Kate's, it appeared, was qualifying for a guide, and was to be our companion, we were told, through the day. I heard the news with some anxiety, for there was said to be a delicious basin of lukewarm water on one of the terraces, in which custom required us to bathe. Our two lady-guides would provide towels, and officiate, in fact, as bathing women. The fair Polyeasta had bathed Telemachus, and the queenly Helen, with her own royal hands, had bathed Ulysses when he came to Troy. So Kate was to bathe us, and Miss Marileha was to assist in the process.

We took off our boots and stockings, put on canvas shoes which a wetting would not spoil, and followed our two guides through the bush, waiting for what fate had in store for us. Miss Mari laughing, shouting, and singing to amuse Kate, whose head still ached. After a winding walk of half a-mile we came again on the river, which was rushing deep and swift through reeds, and Ti-tree. A rickety canoe was waiting there, in which we crossed, climbed up a bank, and stretched before us we saw the White Terrace in all its strangeness, a crystal staircase, glittering and stainless as if it were ice, spreading out like an open fan from a point above us on the hillside, and projecting at the bottom into a lake, where it was perhaps two hundred yards wide. The summit was concealed behind the volumes of steam rising out of the boiling fountain, from which the siliceous stream proceeded. The stairs were about twenty in number, the height of each being six or seven feet. The floors dividing them were horizontal, as if laid out with a spirit level. They were of uneven breadth, twenty, thirty, fifty feet or even more; each step down being always perpendicular, and all forming arcs of a circle of which the crater was the centre. On reaching the lake the silica flowed away into the water, where it lay in a sheet half submerged, like ice at the beginning of a thaw. There was



PINK TERRACE, WAIROA, NEW ZEALAND.

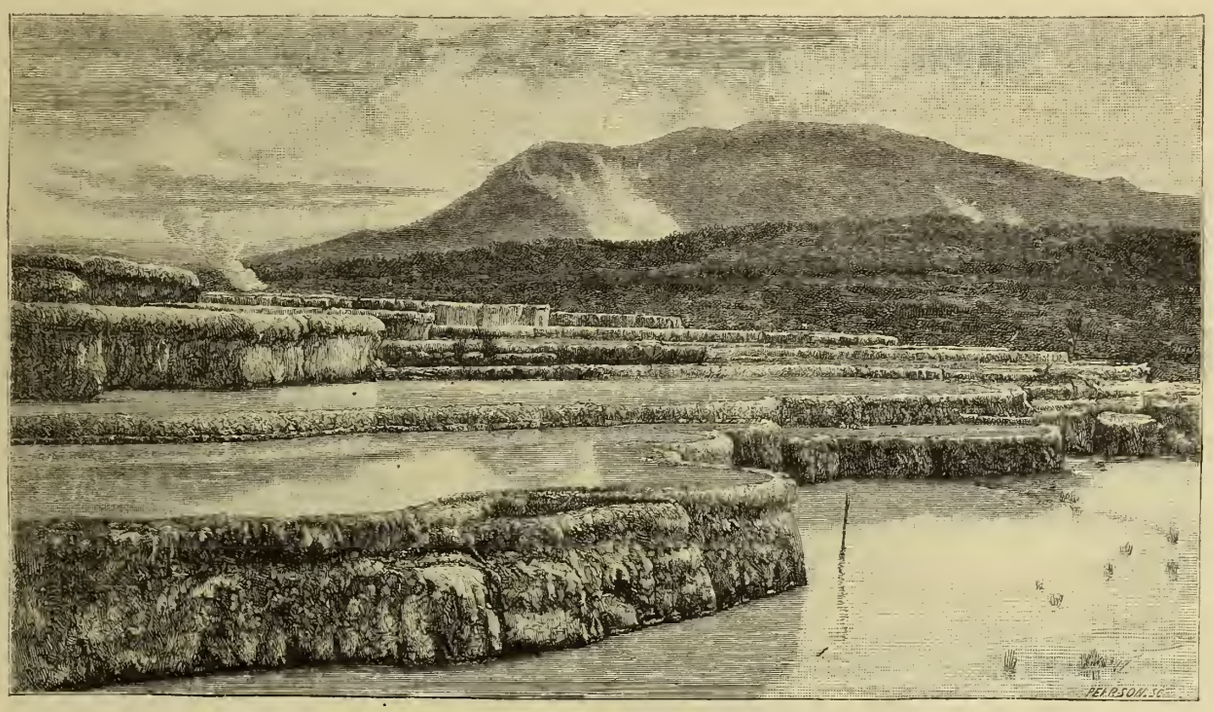
nothing in the fall of the ground to account for the regularity of shape. A crater has been opened through the rock a hundred and twenty feet above the lake. The water, which comes up boiling from below, is charged as heavily as it will bear with silicic acid. The silica crystallizes as it is exposed to the air. The water continues to flow over the hardened surface, continually adding a fresh coating to the deposits already laid down, and, for reasons which men of science can no doubt supply, the crystals take the form which I have described. The process is a rapid one; a piece of newspaper left behind by a recent visitor was already stiff as the starched collar of a shirt. Tourists ambitious of immortality had pencilled their names and the date of their visit on the white surface over which the stream was running. Some of these inscriptions were six and seven years old, yet the strokes were as fresh as on the day they were made, being protected by the film of glass which was instantly drawn over them.

The thickness of the crust is, I believe, unascertained, the Maories objecting to scientific examination of their treasure. It struck me, however, that this singular cascade must have been of recent, indeed measurably recent, origin. In the middle of the terrace were the remains of a Ti-tree bush, which was standing where a small patch of soil was still uncovered. Part of this, where the silica had not reached the roots, was in leaf and alive. The rest had been similarly alive within a year or two, for it had not yet rotted, but had died as the crust rose around it. Clearly nothing could grow through the crust, and the bush was a living evidence of the rate at which it was forming. It appeared to me that this particular staircase was not perhaps a hundred years old, but that terraces like it had successively been formed all along the hillside as the crater opened now at one spot and now at another. Wherever the rock showed elsewhere through the soil it was of the same material as that which I saw growing. If the supply of silicic acid was stopped the surface would dry and crack. Ti-trees would then spring up over it. The crystal steps would crumble into less regular outlines, and in a century or two the fairy-like wonder which we were gazing at would be indistinguishable from the adjoining slopes. We walked, or rather waded, upwards to the boiling pool; it was not in this that we were to be bathed. It was about sixty feet across, and was of unknown depth. The heat was too intense to allow us to approach the edge, and we could see little, from the dense clouds of steam which lay upon it. We were more fortunate afterwards at the crater of the second terrace.

The crystallisation is ice-like, and the phenomenon, except for the alternate horizontal and vertical arrangement of the deposited silica, is like what would be seen in any northern region when a severe frost suddenly seizes hold of a waterfall before snow has fallen and buried it.

A fixed number of minutes is allotted for each of the 'sights.' Kate was peremptory with E—— and myself. Miss Marileha had charge of my son. 'Come along, boy'! I heard her say to him. We were dragged off the White Terrace in spite of ourselves, but soon forgot it in the many and various wonders which were waiting for us. Columns of steam were rising all round us. We had already heard, near at hand, a noise like the blast-pipe of some enormous steam engine. Climbing up a rocky patch through the bush, we came upon a black, gaping chasm, the craggy sides of which we could just distinguish through the vapour. Water was boiling furiously at the bottom, and it was as if a legion of imprisoned devils were roaring to be let out. "Devil's hole" they called the place, and the name suited well with it. Behind a rock a few yards distant we found a large open pool, boiling also so violently that great volumes of water heaved, and rolled, and spouted, as if in a gigantic saucepan standing over a furnace. It was full of sulphur. Heat, noise, and smell were alike intolerable. To look at the thing, and then escape from it, was all that we could do, and we were glad to be led away out of sight and hearing. Again a climb, and we were on an open level plateau two acres or so in extent, smoking rocks all round it, and, scattered over its surface, a number of pale brown mud heaps, exactly like African ant hills. Each of these was the cone of some sulphurous geyser. Some were quiet, some were active. Suspicious bubbles of steam spurted out under our feet as we trod, and we were warned to be careful where we went. Here we found a photographer—who had bought permission from the Maori—at work with his instruments, and Marileha was made to stand for her likeness on the top of one of the mud piles. We did not envy him his occupation, for the whole place smelt of brimstone and of the near neighbourhood of the Nether Pit. Our own attention was directed specially to a hole filled with mud of a peculiar kind, much relished by the natives, and eaten by them as porridge. To us, who had been curious about their food, this dirty mess was interesting. It did not, however, solve the problem. Mud could hardly be as nutritious as they professed to find it, though it may have had medicinal virtues to assist the digestion of crayfish.

The lake into which the Terrace descended lay close below us. It was green and hot (the temperature near 100 deg.), patched over with beds of rank reed and rush, which were forced into unnatural luxuriance. After leaving the mud-heaps we went down to the waterside, where we found our luncheon laid out in an open-air saloon, with a smooth floor of silica, and natural slabs of silica ranged round the sides as benches. Steam-fountains were playing in half a-dozen places. The floor was hot, a mere skin between us and Cocytus. The slabs were hot, just to the point of being agreeable to sit upon. This spot was a favourite winter resort of the Maori; their palavering hall, where they had their constitutional debates, their store-room, their kitchen, and their dining-room. Here they had their innocent meals on dried fish and fruit; here, also, their less-innocent on dried slices of their enemies. At present it seemed to be made over to visitors like ourselves. The ground was littered with broken bottles, emptied tins, and scraps of sandwich papers. We contributed our share to the general mess. Kate was out of spirits, with her headache; we did what we could to cheer her, and partially succeeded. The scene was one to be remembered, and we wished to preserve some likeness of it. The Maori prohibit sketching, unless, as with the photographer, permission has been exorbitantly paid for. Choosing to be ignorant of the rule, E—— sat himself down and took out his drawing-book. Two or three natives who had joined us howled and gesticulated, but as they could speak no English and Kate did not interfere, E—— affected ignorance of what they meant, and calmly finished his pencil outline.



WHITE TERRACE, WAIROA, NEW ZEALAND.

We were now to be ferried across the lake. The canoe had been brought up—a scooped-out tree-trunk, as long as a racing eight-oar, and about as narrow. It was leaky, and so low in the water that the slightest ripple washed over the gunwale. The bottom, however, was littered with fresh-gathered fern, which, for the present, was dry, and we were directed to lie down upon it. Marileha stood in the bow, wielding her paddle, with her elf locks rolling wildly down her back. The hot waves lapped in and splashed us. The lake was weird and evil-looking. Here Kate had earned her medal. Some gentleman, unused to boats, had lost his balance, or his courage, and had fallen overboard. Kate had dived after him as he sank, and fished him up again.

The Pink Terrace, the object of our voyage, opened out before us on the opposite shore. It was formed on the same lines as the other, save that it was narrower, and was flushed with pale rose colour. Oxide of iron is said to be the cause, but there is probably something besides. The water has not, I believe, been completely analysed. Miss Mari used her paddle like a mistress. She carried us over with no worse misfortune than a light splashing, and landed us at the Terrace-foot. It was here, if anywhere, that the ablutions were to take place. To my great relief I found that a native youth was waiting with the towels, and that we were to be spared the ladies' assistance. They—Kate and Mari—withdrew to wallow, rhinoceros-like, in a mud pool of their own. The youth took charge of us, and led us up the shining stairs. The crystals were even more beautiful than those we had seen, falling like clusters of rosy icicles, or hanging in festoons like creepers trailing from a rail. At the foot of each cascade the water lay in pools of ultramarine, their exquisite colour being due in part, I suppose, to the light of the sky refracted upwards from the bottom. In the deepest of these we were to bathe. The temperature was 94 deg. or 95 deg. The water lay inviting in its crystal basin.

E——— declined the adventure. I and A. hung our clothes on a Ti-bush and followed our Maori, who had already plunged in, being unencumbered, except with a blanket, to show us the way. His black head and copper shoulders were so animal-like that I did not entirely admire his company; but he was a man and a brother, and I knew that he must be clean, at any rate, poor fellow, from perpetual washing. The water was deep enough to swim in comfortably, though not over our heads. We lay on our backs and floated for ten minutes in exquisite enjoyment, and the alkali, or the flint, or the perfect purity of the element seemed to saturate our systems. I, for one, when I was dressed again, could have fancied myself back in the old days when I did not know that I had a body, and could run up hill as lightly as down. The bath over, we pursued our way. The marvel of the Terrace was still before us, reserved to the last, like the finish in a pleasant battue. The crater at the White Terrace had been boiling; the steam rushing out from it had filled the air with cloud; and the scorching heat had kept us at a distance. Here the temperature was twenty degrees lower; there was still vapour hovering over the surface, but it was lighter and more transparent, and a soft breeze now and then blew it completely aside. We could stand on the brim and gaze as through an opening in the earth through an azure infinity beyond. Down and down, and fainter and softer as they receded, the white crystals projected from the rocky walls over the abyss, till they seemed to dissolve, not into darkness, but into light. The hue of the water was something which I had never seen, and shall never again see on this side of eternity. Not the violet, nor the hare-bell, nearest in its tint to heaven of all nature's flowers; not the turquoise, not sapphire, not the unfathomable æther itself could convey to one who had not looked on it a sense of that supernatural loveliness. Comparison could only soil such inimitable purity. The only colour I ever saw in sky or on earth in the least resembling the aspect of this extraordinary pool was the flame of burning sulphur. Here was a bath, if mortal flesh could have borne to dive into it! Had it been in Norway, we should have seen, far down, the floating Lorelei, inviting us to plunge and leave life and all belonging to it for such a home and such companionship. It was a bath for the gods, and not for man. Artemis and her nymphs should have been swimming there, and we Actæons daring our fate to gaze on them."

New Plants, Flowers, and Fruits.

Vriesea hieroglyphica (*B.H.*, 1885, 10, 11, 12).—A noble bromeliad, with ample leafage; light green, curiously blotched with black.

Bouvardia Leiantha hyb. (*B.H.*, 1885, 13).—Figures of seven varieties: *Dazzler*, full deep red; *Intermedia*, full red, shading to pink; *Triomphe de Nancy*, heavy vermilion red; *Sang Lorrain*, blood-red self, semi-double; *Victor Lemoine*, light vermilion self, semi-double; *Alfred Neuner*, double white, with tinge of green; *President Garfield*, double white, with tinge of rose.

Nidularium ampullaceum (*B.H.*, 1885, 14).—A handsome epiphyte; the leaves beautifully marked, the flowers violet and white.

Cypripedium Thibautianum (*G.C.*, 1886, 104).—A hybrid orchid from C. Harrisianum and C. insigne Maulei.

Nerine Manselli (*Ib.*)—A hybrid between N. flexuosa and N. Fothergilli.

Galanthus sp. and Var. (*G.*, 528).—Figures of eight kinds.

Lælia anceps v. Stella (*G.C.*, 1886, 136).—A fine variety in the way of Dawsoni.

Polypodium (Phymatodes) macrourum (*Ib.*)—A new species, resembling P. phymatodes in general habit.

Cercocarpus betulifolius (*G.Z.*, Nov., 1885).—An interesting rosaceous plant.

Feronia elephantium (*Gfl.*, 1,206).—A citronwort, with fragrant foliage.

Lælia pinella, L. præstans (*Rev. Hort. Belge*, Dec., 1885).—Fine subjects for the orchid grower; the second has been often figured, as in B.M. 5,498, &c.

Nymphæa sphæroscarpa v. rosea (*Ill. Mon.*, Jan., 1886).—An interesting variety.

Ophiopogon spicatum fol. var. (*Rev. Hort. Belge*, Dec., 1885).—Not worth figuring, but an interesting trifle for the cool house.

Spiræa brachyata (*D. Gart. Zeit.*, Jan., 1886).—An interesting hardy plant.

Eremurus robustus (*G.*, 529).—A fine figure of this noble hardy plant.

Lælia anceps Hilliana (*Ib.*)—A variable, but always beautiful, variety.

Citrus triptera (*R.H.*, Nov. 16, 1885).—A nearly hardy species.

Houlletia Brocklehurstiana (*R.H.*, Nov. 1, 1885).—Figured in B.M. 4072.

Bruckenthalia spiculiflora (*Gart. Zeit.*, Nov. 12, 1885).—An ericaceous plant, of no particular merit.

Epidendrum trachychilum (*Gartfl.*, 1205).—An interesting Mexican orchid.

Ixora macrothyrsa (*B.M.*, 6853).—The magnificent species, known in gardens as *I. Duffii*, and reported on by us as the finest of its race, though, perhaps, not well adapted for specimen culture.

Martinezia caryotæfolia (*B.M.*, 6854).—A handsome small palm from South America.

Muscari Szovitsianum (*B.M.*, 6855).—A pretty species, with azure blue flowers.

Layia glandulosa (*B.M.*, 6856).—An elegant composite, with white flowers.

Rosa pisocarpa (*B.M.*, 6857).—A lovely North American rose, with small pink flowers.

Oncidium Forbesi (*G.C.*, 1886, 73).—Note on a variety imported by Mr. F. Sander.

Lælia porphyritis (*G.C.*, 1886, 73)—A curiosity obtained by Mr. Day from Brazil.

Cypripedium calurum (*G.C.*, 1886, 73).—Note on a highly-coloured example.

Schomburgkia chionodora (*G.C.*, 1886, 73).—A novelty in the way of S. Humboldti.

Catasetum macrocarpum bellum (*G.C.*, 1886, 74).—A variety with brown-purple petals.

Arenaria Balearica (*G.*, 527).—A tiny creeping rock plant, producing, in spring, white flowers.

CULTIVATION OF ORCHIDS.

At the fortnightly meeting of the Manchester Horticultural Improvement Society, held on the 4th inst., in the Memorial Hall, Mr. W. Swan, ex-secretary, read a paper on "Orchids and Orchid Culture." The chair was occupied by Mr. Bruce Findlay, and there was a large attendance.

Mr. Swan commenced by saying that he had given orchids considerable attention, and then proceeded to describe to the meeting the mode of growth, structure, form of the flowers, and organs of fertilization, and to speak of the process of hybridization, giving some of the results obtained by a persistent course of such interesting labour.

Hybrids.

Mr. Swan said that in looking over some statements and memoranda which he had made at various times, he found that there were no less than a hundred named hybrids in various collections at the present time. The greater number of these have come from the famous Chelsea establishment of Messrs. Veitch and Sons; but, at the same time, many good things have sprung from other sources, the raisers of which, in his judgment, deserve much credit for attempting such labour, labour which in so many instances has been rewarded with marked success. He mentioned three distinct batches of Dendrobiums which have appeared in the neighbourhood of Manchester. The first, D. Ainsworthii, is now known to most people as a most beautiful and desirable as well as a valuable orchid. Of the second batch, D. Leechianum, perhaps he ought to say little, but when it has been sufficiently increased, so that it may be sent out by those who have it now, it will prove itself to be far in advance of anything that has yet appeared, and will be eagerly sought after. He had had had the pleasure of more than once seeing another batch of Dendrobium seedlings which had been raised in the district. He had no permission to speak of them further than this; but his heartiest congratulations were now given to the fortunate raiser, and he trusted that that gentleman may have the pleasure of watching and growing them for some time to come, so that by-and-bye he may have the intense delight of gazing upon a new and beautiful addition to this already rich and beautiful class of plants.

Culture.

But whether one is fortunate in raising and growing seedlings, whether one has a collection of plants that are established, grow in their regular season, and expand their glorious blooms, or should one have to deal with newly-imported plants, the course of treatment pursued is, in a certain sense, pretty much the same all round. Not that little seedlings must have the same treatment that should be given to newly-imported Cattleyas, or that a collection of Phalænopsis should be treated as one managed a batch of Dendrobiums. But still there is a sense in which cultivators must pursue a treatment somewhat similar to each other. People often spoke of the months of December, January and February as the resting season, as though a cessation of growth and activity came over the whole or greater part of the collection. This he considered to be a mistake. True, a few plants appear to be at rest, seem to be dormant; but be assured that activity and development are ever present, and progress in bud and advance in bloom are surely taking place, although the changes, being less rapid and marked, do not strike us so forcibly as the more quickly-formed leaves and bulbs of the summer months. It is possible to have blooms of dendrobiums always present in the houses, and where cut flowers are much in demand there is no class of plants that will give such variety and beauty as a select and well-grown group of species. Of course, to bring about this result, much care and attention are necessary. His object in reading the paper would be attained if a habit were formed of treating the plants more as separate individuals. An interest should be taken in each separate plant, rather than that they should be treated as a whole, and taking it for granted that the method adopted for one will of necessity suit another.

Mr. Swan gave some practical hints as to the cultivation of orchids. He was sure of this—that many grand specimens, and useful and hardy species, had been grown on the old-fashioned method, namely, simply cutting out old and useless bulbs. He was quite willing to admit that good specimens had, in some instances, been grown where severe pruning had been practised, but he recommended cultivators to be cautious in the use of the pruning knife. He did not advise an indiscriminate use of it, but on the other hand he did not set himself entirely against it. He also suggested a more discriminating use of the syringe. He impressed upon the meeting the absolute necessity for considerable care and discernment in the composts procured for the plants. The moss should be living, free from litter, and such as will be most likely to grow when used amongst the plants. The best peat should be obtained, such as is full of fern rhizomes and roots. The pots should be always clean when used, and if they are quite new they should be dipped or watered once or twice before using them. The crocks also must be quite clean and free from any confervæ that may have adhered to them. But with every possible care and treatment some plants do not make the desired progress, nor are such favourable results obtained as the treament given would lead one to hope would be the case. This probably arises from the fact that the conditions under which they grew in their native habitat are so imperfectly known to us that we often attempt to ensure success by adopting methods which are entirely opposite to the requirements of the plants. When this is the case, change the position of the plant in the house.

Orchid Society.

Some discussion has taken place quite recently in the gardening papers as to the desirability of forming an orchid society. Such an association might do much to bring growers and those who have a special partiality for orchids occasionally into the company of each other. It might perhaps put a definite value on various plants when placed on an exhibition stage; he meant value from an exhibiting point of view. He, however, was not anxious to express very decided views upon the matter further than this: that if such a society be formed it should have a very broad basis. A fair number of growers from the Manchester district should be found among its members and also on the committee. He should hope also that as much as possible would be done to prevent such a society being ruled altogether by those residing in the metropolitan counties, and that the opinion of northern counties should be accorded as readily as those in the south.

Candle Nut Tree (*Aleurites triloba*).—A beautiful tree, with leaves covered with a fine white powder on the upper surface. The fruit is about two inches across, and contains a hard nut, full of oil. The ground underneath is thickly strewn with these nuts. They are used as candles in the South Sea Islands, and the oil is imported into this country, being used in the manufacture of candles. The kernels are much relished in Bengal, where they are eaten with dessert. They have the flavour of English walnuts.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	High Water at London Bridge. After.	High Water at Liverpool Dock. Morn.	High Water at Liverpool Dock. After.	M.tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
28	S	**Sexagesima Sunday.**	6 50	12 42	5 36	3 39	—	9 27	10 10	6 9	6 52	40·1	Dendrobium nobile	India.	59
		MARCH.													
1	M	*St. David.*	6 48	12 30	5 37	4 22	1 27	10 54	11 30	7 35	8 19	40·6	D. macrophyllum giganteum	Manilla.	60
2	Tu	Length of Night, 13h. 9m.	6 46	12 18	5 39	4 59	2 23	—	0 5	8 55	9 30	40·7	D. pulchellum purpureum	Sylhet.	61
3	W	W. C. Macready born, 1793.	6 44	12 5	5 41	5 32	3 24	0 35	0 58	10 0	10 23	40·8	D. densiflorum	India.	62
4	Th	Lord Somers born, 1652. [1827.	6 42	11 52	5 43	6 2	4 26	1 21	1 38	10 46	11 3	41·0	D. Pierardi	,,	63
5	F	● New Moon, 10h. 4m. after. Laplace died,	6 40	11 39	5 45	6 27	5 28	1 57	2 14	11 22	11 39	41·1	D. aggregatum majus	,,	64
6	S	Artemus Ward (Charles Brown) died, 1867.	6 38	11 25	5 46	6 51	6 32	2 29	2 45	11 54	—	41·3	Phajus Wallachi	,,	65

Auction Sales for the Ensuing Week.

MONDAY, MARCH 1.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Lilium Auratum from Japan, &c.

MONDAY, MARCH 1.—Messrs. Protheroe and Morris, at the Bell Lane Nurseries, Hendon; Nursery Stock.

TUESDAY, MARCH 2.—Messrs. Protheroe and Morris, at the Wandsworth Common Nurseries; Nursery Stock. (Two days.)

WEDNESDAY, MARCH 3.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Lilium auratum, Japanese Iris, Roses, and Plants.

WEDNESDAY, MARCH 3.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

WEDNESDAY AND SATURDAY, MARCH 3 AND 6.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, Shrubs, Border Plants, and Bulbs.

THURSDAY, MARCH 4.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

THURSDAY, MARCH 4.—Messrs. Protheroe and Morris, at the Kingston Hill Nurseries; Nursery Stock. (Two days.)

THURSDAY, MARCH 4.—Messrs. Protheroe and Morris, at the Wellesley Nursery, Hammersmith; Greenhouse Plants, &c.

FRIDAY, MARCH 5.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

THE GARDEN ORACLE for 1886 is on the same plan as former issues, the present being the twenty-eighth publication of this work. It contains complete lists of the New Plants, New Flowers, and New Fruits, and a Complete List of the New Parliament.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C., to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, FEBRUARY 27, 1886.

THE FUTURE OF THE ROYAL HORTICULTURAL SOCIETY is a matter of solicitude to many, more especially those who have been associated with it for many years, whether as active workers or as participators in the benefits it confers on the horticultural community. It is now understood by all that the term of its connection with Her Majesty's Commissioners is nearly completed, and that, therefore, it must be cut adrift from the show-ground at South Kensington to find lodgings of its own, and commence a new career. It is likely, and perhaps to be desired, that it will find a location somewhere near to the one that it has long occupied—thus, as regards the geography of the case, reducing to a minimum the inconveniences inevitably incidental to the change. That, however, is a business full of difficulty, and the Council may find it a hard task to re-establish the Society in a state of complete separation from the premises it has occupied during so many years, and yet in a place readily accessible. It is a critical time in the history of the concern, and will need very careful consideration. But there is no lack of encouragements; for the opinion prevails that the Society should be entirely independent, and sink or swim as its merits and management may determine. It will not be through any paucity of proposals that the Society will fail or the Council make mistakes. The horticultural papers already teem with advices that are of the usual "practical" nature, and that tend, for the most part, to confuse the case by multiplicity of words, and occasionally by perversions of the truth and exhibitions of bad feeling. But the objectionable features of current criticism must not be allowed to obscure, much less conceal the view of observant men or the proposals of competent well-wishers; for a monopoly of wisdom is a thing unknown, and a corporation can subsist only by consulting and more or less gratifying the wishes of the general body. We shall hope, therefore, that the Council of the R.H.S. will be frank with the Fellows, and at the proper time afford opportunity for free discussion of the Society's affairs with the facts of the case plainly stated. We have no reason whatever for fearing either secrecy or reserve; but we call to mind that the revolution of the year 1871 revealed a want of unity—or, rather, made it evident that between the Council and the general body there was a great gulf fixed. The Fellows were then, as perhaps they are now, in much the same position as the shareholders in a railway, or any other such concern—a mere mob, a concourse of atoms; while the directing body is a phalanx organized.

It is something to be able to say, that of three letters published by us last week, two are worthy of attention. Mr. G. F. Wilson opportunely deals with matters of fact; and, although he makes no proposals, his pithy summary of the fundamentals of the revolution is full of instruction in view of approaching events. The letter of "An Old F.R.H.S." is in the true spirit of the age, for he proclaims the necessity for a more popular representation. The proposal is full of purpose, and its adoption would be likely to make the Society full of life. The deadness of the annual meeting is notorious. Those who attend feel it; those who do not attend hear of it; the entire body—and, in some part, the general public also—know that the yearly general meeting of the Royal Horticultural Society is a poor imitation of a third-class funeral. Let no one suppose we blame the Council for this: the Fellows have sufficient notice; the date is fixed by the law; and the papers do not fail to give gentle, or even ungentle reminders. Why is it that the annual meeting proves so unattractive, and, in fact, appears to have no interest for anyone unless there is a prospect of a conflict or of something approximating thereto?

To this grave question, "An Old F.R.H.S." would reply that the annual meeting consists in winding a certain length of red tape from one roller to another, the length of the tape and size of the rollers being, like the date of the meeting, prescribed by the law. What is written in the charter is the law of the Society, and that charter is, in a great degree, responsible for the deadness that prevails. So long as the Society is governed as it is, and for the present must be, the life that is the sign of success must be wanting; for the charter excludes the popular element, and compels the Council to make the merest mockery of business on the occasion known as the annual general meeting. Only once in the past fifteen years have the Fellows raised objection to the selection of new members of council, and on that occasion the Council asserted its power and secured its own men.

The correspondent who invites attention to this matter asks "the wise ones to frame a scheme by which the Fellows shall be represented without detriment to the dignity of the governing body." The "dignity" of the governing body is not to be thought of, because it derives a proper dignity from being properly elected as the law directs, and an alteration of the law is wanted to encourage in the Fellows a healthy interest in the Society's affairs. A self-elected council may do very well to spend money that has scarcely to be accounted for. But for a governing body dependent for means of action on funds subscribed by the living on terms that are virtually terminable at any moment, is prejudiced from first to last by whatever circumstance operates to separate it from the constituency. The framing of a scheme would not prove a difficult matter were the ground well cleared for it. Before that is done the principle must be recognized as of vital importance; and we will ask the Fellows to consider it; for changes are impending, and it is in such cases often a more simple as well as a more effectual course of procedure to go to the root of the matter than to make changes of a superficial or tentative kind.

A popular representation is proposed as a means of reviving, renewing, and re-establishing the Royal Horticultural Society. This would require the Fellows to select the whole or a portion of the government every year. As the case stands, the Council makes the selection, and the Fellows signify their approval, and there is an end of the matter. No one is interested, and no one cares.

Moreton-in-Marsh Rose Show will be held July 13.

Crown Lands will be treated of in a series of articles by Mr. S. R. Bird, F.S.A., in the *Antiquary*.

Liverpool Horticultural Association has postponed its spring exhibition until March 18.

Lewisham Floral Society will hold its summer exhibition on June 30 and July 1, instead of on the dates previously announced.

An Exhibition of Barometers will be held at 25, Great George Street, Westminster, on the evenings of March 16 and 17, by the Meteorological Society.

Farm seeds are stated by Messrs. Hogg and Wood, in their report for the current year, to be generally abundant, and about equal in value to last year.

Colonial and Indian Exhibition is strengthened by a vote of the Corporation of London to participate in the guarantee fund to the amount of £10,000.

A Bill to enable Leaseholders of Houses and Cottages to purchase the fee simple of their property was read a first time in the House of Commons on Monday, on the motion of Mr. Lawson.

Messrs. Messenger and Co., of Loughborough, have just been awarded, by the Society of Architects the gold medal, the highest award for general excellence of their horticultural buildings, at the annual exhibition which is being held this year at Sheffield.

Major Greely's Own Narrative of his successful but disastrous expedition to Grinnell Land appears in two handsome volumes profusely and superbly illustrated. It is entitled "Three Years of an Arctic Service (1881-4) and the Attainment of the Furthest North." The publishers are Messrs. Sampson Low and Co.

Commons Preservation Society.—Mr. Shaw-Lefevre has been elected chairman of this society in the place of Mr. J. Bryce, M P., who resigned the office on his appointment as Under-Secretary of State for Foreign Affairs. Mr. Shaw-Lefevre was the first chairman of the society, and acted in that capacity for many years from its formation in 1865.

Pictures remaining at Blenheim are to be sold by Messrs. Christie, in the month of June. Lord John Manners, years ago, wrote a chorus for such an occasion—"Let laws and learning," &c. The announcement reminds us that only one person of title has contributed to the present exhibition of Old Masters at the Academy, and that the upper ten are not conspicuous exemplars of horticultural endeavour.

Edinburgh International Forestry Exhibition resulted in a surplus of nearly £200, and at a meeting of the executive committee, held a few days since, it was decided to present the sum to the committee of the proposed School of Forestry. It was decided also to hand over the collection of rare woods that had been presented to the committee by various exhibitors to the director of the Museum of Science and Art, Edinburgh, to form part of a forestry museum for the use of students.

The Weather has been uneventful, according to our expectations, but it may be proper to repeat that this is a season often characterized by large disturbances, and words of warning have lately come to us from the other side of the Atlantic. But the distribution of pressure appears favourable to quiet times here; we may not have done with the winter, and we shall have a rumpus before we can enjoy the spring; but there is no present prospect of other than general discomfort of a mixed kind. Easterly winds have prevailed, and are likely to continue.

Mr. Rivers's Miniature Fruit Garden is like good wine, that improves with age; but it cannot be said it "needs no bush," for one of its objects is to encourage the bush culture of useful fruits. It certainly needs no recommendation, and no praise; for it has long since taken its place as one of the first necessities of every garden library, and the directory of work for many a profitable garden. It is enough, then, that we announce the receipt of a copy of the nineteenth edition, edited by Mr. T. Francis Rivers, the guiding and governing spirit of the famous nurseries of Sawbridgeworth.

Agricultural Holdings and Allotments.—In the House of Lords, on Monday, Lord Onslow moved for a return of all agricultural holdings in England and Wales, of all garden allotments, and of all charitable trusts in England and Wales. In moving, he stated that he did so in consequence of a statement made some time ago by the President of the Local Government Board, and because no return of garden allotments had been issued since 1873. Lord Spencer stated that, immediately after the ordinary agricultural returns for this year were compiled, he would cause to be made supplementary returns which, substantially, would contain the information asked for by the noble lord.

The Fruits of the Potato Plant, known to potato growers as "apples," "plums" and "berries," are, through Mr. Torbitt, of Belfast, candidates for a place on the table as acceptable articles of food. Our own knowledge of their qualities as food is as limited as that of the world at large; we can only say we have tasted them and have not asked for more. On the *à priori* view of the case, Mr. Torbitt's proposals deserve respectful consideration; for between positive knowledge on the one hand, and positive ignorance on the other, there is to be found a world where prejudice prejudges and prohibits inquiry. The wholesome tomato is in its way a kind of potato fruit, so also is the delicious aubergine; and the botanists appear to be agreed in regarding the berries of Solanum dulcamara, that every year adorn our hedgerows, as at least harmless, if not worth attention as food. Mr. Torbitt's proposal may be tested by any one, and moderate caution is alone required for an estimate of its value.

Large and Small Farms.—The Norfolk Chamber of Agriculture having considered the subject of large and small farms, arrive at the following conclusions: "Where the climate is dry, the land level and light, and arable fields are a good size, there large farms are best for the production of grain, meat, and wool. Moderate farms of 200 or 300 acres appear well adapted to the mixed husbandry of the Eastern Counties. Small farms are better suited for hilly and pastoral districts and the vicinity of large towns, and are best adapted for dairy products, and for pork, poultry, and vegetables. Some small farms and plots of land, and a proper proportion of allotments, as well as good cottage gardens, are necessary in every parish."

Horticultural Exhibitions at the Royal Aquarium, Westminster.—At the request of the directors of the Royal Aquarium, Westminster, Mr. Richard Dean, Ranelagh Road, Ealing, has submitted a scheme for a series of four horticultural exhibitions, to take place during the spring and summer—viz., a Hyacinth, &c., and Cut Daffodil show, on Tuesday, March 30, and Wednesday, March 31; a great artistic Rose Exhibition, on Friday, June 25, and Saturday, June 26; a great Strawberry Exhibition and Fête, on Friday, July 2, and Saturday, July 3; and a large display of Table Decorations, Bouquets, &c., on Friday, August 20, and Saturday, August 21. This scheme has been accepted by the company, and the carrying out of these exhibitions has been entrusted to Mr. R. Dean, from whom schedules of prizes can be obtained.

Bloom on Leaves is the subject of a paper by Mr. F. Darwin, contributed to the transactions of the Linnæan Society. "Bloom" is used by him to mean a coating of minute particles of a waxy character, which is removable by hot water or ether. But gradations occur from a distinct and appreciable greasiness throwing off moisture to such as are easily wetted. A large series of leaves of different groups of plants have been studied by him, and for convenience in the analysis of data he has divided them into four classes. Leaves of Class I. are devoid of bloom on both surfaces, and yield 54 per cent. which has no stomata on the upper surface. In Class II. bloom is deficient above, but present below, whereof 83 per cent. contain stomata on the leaves' lower surface. Class III. possess bloom on the leaves above, but none inferiorly, and 100 per cent. of these have stomata on the upper surface. Class IV. have leaves with bloom on both surfaces, 62 per cent. of them having stomata above. From such analysis and other facts and data given, Mr. Darwin concluded that the accumulation of stomata accompanies that of bloom, and other things being equal, that it is functionally protective against undue wetting by rain and injury to the leaf tissue.

MID-WINTER CHRYSANTHEMUMS.

Having read the remarks of your correspondent "G.," in which he advocates the claims of Virginale and Perle des Blanches, with respect to the latter it is not so little known as your correspondent imagines. I also find it in the catalogues of several other florists besides the one named, notably in Mr. R. Owen's, of Maidenhead; also in many of the Continental catalogues. Mr. V. Lemoine, of Nancy, places it amongst his early-flowering varieties, and this is what leads me to write these remarks. I find many of the varieties advocated as late-flowering by different growers, and seen well grown at the exhibition of the National Chrysanthemum Society in January, are amongst the best of our early-flowering varieties, such as Elaine, Madame Lacroix, Fabias de Maderanaz, Colibri, and many others. I therefore come to the conclusion that it is not so much the variety as the time of taking the bud, and although one nurseryman may advocate Boule de Neige, another Perle des Blanches, &c., simply because they have a good stock of them worked up, almost any other variety could be made to flower as late. I myself have at the present time, and have had since Christmas, plenty of flowers of Madame Cabrol and L'Adorable, also of the charming pompon Snowdrop, which has been one mass of bloom since Christmas. This latter I believe to be a purely late kind. I grow it in the open ground until October, when I take it up with a good large ball of soil and put it in a large pot; then it is put in the conservatory. It grows naturally into a nice-shaped bush. All who require white flowers in January and February should grow this in quantity. I think it would be of great interest to many of your readers to have the opinions of other growers on the subject of late-flowering chrysanthemums. Wm. Clark.

North Hornsey, N.

THE CHRISTMAS ROSE.

(*Helleborus Niger.*)

When winter spreads his hoary pall
O'er fields and forests wide;
When the sky, once blue, has a leaden hue,
And about on every side,
On the biting blast, as it hurries past,
The dead leaves wildly ride:

When our gardens, once so gay,
Are dull, and bleak, and bare;
When the flowers lie dead on the frozen bed,
And everthing that's fair
Is perished to death by his icy breath,
And snow lies everywhere:

There still remains a pretty flower,
The last of Nature's store.
'Tis the only one when the summer's gone,
And all its joys are o'er,
That brightens the gloom with its pearly bloom,
It is the Helleboro.

G. Bryan.

DOUBLE OR TWIN-FLOWERED LAPAGERIA.

The twin-flowered example of Lapageria rosea here figured was sent to us by Mr. James Martin, gardener to C. N. Kidd, Esq., Dartford, and was noticed in a paragraph at page 40. It will be seen that it is a case of fasciation, but not a well determined case, as the growth is normal on one side, the union being effected by the fusion of petals that really belong to different flowers. Such growths are not to be desired; but when they occur, their characteristics must be noted as an aid to the explanation of the general phenomena of doubling, which is as often the mere result of duplication as the modification of the organs concerned. A fusion on both sides is wanted in this case to form a symmetrical flower.

LEEKS.

If one is to judge from the large number of articles—long and short, wise and foolish—that have appeared during the last month or two in the horticultural press, the interest in leek-growing must be something enormous. What is the best variety for exhibition? everybody asks. North of the Tweed three varieties are the special candidates for popular favour at present. They are Dobbie's Champion, the Lyon, and Renton's Monarch. The latter two are comparatively recent introductions, while Messrs. Dobbie and Co. claim for their strain that it has taken first honours at all the International Exhibitions since 1873. Some crack private growers of the leek in Scotland have strains distinctly their own—such as Mr. McBean and Mr. Glass—which, of course, they do not allow to get abroad. The proper time for sowing leeks, so as to get specimens somewhat approaching the splendid ones so often shown at our Scottish autumn shows, is very early in February, or even at the end of January. A hotbed is the best place in which to sow them, but a moderately heated house will do quite well. As soon as they are four inches long the young plants are potted off into small pots, and grown on in heat until the beginning of May, being shifted once, perhaps, into larger pots. Early in May they are planted out, about a foot apart, in trenches prepared somewhat after the nature of celery trenches. After they start to grow outside, the blanching process begins, which is just carefully earthing up week after week, until the length of blanch wanted is acquired. When this is accomplished, every inducement is then given to get the plants to grow rapidly, which they will do during July and August, getting thicker and thicker every week, with leaves ultimately measuring three feet long and four inches across, if well grown. Δ.

DOUBLE OR TWIN FLOWERS O LAPAGERIA ROSEA.

FRUITING STRAWBERRIES IN PITS AND FRAMES.

We have just filled a four-light pit with strawberry plants, where we intend them to remain until they have fruited, and, unless we should be much disappointed, they will produce a splendid crop, that will ripen a fortnight in advance of the outdoor crop, and prevent a break in the supply which would otherwise occur between those fruited in pots and in the open beds. This is much the simplest way of fruiting strawberries at that season, as the natural temperature is sufficient to ripen the crop, and it gets rid of much labour in watering when a sufficient number of plants must be grown to make the two seasons meet, for the watering of strawberry plants in pots is a great tax upon one's time. But, planted out in pits or frames, two or three good soakings of water are all they require. The plants I am referring to will be grown without fire heat, as they are planted in the same bed of soil, with the addition of some rotten manure, in which salading was grown through the winter. The crowns of the plants are now six inches from the glass, and they will have the shelter of the lights constantly, but otherwise they will be kept cool by the admission of plenty

of air. We want the roots to obtain a firm hold of the soil before the leaves are much excited, and then we shall expect them to send up plenty of flowers. It is necessary to say that success depends mainly on the proper preparation of the plants, as the most painstaking management in the spring will avail but little if the plants are not thoroughly strong to begin with. The variety we prefer for this purpose is President, but probably almost any of the many good kinds will do as well. We took the earliest runners we could obtain, and planted them out one foot apart on a warm border, where the soil was both rich and deep. All the runners were cut off as fast as they appeared, and the weeds destroyed, which was all the attention they required. When lifting them to-day to remove to the pit they came out of the ground with tufts of roots eight inches and ten inches in diameter. J. C. Clarke.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 6.

Statistics of broccoli—Origin of Guernsey broccoli—The sorts grown—Cultivation of the crop—Packing in barrels—Prices realized—Substitution of late for early varieties—Broccoli in Jersey—The cauliflower trade—Prospects of broccoli—The Jersey cabbage—Radishes in Jersey and Guernsey—Quantity grown, prices realized, &c.—French beans grown under glass—Asparagus—Parsley—Lettuce.

As may be gathered from the following figures, a large and important trade in the cultivation and exportation of broccoli is carried on in Guernsey.

1882	39,000
1883	19,048
1884	22,000*

Broccoli has been grown in Guernsey as far back as the oldest inhabitants can recollect, though only within the last twenty years or thereabouts has it been cultivated to anything like its present extent. It is supposed to have been originally introduced from France, and was for many years of a very inferior description.

The sorts grown at present are known as the Early Guernsey, and the Real French. The latter, though inferior in quality to the true Guernsey, comes to a head sooner, and so fetches the highest price in the event of a severe winter in England. The Cornish broccoli has of late years been introduced into the islands, and though its superiority over the ordinary Guernsey produce is unmistakable, it has, strangely enough, not been largely substituted.

The preparation of the soil for this crop is carefully attended to. The soil is well broken up, and enriched by some well-decayed manure, except when the broccoli are to follow the potato crop, in which case it is not usual to add any fertilizer. Ten thousand plants go to the acre, and a man and a boy will set those at the rate of from 4,000 to 5,000 a day. Planting commences in July. Some of the most forward of the earliest-planted will be ready to cut the latter part of November, but the bulk of the crop is removed in February. Sometimes clover, rye, or some other corn crop, is sown at the time of planting, and this is cut for green fodder as soon as ready.

In packing for market large crates holding eight to ten dozen heads, barrels holding four or five dozen, or baskets holding three dozen are employed. It might be supposed that the barrel mode would undoubtedly prove the destruction or injury of the vegetable before the arrival at Covent Garden, but in practice it answers admirably, and is cheaper in the long run, as the barrels will stand more wear and tear than the crates, and can also be employed later on for the potato crop.

Now as to prices. The very earliest are usually disposed of in the local market, and realize 1s. 3d. to 1s. a dozen, that is about £36 an acre. With this the growers are satisfied. Those exported fetch, perhaps, 9d. a dozen, and this has been known to fall to as low as 3d. a dozen, at which figure, we were naively informed, the business was not very profitable—one would think altogether unprofitable when it is borne in mind that freight and commission take off a third from the price realized. When the winter has been very mild in England (a calamity for the islanders) the early broccoli have been on hand as late as May, by which time, of course, they are fit for little else than to be thrown on the manure-heap.

Of recent years the late crop of broccoli has been largely substituted for the very early crop, as they prove generally so much more reliable as regards price. This is explained thus: the early Guernsey broccoli coming in about the same time as the West Cornwall crop, and the transit of the former occupying a rather longer time, do not arrive in the market in as good a condition. The mildness or severity of the season in England has, however, as much, perhaps, as anything to do with the matter.

Of broccoli, Jersey exports practically none at all. One market gardener, in that island, told us he sends a few crates now and then to London, and we believe that he is a solitary instance. Jersey grows about twenty acres for her own consumption. In Jersey are also grown all the broccoli plants required by the Guernsey growers, which the latter import at the rate of several hundred thousand annually, for which they pay tenpence per hundred plants.

Of late years some of the Guernsey growers have taken to cultivating cauliflowers, Veitch's Autumn Giant being the favourite sort. About ten acres altogether are grown. They are planted at the same time as the broccoli, viz., in July, and are in fit condition to cut by the end of September. The soil is required to be deep and rich, and a good width is allowed between the rows. It is important that the plants should be set when quite young, and they must receive as little check as possible, or they will bolt almost as soon as planted. They are all disposed of in the local market unless the London prices are exceptionally good, when they are sent away.

Some of the finest raised in the island produce heads measuring fully three feet in circumference, and are worth as much as 5d. apiece. Prices usually begin, however, at 2s. or 1s. 6d. a dozen, and fall to about 6d. a dozen, after which they cease to be profitable. One hundred heads go to the crate. Some are packed in barrels.

The Guernsey broccoli business is not just now in a very promising condition. It is very improbable, from all we could gather, that under existing circumstances this branch of the market gardening will grow larger; possibly the next few years will show a falling-off.

As a member of the same family of plants, the cabbage may just be allowed a word here. The Jersey cabbage is pretty well known, as it has been carried by tourists in the archipelago to all parts of the civilized globe. They are grown principally for the leaves, called generally pigs' greens, as they are seldom used for the table; but the stalks, which grow from four to five feet in length, and even longer, are usually bought of the farmers and cottagers by the tradesmen in the towns of both islands, varnished or polished, and sometimes mounted with silver, the unmounted ones being retailed at one shilling apiece. Thousands of these are sold annually. Though both seeds and plants of this curious variety of cabbage have been cultivated in England, there has ceased to be anything curious about them, as they have refused to grow to any abnormal dimensions. They do but indifferently in Guernsey.

If broccoli show a tendency to fall off, radishes exhibit a very different tendency. This is one of the best paying of the minor crops raised in the islands. In Jersey we were told that this root has been cultivated "from time immemorial;" but they do not appear to be exported to any great extent, though since Guernsey is doing such a trade in this article her neighbour is very likely to take the hint. Considerable quantities are grown for the St. Heliers market. It is customary to sow them on land occupied by the early potato crop. The ground being well manured a quick growth is assured, and they are drawn before they can interfere with the more important crop. Sold in "packets" of about a handful, they realise from 5d. to 6d. per dozen bunches.

In Guernsey, where the radish has been cultivated for many years past, though not in quantity till 1870, it forms a growing and important item in the export trade done with London and Paris. Altogether some forty to fifty acres are under cultivation, and the area is likely to increase. Some of the farmers grow as much as five acres, but the large proportion of the crop is contributed by the small cottagers who cultivate a few vergées each.

The parish of Lâtel, St. Simpson, and much of the Vale parish, are the principal radish grounds, the soil here being light and sandy. In this soil, which is well dressed with seaweed and a sprinkling of the best guano, they grow to perfection, coming up on a slight pull, clean, beautifully crisp, and the finest of them from ten to fourteen inches in length. Usually sown in November, they are out of the ground in time to plant the potato crop, the sorts being the long red and turnip varieties. Some few growers sow them in time to draw in November. One grower in St. Saviour's parish, last year, grew three crops in succession on the same piece of ground within a period of six months. During the previous autumn and winter he had carted on to the ground several loads of sand for the twofold purpose of lightening and warming the soil. In many instances table carrots are sown with the radishes, the particular preparation of the soil made for the one being admirably suited to the wants of the other.

They are packed both in hampers and barrels, the former containing from four to ten dozen, the latter from twelve to fourteen dozen, the freight to London being from 1s. 6d. to 2s. per cwt., and the commission 7½d. to 10d. per cwt. Prices rule very good for the earliest, as much as 2s. per dozen bunches (a bunch contains 20 to 25 roots), and this falling to 6d. per dozen.

French beans are to be seen in every garden. The mode of cultivation is the reverse of skilful, the seed being sown rather thick, and the plants seldom undergoing the process of thinning or transplanting. The best sorts are grown, both of this variety of bean, and the scarlet and white runner bean.

The Canadian Wonder and the Early Dun are grown to some extent under glass for exportation. They are ready to gather from April to June, and realize from 1s. 6d. to 6d. per lb.

Far from exporting asparagus from Jersey the inhabitants are compelled to import large quantities from France to meet their own necessities. Guernsey forwards a little to Covent Garden when the winter in England is severe, the prices obtained being from 6d. to 10d. per bunch of 25 stalks.

An inclement season in England has likewise the effect of enhancing the market value of parsley, which has been sold by the islanders to London salesmen for as much as 20s. per hamper (holding one cwt. of potatoes). Winter lettuces under similarly favourable circumstances will realize 3d. per dozen. Some years ago we are told they were worth 1s. per dozen. This falling-off in the market value of the Guernsey lettuce is rather unexplainable in the face of the increasing breadth of this plant which is this year being cultivated in West Cornwall. If the Cornish gardeners experience no difficulty in getting for this produce from 1s. to 9d. a-dozen why should it be impossible for the Channel Islander to make the same money? Unless we have been wrongly informed—and we do not think we have—there is an anomaly here that calls for explanation.

*These figures represent so many "packages," which may be crates, hampers, or barrels. The average weight of each is 3 cwt.

A CATALOGUE OF JAPANESE AND HYBRID JAPANESE CHRYSANTHEMUMS,

Introduced from Continental Gardens and Nurseries.

Compiled by C. Harman Payne, F.R.H.S.

Aimé Laoèze. Delaux. Rose lilac, suffused with white.
Abd-el-Kader. Delaux. Dark purple, and dark maroon.
Acajou. 1885, De Reydellet. Mahogany, shaded gold.
Admiration. 1880, Lacroix. Long tubulated petals; soft lilac, passing to white in centre.
Albert de Natrois. 1882, Delaux. (Syn. Albert.) Crimson brown red, reverse of petals silvery.
Alexandre Dufour. 1881, Delaux. Bright violet.
Alfred Chantrier. 1886, Delaux. Mingled gold, rose, and violet; tubulated variety.
Alphonse XII. Delaux. Petals rich, dark brick-red, lightened salmon.
Album plenum. Delaux. White, sulphur centre.
Amarantina. Delaux. Pure amaranth, flamed white.
Amarantina carminea. Delaux. Carmine amaranth, tipped golden yellow, flamed white.
Amarantina alba. Delaux. Amaranth, striped white.
Amiral Courbet. 1885, De Reydellet. Brick red.
Amiral Lespès. 1885, De Reydellet. Fine purple violet.
Anna Delaux. 1884, Delaux. Golden red, each petal bordered with dark yellow.
Anna Liébaud. 1878, Lacroix. Chestnut red, passing to coppery yellow.
Annie Clark. 1886, Delaux. Soft rose, lightened silvery white, centre gold.
Anne Ducos. 1880, Lacroix. Tubulated petals, delicate rose lilac, passing to creamy white.
Angèle. 1883, Delaux. (Syn. Angel.) Wine-coloured lilac rose, silvery reflex.
Aoréments de la Nature. 1881, Delaux. Golden yellow, shaded and flamed with red.
Arlequin. Delaux. Bright crimson red, lined and striated golden yellow.
Arlequin. Lemoine. Salmon yellow.
Arlequin. 1886, Rozain Boucharlat. Bright purply carmine violet, tipped and spotted yellow, some petals quite yellow.
A. Rosenkranzer. Gerbeaux. Creamy white, slightly rosy.
A. Villatte des Prugnes. 1886, Delaux. Early bloomer, mingled gold, violet and rose, golden centre, shaded silvery white.
Aurore Boréale. 1884, Delaux. Pure gold lightened with salmon, yellow centre.
Aurore Boréale. 1881, Lacroix. Fine dark crimson-red, centre gold.
Aurore d'Été. 1885, Lacroix. Outer petals bright brick-red, passing to golden yellow in centre.
Asmodée. 1885, De Reydellet. Dark purple, slightly lined white.
Balmoreau. Delaux. Pure amaranth tipped gold, golden centre.
Beauté des Jardins. 1884, Delaux. Amaranth lightened bishop's violet, silvery centre.
Beauté de Toulouse. 1882, Delaux. Pure rose, lightened white, reverse of petals silvery.
Belle Alliance. 1884, Delaux. Brick red, lightened buff, golden centre.
Belle Fleur. Delaux. Yellow ground, flamed rust-red.
Belle Japonaise. Delaux. Crimson red, flamed and tipped golden yellow.
Belle Gabrielle. 1881, Delaux. Violet rose, silvery reverse tipped pure white.
Belle Etoile. 1885, Delaux. Fine violet rose, flamed pure white, silvery reverse, centre golden yellow.
Belle Rose. Delaux. Rose shaded white.
Belle Paule. 1881, Marrouch. (Also called Belle Pauline.) White, washed mauve and violet.
Belle Valentinoise. 1883, De Reydellet. Fine bright canary yellow.
Bijou. 1885, De Reydellet. Rosy white, long flat petals.
Blanche Colombe. Delaux. Pure white, streaked violet rose.
Blanche Echevellée. 1885, de Reydellet. White passant to rose; free flowering.
Blanche Fleur. Delaux. Pure white.
Blanche de Castile. Delaux. Yellowy white, flamed rose.
Blanc Précoce. 1886, De Reydellet. Semi-early; large flower; flat petals.
Blanche Neige. 1884, Delaux. Pure white.
Bois rosé. 1883, Lacroix. Pearly white, passing to very delicate light rose; long petals.
Boule d'Or. 1882, Bernard. Bright yellow.
Boule d'Argent. 1883, Delaux. (Syn. Silver Ball.) Purple amaranth, centre ball of silvery white.
Boule Dorée. 1884, Delaux. Sulphur yellow and orange.
Bouquet Estival. 1885, Delaux. Early bloomer. Soft light rose, reverse silvery white.
Bouquet Fait. Delaux. Soft wine-coloured rose, shaded white.
Bouquet National. Delaux. Soft nankeen, slightly rosy.
Boucharlat aîné. 1884, De Reydellet. (Syn. M. Boucharlat.)
Bras Rouge. Delaux. Velvety dark crimson and flame colour, golden yellow centre.
Brise du Matin. 1884, Delaux. Mauve coloured rose, shaded silver.
Brunette. 1883, Delaux. Long brown red petals lighter at tip, crimson brown in centre, tipped golden yellow.
B. Rendatler. Delaux. See Mdme. Bertier Rendatler.
Camieu. See Carmen.
Candeur. 1885, De Reydellet. White, slightly rosy.
Caprice. 1885, De Reydellet. Yellow, light orange centre passing to golden yellow.
Carillon. 1885, De Reydellet. Wine colour, yellow centre.
Capitaine Marignac. 1881, Delaux. Violety cock's-comb-red, reverse white.
Carmen. 1884, De Reydellet. (Syn. Camieu and Carmieu.) Fine rose, passing to white.
Carnot. Delaux. Yellow ground, flamed and shaded red.
Carpett. Delaux. Velvety dark carmine, shaded and edged pure white.
Cérès. 1850, Bernard. White, tinted pink.
Cérès. 1884, De Reydellet. Very pure canary yellow; petals tubulated, and almost erect.
Céline Jolivard. Marrouch. Light violet.
Charlotte de Monteabrier. 1886, Delaux. Silvery white, soft rose centre.
Charles Hubert. Hubert. (See M. Charles Hubert.)
Chimène. 1886, De Reydellet. Dark buff passing to crimson, straw reverse.
Chinoiserie. 1884, Delaux. Dark chestnut red, tipped gold.
Chinaman. (See Le Chinois.)
Cité des Fleurs. Delaux. Carmine amaranth crimson, silvery white reverse.
Cendrillon. 1884, De Reydellet. Tubulated petals, semi-erect, pretty peach-coloured rose.
Citron. 1885, De Reydellet. Fine lemon-yellow, centre petals flesh-coloured.
Clytie. 1879, Delaux. Brick red and dark brown.
Cœur Fidèle. Delaux. Rust-red, flamed dark yellow.
Cœur Fidèle. 1885, Delaux. Clear silvery white petals, large violet rose centre.
Colibri. 1884, Delaux. Dark crimson, golden ball in centre.
Commandant Baco. 1881, Delaux. Dark salmon-red.
Commandant Dominé. 1886, De Reydellet. Poppy-coloured crimson red.
Commandant Rivière. 1884, De Reydellet. Tubulated vertical petals; fine buff yellow, dotted with purple.
Constance. Delaux. Velvety crimson and flame colour, golden reverse.
Coquette. 1885, De Reydellet. Brick and orange.
Coquette de Castile. 1885, Delaux. Silvery white ground, lightened violet rose, golden centre.
Coriolan. 1885, De Reydellet. Red lightened, flame colour.
Curiosity. (See Mdme. Bertier Rendatler.)
Cuivrée. 1885, De Reydellet. Bright copper-red.
Dame Blanche. 1886, Rozain Boucharlat. Snow-white; early.
Dante. 1885, De Reydellet. Rich violet, tipped white.
Darwin. 1886, De Reydellet. White tipped, ball canary-yellow, centre yellow.
Dartaonan. 1884, De Reydellet. Fine dark amaranth, lightened flame-colour.
Day Gakko. Delaux. Crimson red, reverse lined golden yellow.
Délices d' Automne. Delaux. Purple amaranth, dotted and flamed with white.
Deuil de M. Thiers. Pertuzes. Purple, yellow reverse.
De Lesseps. 1886, De Reydellet. Base of petals white, spotted and tipped carmine rose.
Diabolique. Pertuzes. White, slightly rosy; petals very fine.
Diadème. 1885, De Reydellet. Bright violet.
Diana Vernon. 1886, De Reydellet. Fine light rose, tipped white.
Diane. 1884, De Reydellet. Centre rosy lilac, passing to creamy white.
Didon. 1885, De Reydellet. Dull red, centre orange.
Dr. Barrié. Dr. Audiguier. Fluted petals; golden yellow and brick red.
Dr. Audiguier. 1879, Delaux. Dark crimson amaranth, marbled with white.
Dr. Besaucèle. Bonamy. Tubulated petals; yellow, shaded rust-red.
Dr. Crévaux. 1884, De Reydellet. Horizontal tubulated petals; peach coloured rose passing to white.
Dr. Macary. Delaux. Soft rose on white ground.
Dr. Dor. 1886, Rozain Boucharlat. Sulphur-yellow changing to creamy white, centre canary yellow.
Dolorès. 1881, Delaux. Ash-coloured violet.
Domination. 1885, Rozain Boucharlat. Flesh-coloured rose; petals tubulated and laciniated.
Don Quichotte. 1886, De Reydellet. Soft silvery rose, striped brighter rose, violet reverse.
Don Diègue. 1886, De Reydellet. Sulphur-yellow, dull orange centre.
Dominique Pertuzes. 1885, Pertuzes. Golden yellow.
Dormillion. Lacroix. Amaranth white reverse.
Duchesse de Gérolstein. 1881, Delaux. Pure rose shaded white.
Eclatant. 1881, Delaux. Flame-coloured red, reddish-brown, and dotted gold.
Edouard Maury. Marrouch. Bright yellow.
Elégance. 1881, Delaux. Curly petals; dark violet shaded white, centre white.
Emblème. 1884, Delaux. Velvety dark crimson, striated and flamed dark yellow.
Emeraude. 1881, Delaux. Salmony brick-red, golden centre.
Emile Lajeunie. Dr. Audignier. Pale rose.
Enchantresse. 1885, Delaux. Rose lightened with Parma violet, centre petals with silvery white reverse.
Esmeralda. 1885, De Reydellet. Dark purple, light yellow centre.
Espérance. Delaux. Soft lilac rose, shaded white.
Erectum album. 1886, Rozain Boucharlat. Broad erect petals; pure white.
Eté Fleuri. 1885, Delaux. Early bloomer; purple amaranth, centre ball of silvery white.
E. G. Henderson and Son. 1886, Delaux. Early bloomer; dark golden yellow speckled violet red, reverse violet-crimson red.
Espérance. 1885, De Reydellet. Violet, white centre.
Etendard. 1885, De Reydellet. Carmine, light centre.
Etoile du Midi. 1881, Delaux. Orange-red.
Etoile Toulousaine. 1882, Delaux. Brown red, centre gold and dark yellow.
Etincelant. Delaux. Amaranth and dark purple, shaded flame colour.
Elise. Delaux. Fine golden red, dotted gold.
Elise. 1883, Delaux. (Syn. Eliza.) Soft lilac, shaded silver; curly petals.
Eugène Mézard. 1885, Delaux. Bright velvety dark amaranth, silvery violet reverse, centre golden.
Fanny Boucharlat. Delaux. Violet rose, shaded white.
Fée Rageuse. 1854, Lebois. Pure white, shaded rose.
Fernand Féral. 1884, Delaux. Soft muslin rose, lightened mauve.
Flambeau. 1881, Delaux. Orange-coloured red, centre gold.
Flamboyante. 1883, De Reydellet. Light mahogany, golden reverse.
Flamme de Punch. 1883, Delaux (Syn. Punch.) Orange red striped gold, curly yellow centre.
Fleur d'Eté. 1885, Delaux. Early bloomer; violet rose, tipped white.
Fleur de Marie. Delaux. Purest white.
Fleur des Bois. 1884, Delaux. Dark blood red, golden ball.
Fleur Parfaite. Delaux. Soft lilac rose, lightened white.
Flocon de Neige. 1881, Lacroix. Vertical snow-white petals.
Flocon de Neige. 1885, De Reydellet. Laciniated; white.
Formosa. 1884, De Reydellet. Light amaranth red.
Fournaise. 1880, Lacroix. Long vertical petals; fiery red passing to gold.
François Debergue. 1885, De Reydellet. Light lilac white.
François Delaux. 1882, Delaux. Velvety crimson brown red, lightened bright flame-colour.
Françonnette Dufour. Marrouch. See Mdme. Françonnette Dufour.
Fraise Ecrasée. 1885, De Reydellet. Violet strawberry-red.
Frédéric Marrouch. Dr. Audiguier. Light yellow.
Freycinet. 1883, De Reydellet. Rosy white, washed yellow, rosy centre; tubulated and curly petals.
Frizou. 1884, Delaux. Dark canary-yellow, lightened soft canary; curly petals.
Frou-Frou. 1884, De Reydellet. Fine magenta red, centre petals golden yellow.
Fuloore. Lemoine. Rosy amaranth on white ground.
Fulvie. 1886, Rozain Boucharlat. Bright rose, centre petals spotted straw-yellow passing to white.

(To be continued.)

CAPACITIES OF THE POTATO.

(*Solanum Tuberosum*).

By J. TORBITT, Belfast.

WHEREAS there is yet a new thing under the sun—stupendous in its vastness—the fruit of the potato is edible. The yield is immense, being probably equal to the usual crop of tubers, and at the present prices of fruits and of tubers (1885) the money value of the fruit crop cannot be less than quadruple that of the root crop, which in the United Kingdom has been estimated at twenty-five millions.

The accompanying figure gives an exact representation of the fruit-produce of one young plant, the weight being 2¼ lb., or at the rate of ten tons per acre.

Digest this fruit in sugar—boil it in cane-sugar, beet-root sugar, or by preference in grape-sugar, made from potato starch, and the result is the production of a conserve, preserve, or jam, second to none in the world. It is of delicious flavour, and perfectly innocuous, the action of the heat and of the sugar having decomposed *absolutely* the acrid, poisonous constituents of the raw berry. This fact I have ascertained and verified beyond all question, or possibility of doubt, and by the following means :—I eat a small quantity of it, watching carefully for unwholesome effects, and there were none whatever. I then gradually increased the doses until I eat a full meal on an empty stomach, and I found it to be a good nutritive food as well as an excellent jam.

Again, alcohol has been obtained from this fruit—when men happen to have it—and from the tubers, but never from the two combined, and I see no reason why the starch of the potato should not be converted into grape sugar by the usual means and combined with the fruit; and I see no reason why the combined grape sugar and fruit of the potato should not produce as good wine as does the grape-sugar fruit of the vine. It will certainly give double or treble the amount of alcohol, which has ever yet been obtained upon a given surface, at one-half or one-third the cost, and I suspect, therefore, that on suitable soils and in suitable climates the potato will supplant the vine. And yet during three hundred years, man, all over the world, when he accidentally produced this fruit always threw it away.

Turning then to the underground potato crop—the tubers—grow the plant from its seed, select the best, cross them, again select the best and re-cross them, and continue this cross-breeding year after year of the year after year selected best, and the result will be the production f disease-proof varieties, giving immense crops of fruit and of tubers. Knight found 34 tons per acre of tubers, and I have found often 12 or 14 tons of tubers and 4 or 5 tons of fruit, and 20 and 24 tons tubers, and 8 or 10 tons fruit. But all these new varieties become aged, and weak in a few years, and like old animals, they become unable to reproduce themselves, the flowers diminish in size, the crop of fruit diminishes, and eventually disappears entirely. Meantime the crop of tubers falls off gradually, and, like the fruit, would also disappear entirely, only before that consummation is reached the variety is thrown out of cultivation. Evidently, therefore, when any variety begins to fail in its crop of fruit, it ought to be discarded and replaced by a young fruit-bearing double tuber-bearing disease-proof variety, which should have been produced for the purpose, and of such there should be continually being produced all over the world unlimited numbers; and of such I possess some hundreds of varieties, and some millions of thoroughbred seeds, each capable of producing one such variety. In fact, and after all, a variety is only a divided individual which dies on the expiration of its allotted term of life, which in the potato is only a few years.

And there is no difficulty whatever in doubling the potato crop, and no expense, for the double crop of healthy fruit, and of healthy tubers, obtained from young varieties, costs exactly the same as does the half crop of diseased tubers obtained from the old varieties; and if any landowners or others are willing to take the trouble to produce these abundant potato crops, I am able and willing to show them the way, and to supply them with the means, and I can also show them the way to preserve both these crops in a manner which is absolutely perfect. And there is no reason whatever why the land should not be flooded with every animal which can feed upon the potato—no reason why England should import food beyond a few cargoes of wheat and rice, therefore no reason for agricultural depression or a fall in the value of land. The foregoing knowledge, it may be stated, is the result of thirty-one years' work.

FRUIT OR "PLUMS" OF THE POTATO PLANT, NATURAL SIZE. One plant produced 74 berries, weighing in all 2¼ lb.

CHLOROPHYLL.—From the *Athenæum* we learn that M. Victor Jodin brought before the Académie des Sciences on February 1st, "A Study of Chlorophyll, in connexion with M. Regnard's induction that the 'Chlorophyll Function,' that is, the property of decomposing carbonic acid, is of a purely chemical order inherent to chlorophyll, and continuing to act apart from the physiological conditions." M. Jodin's experiments appear to point to somewhat different results, and to show that a general theory of chlorophyll has yet to be framed based on well-established facts.

AN AMATEUR'S DIFFICULTIES.

I.

If plants could speak, we fancy that many of those belonging to amateurs would cry out with Tennyson's lotos-eaters, "Let us alone." What with pottings and repottings, prunings and stoppings, deluges of water and overdoses of manure, many a poor green thing finds its pot turned into a small pandemonium with a hole in it; and then, completely mystified at the astonishing amount of kindliness in humanity, it withers away and dies. To tell the truth, the present writer is haunted by the ghost of many a good plant he has unwittingly assassinated in this subtle manner. What a superfluity of benevolence he has lavished on azaleas, fuchsias, and ferns! How regularly he has watered them; how tenderly he has tried to make their drainage delightful! Then, how solicitous he has been that they should all enjoy a surfeit of excellent manure! He has loved them, watched over them, dreamt about them. Yet where are they all? Their miserable remains have gone into the great sepulchre of mother earth; they were, in fact, killed with kindness. There is no society for the prevention of cruelty to plants; so the only thing they could do was to die.

A pot is a plant's prison, not its natural home; yet it will do its best to live and flourish in confinement as long as it receives judicious attention. Many things, of course, under skilled superintendence produce much finer flowers in pots than they would in their native state. But one thing a plant objects to is to have its privacy disturbed more than is necessary. For instance it dislikes to have a five-fingered enthusiast continually turning it out of its only home, and shaking hands with its roots under the pretence of doing it good by repotting it or looking after its drainage. Many amateurs, indeed, have a perfect mania for repotting. I know that I myself was vividly afflicted with this loamy lunacy when I first turned to that excellent art floriculture. Directly I bought anything, out it came from its pot; and when, after several attempts, I had succeeded in torturing it into another pot with tolerable drainage, I almost imagined that it ought to flower away forthwith in return for my attentions. But, after a time, when all the leaves dropped off, and when the thing looked like the ghost of a birch broom or a melancholy sign-post to a floral cemetery, then I found I had made a mistake. I looked on its withering form with sorrow, and was floriculturally unhappy. Thus my friends came to recognize, with harmless humour, that a plant was doomed directly I set about doing it any good. Perhaps, like many other people, I was under the impression that plants

FLOWERS OF THE POTATO, NATURAL SIZE. The large cluster represents a fully developed head of flowers; the small cluster that of the Champion. Above the latter is an abortive inflorescence.

eat away the earth in a pot, and that unless there is a frequent renewal of soil they will perish for want of nutriment. This was a slight mistake. The fact is that, taking the case of a plant in a small pot, there is hardly any appreciable diminution of soil from one end of the year to the other. Horticulturists have made numerous experiments to prove this. For instance, there is a case on record of a small willow which was planted in a tub. The earth used to cover the roots had previously been dried in an open oven and weighed, the weight being about two hundred pounds. The willow remained in the tub for seven years, receiving no water but rain; it flourished, and, of course, increased remarkably in size and weight. At the end of the seven years it was taken out of the tub, and afterwards the soil in which it had been growing was dried and weighed. Then it was found that the tree had consumed only a few pounds of earth during the whole of the time. Thus we may readily conceive that a small fuchsia in a five-inch pot uses for its growth only a small fraction of the actual soil during the course of a year. The plant lives chiefly on water and on the carbonic gas which its leaves inhale from the atmosphere.

But a difficulty arises when the plant pushes its roots to the side or through the bottom of the pot, so that they mat together and rot. It is in such a case that repotting is really required, and when this operation is performed the roots should be disturbed as little as possible. Amateurs hear so much about root-pruning that they are fond of cutting away indiscriminately at the matted fibres of a plant. In many cases it will be found advisable, when shifting from one pot to another, to soak the old ball of the plant for a few moments in a pail of tepid water. I have often found this much better than fingering about the roots in a semi-dry state, for by this submergence in water much of the old, stale soil washes away in the pail, and the rotten fibres are easily detached without injury to the plant. Indeed, the operation of repotting was the worst difficulty I had to contend with. For example, when I took a fern or a fuchsia out of a pot I was bewildered to find a hard, intricate mass of closely-matted fibres of the exact shape of the pot. There seemed to be no soil about the roots at all. After manipulating the ball for some time I managed to squeeze some earth from the centre, and then, after ruthlessly pulling about the roots and tearing away parts of them, I was enabled to repot the plant. In nine cases out of ten I performed this operation to the injury of my flowers.

The drainage of pots, especially those of a large size, was a trying difficulty to me at first. From books I learnt that good drainage was of the utmost importance; therefore I determined to excel in the art. Thus, I repotted a plant, watered it, and watched with interest to see if the fluid filtered away. No; there it remained. Out came the plant, and it was repotted with more sand in the compost. Then it was watered again, with the same result. The performance became interesting as I dragged the thing out of the pot again and added more sand to the soil. Repotted again, not only did the water refuse to pass away, but the plant fell over on its side as if disgusted. The whole affair became exciting as I tried again. I added stones and broken crocks to the compost till it looked like a cross between a mud-pie and a miniature rockery. At last the water filtered through the pot as quickly as through a sieve. This was success, I thought; but the plant was of a different opinion—it looked the picture of misery for six months afterwards. The causes of my failure were various. In the first place the sand I had used was too fine. Fine sand is almost useless for the purpose of rendering porous non-fibrous loam, especially in a large pot. Fill two pots, one with this kind of sand and the other with loam; you will find that water takes as long to pass through the one as the other. Therefore it is simply a waste of valuable potroom to use powdery silver sand in an ordinary compost. It is far better to add a moderate quantity of sharp sand, and then to mix a fair quantity of broken pieces of flower-pot with the soil so as to keep it thoroughly open. In dealing with loam which is destitute of fibre it is better to err on the side of superfluity than of paucity in the matter of these broken crocks. The most liberal admixture of sharp sand seems almost powerless to render porous some of the silky loam which is sold in florists' shops. On the other hand, you can frequently obtain fibrous loam, which needs neither sand nor broken crocks in the body of the soil. But the safest way for an amateur, when preparing a compost, is to try if it drains well first, before applying it to the roots of a plant.

When dealing with peat the amateur is always advised to ram it well down round the old ball of the plant. By the way, roots of ordinary pot plants are never in the shape of a ball; still, such is the conventional term. Many a time have I repotted an azalea or a fern most carefully in accordance with the advice given in books, and then found that, although I had used sufficient sand and rammed the peat well down, the drainage was still imperfect. Therefore my experience teaches me to incorporate thoroughly with the peat a liberal supply of small fragments of flower-pot. But there is such a thing as being too hypercritical in the matter of drainage. It is not absolutely necessary that water should filter through the soil as rapidly as through a sieve. I take it, as a general rule, that as long as the fluid passes perceptibly through the compost, even although it does not disappear instantly, the better plan is to let the plant alone. If you repot it any improvement of drainage which results from the operation will possibly be counterbalanced by the injury you may inflict on the roots.

Again, how often do inexperienced persons find that, even after they have potted a plant so that it drains rapidly, they have still forgotten to leave enough space between the pot's rim and the surface of the soil. Hence ensues a great difficulty in watering. The plant never receives enough water from one application of the watering-can. It must be patiently watered two or three times, or else the pot must be dipped in a pail of water till the bubbles cease to rise to the surface; the latter is by far the easier plan. Then there is another disappointment which frequently arises just as you have have finished repotting something. The plant does not stand upright; it leans on one side in a lackadaisical manner, as if it were looking with pity on its own pot. The amateur should think of this contingency when he is absorbed in manœuvring the compost round the roots. J. G. Hartley.

NEW STOVE PLANTS.

As compared with the orchids, the new stove plants remarkable for the beauty of their flowers form but a small proportion of the gains of the past year. But they are sufficient to afford abundant interest to cultivators, and the majority are so distinct in character, and possess so much beauty, as to warrant the expectation that they will in a short time find their way into general cultivation.

The most numerous additions to the stove plants grown for their flowers, have been made by the amaryllis, which have undergone such material improvement of late years, that the varieties which obtained attention a comparatively short time since are now quite surperseded. To give the names of all the good varieties that were introduced last year is not necessary; but *Climax*, *Marengo*, *Niobe*, *Paragon*, *Prince George of Wales*, and *The Queen*, raised by Messrs. J. Veitch and Sons; *Fairlop Oak*, by Mr. J. Douglas; and *Comte de Germiny*, by Mr. B. S. Williams, may be mentioned as especially deserving of notice. Comte de Germiny is of a quite distinct type to the others, and has evergreen foliage and blooms during the autumn and winter, the flowers being of large size, good form, and a bright rosy pink hue.

Special mention may well be made of *Amazonia punicea*, a very distinct shrub of rather small growth, introduced from New Guinea. It is very elegant in aspect, and the graceful shoots produce at the points showy red bracts and racemes of drooping white flowers, which in form are not unlike those of some of the epacris. Whether it will prove useful for exhibition purposes remains to be seen, but its great value for adding to the attractions of the stove is well assured. It is also well adapted for indoor decorations, and as it is of very easy culture, it is well worthy of the attention of the market grower. Particularly noteworthy is the stately *Anthurium chelseiense*, in which handsome foliage and brilliantly-coloured bracts are happily combined. It is a hybrid between A. Veitchianum and A. Andreanum, the leaves resembling those of the first of the two parents, and the spathes those of the second, the colour of the latter being bright rich crimson. Full-grown specimens have a singularly effective appearance, and the plant will probably make its mark on the exhibition stage. *Aristolochia elegans* will not fail to be appreciated by those who are at all partial to these Birthworts; for, while unsurpassed in beauty by any other species, it is free from the defects of those previously introduced. It is of comparatively small growth, blooms freely, and the flowers are rather sweet-scented, characteristics that will commend the species to the notice of those who are acquainted with the rampant growth and shyness of flowering of the other known species and the objectionable odour of their flowers. A fully-developed plant can be grown in a very small amount of roof space, and a good specimen may be had by training the growth to a medium-sized trellis. *Clerodendron delectum* is also a stove climber, but of a quite distinct character, and likely to be useful for training to the roof of the stove and to a trellis fixed in the pot. The flowers are borne in good clusters, and have rose-coloured corollas and white calyces.

The chaste *Eucharis Mastersi* well merits the special attention of cultivators, for whilst perfectly distinct from E. amazonica, and other of the species in collections, it is exquisitely beautiful and of very high value for the supply of cut flowers. In size the flowers are intermediate between E. amazonica and E. Sanderi, and they are free from the green corona which is considered by many to materially detract from the beauty of those of the Amazonican Lily. *Hoya Griffithi*, although in some respects of less importance to the general body of cultivators than the other subjects enumerated, is a good addition to the list of stove and warm greenhouse climbers, and will be appreciated by those who admire the quiet colouring of the hoyas. The leaves are larger than the well-known H. carnosa, and the flowers are larger and of a pleasing cream colour. A few ixoras have made their appearance; and chief amongst the new hybrids is *I. eminens*, a very attractive form, producing large trusses of bright salmon-coloured flowers, which in the young state are shaded buff, and when fully developed tinted with pink. This will make a capital exhibition specimen, and as it does not require a higher temperature than I. Williamsi, it will not fail to prove useful for house decoration.

The rhododendrons, which, like the Amaryllis, have been materially augmented during the past few years, are sufficiently numerous to form an important group, and to add in no small degree to the attraction of the stove or intermediate house. Ten hybrids, all of which have been raised by Messrs. J. Veitch and Sons, were certificated by the Royal Horticultural Society, and they are so distinct and attractive, that there is not one too many. *Apollo*, *Cardinale*, *Conqueror*, *Militaire*, have flowers of various shades of red and scarlet; *Indian Yellow*, *Minerva*, and *Teysmani*, yellow flowers; *Incarnatum floribundum* and *Pearl*, blush coloured flowers; and those of *Manglesi* are white with brownish red spots on the upper segments. These rhododendrons are as remarkable for their freedom and continuity of flowering as for the fine shape and attractive colouring of the flowers, and should not fail to be well represented in the stove or intermediate houses, in either of which structures they can be most successfully cultivated. G.

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"EXCELSIOR" SEED AND MANURE DRILL.

The Excelsior Drill, which has recently been introduced by the Chadborn and Coldwell Company, of 223, Upper Thames Street, promises to prove a most valuable invention, and to be well able to afford substantial assistance to both farmer and market gardener during the seed-sowing season. One of its

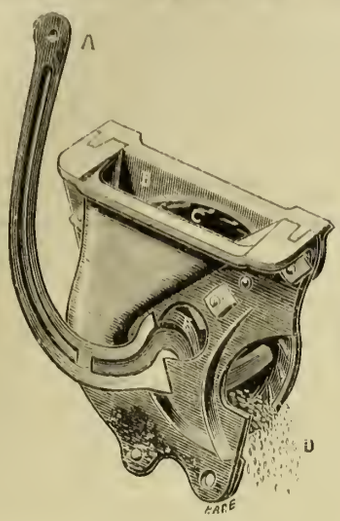


Fig. 1.—Delivery.

distinguishing characteristics is lightness of draught as compared with the drills now in general use; but the points which practical men will perhaps regard as of the most importance are simplicity of construction, efficiency of working, and the facility with which it can be adapted to the various descriptions of seed and grain. It is, indeed, claimed for the drill that it will distribute seed ranging from kidney beans to turnip seed without any necessity arising for changing any of its parts, and in an examination of the mechanism, it can at once be seen that there are good grounds for the claim.

The seed box, which has a tight lid, has no fittings whatever inside; it is provided with a bottom, in which there are openings at regular distances apart, and so constructed that the smallest seeds cannot possibly stick. As the seed passes through the openings (Fig. 1), it falls into the distributors at B and C, one of these being fixed underneath each opening. The seed then makes its exit at D, the rate per acre being determined by the space allowed at E, this being regulated by the projecting arm which is connected at A with a bar extending the whole length of the drill, and fixed immediately in front of the box. At one end of the box is a dial indicating the quantities of both large and small seeds sown per acre, according to the spaces allowed in the distributors; and connected with the bar is a pointer, by which the openings can be regulated to distribute any required quantity of seed per acre. The arrangement is so simple that all that has to be done is to place the pointer opposite the figures corresponding to the quantities to be sown.

The manure box is immediately behind that containing the seed, and is provided with the same number of openings for the guano or other manure to pass out. Each of these is fitted with a distributor, of which the several parts are shown in the accompanying illustration (Fig. 2). When F is screwed down over the open space, H is dropped into the opening, and J is fitted in a reverse position to that shown on the top. The manure is carried out of the distributor at G, and the arm is connected with a rod, and the quantity per acre is regulated by a pointer and dial as in the case of the seeds. The parts H and J revolve when the drill is at work, and immediately over the distributors are short iron bars, which work backwards and forwards, and effectually prevent clogging. In addition to the seed and manure boxes there is a grass box,

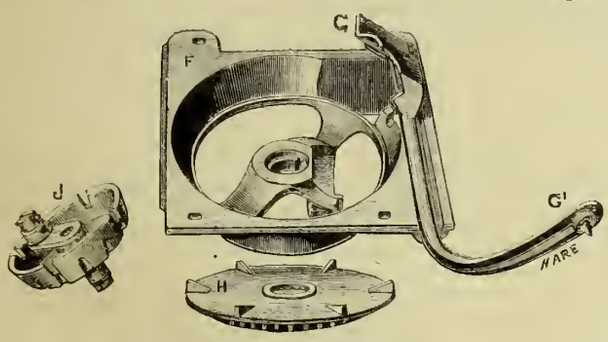


Fig. 2.—Construction.

which can be fitted either in the front or at the back of the drill, used simultaneously with the seed drill, or otherwise as may be desired.

By means of simple ratchets the driving power is derived from both wheels, so that a steady, continuous motion is given, and stoppage in turning avoided. The coulters can be set at any desired depth without the aid of weights, and they are provided with a spring, by which they are at once thrown out of gear when they come in contact with roots, stones, or other obstacles, thus removing any risk of breakage. It remains to be said that either seed, manure, or grass may be distributed simultaneously or separately, as may be desired, and that the whole of the several parts of the drill can be instantly thrown out of gear or set in motion again, without stopping the horses, by means of the handle at the back. As indicating the lightness of draught and simplicity of working, it may be added that two horses and a man are sufficient to work the drill.

Law.

WAVERLEY MARKET, EDINBURGH.

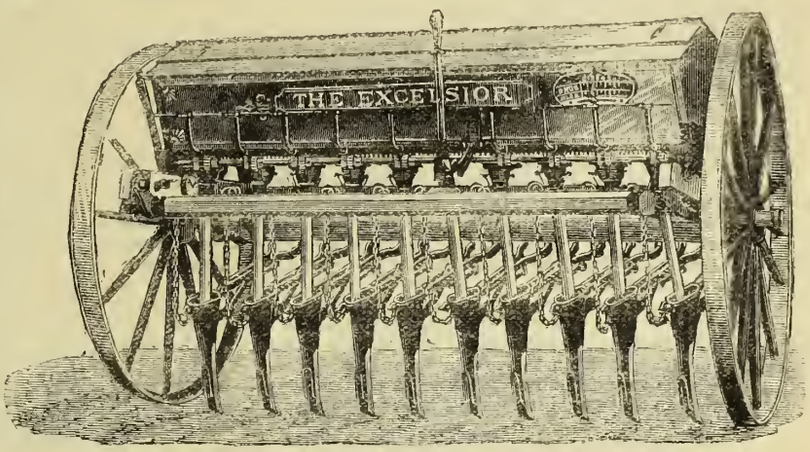
In the House of Lords, before the Lord Chancellor, Lord Halsbury, Lord Watson, and Lord Fitzgerald, the Lord Provost of Edinburgh and Others v. Blackie and Others, was an appeal from the judgment of the First Division of the Court of Session in Scotland, reversing a decision of the Lord Ordinary.

The Lord Advocate and the Solicitor-General for Scotland appeared for the appellants; the Solicitor-General (Mr. Horace Davey, Q.C.), Mr. J. P. B. Robertson, Q.C., and Mr. C. R. MacClymont for the respondents.

The question related to the fruit and vegetable market of Edinburgh known as the Waverley Market. The area is yearly allocated in stands to market gardeners and others, who pay certain fixed dues on the produce or goods which they bring for sale. The business may be done on any lawful day, but the principal market days are Tuesdays, Thursdays, and Saturdays, and the market is conducted subject to rules and regulations under the Edinburgh Markets and Customs Acts, 1874. In April, 1882, the Corporation gave up the whole area to be used exclusively for the Fisheries Exhibition, and caused the market to be held in the adjacent streets for a period of between three and four weeks. The appellants, market gardeners and fruit and vegetable merchants and holders of stands, objected to this, but without avail, and they took proceedings to assert their rights by the present action. The Lord Ordinary, by interlocutor, held that the appellants had appropriated the place for the use of the market, but were not barred from giving the occasional exclusive use of it for other purposes of public interest and utility. The First Division recalled the interlocutor and gave judgment to the effect that it was beyond the appellants' power to exclude the respondents and others from the use of the market-place for so long as three weeks continuously. Hence the appeal to their Lordships.

The case having been argued at length, judgment was now delivered.

The Lord Chancellor said that under the Act of 1874, which empowered the Corporation of Edinburgh to levy additional rates on market gardeners and impose a tax on the public entering the market, it was clear they did not possess all the rights which they formerly held under old charters. He was of opinion that it was not within their discretion to divert the area of the market to other than market uses during market hours, however beneficial they might consider them to be in the public interest.



Excelsior Seed Drill. Fig. 3.—In Operation.

The decision of the Court below was affirmed, and the appeal dismissed with costs.

OUR COLONIAL POSSESSIONS.

Dr. R. J. Mann, F.R.C.S., on Tuesday night communicated a paper to the Society of Arts on "The Present State of the Colonial Possessions of Great Britain." Sir Saul Samuel, Agent-General for New South Wales, presided. The paper, which, by reason of the author being indisposed, was read by Mr. Cobb, gave a summary of the resources and condition of the colonial possessions of the Empire, tracing in succession the growth and development in population, trade, wealth, and material resources, of Canada, Newfoundland, the Australasian Colonies, Cape Colony, Natal, Mauritius, New Guinea, the West Indies, the West African Settlements, Malta, Cyprus, British North Borneo, and the Straits Settlements. The British Islands themselves, the central seat of the Empire, possess an area of 121,115 square miles and a population of 36,400,000, but the colonial and foreign possessions of the Empire represent an area of land of over 7,300,000 square miles, and a population of 19,485,000. The extent of the land comprised in the colonial and foreign possessions was thus 61 times as large as the central islands of the Empire, and the population a little more than one-half that of the parent community. With the addition of India, the Empire represented an area of 8,991,254 square miles, and a population of 315,886,000. With regard to revenue and public debt, while the revenue of the British Isles was £88,000,000 and the public debt £740,000,000, the entire revenue of the colonial and foreign possessions, exclusive of India, was £42,055,000, or nearly half the revenue of the British Islands. The entire debt of the colonial possessions, exclusive of India, was £185,350,000 or something less than the fourth part of the debt of the central kingdom. The revenue of India was only £8,000,000 less than the revenue of the central Government, and its debt less than a fourth part of the debt of the home community. The value of the trade of the colonial possessions, exclusive of India, was close upon £241,000,000, or more than a third part of the value of the home trade. The value of the trade of India, to the value of the home trade, was as £142,000,000 to £685,000,000. Mr. Service, the Premier of Victoria, anticipated that in half a century the Australian Colonies will possess a population of 50,000,000 and in that sense will constitute a second United States in the Southern Hemisphere.

Work for the Week.

CONSERVATORY AND GREENHOUSE,

Conservatory will require careful attention for a short time hence, as it is most important the plants brought from the stove and forcing-house should have sufficient warmth to prevent their being injured by a chill, and it is equally necessary to avoid pushing the permanent occupants into growth. Forced rhododendrons and other hardy shrubs will be invaluable for the embellishment of the conservatory at the present time.

Annuals for the conservatory and greenhouse ought to be growing freely now in a genial atmosphere, and very near the glass. If they are running up and becoming spindled, pick them out and place in a light and dry position.

Bedding Plants.—Cuttings put in now will bear more heat than those put in a month ago, as vegetation is more active with the advance of the season. There is plenty of time now to raise stock of verbenas, petunias, fuchsias, and lobelias, and they will bear a moist temperature of 75 deg. to advantage. Pot off into small sixties recently struck cuttings as soon as they begin to make new growth at the points. Young plants that want a shift to larger pots, and require to be stopped to make them bushy, should be stopped first, and the repotting delayed till the side shoots begin to break.

Camellias out of bloom to have a higher temperature and a moist atmosphere, to promote the new growth. Any that require a shift may have it now; but the general shifting is best delayed till the wood is ripe or ripening.

Cinerarias are now coming to their full splendour, and must have constant attention. Neglect of watering will cause the lower leaves to shrivel, and too much water will cause the colours of the blooms to run. Tie out specimens in good time. Those only just showing their trusses may have a shift, so as to form fine plants late in the season.

Fuchsias are growing freely now, and plenty of cuttings may be obtained without distressing the old plants; in fact, the stoppings of shoots will do, for it matters not how short and soft the cuttings are—they always root instantly if put into sand in a nice heat. It is no use to grow fuchsias slowly; let them have the warmest berth possible, with plenty of moisture and only a little air.

STOVE AND ORCHID-HOUSE.

Caladiums and other tuberous-rooted plants should now be repotted and started into growth. Shake the tubers out of the old soil and pot them in a new compost prepared according to their requirement.

Orchids that are commencing to make new growth should be repotted if they require more space at the roots. But they must not have too much soil about their roots, and it is a good plan to leave them undisturbed at the roots as long as they continue to make a vigorous growth.

FORCING AND ORCHARD HOUSES.

Peach and Plum Trees must be carefully managed while the fruits are stoning. Any excess of fire-heat, or water, or cold draughts will cause the fruit to fall at that critical period. As they commence swelling after the stoning period, the heat may be slightly raised, and the trees to have frequent showers from the syringe. Peaches in the early house to have a temperature by day of 75 deg. to 80 deg.; by night 55 deg. On dull days the temperature not to rise above 65 deg.

Figs in the early house are now swelling their fruit nicely, and require plenty of water. If allowed to root through their pots into rotten leaves and other such plunge material, liquid manure will perhaps not be needed. If in pots, and not plunged, they must have liquid manure.

Vinery must be very carefully ventilated at this season of the year, or much injury will in all probability be done to the young growth.

FLOWER GARDEN AND PLEASURE GROUNDS.

Auriculas to have plenty of water and a free circulation of air, but during driving rains it is best to keep them sheltered. Remove all secondary trusses, and thin the pips of the trusses left for blooming.

Box Edgings made now will do far better than in autumn. If the weather is dry after planting, keep newly-planted box well watered, as if a few plants die the unsightly gaps are not easily mended in the height of summer.

Verbena venosa is a very easy subject to manage; for it is only needful to keep the roots safe from frost from the time of taking up till now to secure any amount of stock of it. Put the roots into shallow boxes, and place them in a propagating pit at once. They may, however, be put in small pots if more convenient.

KITCHEN GARDEN AND FRAME GROUND.

Asparagus beds to be lightly pointed over and dressed with salt, at the rate of a pound and a half to every square yard. Sow seed for new beds.

Celery sown early will now require to be pricked out into boxes on a slight hotbed. Sow now for the main crop.

Cucumbers.—It will be more difficult now to keep the heat of bearing beds up to the mark than it has been all the winter, for the east winds will cool them more rapidly than the rains. Linings will now be of great value. In giving air, guard against the entrance of parching cold wind; a mat hung over will allow of an exchange of atmosphere through it without permitting the entrance of a killing draught.

French Beans in the forcing-pit must be kept very near the light, and have a brisk temperature. Give air early on fine mornings while the plants are moderately dry, to promote the setting of the fruit. Crops that have been gathered from to have the help of soot-water, or a solution of guano, half an ounce to the gallon to promote a luxuriant growth.

Melons to be grown in frames to be planted at once, so as to have the full benefit of sun-heat when the temperature of the beds is declining, and to ensure a perfect ripening of the fruit. Put them out on a good depth of strong loam, without manure.

Vegetables in Season include, amongst those obtainable from the open quarters and stores, Cottager's and Scotch Kale, Beet, White and Purple Broccolis, Celery, Leeks, Onions, Jerusalem Artichokes, Salsify, Scorzonera, Spinach, and Turnips; from the frames and warm borders, Endive and Lettuces. From the forcing-pit and mushroom-house may be obtained supplies of Asparagus, French Beans, Mushrooms, New Potatoes, Seakale, Small Salading, Radishes, Rhubarb, and Tomatoes.

ORCHIDS AT MR. POLLETT'S, FERNSIDE, BICKLEY.

The owner of this collection of orchids is a great enthusiast in orchid culture, and is passionately fond of his pets; and nothing pleases him so well as to show his collection to a kindred spirit who appreciates the beauty of their flowers, and who can admire a well-grown specimen, whether it is in flower or not. This remark does not imply that Mr. Pollett has few or no orchids in flower to show his friends. Indeed, I can say truly that for the size of the collection very few orchid growers can boast of such excellent results. The small span-roofed cattleya house was well filled with flowering plants, conspicuous amongst them being many fine forms of C. Trianæ. The variety Backhousiana seems to flower early, but it is a superb thing, and certainly the best of the dark forms, and the novel dash of purple on the deep rosy petals is unique. Some of the varieties are remarkable for their broad, substantial petals, which form compact, roundish flowers; others have much longer petals, narrow at the base, and slightly fringed. One of the latter type had a broad, rich crimson lip, with deep orange throat. A remarkable variety of C. Percivaliana is worth notice. It has a broadly-opened lip of the most brilliant colour, the orange, yellow, and magenta crimson forming an admirable contrast. Many varieties of this species have a small puckered lip, not at all effective. On the other hand, varieties such as this are indispensable in a good collection.

A handsome Barkeria, under the name of Barkereola, was in flower. It is a very beautiful species. Mr. Pollett has also in flower at the present time a very remarkable variety of Cypripedium villosum. It used to be grown in Messrs. Rollison's collection at Tooting under the name of Superbum, and was purchased when the collection came under the hammer. The size and substance of the flowers are very remarkable. Indeed, the ordinary forms of this species are amongst the most valuable of lady-slippers, and have been used as seed or pollen bearers for the best and most recent hybrids. Two of the latest hybrids flowered in Messrs. Veitch's Nursery are crosses from C. villosum; and the first hybrid produced by that firm was C. Harrisianum, a cross between C. barbatum and C. villosum.

Mr. Pollett's collection is rich in the highest class of cypripediums. The jewel of his collection is a nice healthy plant of the famous Veitchian hybrid, C. Morganæ. Next to it in importance is C. Schroderæ, a very handsome variety. There was also in flower a splendid specimen of C. Sedini candidulum; I admired this greatly when it first flowered, but as it is now to be seen here and in other gardens it has greatly improved.

The cool house is filled with well-grown plants of Odontoglossum crispum, the *pièce de resistance* of all cool house collections; and of this fine species there are some notable forms in the collection. One dainty little plant, with three or four flowers opening on a spike, just showed its large brownish blotches. It is difficult to resist the temptation to hasten the opening of such flowers with the fingers, but this must be resisted very sternly. The neat little species, O. blandum, was to be seen in the form of a very pretty spotted variety. There was also a grand spike of O. luteo-purpureum sceptrum, which at once arrests attention, and is the best of this group. O. Andersonianum lobatum was represented by a good spike, and is certainly one of the most elegant representatives of this species.

The only Masdevallias in flower were M. Veitchiana and M. ignea, both good varieties; the last-named a large, well-flowered specimen. In another cattleya house, to which a warmer compartment is attached, there is a splendid plant of Veitch's variety of Cœlogyno cristata alba. This is the best form, the flowers being of the purest white; and on some of the spikes were five flowers; the lip was well over an inch wide. In the warm end there were some choice plants. A good specimen of Angræcum eburneum in flower is noticeable; but it forms too large a specimen for a small house, and must give place to orchids that occupy less space and surpass it in beauty. The moth orchids are doing fairly well; two good varieties of Phalænopsis Stuartiana are in flower. The good varieties of this are very charming. Mr. Pollett does not go in for large collections of orchids; the space in his houses is very limited, and a choice variety that increases in value every year is not more difficult to cultivate than an inferior form that is of no value. J. D.

Australian Wattle for Tanning.—The American Consul at Sydney has forwarded to the United States Government a lengthy report on the leading industries of New South Wales, in the course of which, describing the leather trade of that colony, he says the great bulk of the material used for tanning leather in Australia is obtained from the wattle or mimosa bark, the produce of various species of the acacia. This bark yields a higher percentage of tannin than any other vegetable material in the world, with the single exception of the celebrated taneka bark of New Zealand, a product peculiar to that colony. An interesting feature connected with the mimosa bark is that its percentage of tannin increases after a year or two when the bark is kept in a dry place. The bark is usually gathered in the spring, which begins in New South Wales in the month of September; the colony being south of the Equator, the seasons are of course reversed. The bark is so highly prized for tanning that considerable quantities are exported to England, the annual export being about 9,000 or 10,000 tons. Occasionally the exports have reached as high as 20,000 tons per annum. The demand for it has been so great, that at one time it was thought that the trees would disappear altogether. The New South Wales Government, however, has taken very active measures to promote the growth of these trees, and has caused vast numbers of them to be planted all over the colony, and especially on railway reserves. Strong efforts are also being made to encourage planting these trees by private enterprise. There are many varieties of the wattle, some of which have beautiful wavy and graceful feathery foliage. Wattle barks are usually found in commerce in four forms—1st, in narrow strips about three feet long, pulled off the tree; 2nd, in small pieces one inch in length, and about the same in breadth; 3rd, ground bark, having the appearance of netted fibre; 4th, powdered bark, forming a very fine powder. The wattle bark forms a hard and heavy tannage when used strong, but when weakened it produces soft and pliable leather. Extracts are now made from the wattle, and they are extensively used by the English tanners.

TRUTH is TRUTH till time shall end.—The Queen of domestic drinks is *Pure Tea*; it is better adapted to satisfy the craving of the human race, under all conditions, than any other beverage; but one alarming danger to the consumer is ever present: Tea in an adulterated form, painted or "faced" with mineral powder to give an unreal value, is commonly sold in this country. In health and in sickness HORNIMAN'S PURE TEA is always preferred because it is what it professes—a very strong, rich, delicious, and absolutely genuine article; supplied at London fixed prices by Agents who are constantly receiving fresh supplies from London. See list of Local Agents (Chemists, &c.), in all papers, and at Railway Stations.—(Advt.

Exhibitions and Meetings.

NATIONAL CHRYSANTHEMUM SOCIETY.

A meeting of the general committee of the National Chrysanthemum Society was held at the Four Swans, Bishopsgate Street, on Monday last, to receive the report of the sub-committee appointed to prepare the schedule of prizes to be offered for competition at the exhibitions to be held in September, November, and January next, and determine the dates. The chair was occupied by E. Sanderson, Esq., president of the society; and there were present R. Ballantine, Esq. (vice-president), Mr. W. Holmes (hon. secretary), and nearly the whole of the members of the committee.

The schedule of the great exhibition to be held, as decided by the annual meeting, November 10 and 11, was first submitted to the committee, and after being fully discussed, it was, with a few slight alterations, passed without dissent. The schedule does not very materially differ from that of last year, and both plants and cut blooms have most liberal provision made for them. There are two classes for groups in which quality and general effect are to be the leading features: one being for incurved, and the other for Japanese varieties. Each group is to occupy an area of sixty square feet, and to contain not less than eighteen varieties. The prizes are £6, £4, and £2 respectively in each class, and awards of equal value are offered for nine trained specimens. There are, in addition, two classes for six, and two for four trained specimens. There are nearly thirty classes for cut blooms, two of which are for forty-eight, and three for twenty-four. One of the classes for forty-eight is set apart for Japanese, and the other for incurved varieties, and the prizes in each are £10, £7, and £4 respectively. The competition in the class for eighteen incurved flowers, which has hitherto been open, has, in deference to the wishes of a large body of exhibitors, been limited to those who have not previously taken a first prize in the large classes at the society's exhibitions. The class for six large anemone blooms, one variety, has this year been substituted by one for six blooms of Elaine, which will in consequence be excluded from the class for six Japanese blooms one variety. A second class for six blooms of Elaine has been provided in the division, in which the competition is limited to cultivators within the metropolitan districts, with a prize of £1 generously contributed by Mr. Long, of Clapton. A class has also been set apart for a vase or epergne arranged with ferns or other foliage at the discretion of the exhibitors, with liberal prizes, which are provided by Messrs. H. Cannell and Sons.

The expediency or otherwise of providing separate classes for large anemone and Japanese or tasselled anemones was the subject of a lengthy discussion, in which Mr. E. C. Jukes, Mr. N. Davis, Mr. R. Dean, Mr. C. Harman Payne, and Mr. G. Gordon took part; and in the result it was decided by a substantial majority that the two types should be shown in distinct classes. It was also resolved, on the motion of Mr. W. Holmes, that it be an instruction to the Catalogue Committee that the two types of flowers should be kept distinct, for the guidance of both exhibitors and judges, at the exhibitions of the society and the associations in affiliation with it.

The early show will be held September 9 and 10, when liberal prizes will be offered for chrysanthemums, dahlias, and gladioli. There are two classes for collections of chrysanthemum plants, without limit as to number, or the size of the pots, provided they do not occupy more than the specified space; a class for a collection of plants in five-inch pots as grown for market; and two classes for six untrained examples—the first of these being for Madame Desgrange, and the second for any other variety. The cut bloom classes include one for a collection unlimited as to extent or variety; three for twelve blooms, and two for six bunches to be shown with foliage. The dahlia classes comprise one for forty-eight show or fancy varieties, and one each for twenty-four show, twenty-four fancy, twenty-four pompons, and twenty-four single kinds, all of which are open. There are also four classes for twelves, in which the competition is limited to private growers. Provisions are also made for a collection of gladioli, and for twelve spikes. At the midwinter show, January 11 and 12, there will be seven classes for cut chrysanthemums—one being for a bouquet, two for cyclamens, two for primulas, two for berried solanums, and one each for hollies, ivies, and coniferous trees and shrubs. In the last three classes the specimens are to be large enough to show the character of the respective kinds. At the midwinter show there is to be no restriction in any of the chrysanthemum classes as to the varieties or the manner of setting up.

Various alterations were made in the exhibition rules, to adapt them to the altered conditions of the society which have been brought about by the expansion of its work. It was also decided that the metropolitan districts should, for the purposes of the exhibition, be extended to four miles from Shoreditch Church.

A vote of thanks to the sub-committee and the chairman terminated the proceedings.

NORTH OF SCOTLAND HORTICULTURAL SOCIETY.

The monthly meeting of this society was held on Friday evening, the 19th inst., in the Christian Institute, Aberdeen; the president, Mr. Peter Harper, occupying the chair. The secretary read papers on "The Propagation of Roses" and "The Construction of Fruit and Vegetable Gardens," sent by Mr. Innes, gardener, Blairgowrie, and Mr. Forrest, gardener to the Earl of Aberdeen, respectively. A capital discussion followed the reading of the papers, and votes of thanks were passed to the contributors of them. Mr. Henderson, gardener to Mr. Davidson, Cults, communicated the report of a committee appointed at last meeting to consider the advisability of forming a society on the lines of the United Horticultural Benefit and Provident Society of London. The committee recommended that a society should be formed, and that the rules of the United Society—some of which Mr. Henderson read and explained to the meeting—should be adopted in full. This was adopted, and the committee empowered to take steps for the formation of the society, provided a sufficient number of members are enrolled. Mr. John Roy, secretary of the Aberdeen Natural History Society by the aid of the microscope, explained an interesting selection of botanical specimens which had been sent by Mrs. Farquharson, of Houghton. A cordial vote of thanks to the president ended the proceedings.

Mr. Britten's "Dictionary of English Plant Names" is completed, and the third part will be published in about a month from this time. This work is in the series of the English Dialect Society. Parts one and two were published some three years since.

New Plants, Flowers, and Fruits.

[Correspondents complain of our abbreviations as perplexing, and they ask for fuller descriptions. We will, for the future, give the references in full; but it would be a mistake to make the descriptions any more copious, for in truth the name of the plant and the reference are enough for those for whose use the notes are prepared. Plants of general interest obtain our attention apart from these records of the labours of others.]

Lissochilus Sandersoni (*Botanical Magazine*, 6858).—A robust and stately terrestrial orchid, native of Natal; flowers white, green and pale purple.

Calotropis procera (*Ib.*, 6859).—A handsome asclepiad; flowers rosy purple.

Synthyris reniformis (*Ib.*, 6860).—A scrophulariaceous herb, with roundish leaves and cylindrical spike of lilac-tinted flowers.

Rhynchanthus longiflorus (*Ib.*, 6861).—A curious plant allied to Burbidgea.

Caloptropis gigantea (*Ib.*, 6862)—A larger plant than C. procera; flowers curious and beautiful.

Cypripedium Lecanum superbum (*Gardeners' Chronicle*, 1886, 168).—The dorsal sepal showy, the green at the base curious and shining.

Primula Reedi (*Ib.*).—A new species from Kumaun; leaves silky, flowers in umbels, corolla cream-coloured.

Polyanthos Roses (*Garden*, plate 530).—Beautiful figures of pink and white varieties.

ORCHIDS AT MR. PHILBRICK'S, Q.C.

There are always some *recherché* specimens to be found in this collection, but the fine forms of Cattleya Trianæ seem to eclipse most other plants at present. The variety Backhousiana was well in flower, and in the collection are some named years ago by Mr. Marshall, of Enfield. The variety Penelope is distinct and good. Amongst some fine forms of Lycaste Skinneri the pure white variety was conspicuous; and a charming thing it is. Cattleya speciosissima, not often seen in flower, was conspicuous for its rich colour amongst the trianæ group. Cypripedium calurum had produced very large and fine flowers, and is strikingly handsome; it is a second cross from C. Sedeni, and is the best of this group. The phalænopsis house is a low span-roofed structure, but seems to be remarkably well adapted to the culture of this beautiful class of orchids. The cultural requirements are evidently well understood, as seldom have the eyes of an orchid fancier feasted on a better grown collection than this. Mr. Heims used to grow them almost equally well in Avenue Road, Regent's Park. There were a hundred spikes of the various species and varieties, and I counted two hundred and eighty flowers of P. Schilleriana open. Of this remarkably fine species there were many richly-coloured forms, and they made much the best display. Amongst P. amabilis the most beautiful is Mr. Day's variety, flowered in the celebrated Tottenham collection for the first time; it is richly marked in the centre of the flower with deep red. P. Sanderiana has suddenly taken its place as one of the very finest of the moth orchids. One of the darkest coloured varieties of this species yet flowered in England is in this collection. Probably the scarlet phalænopsis we have heard so much about is to be found amongst the darkest forms of this species. Most of them are rosy blush, and in that form they are very distinct and beautiful. P. Stuartiana was also in flower, and a most charming thing it is in its best form. Some good judges prefer it to P. Sanderiana. J. D.

CUTTING DOWN GARDENIAS WITH PRESUMED MALICIOUS INTENT.

A case of some importance to gardeners and others was recently heard before Mr. Hannay, one of the magistrates at the Worship Street Police-court. Mr. Robert Coombs, of Holly Lodge, Stamford Hill, one of the partners in the firm of Clarke, Nicholls, and Coombs, wholesale confectioners, of Hackney Wick, charged his late gardener, George Rogers, with having maliciously destroyed a large number of plants of gardenias and Ficus elasticus by cutting them down just at a time when they were most valuable for purposes of sale. The plaintiff some time since erected a number of houses in the rear of his residence at Stamford Hill for the purpose of growing plants and cut flowers for market. In the middle of January last the prosecutor had in his possession a large number of gardenias, estimated at 1,800, many of them young plants in large 60 pots, dwarf and bushy, just coming into bloom; and a number in 32 pots, two feet or so in height, and also well furnished with buds; and, in addition, some large specimen plants of Ficus elasticus, six feet or so in height, and laden with young growths. Mr. Coombs deposed that finding the business of growing plants for sale did not pay, he determined to sell off the gardenias, and advertised the same in various gardening papers. Being dissatisfied with his gardener, George Rogers, the defendant, he gave him notice to leave; and after having done so it was averred that Rogers cut down almost close to the pots a very large number of the gardenias that were just coming into flower, thus destroying their value for present sale purposes; and also cut away the leading shoots of the plants of Ficus elasticus. Plaintiff set forth that he had not given the defendant instructions to do this; moreover, that he had distinctly told him that he should sell off the plants; and he charged the defendant with having cut them down with a malicious intent, and for the purpose of depreciating their value. The branches cut away were thrown on to a rubbish heap, and were not in any way used for propagating purposes.

The defence set up was that the gardenias were foul through being affected with mealy-bug; that they were cut down for the purpose of rejuvenating them; and that the shoots of the Ficus were cut off for the purpose of making cuttings. The section of the statute under which the case was tried sets forth that the malicious act must be with the intent to destroy, but witnesses for the prosecution admitted that the plants were not destroyed by being cut down, but simply materially depreciated for present purposes of sale. The magistrate at this point stopped the case, ruling there was no proof of the defendant's intention to destroy the plants; but he was willing to re-hear the case under another section of the Act, when, in all probability, the case would be sent for trial. The defendant was allowed £6 as costs.

Obituary.

Recently, at The Gardens, Rossie Priory, Mr. D. Doig, for twenty years head gardener to Lord Kinnaird, aged 65.

Correspondence.

ROYAL HORTICULTURAL SOCIETY.

May I ask you to correct an error in your report of the annual meeting? The seconder of the motion for the adoption of the report was not "Mr. Chancellor," but the undersigned.

If I may be allowed, I should like to take the opportunity of suggesting that no time should be lost in devising some means for placing the society on an independent and solid basis. How can this best be accomplished? Are the Fellows to sit still and wait patiently for the action of the Council? or to join in consultation with the Council? or to take the matter into their own hands? I understood the president to invite expressions of opinion, or sympathy, or co-operation from the Fellows; but in what way is that to be done? Are we to individually "drop him a line," or send a deputation to the inconvenient offices at South Kensington? or interview Sir Trevor in the "tea-room" at St. Stephen's? I must say it was a novel sensation to hear that the Council invited suggestions from the Fellows, and was prepared to take them into its confidence. Strange are the consequences of adversity! But it was bound to come to this sooner or later.

The Council have had supreme control all along; at every annual meeting they have closed our mouths by telling us they were doing the best they possibly could, that no one else could do better, and that grumbling would do no good. From February to February no one knows what the Council are doing, or what the society is doing. The world in general has forgotten that there is such a thing as a central society, leading, dominating, developing the horticultural work of the nation. And why? Because the Council and the Fellows do not co-operate and the Council itself is not sufficiently representative. At least I believe it is not, judging from the names that are brought forward for election or re-election year by year. But, in common, probably, with two-thirds of our body, I neither know how many Fellows constitute the Council nor who they are. I cannot but feel that if we had had a fair proportion of really business men in our governing body, whether nurserymen or amateurs, we should not have been in the inglorious position we are now. That position has been brought about by a lack of energy, enterprise, and speculation—without which no going concern can hope to prosper. I am no "find-fault" for grumbling's sake. I sought admission to the society because I regarded it as the leading exponent and the fostering parent of the science in which I am most deeply, although not pecuniarily, interested; and, regarding my fellowship with pride, I have ever sought to advance the interests of the society. That my humble efforts were appreciated by the Council I have had practical assurance. But, beyond the fact that I have subscribed towards some excellent scientific work at Chiswick, what honour or privilege have I derived from membership in a society that is everywhere lightly esteemed, and whose trumpeter has been dead long since? I ventured to make two practical suggestions at the annual meeting—one of which was misunderstood, while the other appeared to meet with approval. The president alluded to small dairy and poultry farming as not within the province of the society; but I pointed out that it would be quite within the scope of the society to show how land at present out of cultivation because purely agricultural processes had proved unremunerative might be utilized for horticultural purposes. Surely the extension of the practice of horticulture is, or ought to be, one of the objects of the society; and no better opportunity than the present is likely to occur for the society to draw public attention to its existence and its work by showing how some of the thousands of pounds sent abroad for flowers, fruits, or vegetables, might be circulated at home. I also suggested that we ought to have a monthly business meeting at which the Council and Fellows might meet for conference, or at which papers might be read and discussions held, and at which, in the summer months at least, a report from Chiswick might be submitted. I am afraid the length of this communication has already put it out of court; but, referring to Chiswick, I cannot help thinking the proposal to make a collection of hollies is unwise, as being both wasteful and unnecessary. Planting hollies is something like planting pears, and our "bit o' ground" at Chiswick is too valuable to let any of it lie idle for years. There is not too much variety there at present; and there are scores of florist's flowers, hardy and half-hardy annuals, plants with variegated or ornamental foliage, &c., &c., collections of which would be more useful and better appreciated than hollies. What, for instance, would be more interesting or pleasing to the eye than a collection of variegated plants and shrubs?

E. Ranger Johnson.

PRIZES FOR CHRYSANTHEMUMS.

In reference to the announcement made in your last issue of the promise of a silver cup and medal to be presented for competition at the 1877 Exhibition of the National Chrysanthemum Society by M. Simon Delaux fils aine, of Toulouse, sole proprietor and founder of the old established and famous house known until recently as Delaux and Son, but which he now carries on in his own name, M. Delaux wishes me to state to chrysanthemum growers that he would most willingly have presented these prizes for competition at the current year's exhibition but for the deep mourning into which he has been plunged by the deaths within a few days of each other of his mother and brother. As the above prizes were promised solely on my suggestion and representation to M. Delaux, and communicated by me to the National Chrysanthemum Society, from whose popular honorary secretary I received a letter of thanks, I feel that it is my duty to have the matter put correctly before the public.

William Clark.

Hornsey, N., Feb. 15, 1886.

TRADE CATALOGUES.

T. S. Ware, Hale Farm Nurseries, Tottenham.—*Choice Hardy Perennials—Hardy Florists' Flowers—Chrysanthemums—Climbing, Creeping, and Trailing Plants.*

Max Deegen, Kostritz, Thuringen.—*Dahlias, Gladioli, Roses, &c.*

Gebrüder Ketten, Luxembourg.—*New Roses for* 1866.

Sutton and Sons, Reading.—*Farmer's Year Book and Grazier's Manual.*

Osman and Co., 14, Windsor Street, Bishopsgate.—*Nurserymen's and Florists' Sundries.*

Robert Owen, Castle Hill, Maidenhead.—*Tuberous Begonias, Chrysanthemums, &c.*

Webb and Sons, Wordsley, Stourbridge.—*Farm Seeds.*

Field Names will be treated of in a series of articles by Rev. J. C. Atkinson, in the *Antiquary*.

Replies to Queries.

J. W. W. Chelston.—Morryweather's Red Rubber hose.

Fancy Pansies.—"Constant Reader" cannot do better than select according to the list in the *Garden Oracle*. The following are thirty-six showy pansies of the finest quality:—Mary Tate (Laird and Sons), W. Cuthbertson (Dobbie), Catherine Agnes (Dobbie), Miss Bliss (Downie and Laird), Evelyn Bruce (McComb), James Gardner (Downie and Laird), Mrs. Findlay (Samson), Mrs. T. McComb (McComb), Mrs. Jamieson (Downie and Laird), Mrs. G. P. Frame (Weir), Bob Montgomery (Paul), Craigforth (Brodie), Endymion (W. Dickson), Miss J. Orkney (Dobbie), Mrs. W. Stewart (Stewart), David Saunders (Paul), John Gold (Weir), Agnes Mitchell (Paul), Mrs. J. Stewart (Paul), Mrs. J. Downie (Sutherland), Mrs. Goodwin (Dobbie), Mrs. Storrie (Paul), Charlie Stansell (Stansell), Perfection (Dickson and Co.), Mrs. Barrie (Downie and Laird), Ruby (Laird and Sons), Mrs. Forrester (Downie and Laird), David Wallace (Stewart), Earl Beaconsfield (Samson), Mrs. Duncan (Robertson), Bessie Stewart (Paul), Maggie Wier (Frew), Mrs. Sword (Sutherland), Flora's Gem (Matheson), A. Macmillan (Dobbie), Robert Goodwin (Dobbie).

Gardening in Bengal.—Rash Behery Roy asks for aid in the placing of various vegetables and flowers in his garden at Serampore. We shall reply to the queries in the order in which they appear in the letter, and if any of our readers can add to our advices or correct them in any way we shall be glad of such help. 1.—Seeds of larkspur have been obtained from several English houses, but none have succeeded. "How can they be obtained in Bengal?" The houses named in the letter are of the highest reputation, and we cannot hope to succeed where they have failed. But we will suggest that small seeds—and, indeed, seeds generally when sent on long journeys—should be in linen bags, and these bags should be suspended within strong boxes with bars across to separate the bags, and marked "This side up." We have often seen seeds make good plants after a journey this fashion, when close packing entirely failed. They should be sent as soon as ripe in the autumn, and not in the spring. 2.—Name suitable potatoes for this part. In most parts of Bengal the soil is thin and sandy; potatoes require a deep soil, and should be grown in the cold season, the summer of Bengal being too hot for them, generally speaking, and the rains that follow the hot season are too copious for the plant. The supply from England should be arranged for so that the potatoes may be packed in barrels direct from the field. Probably the American varieties, such as Early Rose, Beauty of Hebron, and Snowflake would answer as well as any; but a few others might be tried with a prospect of success—such as Old Ashleaf, Regent, Midsummer Kidney, Cosmopolitan, and Sukreta. Plant in October, without manure. The supply should, if possible, be dug here in August at the latest, for the tubers will not sprout until they have had a season of rest. 3.—Tuberous begonias should succeed in the cool season, but in June and July the dry heat would probably bring them to a stop. 4.—Double violets are propagated by divisions or cuttings, and therefore you must obtain plants to begin with. 5.—Is the rose Her Majesty in commerce? Yes, it is in the hands of Messrs. W. Paul and Son, Waltham Cross, near London, and can be sent out without difficulty. In all cases where seeds and plants are ordered for India the merchants should be left free to choose the time as well as the manner of sending.

Markets.

COVENT GARDEN.

Fruit.		
Apples ... per ½-sieve	2s. 0d. to 3s. 0d.	
Apples, American, per bar.	10s. 6d.	,,15s. 0d.
Cobs, Kent ... per 100 lbs.	25s. 0d.	,,31s. 6d.
Grapes ... per lb.	1s. 6d.	,, 4s. 6d.
Lemons ... per case	8s. 0d.	,,10s. 0d.
Pears, Dessert ... per doz.	1s. 6d.	,, 2s. 6d.
Pine-apples, English, per lb.	1s. 0d.	,, 1s. 6d.
Pine-apples, St. Michaels, each	3s. 6d.	,, 7s. 6d.
Vegetables.		
Artichokes, Globe, per dz.	3s. 0d.	,, 4s. 6d
Asparagus, English, per 100	7s. 0d.	,, 9s. 0d.
Asparagus, French, per bun.	7s. 6d.	,,20s. 0d.
Beans, French ... per lb.	1s. 0d.	,, 1s. 6d.
Beet ... per doz.	1s. 0d.	,, 2s. 0d.
Broccoli Sprouts per bush	2s. 6d.	,, 3s. 6d.
Brussels Sprouts ... per lb.	0s. 3d.	,, 0s. 4d.
Carrots ... per bun.	0s. 4d.	,, 0s. 6d.
Cauliflowers ... per doz.	2s. 6d.	,, 3s 6d.
Celery ... per bun.	1s. 6d.	,, 2s. 6d.
Coleworts, per doz. bunch.	3s. 0d.	,, 6s. 0d.
Cucumbers ... each	1s. 0d.	,, 1s. 6d.
Endive ... per doz.	1s. 0d.	,, 2s. 0d.
Garlic ... per lb.	0s. 4d.	,, 0s. 6d.
Herbs ... per bunch	0s. 3d.	,, 0s. 4d.
Horse-radish ... per bun.	3s. 0d.	,, 4s. 0d.
Lettuces, Cabbage, per doz.	1s. 0d.	,, 2s. 0d.
Leeks ... per bun.	0s. 3d.	,, 0s. 4d.
Mint, Green ... per bun.	1s. 0d.	,, 1s. 6d.
Mushrooms ... per basket	1s. 0d.	,, 1s. 6d.
Onions ... per bushel	3s. 0d.	,, 4s. 6d.
Onions ... per bunch	0s. 4d.	,, 0s. 6d.
Parsley ... per bun.	0s. 3d.	,, 0s. 4d.
Parsnips ... per doz.	1s. 0d.	,, 1s. 3d.
Radishes ... per doz. bunch	1s. 0d.	,, 2s. 0d.
Rhubarb ... per bun.	0s. 0d	,, 0s. 8d.
Salsify ... per bun.	0s. 8d.	,, 1s. 0d.
Savoys ... per doz.	1s. 6d.	,, 2s. 0d.
Seakale ... per bun.	1s. 6d.	,, 2s. 0d.
Scorzonera ... per bun.	0s. 9d.	,, 1s. 0d.
Shallots ... per lb.	0s. 3d.	,, 0s. 9d.
Small Salading ... per pun.	0s. 3d.	,, 0s. 4d.
Spinach ... per bushel	4s. 0d.	,, 5s. 0d.

Vegetables—*continued.*

Tomatoes ... per lb.	1s. 0d.	,, 2s. 0d.
Turnips ... per bunch	0s. 4d.	,, 0s. 6d.
Cut Flowers.		
Abutilons ... per doz. bun.	2s. 0d. to	3s. 0d.
Acacia, French ... per bun.	0s. 6d.	,, 1s. 0d.
Azaleas ... per doz. sprays	1s. 0d.	,, 1s. 0d.
Bouvardias ... per bunch	0s. 6d.	,, 1s. 0d.
Callas ... per doz.	4s. 0d.	,, 6s. 0d.
Camellias, per doz. blooms	2s. 0d.	,, 4s. 0d.
Carnations, per doz. blms.	1s 0d.	,, 2s. 6d.
Cyclamens, per doz. blms.	0s. 4d.	,, 0s. 6d.
Daffodils ... per bun.	1s. 0d.	,, 2s. 0d.
Eucharis, per doz. blooms	4s. 0d.	,, 6s. 0d.
Gardenias, per doz. blooms	12s. 0d.	,,30s. 0d.
Heliotropes, per doz. sprays	0s. 0d.	,, 0s. 8d.
Hyacinths, Roman, per doz. sprays	0s. 9d.	,, 1s. 0d.
Lilac, French ... per bun.	2s. 6d.	,, 5s. 0d.
Lily of the Valley, per doz. sprays	0s. 9d.	,, 1s. 6d.
Marguerites, per doz. bun.	3s. 6d.	,, 8s. 0d.
Mignonette, per doz. bun.	4s. 0d.	,, 6s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 9d.	,, 1s. 0d.
Primulas, Double, per bun.	1s. 0d.	,, 1s. 6d.
Primulas, Single, per bun.	0s. 6d.	,, 0s. 8d.
Roses ... per doz. blms.	2s. 0d.	,, 3s. 0d.
Roses, Tea ... per doz. blms.	1s. 0d.	,, 1s. 0d.
Snowdrops ... per doz. bun.	2s. 0d.	,, 4s. 0d.
Tropæolum ... per doz. bun.	2s. 0d.	,, 3s. 0d.
Tuberoses ... per doz.	2s. 0d.	,, 2s. 6d.
Tulips ... per doz. blooms	0s. 9d.	,, 1s. 0d.
Violets ... per doz. bun.	1s. 0d.	,, 1s. 3d.
Violets, de Parme, per bun.	4s. 0d.	,, 5s. 0d.
Violets, Czar ... per bun.	1s. 0d.	,, 2s. 0d.

BOROUGH AND SPITALFIELDS.

Potatoes.		
Regents ... per ton	70s. to	100s.
Magnum Bonum ... per ton	65s.	,, 90s.
Scotch Champion ... per ton	50s.	,, 65s.
Victorias ... per ton	70s.	,, 80s.

Allotments in Yorkshire.—On Sir George Wombwell's estates in Yorkshire, which comprise over 13,000 acres, many of the cottages in the important villages have three acres of grass lot with them—some have more—and to every cottage is attached a cow-house, piggery, and garden of good size adjoining the cottage. The rent of cottage and garden is £4 to £5, and for a cowgate of three acres £6. The present system of allotments on this estate has been in existence more than fifty years; and the present owner increases the number of those holdings at every opportunity, as in practice they answer well.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. temp. avrg. of 10 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
7	S	**Quinquagesimæ. Shrove Sunday.**	6 36	11 10	5 48	7 15	7 38	2 59	3 14	0 10	0 24	41·6	Angræcum falcatum	Madagascar.	66
8	M	Duke of Bridgewater died, 1804.	6 34	10 55	5 50	7 40	8 43	3 29	3 45	0 39	0 54	41·7	Cattleya amethystoglossa	Brazil.	67
9	Tu	Fire Insurance due.	6 31	10 40	5 51	8 5	9 50	4 1	4 16	1 10	1 26	41·8	Cœlogyne cristata	Sylhet.	68
10	W	*Ash Wednesday.* P. of Wales married, 1863.	6 28	10 25	5 53	8 33	10 55	4 33	4 51	1 41	1 58	42·0	Cypripedium Hookeræ	Borneo.	69
11	Th	Income Tax imposed, 1842.	6 26	10 9	5 55	9 5	Morn.	5 6	5 23	2 16	2 31	42·1	Dendrobium Findleyanum	Cochin-China.	70
12	F	*St. Gregory.* [covered, 1781.	6 23	9 53	5 57	9 42	0 4	5 41	6 2	2 48	3 6	42·2	Masdevallia iguea	Colombia.	71
13	S	☽ First Quarter, 1h. 17m. after. Uranus dis-	6 21	9 36	5 58	10 28	1 9	6 26	6 49	3 27	3 51	42·3	Odontoglossum triumphans	Ocana.	72

ROYAL BOTANIC SOCIETY GARDENS, REGENT'S PARK.
EXHIBITION OF SPRING FLOWERS.
The first Exhibition of the Season will take place on WEDNESDAY, March 24. Schedules of Prizes now ready.
The dates of the SUMMER EXHIBITIONS are WEDNESDAYS, May 19 and June 9. Schedules of Prizes now ready.

ROYAL BOTANIC SOCIETY GARDENS, REGENT'S PARK.
VEITCH PRIZES FOR AMARYLLIS.
The Prizes offered for Amaryllis on March 24 are only open to Amateurs and Amateur Gardeners, not to the Trade.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.
NOTICE.—COMMITTEE MEETINGS, Fruit and Floral, at Eleven a.m., in the Conservatory; Scientific at One p.m., in the Lindley Library, on TUESDAY next, March 9.
Promenade and Band from Half-past Three o'clock p.m. Admission 2s. 6d.
N.B.—Entrance for Fellows and the Public North-east Orchid House, Exhibition Road; and Exhibitors' Entrance, West side of Royal Albert Hall.

ROYAL AQUARIUM, WESTMINSTER. — HORTICULTURAL EXHIBITIONS.—Great Exhibition of Hyacinths, &c., Market Plants, and Cut Daffodils, on March 30 and 31; Great Artistic Rose Show, on June 25 and 26; Great Strawberry Exhibition and Fête, on July 2 and 3; Great Display of Table Decorations, Bouquets, &c., on August 20 and 21. Liberal prizes are offered. Schedules of Prizes on application to Mr. Richard Dean, Superintendent of the Exhibitions, Ranelagh Road, Ealing.

CRYSTAL PALACE SPRING FLOWER SHOW, March 26 and 27. —Schedules of this and other Flower and Fruit Shows during 1886 to be had on application to Mr. W. G. Head, Garden Superintendent, Crystal Palace, S.E.

BATH BULB SHOW, WEDNESDAY and THURSDAY, 24th and 25th March.—18 Hyacinths, open, £3 first, £2 second, £1 third; 12 Hyacinths, amateurs, £2 first, £1 second; 6 Orchids (distinct), open, £3 first, £1 10s. second; and several other classes for Plants, Cut Flowers, Fruit, and Vegetables; 49 classes in all. For Prize Schedules apply to Benjamin Pearson, Secretary, 14, Milsom Street, Bath.

Auction Sales for the Ensuing Week.

Wednesday, March 10.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Japanese Lilies and Iris, Roses, Plants and Bulbs.
Friday, March 12.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
Monday, March 8.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Lilium Auratum from Japan, &c.
Wednesday and Saturday, March 10 and 13.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, Border Plants, Shrubs, &c.
Thursday, March 11.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

THE GARDEN ORACLE for 1886 is on the same plan as former issues, the present being the twenty-eighth publication of this work. It contains complete lists of the New Plants, New Flowers, and New Fruits, and a Complete List of the New Parliament.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.
Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.
ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, MARCH 6, 1886.

A Late Spring is assured to us—whether for our ultimate good or harm time alone can show. An early spring frequently interrupted by recurring frost is less to be desired than a season of later growth free from any such interruption. This consideration encourages contentment in such a case as the present; for the common calamity of the spring is the destruction of early growth by untimely renewals of winter weather. An early spring free from the customary checks would always prove the best; and it is only when this happy combination of a long growing time with a sufficiently sustained temperature occurs that we have a generally fruitful season. We now know in part what is before us. We cannot influence the primary conditions, but the secondary conditions are, in some degree, under our control, and our duty is to make the best of our opportunities. To gain time in outdoor work is now a matter of the highest importance, for many operations have been delayed by frost; and when Nature renews her invitations to activity, it will in many cases be found difficult to recover arrears.

We know in part what is in store for us; and the knowledge may be rendered useful. Things may improve quickly, and they are likely to do so, for the sun is rising high in the heavens and may be enabled to assert his power. But the case may grow worse, for even that is possible. We have had a somewhat dry winter, for the heavy snowfalls have not made up the total of the humidity proper to the past three months. When February runs out with conditions approaching to a drought, a cold wet spring to follow is brought—perhaps remotely—into the category of probabilities. The "fill-dyke" month has failed to justify its name. But no one should be influenced by such considerations save in the direction of making the best of every opportunity, and the prudent ones will push on the work in such a way as to gain the utmost possible from every ray of sunshine, and lose the least possible by every blast of the east wind and every snow shower and sudden frost. There is one large grain of comfort in the case: it is that vegetation has suffered but little from the prolonged and particularly unpleasant winter that we believe to be now passing away. There are losses to be recorded; but however in many instances they may affect the fortunes of individuals, they amount to but little in the aggregate. The winter wheats look poor where the farming is slovenly, but on well-tilled land they are healthy and sufficiently forward for the time of year, The frost has not much interrupted ground work, and those who are in arrear in that respect will have to blame themselves much more than the season. The general condition of fruit trees is satisfactory, and all kinds of early moving herbage are indicating a readiness to move immediately on the much-needed rise of the temperature. As for outdoor flowers there are none; the snowdrops began to flower at the usual time, and have suffered nothing. The hellebores began also and have been much injured even to the unopened buds just rising to be ready. The southern and western counties, that are usually spared by the kind of winter that makes desolation from London northward, have had to endure a slight pinch—sufficient, at all events, to prevent any loud jubilations; but the western broccolis and such-like crops have been scarcely touched, and the men who supply the great northern cities have had the advantage of a good market. The British gardener may now look for busy times, and may be counselled to combine diligence with caution. Let every man who would succeed in life act upon the good old rule 'Trust in God, but keep your powder dry."

Taunton Gardeners' Association Chrysanthemum, Primula, and Fruit Show will be held Thursday, November 18.

New Guinea will be newly illustrated in a work on the subject by Mr. Hugh H. Romilly, to be published by Mr. Murray.

Geographical Appliances are illustrated in an exhibition at Manchester in connection with Owens College.

An Exhibition of the Pictures Painted by Mr. Holman Hunt will shortly be opened in London.

Messrs. Lucombe, Pince and Co. will plant the Belmont Pleasure Ground for the Exeter Town Council.

Richmond Horticultural Society will hold its summer exhibition July 7, and chrysanthemum show November 11 and 12.

Mr. John Rees has received charge of the gardens of Llanover Park, Monmouthshire, the seat of Lady Llanover.

Mr. H. Cawte, of the Frame Ground, Kensington Gardens, has been engaged as gardener by Captain Jeykell, Oakdene, Guildford.

Cœlogyne cristata alba is evidently not declining in popularity, for a plant consisting of about twelve pseudo-bulbs was sold the other day at Messrs. Protheroe and Morris's Rooms for sixty guineas.

Bedford Park Gardening Society.—At the monthly meeting, to be held on the 13th inst., a paper on orchids will be read by Mr. E. Cook.

Jensen Fish Manure has passed into the hands of a limited company, under the title Jensen and Company; the offices are at 10, St. Helen's Place, London.

Mr. J. Udale, eleven years gardener at Shireclifff Hall, Sheffield, has taken charge of the gardens of Howard F. Paget, Esq., Elford Hall, Tamworth.

Observations Concerning Seedling Plants formed the subject of a highly interesting communication read by Sir John Lubbock, at the meeting of the Linnean Society, on Thursday last.

Mr. A. McIntyre, late of Victoria Park, has commenced business as a landscape gardener. His address is 115, Listria Park, Stamford Hill.

Horticultural Club Monthly Dinner will take place at 1, Henrietta Street, Covent Garden, on Tuesday next. The conversazione will be opened by Mr. Shirley Hibberd; the subject is the Preservation of the British Flora.

Special Prizes for Vegetables will, as for several years past, be offered for competition by Messrs. Sutton and Sons and Messrs. Webb and Sons at the November exhibition of the National Chrysanthemum Society.

Mr. Charles Noble, of Bagshot, has retired from business in consequence of ill-health, and offers for sale his freehold estate of fifty acres, with the grand collection of trees and shrubs that tell of his many years' devotion to horticulture.

Lightning appears to be increasingly destructive in all large centres of populations. Dr. P. Andries, writing on the subject in Petermann's *Mitteilungen*, attributes this to the increased impurities of the atmosphere, the impurities serving to conduct the electric energy to salient points, such as towers, chimneys, &c.

Oxford Rose Society.—The annual exhibition for 1886 will be held on Thursday, July 8. The schedule of prizes contains eleven classes "open to all England," and ten classes limited to the competition of amateur members. The numbers range from forty-eight trebles to one bloom, the prize money varying from £7 to 5s.

Manchester National Horticultural Exhibition, to be held, as usual, at Old Trafford, June 11 to 18, will be on the good old plan, but the schedule (now in course of distribution) contains a few interesting entries. There are classes for ranunculi, ixias, and hardy herbaceous plants, anemones, and pansies, in addition to the subjects common to all great exhibitions.

"Wesley and Son's Book Circular, No. 71," contains prices of important works in botany, horticulture, and geography. We note, as attractive, such entries as Bentham and Hooker's "Genera Plantarum," Darwin's "Botanic Garden," Hibberd's monograph on the Ivy, Linnæan Society Transactions, Masters's "Vegetable Teratology," Maund's "Botanic Garden," Parkinson's "Theater," &c.

The New Comets referred to in our issue for the 13th ult. are fast approaching the range of ordinary vision, and will appear in the western sky from the third week of April until the middle of May, when, probably, they will disappear. They will be respectively known as Barnard's and Fabry's from the names of their discoverers. The first will be in the constellation Andromeda, and the second in that of Perseus.

The Physical Characters of Clouds obtain the special attention of practical meteorologists. At a recent meeting of the Meteorological Society, Captain Toynbee said that clouds of less than 2,000 feet in thickness are not often accompanied by rain; and if they are, it is only very gentle, consisting of minute drops. With a thickness of between 2,000 and 4,000 feet the size of the drops are moderate. As the thickness gets greater the size of the drops increases, and at the same time their temperature becomes lower, until, when the thickness is upwards of 6,000 feet, hail is produced.

The Weather has cruelly justified our expectations; we have had discomfort of a mixed kind with easterly winds, a moderate amount of snow in the eastern counties, and an immoderate amount in the west and over a great part of the midlands. There appears no present prospect of genial spring weather, but a brief respite from the bitter east winds may be looked for as the week advances. The general run of events will probably be the mixture as before. The month we have just parted with is declared by Mr. G. J. Symons to have been the coldest February for at least twenty-seven years.

Royal Gardens, Kew.—The Lords of the Treasury have decided that the gardeners employed in the houses shall receive sick pay for a period not exceeding three months when attacked by illness due to the nature of their employment. The men employed in the outdoor department do not receive sick pay unless injured in the performance of their duties, until they have completed three years' service, which is a manifest hardship in the case of the young men not employed under glass, as they are practically debarred by the rule from receiving pay when ill.

The Gardeners Employed in R.H.S. gardens at Chiswick were entertained at a supper by invitation of the Committees on the evening of Friday, February 26, at the Bolton Hotel, Chiswick. A party of thirty mustered in response to the invitation, and a substantial meal was heartily enjoyed. The chair was admirably occupied by Dr. Robert Hogg, who has been associated with the Chiswick gardens for about fifty years, and he was well supported by Dr. Masters, F.R.S, and Mr. A. F. Barron, the gardener in chief. The vice-chair was filled by Mr. Shirley Hibberd, who was supported by Messrs. Thompson and Summers. The after-supper entertainment consisted of short and pithy speeches, songs, recitations, and musical interludes, and the flight of time was softened as pleasure plucked the feathers from his wing.

The Fire in Covent Garden has so slightly affected Messrs. W. Hicatt and Son that they are enabled to carry on business as usual.

Gardening Appointments have recently been made as under, through Messrs. J. Laing and Co: Mr. Frankis as gardener to Mrs. Grummont, Hatcham Grove House, Kent; Mr. Hawkes as gardener to Mrs. Williams, Padwell, Richmond; Mr. Hutton as gardener to E. de la Reuha, Esq., Grove House, Clapham; and Mr. Johnson as gardener to Arthur Bray, Esq., Bickley Park, Kent.

Cattleya Lawrenciana, a recently-introduced species of great beauty, is now flowering in Messrs. J. Laing and Co.'s collection at Forest Hill. There are two plants in bloom, one of which has a spike of three flowers, and the other two spikes. The flowers are of medium size, the sepals and petals bright purple-lilac, and the labellum dark purple marked with deep yellow.

Narcissus Committee of R.H.S. will meet at South Kensington on Tuesdays, March 23, April 13, and April 27, on each occasion at 11 a.m., for preliminary conference, and again at 1.30 p.m. for examination of specimens and discussion of selected questions. Specimens sent for examination should arrive at South Kensington not later than the Monday preceding the day of the meeting. They should be addressed to the Royal Horticultural Society, Narcissus Committee, and each specimen should bear a label with the name of sender, and if needful a number or some other mark for the purpose of distinguishing the flowers when several of them are forwarded together.

The Death of Professor E. Morren, of Liége, will stir the sympathies of the botanical world in a more than ordinary degree, for no man of equal rank in science has shown a more genial humanity, or entered more heartily into the aims and objects of modern enterprise. At the international exhibition at Amsterdam a few years since, and in the great affair of similar purport at Antwerp last year, his administrative tact and accommodating spirit were most advantageously shown in the furtherance alike of science and human fellowship. To him the botanical world has long been looking for a complete revision of bromeliaceous plants, of which he possessed an extensive collection, and from which he frequently selected for his admirable illustrations in *La Belgique Horticole*.

Primula Conference will be held at South Kensington Tuesday and Wednesday, April 20 and 21. The programme was given in full in our issue for October 10, 1885. It will be sufficient by way of reminder, therefore, and for the posting-up of engagements by all concerned, to recapitulate in brief—Tuesday, April 21, exhibition of southern section of the National Auricula Society and of Primulas generally; Wednesday, April 22, reading of papers and discussions thereon. Mr. Shirley Hibberd will read a paper on the "Origin and History of the Florist's Auricula;" Mr. Samuel Barlow will treat of the Improvement of Florist's Primulas; Mr. J. G. Baker will discourse on Nomenclature of Primulas; and Dr. Masters will propose a new key to the cultivation of primulas.

GERMINATION OF SEEDS.

In the Gardeners' Magazine of February 20, page 109, occurs a very interesting note from Mr. J. C. Clarke on the germination of seeds. I do not know that I can give so old and intelligent an observer much information on the matter, but I have some experience bearing on the point. Last year I had several bunches of seed pods of Chionodoxa Luciliæ that were tied up and supported about six inches above the soil. The greater part of the seed was dispersed by the action of the sun and wind, much to my annoyance, before I thought it had attained maturity. The remainder was gathered and sown immediately afterwards, but I do not expect to see the seedlings for two or three weeks yet—for reasons which I shall briefly explain. For many years past I have annually sown about half a-pint of seed which I know to be of excellent quality, because it is saved from flowers in my garden. Some years the seed will come up at the proper time; in others a part only will germinate; and sometimes the seedlings will not make their appearance until the second year, when the seed invariably germinates. I set myself the task of endeavouring to discover the cause of this uncertainty, other than a very dry season. As the result of my observations, I find that seeds which are dispersed by the heat of the sun cannot be kept dry and out of the ground very long without having their power of germinating quickly materially weakened. The seed must be sown at once, or be mixed with soil and placed where the air can be excluded from it. When this is done there is no danger of its germinating before the proper time. But, doubtless, some readers will be inclined to ask, When is the proper time? According to my observations the natural time for the germination of the seed is when the bulbs of the same species begin to make new roots. The seed will usually vegetate about that time, or a trifle later, but not before; and the case of Milla biflora mentioned by Mr. Clarke is a proof of this. The season of rest of the bulbs of the Milla and Triteleia uniflora is very short, and if a genial rain comes about the middle of August they commence to make new roots, when the seed also that is sown will germinate. I have had more than once bulbs of the triteleia lie dormant until the second year, and then everyone has started and grown most vigorously. I have by me a pot full of bulbs of the English iris raised from seed sown four years ago. Not one seed vegetated the first year, and as a sedum was grown in the pot the iris seed was forgotten. The second year, to my great surprise, the seedling iris pushed through the sedums in great numbers, and the pot is full of bulbs, as it was sown very thick.

Ormesby House, Sutton, Surrey. W. Thurtell.

WINDFLOWERS.

On every well-appointed rockery space should be found for a few Anemones. All of them are beautiful, some more so than others; while we are not without those capable of making a brilliant display, such as the showy Poppy Anemones. As is well known to all interested in flowers, some are natives of Britain, and one of the most pleasing of those indigenous to our own isle is the Pasque flower, *Anemone Pulsatilla*. This commences to bloom in April, and bears large flowers of a purple colour. On my rockery this sweet wilding has a warm nook, where the soil is deep and well drained. As the plants are sheltered from the blustering east winds which generally prevail—much to our discomfort—at this season, they bloom earlier than if in a more exposed position. But the anemone before us is not the only native species that deserves a corner.

Wood Anemone, known as *Anemone nemorosa*, is a wilding of great beauty, and there are several varieties that claim a place in the garden. As I have a rather large rockery, I am able to apportion a considerable space to this class; and I do not fail to grow the varieties of the species under notice. They possess a modest kind of beauty, which I admire greatly; and there is one, named *A. nemorosa cœrulea*, without a doubt the finest of all. This has flowers of a sky-blue colour, and borne on stalks from nine to twelve inches in height. *A. nemorosa plena* is a variety bearing double flowers, of fine form and pure white. These two are the most pleasing, but a cultivator of anemones must not leave out the common wild form, known as *A. nemorosa*, which bespangles our woods with its white flowers during this month and next. I have a small circular bed in a sheltered part of the garden which I devote entirely to this species, and the effect when the plants are in full flower is very pleasing.

At a little distance from the bed of nemorosa, I have another which is filled with the scarlet anemone, *A. fulgens*, one of the most showy of spring-flowering plants. The soil is of a rich loamy character, and when the plants commence blooming I cover them with handlights, or an old frame light, if frosty or wet weather should prevail. The flowers are brilliant scarlet in colour, and are most useful for cutting purposes, as, although very showy, they are devoid of coarseness.

Blue Winter Anemone.—This is *Anemone blanda*. It deserves cultivation, as the flowers are not only of surpassing beauty, but they appear very early in the spring. This I do not grow largely, but I have a few clumps here and there on the rockery, and they appear to thrive exceedingly well in ordinary soil provided it is well drained.

Cyclamen-leaved Windflower is otherwise known as *Anemone palmata*. It is indispensable in even a small collection, for the flowers are bright yellow, and of comparatively large size. I have found it rather fastidious, and can never get it to succeed well in the open border, although the soil is fairly good. On the rockery, however, I have it in perfection, and provide for it a sheltered nook, where the soil is light loam and of considerable depth. Besides the foregoing species, we have a pure white variety named *A. palmata alba*, which claims a place in the garden. This is of a hardier constitution than the type, and it can be grown with a fair measure of success in the open border provided everything is right as regards soil and situation.

Alpine Windflower.—*A. alpina* does not find so much favour as the others, but I shall not pass it by without word of comment. It is well adapted for planting in the border, and makes a useful subject for a bed. It is hardy, and of vigorous growth, and succeeds in almost any ordinary garden soil. The flowers are large, cream-coloured inside, and of a purplish hue outside, and the leaves are much divided.

Snowdrop Anemone.—The beautiful *A. sylvestris* is a native of Siberia. It attains a height of fifteen inches, and produces pure white flowers of pleasing appearance. As it is not fastidious, it is well adapted for the amateur who appreciates this class of plants but has not the money to spare for cultivating the choicer and more delicate kinds. I planted it at first on a sunny bank, where the soil was dry and poor, to give it a trial, as I was told it was not very particular as to the position in which it was planted. But I made a mistake, for it never did much good, so I changed the quarters of the plants, and put them in a rather sheltered and moist position. Here they throve exceedingly well, and have repaid me for the trouble I expended upon them.

Now comes the Apennine Anemone, *A. apennina*, a species from Southern Europe, which boasts of great beauty, and being very easily cultivated, it is not surprising that it has become popular. I have planted it in plenty on the rockery and on the border, and also devote a small bed to it. It is really worth growing, and has large flowers of a lovely sky-blue colour. When the weather is mild it commences to bloom in February; but, owing to the cold and unfavourable weather which we experienced during that month, mine are not yet out. Besides the type, I grow the white variety, *A. apennina alba*, which is very floriferous, and associates well with the typical form.

Japan Anemones every lover of hardy plants should be well acquainted with, for they bloom during the autumn, when the border and rockery are shorn of their beauty and the beds have an untidy, bedraggled look. Then the Japanese anemones come in to cheer us, and most welcome are the flowers for decorations generally, but they are especially useful for making bouquets. The type, *A. japonica*, comes from Japan, and produces, on stalks of considerable length, rosy-coloured flowers. To this I devote a small bed; but the most useful, perhaps, is the white form, *A. japonica alba*, the flowers of which are very handsome and invaluable during the autumn months. This I grow in a sheltered part of the garden, where the soil is of good quality, being rich and moist. During the summer months I supply the plants liberally with water, for they are thirsty subjects, and liquid manure occasionally will do them no harm, but this is by no means essential.

Peacock Anemones, which may be found growing in the neighbourhood of Mentone, in the South of France, constitute a very showy growth. They are easily cultivated, flower early in the year, and are of various colours, the shades of rose, scarlet, and purple being the most common. The parent is *A. stellata*, sometimes catalogued as *A. hortensis*.

Poppy Anemones are extravagantly showy, and the parent is *A. coronaria*. Years ago this group was held in high esteem, and it is only within quite recent times that a love for them has returned. No doubt we shall soon see them in full favour again, and making the border gay with their splendid flowers. The latter are of all colours, and in shades of crimson, violet, and purple they are peculiarly rich and pleasing. For all ordinary purposes I have found the best time for planting them is from January to March. They will thrive in any good soil, and a well-kept sunny border will suit them perfectly. To ensure a suitable effect, it is well to plant the roots in clumps of five to seven in a space of about one foot in breadth. Clumps of this kind repeated in the second line of a border will present a fine appearance when the anemones are in flower. Three inches is the utmost depth at which they should be planted. When planted in November they are subject to injury by damp in the winter or by frost in the spring, but the rough and ready way of border culture and planting after the turn of the year simplifies the business, and brings these anemones into the category of the cheapest flowers known to our gardens.

Propagating.—I will now say a word upon the methods of propagating the anemones. Raising them from seed is one way, and the seed of the majority of the kinds can be obtained at about sixpence a packet. It should be sown in February or March, in forty-eight sized pots, filled with a light compost. The pots must be carefully crocked and the seed sown thinly. If a gentle hotbed is at command place the pots on it; but if not, the seeds will germinate readily in a greenhouse or even in a cold frame. When the young plants appear give air with caution, but it is well not to keep them too close, or they will become drawn up and weakly. When they are sufficiently large to handle prick them off into pans or transfer them singly to small pots. They will be ready for planting out in September if the management has been satisfactory, and put them three inches deep. The poppy anemone I have recommended to be planted after the turn of the year, but when very early flowers are desired the planting may be done in the autumn. Division of the roots is another method. This should be done in the autumn and spring. Those that flower early in the year should be divided in the autumn, September being perhaps the best month; those that bloom late in the spring and during the autumn may be divided in February or March, when commencing to make new growth.

C.

AN AMATEUR'S DIFFICULTIES.—II.

As a young beginner in the art of floriculture, I was startled when I came to the consideration of manure. Polite society disdains the dreadful subject. Poets write excellent floral verses, but they never mention it. Indeed, I can recall the time when I always spoke of it as "ordure," this being a refined term to be found in Shakespeare. However, when I first applied manure to my plants I was astonished. I had studied astronomy and found that a comet's tail, millions of miles long, was of such extreme rarefaction that it could be put into a flower-pot; I had gone into metaphysics and nearly worried myself to death to find out why I was alive; I had glanced at the evolutionary theory and discovered that a miserable little kind of extinct seaweed was the original ancestor of all plant-life; from the science of optics I had learnt that there is really no greenness in the grass nor redness in the rose, colour being only a sensation; in addition, I had worked hard to understand the social hypocrisies in this cunning world of "How-do-you-do." Yet when I came to the study of manure, I felt a new philosophy dawn upon me. I appreciated the fact that nothing in nature is vile save the sins and trickeries of humanity. It was the arrogance of man that invented the word "rubbish." Can we not remember how Victor Hugo, in a passage of fiery rhetoric, sings the praises of "golden dung"?

But this is a digression at the very outset of an article. Let us consider manure from an amateur gardener's point of view. The application of stimulants to plants in pots is a gentle mania with some people. Manure invigorates vegetation; therefore the enthusiast thinks that his floral treasures cannot have too much of a good thing. At one time I was so convinced of the excellence of manure that I inflicted a perfect crusade of cow-dung on all my pots. I used to prepare composts consisting of three parts manure and the other part loam or leaf-mould. I watched the effect. The plants seemed happy; they grew vigorously; they put forth an abundance of leafage, but they obstinately refused to flower. Even if some few of them did flower, the blooms were a miserable exhibition. Thereupon I became philosophic; I recognised an analogy between the vegetable kingdom and the world of man. Just as too much manure causes a plant to become all leaf and no bloom, so luxury destroys the flower of humanity. Manure must be applied in moderate quantities to pot plants if you wish them to be a source of gratification to yourself. Such things as hyacinths and tulips will do well in a compost consisting of equal parts of manure and loam; but then you must be very careful of the watering. With most other plants it is advisable to restrict the quantity of manure to a third or a fourth part of the compost. Take the case of cuttings. Many people think that because a rich soil suits a full-grown plant the same luxury benefits a cutting. Therefore, when they strike chrysanthemums or geraniums, they use a well-manured soil. This is something like trying to nurture a babe on truffles or turtle soup. The cuttings grow, but they are rarely nice stocky specimens. If well watered, they are in such a hurry to grow that they may be said to

knock themselves up in the process. Chrysanthemum slips should always be struck in a light soil, consisting of loam and leaf-mould, so that they may grow slowly. Afterwards, during the successive repottings, the soil should be enriched gradually, and at the final potting in June a strong compost may be used. For this purpose I have found a mixture of well-crushed bones and fibrous loam most beneficial. Bones form a lasting manure, the goodness of which is not so soon washed away in watering as is the case with dung. Further, if they are thoroughly crushed into small pieces, they will keep the soil open and thus render an admixture of sand unnecessary. By this means valuable pot room is saved. Besides, as liquid manure is always given to the plants, it is well to let them have another sort of stimulant in the pots. But in regard to bones we should remember that those which have been boiled once or twice to form soup-stock have had the best part of the nutriment extracted from them.* In the case of climbing tropœolums or common nasturtiums no manure of any sort should be given, as their growth is so vigorous when artificially stimulated that they run to leaf and almost refuse to flower. Some scientific writers, when treating of the utilization of house-sewage, recommend coal ashes as a valuable accessory of manure. They cite the case of an experimentalist who grew strawberries and also wheat in pots containing nothing else but ashes; the strawberries furnished a fair crop of fruit and the wheat flourished. When I perused the account of this experiment it struck me that possibly coal ashes might be used in the pot-culture of plants so as to dispense with sand. The experienced florist will smile at my enthusiastic credulity when I tell that I carried out my idea. The tropœolum tuberosum—that prettily-tinted Peruvian tuber which fifty years or so ago some horticulturalists looked hopefully on as a possible rival to the blight-infested potato—was the unfortunate subject I selected for my experiment. I potted six tubers: three in a compost of loam and ashes; three in loam and cinders. Unhappy was the result. The things came up in a frame; it was too much for them; they were cradled in ashes and canopied in sackcloth to keep out the frost. They tried to live for a month or so, but then the leaves turned yellow and they slowly died.

The watering of plants was another of my difficulties. Yet how easy this operation seems. You have only to take a watering-pot and let it have a good cry over a regiment of geraniums, and the thing is done. Or, you go into your garden with a hose, wave the brass nozzle before you like a second-hand sceptre, and turn on the tap. A long attenuated tear comes forth from the hose; you allow it to weep for a few minutes over each flower-bed; you repeat the process every summer's eve, and feel glad in spirit to think of the good you are doing. But while it is very easy to water plants so as to produce a luxuriance of leaves, it is somewhat difficult to apply the can or hose so as to bring forth an abundance of flowers. Well I remember what a passion I had for the watering-pot in the beginning of my floricultural career. My garden was very small—just large enough for a snail to take an afternoon stroll in. Yet the daily deluge I administered to the place in the summer months must have made the neighbours think that I was descended from a family of cisterns, or was son-in-law to the Gulf Stream. Bedding plants had such a series of shower-baths that they became utterly reckless in the matter of leaves. Geraniums grew wonderfully; but, alas, it was not a case of "cometh up like a flower;" rather was it "cometh up as a cabbage." Each foxglove had such an diurnal cold douche down its spine that it aspired to be a tree.

After a time I learnt to water plants more judiciously. I began to appreciate the truism that an over-rich soil and a superfluity of water are not productive of flowers. Except with such things as fuchsias and begonias, it may be taken as a general rule that the slower pot plants grow the finer are their flowers. As the sad is a source of the sublime, so is a little judicious starvation the cause of splendid blooms.

A word as to the watering of that capital plant for amateurs, the Cactus speciosissimus. It wants very careful watering when in flower or else its gorgeous bloom will very soon droop.

Some beginners in floriculture, without considering the local conditions of air, soil, and aspect in which they live, are ambitious to grow the choicest plants. They must have roses, camellias, and even orchids, Hence unnumbered failures. Whereas, if they had contented themselves with simple things they would have enjoyed the success of an abundance of flowers. I remember the story of an amateur who disdained pelargoniums and fuchsias. He was always looking out for eccentric or novel plants. He saw a soda-water plant advertised in the paper, and, on writing to inquire about it, he learned that it was supplied with steam power.

But to conclude. Let me once more impress upon amateurs not to kill their plants with kindness, whether in the form of frequent repottings or surfeits of manure. It is a well-known fact that a great many things if they are judiciously watered and left alone will flourish admirably; while others when subjected to superfluous attentions very soon show their inappreciation of the treatment, and refuse to flower.

J. G. Hartley.

APPLES AND FROST.

On the 18th of December, I picked a few apples that had been exposed to 10 deg. and 12 deg. of frost on the 9th and 11th of that month respectively. Finding the fruits were sound, I took them to the fruit-room. To-day (February 23) I have examined them, and I find they are as sound, and in every respect equal to others gathered from the same tree before the frost. J. C. C.

* It is a mistake to regard the boiling of bones as diminishing their manurial power. The boiling removes gelatine and fat, which are impediments to the conveyance to the plant of the phosphates. Boiled bones are of greater value than bones not boiled.—Ed.]

Notes of Observation.

MID-WINTER CHRYSANTHEMUMS.

There is now so much interest taken in late-flowering or mid-winter chrysanthemums, that I should like to say I quite agree with "G.'s" estimate of the merits of Perle des Blanches. It is unquestionably a good late white Japanese variety; but it is not so late as many other white varieties, more particularly Boule de Neige, which has been duly reported on in the pages of the Magazine. I have grown Perle des Blanches four years, and at page 25 of my catalogue I describe it as producing pure white flowers, having long thread-like florets, and as quite distinct. I find it most useful for decorative purposes, and for the supply of cut flowers it is very valuable. Grown for exhibition, either as a specimen plant or bloom, it is well able to hold its own. In form the flowers are more like those of Floçon de Neige than Meg Merrilies, or indeed any other variety I know. The blooms, when well grown, are fuller than those of Floçon de Neige, but they are not so large or produced so late as those of Meg Merrilies.

Floral Nursery, Castle Hill, Maidenhead. Robert Owen.

ELWES'S GIANT SNOWDROP.

Whilst the matter is fresh in my mind I would like to say that one of the most attractive plants we have had in our conservatory for some time past has been Elwes's giant snowdrop, Galanthus Elwesi. The bulbs were put in six-inch pots, ten in each, early in October, and were placed in a cold frame, where they remained until the flowers began to show themselves early in February. On their coming into bloom they were removed to the conservatory, and during their stay in the structure they presented a very pleasing appearance, and attracted much attention from visitors who were unacquainted with the species. I have for some years past grown a few dozen pots of snowdrops for conservatory decoration, as they are highly appreciated by my employers, and help to reduce the demand upon the resources of the forcing pit; but until this season I have potted up the common form. Knowing the great superiority of the species introduced by Mr. Elwes, I substituted it for the common snowdrop when I found that the bulbs were being offered so cheap as to admit of their being purchased in quantities. We also grow the netted iris, I. reticulata, in considerable quantities for the embellishment of the conservatory, as it blooms at the same time as the snowdrops, to the pure white blossoms of which its richly-coloured flowers present a remarkably pleasing contrast.

T. R.

EHMANN'S CANNA.

This canna, which has been in cultivation four or five years, has proved the best of all the kinds for the decoration of the conservatory during the late summer months, and is equally adapted to the requirements of the amateur and the practical in charge of a large garden. In association with the palms and other subjects remarkable for their lightness and elegance, well-developed specimens have a singularly-effective appearance. They are, indeed, almost as noble in aspect as a musa, whilst being very much cheaper and easier to keep in good condition. To produce good specimens strong roots should be started in March in six-inch pots, and from these be shifted into nine or ten-inch pots when they are about twelve inches in height, and have filled their pots with roots. They ought to be put in a warm pit or in a greenhouse when potted, and after they have commenced to make new growth be kept near the glass and enjoy a free circulation of air about them. When started in a high temperature, and grown under the shade of vines or other plants as is frequently done, they become more or less drawn, and, in consequence, lose much of their nobility of aspect. The soil used must be rich and the water supply liberal after they are in full growth. The most suitable compost is one consisting of turfy loam three parts each, and half-rotted manure and leaf-mould one part each. Canna Ehmanni will, under favourable conditions attain a height of seven or eight feet, produce immense leaves, and bear a profusion of rich ruby-red flowers. W. F.

ROSE SUNSET.

For some time past I have been desirous of sending you a note on the comparatively new tea-scented rose, Sunset, and as I have half an hour to spare I do so now. I am anxious to make some reference to the rose because it is one of the very best of its class and colour, and cannot be too generally known, more particularly amongst those who have to provide a regular supply of cut flowers throughout the year. As those who take an interest in roses are aware, Sunset originated as a sport from Perle des Jardins, which is so generally acknowledged to be one of the best yellow roses in cultivation. The sport differs from the parent in having flowers of a rich apricot colour, and is perhaps more free in blooming, as we certainly obtain more flowers from a given number of plants than from the same number of plants of Perle des Jardins. With me it has proved one of the best tea-scented roses we have for forcing, quite surpassing, as regards freedom of flowering, both Niphetos and W. F. Bennett, which also are favourites of mine. The plants, moreover, commence to flower much sooner after they are started in heat. We have a house devoted to tea roses, and from the plants of Sunset, which were placed in it late in the autumn, we have been cutting an abundance of flowers since the beginning of January, and from the appearance of the plants at the present time there will not be any scarcity for some time yet. The colour very closely approaches that of Mdme. Falcot, and the flowers, it may be added, are exceedingly beautiful, both when in the bud state and fully expanded. Practical Rosarian.

A CATALOGUE OF JAPANESE AND HYBRID JAPANESE CHRYSANTHEMUMS,

Introduced from Continental Gardens and Nurseries.

Compiled by C. Harman Payne, F.R.H.S.

(*Continued from page* 119.)

Gaillardia. 1883, De Reydellet. Horizontal petals; fine dark chestnut-red tipped gold, reverse golden.
Galathée. 1884, De Reydellet. Long twisted petals; rosy white.
Ganymède. 1884, De Reydellet. Long grey-lilac petals, tipped white.
Gazelle. 1885, De Reydellet. Coppery wine-colour.
Géante de Valence. 1884, De Reydellet. Fine rose, shaded lilac; tubulated petals.
Général Brière de l'Isle. 1885, De Reydellet. White and bright violet.
Général de Lartigue. 1882, Delaux. Crimson flame-coloured red, golden centre.
Général Négrier. 1885, De Reydellet. No description given.
George Gordon. See L'Africaine.
Germain Lajus. Bernard. Violet amaranth.
Gil Blas. 1886, De Reydellet. Straw-yellow and lilac rose.
Gloire de France. 1882, Delaux. (Syn. La France.) Brown crimson lightened flame-colour, speckled gold.
Gloire de Cuire. Boucharlat. Rich crimson.
Gloire de Mazargue. Boulanger. Violet rose, shaded white.
Gloire de St. Martin. Delaux. Rose, flamed and dotted white.
Gloire de Toulouse. Delaux. Amaranth dotted white in centre.
Gloire du Var. Huber. Violet.
Gloire de Valence. 1885, De Reydellet. Lilac rose.
Gloire Rayonnante. 1878, Bernard. (Syn. Hedgehog and Porcupine.) Long tubulated petals; violet rose.
Gloire Toulousaine. 1884, Lacroix. Rich soft rose, slightly shaded silver.
Gokio. Delaux. Soft mauve, shaded white.
Gordon. 1885, De Reydellet. Violet purple.
Grandiflorum superbum. Delaux. (Syn. Mr. Barnes.) Yellow.
Grand Turc. 1880, Lacroix. Amaranth, edged white.
Graziella. 1885, Lacroix. In the style of La Frisure; rose shaded white.
G. Wrigley. 1886, Delaux. Early bloomer; lilac soft rose, lightened silvery white.
Graziella. 1885, De Reydellet. Carmine violet, lined with white.
Guillaume Delaux. 1879, Delaux. Orange-red, reflecting yellow.
Hardy. Delaux. Brown-red, shaded yellow.
Harmonie. 1885, De Reydellet. Bright rose, shaded white.
Hébé. 1884, De Reydellet. Tubulated petals; lilac-rose, tipped white.
Hélène. Boucharlat. Pure white.
Helvétie. 1883, Delaux. (Syn. Helvetia.) Bright amaranth, silvery and golden ball.
Hernani. 1886, De Reydellet. Lilac-white, centre salmon turning to white.
Hermine. 1886, Rozain Boucharlat. Snow white.
Hérisson. 1883, De Reydellet. Canary-yellow centre, passing to salmon.
Hiver Fleuri. Delaux. Soft violet on white ground, shaded yellow.
Hortensia Robinet. 1884, Delaux. Velvety fiery crimson.
Ile Japonaise. 1882, Delaux. Bright violet-rose, silvery, reverse gold.
Illustration. 1881, Delaux. Brick red, flamed and shaded gold.
Iris. Delaux. Dark lilac, flamed violet.
Isidore Féral. 1882, Delaux. Soft lilac-rose, centre golden.
Ivanhoe. 1886, De Reydellet. Silvery rose, anemone centre of canary yellow, passing to creamy white.
Japonais. Delaux. Yellow ground, shaded red.
Japon Fleuri. 1882, Delaux. The darkest of all, slightly striated gold.
Jean Delaux. Delaux. Brick red, rich and distinct colour.
Jeanne Delaux. 1882, Delaux. (Syn. J. Delaux and F. A. Davis). Velvety dark crimson, centre golden.
Joseph Rozain. 1883, De Reydellet. Long petals; rich wine-colour.
Jonathan. Delaux. Violet carmine rose, lined with white, centre pure nankeen.
Joseph Durban. Dr. Audiguier. Brown red.
Jonquille. 1884, Delaux. Jonquil yellow.
Jules Durban. Marrouch. Amaranth violet.
Jupiter. 1885, Delaux. Outer petals bright fiery red, shaded dark crimson, centre ones violet, reverse shaded gold.
Katakana. Delaux. Fine orange-red.
Kirakana. Delaux. Golden colour, washed bright violet, tipped dark yellow.
Kou-y-Flarg. Pertuzès. Amaranth violet.
L'Adorable. 1885, Delaux. Fine dark canary-yellow, shaded violet rose, petals edged dark carmine.
L'Africaine. Delaux. (Syn. George Gordon). Bright crimson flame colour, shaded dark.
L'Aube Matinale. 1885, Delaux. Salmon red, shaded gold.
L'Alsace. 1884, De Reydellet. Medium flower; dark violet red, tipped purest snow white.
L'Aigrette. 1886, De Reydellet. Stiff tubulated petals; colour slaty lilac.
L'Amie du Cœur. Delaux. Bright rose, lightened white, tipped yellow.
L'Ami Maurisot. Marrouch. Dull red, spotted yellow.
L'Ami Boucharlat ainé. 1884, Delaux. Amaranth violet.
L'Ami Jacques. Marrouch. Bright yellow, striped red.
L'Ami Bréfeil. 1885, Pertuzes. Bright violet carmine.
L'Automne. 1878, Marrouch. Dark salmon.
L'Aurore. 1885, De Reydellet. White, shaded light violet.
L'Auréole. 1885, De Reydellet. Centre surrounded by dark circle.
L'Ebouriffée. 1885, De Reydellet. Butter-coloured yellow.
L'Elégante. 1883, De Reydellet. Creamy white, passing to lilac rose.
L'Incomparable. 1879, Delaux. Yellow ground, flamed and speckled crimson.
L'Ile des Plaisirs. Delaux. Striped crimson, and tipped yellow.
L'Incroyable. 1884, Delaux. Pure cerise, yellow tips.
L'Infante d'Espagne. 1851, Bernet. (Syn. Soleil Levant.) Straw-yellow.
L'Introuvable. 1885, Delaux. Velvety purple, amaranth, white centre.
L'Or de France. 1884, Delaux. Yellow ground, speckled and flamed red.
L'Or du Rhin. 1883, Delaux. (Syn. Golden Rhine.) Twisted petals of golden yellow, flamed and shaded bright red, spotted dark yellow.
L'Or Végétal. Delaux. Ochre-yellow, slightly reflecting rose.
La Bienvenue. 1882, Delaux. (Syn. J. Hillier.) Velvety purple amaranth, lightened flame-colour, white reverse.
La Charmeuse. 1879, Delaux. Bright pure amaranth, leghtened flame-colour.
La Chinoise. Delaux. Dark crimson, tipped gold.
La Fiancée. Delaux. Flesh-colour, lightened silvery white.
La Frisure. Delaux. (Syn. Early Rosy Queen). Light rose, curly petals.
La Fraicheur. 1884, Delaux. Light lilac, white reverse.
La France. Marrouch. Rose shaded violet.
La France. (See Gloire de France.)
La France. 1885, Delaux. Carmine, shaded crimson, centre silvery white.
La Gorgone. 1885, De Reydellet. Curly petals; yellow and wine-colour.
La Joyeuse. Delaux. Silvery white, shaded mauve rose.
La Joyeuse. 1886, Rozain Boucharlet. Salmon-rose, reverse of centre petals light violet, sulphur centre.
La Rouge. 1881, Delaux. Mahogany red passing to light salmon.
La Pureté. 1880, Lacroix. Long spreading tubulated petals; white.
La Pointillée. 1885, De Reydellet. Violet, dull red tipped yellow.
La Pourpre. 1885, De Reydellet. Fine purple violet.
La Nymphe Delaux. Light lilac rose.
La Nuit. 1879, Lacroix. Long tubulated petals; very dark crimson red, golden reverse.
La Triomphante. 1885, De Reydellet. White, slightly tinted rose.
La Traviata. 1885, Delaux. Base of petals tubulated; silvery white, open at tips, carmine, violet shaded amaranth, dotted pure white.
Le Camélia. 1884, De Reydellet. Dark chestnut-salmon; tubulated petals.
Le Camoens. 1886, De Reydellet. Soft rose passing into creamy white, spiral centre slightly salmon.
Le Chèvrefeuille. 1886, De Reydellet. Long, semi-tubulated petals; honeysuckle colour.
Le Chinois. 1882, Delaux. (Syn. Chinaman.) Purple violet, silvery reverse.
Le Cid. 1886, De Reydellet. Bright red, reverse golden, very bright golden centre.
Le Gracieux. 1886, Lacroix. Outer petals rose, centre salmon passing to flesh-coloured white.
Le Lilliput. Delaux. Dark red, flamed brown red; lacinated petals.
Le Nègre. Delaux. Velvety dark crimson and flame-colour golden centre.
Le Niger. 1884, De Reydellet. Dark, slated-coloured red, white reverse.
Le Petit Gaerens. Marrouch. Light rose, centre cream.
Le Spectre Toulousain. Delaux. Crimson red.
Le Surprenant. 1884, Delaux. Rich velvety brown crimson, striped and tips of petals pure gold, dark yellow centre.
Le Tintoret. 1885, De Reydellet. Bluish violet; tabulated petals.
Le Trouvère. Delaux. Dark lilac rose, flamed with white.
Laciniatum Roseum. 1885, Delaux. Soft violet rose, golden centre.
Lady Avenel. 1886, De Reydellet. Straw yellow, tipped dark rose.
Lady Matheson. 1886, Delaux. Dull rosy white, soft cream centre.
Lakmé. 1885, Delaux. Salmon gold, reverse old gold.
Lamartine. 1886, De Reydellet. White slightly rosy, centre greeny tint.
Laurence. 1881, Delaux. Soft rose lightened white, streaked rose, centre gold.
Lilaceum roseum. Delaux. Rose, streaked with white.
Lorraine. 1884, De Reydellet. Long petals of a bronzy yellow, centre darker.
Louis Barthère. 1881, Delaux. Light amaranth, white reverse.
Louise Delaux. Delaux. Soft rosy white.
Louise de Reydellet. 1882, De Reydellet. Flat petals; fine amaranth red, tipped gold in centre.
Luteum perfecium. Delaux. Dark yellow ground, shaded red.
Luteum plenum. Delaux. Dark yellow, flamed red.
Luteum striatum. Delaux, 1880? Yellow ground, striated browny red.
Lucien Chauré. 1885, De Reydellet. Streaked violet and white.
Macmahon. Delaux. Carmine rose, shaded white, nankin centre.
Mandarin. 1885, Delaux. Early bloomer; cream, shaded rose.
Mdme. Auguste Tezier. (See Mons. Auguste Tezier.)
Mdme. Berthier. 1881, Delaux. Lilac shaded white.
Mdme. Bertier Rendatler. Delaux. (Syn. Curiosity.) Clear yellow ground, flamed brown red.
Mdme. Boucharlat Ainé. 1881, Delaux. Velvety slate-coloured amaranth.
Mdme. Boucharlat Ainé. 1880, Lacroix. Dark apricot red, silvery white reverse.
Mdme. Boucharlat. 1882, De Reydellet. Light chestnut-red, passing to purple, golden yellow, white reverse.
Mdme. Cannell. 1885, Delaux. Silvery white, speckled and flamed soft rose.
Mdme. Chrétien. 1886, De Reydellet. Lilac rose, silvery white reverse.
Mdme. Clémence Audiouier. 1879, Marrouch. Fine deep mauve.
Mdme. de Bellegarde. 1886, Rozain Boucharlat. Sulphur white, canary-yellow centre.
Mdme. Delaux. Delaux. Pure yellow.
Mdme. De Reydellet. 1882, De Reydellet. Long twisted petals; fine bright rose.
Mdme. Deveille. 1883, Delaux. White ground, creamy centre, striped violet-rose.
Mdme. de Sévin. 1884, Delaux. Lilac amaranth rose, white centre.
Mdme. Dupuy. Pertuzès. Bright rose.
Mdme. Dépuntis. Pertuzes. Pure white striped and suffused light carmine.
Mdme. Emile Dufour. 1878, Marrouch. Violet amaranth.
Mdme. Esbrayat. 1886, Rozain Boucharlat. Silvery rose white, ligules carmine rose, centre sulphur.
Mdme. Françonette Dufour. Marrouch. Violet rose, speckled pure white.
Mdme. Hoste. 1886, De Reydellet. Fawn yellow, passing to orange.
Mdme. Hoste. 1886, Delaux. Early bloomer; lilac rose on salmon ground, dark cream centre, edged dark carmine.
Mdme. John Laing. 1885, Delaux. Petals very wide; delicate rose tipped silvery white.
Mdme. Lemoine. Delaux. Dark rose shaded white.
Mdme. la Marquise de Mun. 1886, Delaux. Silvery white and soft rose.
Mdme. Lajeunie. Marrouch. White tinted rose.
Mdme. Marie Clos. 1886, Delaux. Golden rosy ground, golden centre.
Mdme. Paul Dépuntis. Marrouch. Light rose.
Mdme. Roux. 1879, Lacroix. Fine amaranth red, reverse violet white.
Mdme. Rozain. 1886, De Reydellet. Salmon gold.
Mdme. Sabatié. Delaux. Rust-red flamed yellow.
Mdme. Seux. 1883, De Reydellet. Tubulated petals; peach rose, lightened white.
Mdme. Urgel. 1884, Delaux. Rose, new colour.
Mdlle. Anna Delaux. Delaux. Milk white, flamed rose.
Mdlle. Antoinette Brunel. 1884, Delaux. Tubulated petals, silvery white and rose.
Mdlle. Augustine Gautheut. 1883, Delaux. (Syn. Augustine.) Broad-goffered petals; rose and silvery white.

(*To be continued.*)

CONGRESS PEARS.

Bellisime d'Hiver.

This handsome pear had a respectable place in the congress, and was conspicuous in the special exhibition of culinary pears that was formed from the Chiswick collection at a later date. Its name implies that it is a beautiful pear, and our figure presents its exact form and proportions, but does not suggest the dimensions it occasionally attains. It is an old variety, No. 103 of Duhamel, under the name by which it now appears, but in Bon. Jard., 1827, page 306, it is *Téton de Vénus.* It is also variously catalogued as *Belle de Noisette, Vermilion d'Espagne,* and *De Bure.* In Hogg's "Fruit Manual" it is described as "one of the best culinary pears with which I am acquainted, and quite free from that disagreeable grittiness which is peculiar to baking pears generally." The tree is one of the best in the garden, whether as a standard on the pear or a dwarf on the quince. It requires no pruning or peculiar management to form a handsome pyramid, for its natural growth is orderly and beautiful, and whether in bloom or fruit a free-growing tree is a noble object.

The form of the fruit is turbinate, the eye large and set in a round basin; the skin is yellow on the shaded side, warming to a rich red or vermilion on the sunny side, with a plentiful sprinkling of brown dots. Its season is from the time of gathering until the month of May. At the present time it is in perfection, and makes a delicious compôte.

CULINARY PEAR, *Bellisime d'Hiver.*

WINTER CHERRY.

Physalis Alkikengi.

For a common plant to be unknown is of course impossible; but we would say the impossible thing of the winter cherry were that possible, for it is much less known than it deserves to be. Although old, and in some degree common, it is only in well-furnished gardens that we meet with it, whereas it is so striking in its characters that it may be declared universally useful. The winter cherry is a member of the solanaceous order, and a relative of the tomato, egg-plant, and Cape gooseberry. The seeds may be sown in the open border late in the spring with a reasonable prospect of success; but we have usually sown it with the tender annuals under glass, in order to put out strong plants from pots at the usual time of bedding out. A few may with advantage be grown on in pots for the conservatory, for the flowers are delicately beautiful, and the fruits bravely beautiful. These last in autumn acquire first a rich tone of orange, which subsequently deepens into fiery red, and the colour is at its best at the very time it is wanted, in the later days of autumn, when dulness is creeping over the garden. The so-called cherry is a kind of bladder, in the centre of which the true fruit may be found. It is a favourite subject with artists who prepare skeleton plants.

PRUNING ROSES.

By J. C. Clarke.

We have not had for several years past so little temptation to commence pruning roses as there is at the present time. Owing to the continued low temperature throughout the winter, the plants do not show any disposition to make new growth. As a matter of fact, the trees are as much at rest at the end of the third week in February as they were at the end of the year, which is a very encouraging sign. Sometimes in mild winters they appear to be making their summer growth at the end of February, and then the inexperienced cultivators are tempted to prune them, and when they do so a spell of cold weather sets in late in the spring, and the plants suffer in consequence. Not, indeed, until some such untoward occurrence are they able to measure the extent of their indiscretion.

But, as it has just been remarked, there is no temptation in the condition of the roses to commence pruning very early this year; and even should a sudden rise in the temperature take place, so as to start the plants into growth, the proper time to prune is so near at hand that it will not require a very great effort on the part of the anxious ones to wait. Not under any circumstances should out-door roses growing in beds or borders be pruned before the end of the first week in March, and then only in the case of the warmer districts of England. In the midland and northern counties the last week in March is soon enough, and in the case of newly-planted roses the middle of April is the proper time for shortening the growth. These remarks, it should be understood, apply to the hybrid perpetual and other hardy roses. Tea-scented roses should not be pruned until the middle of April. How should roses be pruned? is a question often asked by correspondents; but unless it is stated at the same time in what form the trees are grown and the purpose for which the flowers are wanted, definite replies cannot be given without dealing with the whole subject of pruning. I therefore think it desirable to treat the subject at some length, and will refer first to the pruning of roses to secure exhibition flowers.

Whether the trees are grown as standards or dwarfs, close pruning is necessary, but due attention must be given to the character of each individual plant. Those of weak growth should have their shoots cut back to within two buds of the old wood and the strong growers to three or four buds. Due regard must also be paid to the number of shoots to be left, remembering always that it is quality in the flowers and not quantity that is wanted. How many branches any plant is capable of carrying must depend entirely on its strength. Such naturally vigorous growers as Alfred Colomb, Annie Wood, Camille Bernardin, Duke of Teck, Mons. Boncenne, Ulrich Brunner, Anna Alexeiff, Captain Christie, Mdlle. Marie Finger, La France, Duchesse de Valombrosa, Baroness Rothschild, and

Countess of Oxford may be allowed more branches than such weakly growers as Marie Baumann, Marguèrite de St. Amand, and Xavier Olibo. It is most important for the exhibitor of roses not to spare the tree when he is pruning the varieties with weakly constitutions, because they are indispensable to him when making his selection of flowers. Although they are not vigorous in growth, they produce the best formed and most highly coloured flowers, and without them he will find that his stands are deficient in those points which go so far to influence the opinion of the judges. When pruning standards, some regard should be had for the form of the head. It is quite necessary to thin out the weak growth from the centre, but the outer branches can be dealt with in such a way that the head will be symmetrical in shape. Care must be taken that the most central branches have plenty of room, for they are the most likely to produce the largest and the most perfect blooms. The pruning of dwarf plants is easier understood, and the younger they are the more simple is the manner of pruning. It is, in fact, only necessary to first cut out the weak growth, if there should be any springing up from the crown of the plant, and then to cut back the remaining branches to within three buds of the old wood. Trees of this form that are several years old sometimes become overcrowded with old stems after being cut back several times, and when they are all allowed to remain the cultivator obtains a greater number of shoots from the base than is desirable, as they only crowd each other, and a weak growth is the result.

It will be much better to reduce the number of the old cut-back shoots to three or four, as it will not only prevent overcrowding of the young shoots, but those left will have the benefit of all the strength from the roots, and therefore finer flowers may be expected.

The pruning of roses for garden decoration should be conducted on quite different lines, as no experienced rosarian doubts that severe pruning shortens the life of his trees. This being so, and as a large number of roses are more valued than a few of high quality, it is necessary to prune in such a manner as to secure the greatest number of flowers. But I am bound to say that some writers on this subject do not give moderate pruning the credit it deserves for producing large and perfectly-formed flowers. There are some varieties which are naturally weak under hard cutting back, but when less severely pruned they gain a degree of vigour they never attain under more restrictive management, consequently they produce flowers very little inferior to those which have their branches pruned more severely, but one requires to possess some knowledge of the characteristics of individual sorts so as to deal with them according to their growth before they can deal with a great number of varieties on different lines. It is a subject that may well occupy the attention of those who feel more than an ordinary degree of interest in rose growing, for a little observation will soon make them familiar with the different styles of growth.

To assist those who are desirous of information on the subject of pruning garden roses, I may say that all long straggling shoots must be cut back so as to bring them down to the same level as the majority of the branches. In no case, however, should these strong growths be

WINTER CHERRY, *Physalis alkikengi.*

cut clean away, as they are intended to take the place of the old and exhausted wood, and he who prunes wisely will leave the young growth and cut away the old. It is only by such means that the plant can retain its vigour and live to a good old age. But even in the removal of the old wood some amount of discrimination is necessary, for unless it is unduly crowded, only the weak and misplaced growth should be cut out.

As in this case the pruner aims at securing the greatest number of flowers, the plants must be encouraged to develop the side branches, so that in time they may form a large bush as broad as it is high. To do this it will be seen that the trees must not be pruned for the sake of reducing their size. All that it will be necessary to do is to cut off the tops of the old shoots which have flowered, and to cut out others that are unduly crowded.

By pruning on these lines for several years the cultivator will obtain large bushes capable of producing a much greater number of flowers than can be obtained by close pruning.

ALLOTMENTS AND SMALL HOLDINGS BILL.

This is a private Bill, prepared and backed by Mr. Jesse Collings, Mr. Burt, Mr. Broadhurst, Mr. Arch, and several others. It does not aim at the creation of new County Boards. It takes the existing forms of local government as it finds them, and confers fresh powers alike on urban and rural authorities. Its main purpose is sufficiently indicated by its heading. It is a Bill to facilitate the creation of allotments and small holdings of land. This, and something more than this, it seeks to do in the following way. Its first enactment is that it shall be lawful for any local authority to sell to any one person a small holding not less than one acre and not more than forty acres in extent. One-fourth of the purchase-money is to be paid down at once, and, as the Bill stands, no more than one-fourth is to be paid at any time; so that three-fourths are always to remain unpaid. This unpaid balance is to carry interest at the rate of one per cent. above the rate at which the local authority has obtained advances from the Treasury, but it does not appear that this higher interest is to count in satisfaction of the unpaid balance. No term is fixed at which the payment of interest is to cease. This is in marked contrast to the provisions made about the repayment of improvement loans, which the local authority is next empowered to make. In the case of these, the terms are to be so arranged that within a period of thirty-five years at most the debt is to be paid off. That no such arrangement is to be made about the purchase-money of the land may possibly be due to carelessness in the draftiug of the Bill. If the omission is intentional, the result will be that at no time will the holding be free from debt. The unpaid three-fourths of the purchase money, together with the interest, will survive as a perpetual charge, which the holder, however willing and capable, will never be permitted to clear away. In one respect the holder will be more favoured than any other private purchaser. His title will be absolute. If the local authority has sold him land with which it had no right to deal, the dispossessed lawful owner will have his remedy in damages against the authority, but he will not recover his land, nor will the holder be disturbed in any way, in possession or in pocket. In dealing with his land he is not suffered to divide his holding. Whether by sale or by devise, it must pass in its entirety to some one person. The rule is absolute thus far, but it is softened in its operation by clauses providing that in certain specified cases the land is to be treated as personalty. If, for example, the holder dies intestate, or if he makes a will subdividing his land, the land is to be sold, and the price to be shared among those who would have been entitled to it if it had been left in the form of money. The title to the land and the charges to which it is subject are to be shown on a register, the contents of which, apart from fraud, are to be final and conclusive evidence.

In addition to this power of selling, or part selling, the local authority may let land on certain specified conditions. No allotment let under the Bill is to exceed one acre of arable land or three acres of pasture—a restriction of little meaning, in view of the subsequent words which permit the local authority to let more than one allotment to the same person. Land may also be let to a number of persons working on a co-operative system, but this is not to be done unless the system is approved by the local authority. In other words the local authority is expressly restrained from doing what it does not approve. The Bill is permissive. It lays no compulsion on the local anthority to let land on a co-operative or any other system; so that it seems a superfluous caution to insist that it shall approve its own voluntary acts. The local authority has further powers to create public pastures, and to allow animals to graze upon them on such terms as the Local Government Board shall sanction. It may also at its own discretion spend money in laying out and improving its lands. It may drain, irrigate, reclaim, fence, and plant them; it may furnish them with roads; it may erect cottages and farmhouses and other buildings for agricultural purposes, and it may take gardens and village greens and other open spaces for the free use of the public, or of the inhabitants of the district, and may reconstruct, enlarge, and improve any of these works. These are enormous powers, but they are very far from exhausting the liberality of the authors of the Bill. We have yet to see how the local authority is to gain possession of the land it is to parcel out, and how it is to raise the money which the exercise of its functions will demand. Ample provision has been made for both points. It may purchase or take on lease any lands with or without its own district. The price it is to pay is to be fixed by the County Court Judge, and it is to be what the Judge thinks a fair and reasonable price as between a willing vendor and a willing purchaser. In selecting lands for compulsory purchase, the local authority is instructed to have regard to the amenity and convenience of other property belonging to the same owner, and as far as practicable it is not to take too much from any one person or to cut slices out of parks or private ground. The application of these rules is left to the local authority.

The needful funds for all the above purposes are to be raised by advances from the Treasury or directly from the local rates. The advances it is left to the Treasury to make or to refuse to make. The rates may be drawn upon at discretion. The urban local authority is to have its expenses met out of a special district rate. It is not stated on what property or in what proportions this special rate is to be charged. Presumably, it is subject to the same rules as the general district rate, and if so, the fact ought to be made clear. The matter is important, since an urban rate and a rural rate are, under the Public Health Act of 1875, raised very differently. Land is charged for the urban rate at one-fourth part of its yearly value. Houses are charged in full. For the rural rate land and houses are charged substantially the same. Whether this distinction is to be maintained under the Allotments Bill ought to be distinctly shown. The presumption is in favour of its maintenance, but we can find no words which are certain and conclusive either way.—*Times.*

Calls at Nurseries.

MESSRS. E. G. HENDERSON AND SON'S, MAIDA VALE, W.

In such a large and admirably-managed nursery as that of Messrs. E. G. Henderson and Son, at Maida Vale, there is at all times plenty to interest visitors, but probably at no season of the year is a walk through the large number of well-stocked plant houses attended with greater pleasure than the present. The principal features just now are, perhaps, those formed by the orchids, the camellias, the double primulas, and the greenhouse rhododendrons, to all of which the firm have devoted special attention for many years past.

The magnificent winter garden through which the nursery is entered from Maida Vale is particularly attractive, for it is gay with bulbs and other forced flowers, and the bold, judiciously-disposed masses of palms and other ornamental-leaved plants give the structure a tropical-like aspect. To render this structure even more interesting, a pool has been provided on the eastern side for the cultivation of aquatics and other plants requiring an abundance of moisture at the roots, and this is already well furnished, and has a highly attractive appearance. The fernery on the north side of the house has been rearranged with manifest advantage. Contiguous to the winter garden is a stove devoted chiefly to plants of recent introduction. Amongst many subjects deserving of mention is Philodendron macrophyllum, one of the most distinct and attractive of the scandent arads. This species, which has large, deeply-cut bright green leaves, is especially adapted for trailing over rockwork or covering walls in the stove, as the roots readily attach themselves to wood or stone, and hold the plant securely in its place. The examples here are supported by strips of deal inserted in the pots, and to these the wiry roots have attached themselves in the most tenacious manner. Nearly allied to the philodendron, but of a quite distinct character, is Alocasia Sanderiana, which differs greatly from the other species in cultivation. Sphærostema marmorata is very similar in character to Cissus discolor, but is more robust in growth, and has larger leaves. Like the cissus, it is of much value for clothing the roof of the plant stove, and trained to a trellis it forms a very handsome specimen. Heliconia triumphans is a small growing and attractive species, the leaves marked with alternate bands of light and dark green; and Dieffenbachia Cossi may be mentioned as one of the best of the small growing forms. The finest of all the dieffenbachias is, however, D. imperialis, which has immense leaves that may be likened to those of a musa, and are freely blotched with creamy white on a dark green ground.

Palms form an important part of the general collection, and include all the most beautiful kinds, but the greater part of the stock consists of the Kentias, which now enjoy the high degree of popularity they so well deserve, both for conservatory and room decoration. The Kentias most largely grown are K. Australis, K. Fosteriana, and K. Balmoreana. As indicated by the large numbers grown, the exquisitely beautiful Cocos Weddelliana is not less highly esteemed than the Kentias, and the equally elegant Geonoma gracilis has come well to the front, and is rapidly making its way into general cultivation. Phœnix rupicola, introduced a few years since, must also be mentioned, for it is one of the most graceful of the warm conservatory palms, and the best of the several members of the genus that have a place in collections. Caladiums are also grown in immense numbers, and the collection, which is thoroughly comprehensive, is particularly rich in varieties with golden leafage. In addition to Golden Queen, Duchess of Teck, and other well-known kinds, there is an exceptionally fine variety under the designation of L'Auroré. This has large stout leaves of a bright golden yellow with brilliant red centre. Duchesse de Martment is a very distinct form, the leaves being pure white with very narrow green margin. Reference must also be made to Begonia manicata maculata, a very ornamental variety, of which the leaves are blotched bright yellow in much the same manner as those of Farfugium grande.

The several houses devoted to orchids present a very attractive appearance, more particularly those devoted to odontoglossums and masdevallias. Amongst other kinds in flower were Cœlogyne cristata, which is now in perfection; Odontoglossum Alexandræ, in great variety; O. Pescatorei, O. luteo-purpureum, O. gloriosum, O. tripudians, Oncidium cucullatum, Masdevallia ignea, M. coccinea, M. Lindeni, and Cypripedium Hendersoni, a form closely allied to C. barbatum, and of great beauty. The rhododendrons and double primulas are also flowering freely, and will not fail to interest those who pay special attention to such things. Amongst the rhododendrons in bloom were several seedlings, which are remarkable alike for their distinctness and beauty.

New Plants, Flowers, and Fruits.

Cypripedium germinyanum (*Gardeners' Chronicle*, 1886, 200).—An offspring of *C. villosum* and *C. hirsutissimum*; the flowers like the last named.

Adiantum elegans (*Ib.*)—A beautiful maiden-hair fern of growth taller than *A. cuneatum*. It is suspected to be a hybrid of *A. colpodes*.

Goniophlebium candicens (*Ib.*, 234).—An elegant dwarf fern from the island of Formosa.

Lælia elegans (*Ib.*).—Note on a variety with rich purple colouring.

Barkeria elegans nobilior (*Ib.*).—Flowers very large, and with black purple spot on the lip.

Burtonia scabra, B. villosa (*Garden*, 531).—Handsome papilionaceous shrubs, natives of Australia; flowers brilliant purplish rose.

Johnsonia lupulina (*Ib.*).—A rush-like liliaceous plant, the inflorescence reminding one more of a rhodanthe than a lily. (The letter "B" should be marked out of the plate as a printer's error.)

Saltiglossis sinuata (*Ib.*, 532).—Effective figures of garden varieties.

"ANY DOCTOR WILL TELL YOU" there is no better Cough Medicine than Keating's Lozenges. One gives relief; if you suffer from cough try them but once; they will cure, and they will not injure your health; they contain only the purest and simplest drugs, secretly and skillfully combined. Sold everywhere in 13½d. tins. [Advr.]

Literature.

A LADY'S JOURNEY ROUND THE WORLD.

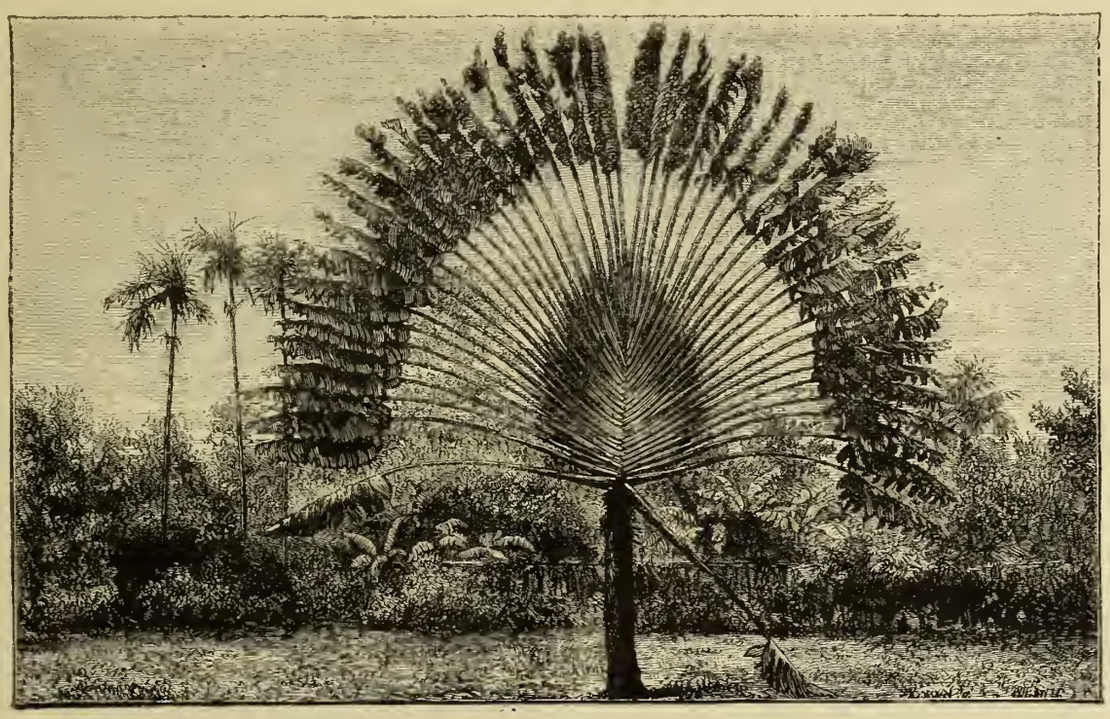
Forty Thousand Miles Over Land and Water; the Journal of a Tour Through the British Empire and America. By Mrs. Howard Vincent. In two Volumes. (Sampson Low and Co.) It is well that ladies write books when they have accomplished things worthy to be recorded; for they view the world through other eyes than men, and their reports on the aspects of things often, by their inner or less evident relationship, differ in many points from the best that masculine writers can accomplish. We shall not make comparisons of merit; it is enough to know that men do most of the travelling and book-making; and, we repeat, it is well that we should have the world or some parts of it displayed to us with the aid of feminine pens and pencils, and for one reason, therefore, we are most glad to receive Mrs. Howard Vincent's book. But we have a still better reason for rejoicing; and it is that this book is one of the best of its kind, and will hold the reader from first to last by a spell as pleasant as persistent; for although it takes us over much ground that we have traversed, east and west, the author presents many things in a new light, and the narrative is seasoned throughout with the charm of freshness. For example, we are whisked into the United States before we have read many pages, and by a few words we have presented to us the picture of industry in the States, contrasting most strangely with the state of things here, with a Mansion House committee collecting funds for the relief of distress, and dock labourers turned away from the gates in the proportion of about seventy to every thirty that find employment. Everywhere, says Mrs. Vincent, we see in the States machinery take the place of manual labour, for the simple reason that the demand for labour very far exceeds the supply. Our lady traveller noted in the hay-fields that the grass was cut, turned, tedded, carried, and stacked by machinery, and if hay could not be made in this way it could not be made at all. The scarcity of workers, and the willingness of all classes to take a share in the bustle of the world as far as possible, are amusingly illustrated by the way in which the hotels pull through the busy time when the noble tourists are abroad. Then the young ladies, daughters of thriving citizens, and more especially those of the professional classes, hire themselves out as waiters; do their work well, pocket their liberal wages, and return to school, and their whole year's schooling is paid for by themselves in the pleasant way of making holiday in the capacity of waiters. Such pictures of prosperity in the States suggests the propriety of promoting emigration thither; but the thought is likely to find discouragement in the fact that a large proportion of our starving idlers are incapables, too often equally unwilling and incapable, and of no more use as emigrants than as pioneers in the van of an army.

Passing from this and other points in Mrs. Vincent's story, it is equally interesting and certainly comforting to note the lady's comparison of the States with Canada; for they are comparable at Niagara Falls, and the opportunity is taken advantage of to give us the comfortable assurance that Canada makes the best figure, all points considered. The journey to Montreal, and the descriptions of Canadian cities and industries, are full of importance—not so much that there is anything absolutely new, but that the story throughout has a complexion of freshness that renders the simplest fact recorded in a certain degree impressive. Mrs. Vincent was on the look-out for picturesque scenes and characteristic memorials, but she does not allow trifles to escape her notice. Thus, having visited the monument to Wolf and Montcalm, she remarks: "The population is almost entirely French, and the maintenance of their language and institutions was guaranteed them on the conquest. Descendants of the old noblesse still linger here, preserving among themselves the traditions of their forefathers, in a circle of society renowned for its polish and refinement; preserving, too, in its entirety the purity of the mother language."

Having, by the persuasions of the author, made this dip direct, we now turn back to the map that displays the whole course of the voyager from London westward to "put a girdle round the earth." Mrs. Howard Vincent accompanied her husband on an important mission of an official nature, affording special facilities both for sight-seeing and for investigating political and social institutions. The route was by the Atlantic to New York direct, and thence northward into Canada. As the cities of Quebec, Montreal, Toronto, and Ottawa lie together, with Lake Ontario for a frontispiece and the river St. Lawrence showing the way "with willing sport to the wild ocean," tourists generally "do" them all, and are greatly advantaged by the variety of scenes and incidents presented.

After a tour of the chief cities of the Eastern States—Boston, New York, Philadelphia, Washington, &c., we are carried directly west, through the heart of the Midland States, to behold the Pacific at San Francisco. The visit to the Yosemite Valley, and the story of the Mariposa Grove, are incidents of the greatest interest, and they are set before the reader in a most simple and effective manner. It will be new to many who are fairly familiar with these scenes to learn that there is a considerable price to be paid for beholding them—tedious journeys through sandy deserts, privations of many kinds, and perhaps deception and extortion to aggravate the horrors of the journey. But the scenery compensates, and the author appears happy, although tried almost to the limits of endurance.

Once more away we go on a south-west course for Hawaii, Polynesia, and to make serious business of a visit to New Zealand. The hot lakes and silica terraces of the Northern Island are of course amongst the lions of the lady, and, like other visitors, she sees more of them, and probably now knows more about them, than any except a few of the more adventurous spirits in the city of Auckland. These hot springs will be "done" in due time by the good folks who speculate in the "personally-conducted" line. Messrs. Cook have taken in hand the Mahommedans of India for conduct to the holy shrine at Mecca, and so we have but to wait and we shall find holiday arrangements made for us to visit New Zealand geysers and see the Maories at home—the finest of all known gipsies.



TRAVELLER'S PALM, OR ARBRE DU VOYAGEUR, *Urania speciosa.*

The whole of the eastern side of Australia, from Tasmania to Torres Straits, is scratched and sketched, and the course thence lies through Java, Sumatra, Calcutta, Lucknow and Delhi; and thence across to Bombay, where, for touring purposes, the trip may be said to end. But, as Bombay is not London, although now so exceedingly near to it, we must record that the way home was by the Red Sea and the Suez Canal, the Mediterranean, Italy, and France. As a matter of fact, the story ends on the Nile, which is described as "an exceedingly ugly river, with shoals and sand-banks lying about in its course. Going up only a little way from Cairo, there is a fine view of the Mokattan Range, the citadel, with the mosque of Mehemet Ali, whose slender minars tower as high again above the hills. Warehouses and manufactories, followed by mud villages, render the banks utterly hideous and uninteresting."

Having sketched the course of the traveller on the map, the reader will readily guess that the colonies balance well with the tropics in respect of the interest they contribute to these pages. Such is indeed the case, and the woman's eye notes things that a man would not observe, or would be likely to forget. Mrs. Howard Vincent evidently enjoyed in an especial manner the portion of her journey lying between the Gulf of Carpentaria and the western fringe of the Himalaya. She is careful to tell us that tropical heat distresses less than we imagine while reading of it at home and fixing our attention on the thermometer. "In these hot climates," she remarks, "there are all kinds of arrangements for draughts and currents of air which we forget when thinking about them in England." Here is a picture, quite fresh in its way, and betraying very prettily the quizzical feminine observer. We are in Singapore, and the author is looking forward to evening service in the cathedral:—"The cathedral stands in a quadrangle amongst trees, and has a pretty tower and nave, but the stone is not weatherproof, and has turned mouldy in dark patches. Outside there were two rows of men standing round the building pulling the cord that passes through the hole in the frame, and inside I saw that comical effect of punkahs in a church for the first time. Through the length of the church the punkahs were swinging alter-

natcly on either side, and those in the chancel were only waiting for the entrance of the choir to begin waving likewise. We heard the sermon on the approaching death of the Old Year, and caught glimpses of the clergyman between the flying backwards and forwards of the punkahs."

We have to thank Mrs. Howard Vincent for a delightful book, and we are bound to add that it is freely and suitably illustrated. In all respects it will take rank with Lady Brassey's Sunbeamy views of the world, and should be on the geography shelf in all good houses. We have selected as an example of the illustrations the Traveller's palm, as seen by the author at Singapore, where it is a conspicuous adornment of the Governor's garden.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Annuals of choice kinds to be sown in pans for early bloom, and a pinch of each of the tender annuals, such as Asters, Cockscombs, Balsams, &c., got in, so as to have a few forward, and separately potted in thumbs, by the time the main sowing of these is made next month. The general batch of asters for bedding need not be sown till April; but all annuals that require a long season of growth, or that admit of being deferred in their blooming, in order to gain size and symmetry, should be begun with at once.

Bedding Plants.—Hotbeds and propagating cases must be set to work at once to ensure a sufficient supply for the coming season. Repot all the old Geranium stools that are to be turned out. Start Lobelias, Ageratums, Heliotropes, Tropæolums, Salvias, Verbenas, &c., to get nice shoots for cuttings. Have ready a good supply of nearly dry compost for potting, so that whatever has to be done may be done without delay through change of weather or want of materials.

Conservatory to be kept as much as possible without fire-heat, as the natural temperature will now be high enough for most of the forced flowers, and they will last longer than with heat. But as frosts often occur at this season, with cutting east winds, a fire may be occasionally needful, in which case get it up without delay, for many of the subjects in bloom now are of a delicate nature, and climbers growing on pillars and rafters will suffer much if subjected to a low temperature. To keep the conservatory gay, put Roses, Rhododendrons, Azaleas, and early Pelargoniums into a moderate warmth to bring them into bloom. Plants that have done blooming should be tended with care to secure a healthy growth of new wood, and be cut in if required before they spend their strength at the ends of flowering shoots.

Greenhouse Plants generally may have an increase of heat to encourage growth. Acacias, camellias, azaleas, and forced shrubs to have plenty of air and plenty of water all the while they are in bloom. Acacia rotundifolia is one of the best of plants for amateurs. It is now coming into bloom along the whole lengths of the shoots, a perfect garland of gold.

STOVE AND ORCHID HOUSE.

Orchids will now be commencing to make new growth, but they must not for that reason be stimulated too suddenly by any undue rise of temperature. There are very few that will require more than a temperature of 65 deg. as a maximum, and 55 deg. minimum, and the amateur cultivator is advised to keep to this moderate range, as much safer than a higher temperature at this time of the year; but as the month advances the midday temperature may be allowed to rise to 70 deg. Growing plants will require increased supplies of water. Those that want a shift to have it as soon as they show signs of being on the move.

Shift and Repot Stove Plants as required. Plants with variegated leaves usually do best in fresh compost of a rather poor nature; stimulating substances, such as manure, frequently drive out the variegation, and restore the plant to a normal condition. When variegated plants require extra nourishment, it is best accomplished by potting in turfy loam and good leaf-mould.

FLOWER GARDEN AND PLEASURE GROUNDS.

Auriculas sown now will require no bottom heat, and will be better without it. Place a square of glass over every pan of seed to prevent the need of watering until the plants are up. Top-dress and clean up the stock plants, and give them more water as they get into active growth.

Evergreens that have become bare at the bottom will throw up shoots from the roots, but will never form handsome plants again; therefore it will be best to remove such injured shrubs where they occupy important places, and plant others.

Roses.—Where early bloom is wanted out of doors, a portion of the earliest varieties may be pruned at once. The general pruning should be deferred till the end of the month. Roses in pots will come into bloom beautifully if placed in a sunny house, in full light, and kept well supplied with water and liquid manure.

Dahlias to be started for cuttings, and the cuttings taken when two or three inches long. The great enemy of the newly-struck cuttings is water; therefore administer it with judgment and caution.

FRUIT GARDEN AND ORCHARD.

Fruit Trees should be thoroughly cleansed, and all pruning completed speedily. Make ready protecting materials for walls, and put on copings where movable ones are used. Let all planting be done thoroughly, or not at all; that is, prepare good borders, have efficient drainage, and pay a good price to ensure good trees

Strawberry-beds that have stood one or two years should be heavily manured now, and the simplest way is to wheel out and spread the manure in the very same way that you would manure grass land. If the plants are partly buried in the litter it will not hurt them, and they will soon push through and bear finer fruit than if left to pick up their their own precarious living without such special help. Strawberries may be planted immediately the soil is in proper condition, and if the work is well done a fairly good crop of fruit may be expected; but if you delay planting until the impoverishing east winds set in, the fruit will not amount to much this season.

KITCHEN GARDEN AND FRAME GROUND.

Artichokes to be dressed about the end of the month with a mixture of two parts manure and one part coal ashes. The latter must be fine, and free from cinders.

Cabbages may be sown soon on a warm sloping border. Old stumps may be planted close together in any out-of-the-way place to furnish a few sprouts, which will be useful at this season of scarcity.

Cauliflowers sown early in January will soon be ready to prick out into pots for planting out early. If any tendency to damp among those just up, sprinkle wood ashes or dust of peat over the surface.

Celery to be sown for the first crop, and the plants where up to be thinned at once, that they may be grow strong from the first.

Early Potatoes may be raised with the greatest ease where fermenting material is plentiful, for a rough hotbed covered with old lights is all that we require. But there must be plenty of material or the heat will not last, and the bed must be made of stuff several times shaken out, so as to ensure a moderate as well as a lasting heat. The soil to cover the stuff with should be rich and light, and should contain a considerable proportion of charred vegetable refuse. As for the sorts, there are many adapted for forcing, but the old Ashleaf is the best, because, though it is not a heavy cropper, it is of the finest quality, which is not always the case with early potatoes.

Rhubarb in open quarters to be heavily dressed with manure, which need not be much rotted. We mostly use it quite green, and prefer the longest. The weather and the rains take all rankness out of it long before the plants can suffer, and in the meantime they have the whole of its strength by filtration.

Vegetables.—Brussels Sprouts, Cottager's and Scotch Kale, Beet, White and Purple Broccolis, Celery, Endive, Lettuce, Leeks, Onions, Jerusalem Artichokes, Salsify, Scorzonera, Spinach, Turnips, Asparagus, French Beans, Mushrooms, New Potatoes, Seakale, Small Salading, Radishes, Rhubarb, and Tomatoes.

ON THE VARIOUS SPECIES OF BAMBOOS.

Translated from the *Hamburger Garten und Blumen Zeitung*, 1885, p. 103.

Herr Otto Mann has lately made an interesting study of the various species of bamboos which are capable of acclimatization here. We take the opportunity of advising our readers of the species mentioned by Herr Mann in his latest catalogue.

At present about twenty different genera of the tribe of bamboos are known, comprising 179 well-defined species. We may look to see this number considerably increased when botanists have explored the snowy mountains of New Guinea, the Alps at the sources of the Nile, and other mountain ranges of the tropics. Bamboos, as a rule, are more hardy than most tropical plants, as the greater number are found, not in the warm valleys, but at more temperate altitudes. Bamboos are found as far north as 46 deg. lat. N.; and in Japan in 51 deg., lat. N. *Arundinaria macrosperma* even grows to perfection in the latitude of Philadelphia. It attains a height of about forty feet, and one of the species in Japan grows to sixty feet. Europe has no indigenous species of bamboos, but the deficiency is supplied by *Arundo Donax* (particularly the species with white variegation) and *Arundo ampelodermos*. These two types belong to Southern Europe and the North of Africa. Australia has not as yet furnished a single species.

Every species has a definite habitat; rarely the same species is met with in both hemispheres. All the true bamboos come from the East. The genera *Cephalostachyum*, *Dendrocalamus*, *Dimochloa*, *Gigantochloa*, *Phyllostachys*, and *Schizostachyum* belong exclusively to Asia. The genus *Arundinaria* grows at once at the foot of the Himalayas, in the South of Africa, in Mexico, and in Brazil. The genus *Beesha* is exclusively tropical and African; while the genera *Achrostylitium*, *Aulonemia*, *Chusquea*, *Guadua*, *Platonia*, and some others, are found only in the new world. The hardier species lend themselves readily to garden decoration, and it is thought that these elegant plants are not as extensively used as they deserve to be. They can easily be kept under cover, or even in the open air or in cellars.

The species of bamboos which we are about to mention are better adapted than any other plants for our landscape gardens, whether they are placed singly on lawns, or on elevated ground, or on the brink of slopes. Species one to seven are so hardy in Germany that they can be left out in the open all the winter without shelter. Herr Otto Mann wintered a number of young plants in this way in 1883-4 without their suffering at all, although they were placed under very unfavourable conditions in wet, close soil. Species eight and nine, on the other hand, can only be grown in the open in summer time, and must be brought indoors before they are touched by frost. To make sure of species one to seven—the roots of which, however, never seem to suffer from frost—they may be brought in in the autumn and wintered under glass or in a cellar. It is advisable to protect the roots by placing them in baskets. Many species require a deep, rich soil, which at the same time is moist and light, in which respect an argilaceous mould suits them well. Other species especially affect sloping ground, and a sunny aspect. They require a great deal of water in summer, and in the spring their growth may be accelerated by watering freely with tepid water. The specimens in the park at Wilhelmshöhe, near Cassel, and in the public gardens at Stuttgardt, should find a place in every garden, so rich and pleasing is their foliage. We may observe here that the specimens at the Horticultural Exhibition at Leipzig were universally admired, and gained for Herr Mann the first prize for the finest collection of Gramineæ suitable for garden decoration. Particular species are specially adapted to particular kinds of culture, as in pots, boxes, conservatories, apartments, &c.

1. *Bambusa aurea* (Hort.)—This species derives its name from the colour of the stem and branches, which, from light green at first, become yellowish green, and eventually a fine straw-colour. They form elegant clumps, 9 ft. to 12 ft. high.

2. *Bambusa nigra* (Lodd) (*Phyllostachys nigra* Munro).—The stem is black. The species is found in Japan and China, where it attains a height of 25 ft. The stem, green at first, gradually deepens in tint to black, forming a fine contrast with the green foliage. This species has withstood the frost in the south of France, at Vienna and at Stuttgardt, where it has stood without any protection since 1870. It is frequently used in the construction of easy chairs and lounges.

3. *Bambusa viridi-glaucescens* (Carrière).—Originally from the north of China. Green stem, ramified from the base; attains a height of 10 ft. to 12 ft. A very effective plant, with the upper surfaces of the leaves of an intense blue green, the under surfaces whiter. The plant is so hardy that it has been wintered in the open air at Paris.

4. *Bambusa Metake* (Siebold).—This may be the same as *Arundinaria japonica*, so named by Siebold and Zuccarini. The species is distinguished from the preceding by its straight branching stem and its relatively short petiolate leaves. Very hardy; may be planted around ponds. Surrounding the main stem are numerous smaller branches feathering the base.

5. *Bambusa Simoni* (Hort.)—A very delicate form approaching the preceding, but of less dimensions. The stem is straighter, more regularly ramified, and the foliage very abundant.

6. *Bambusa verticillata* (Hort.)—Resembles *Simoni*, but with a still more regulation insertion of the branches.

7. *Bambusa Fortunei*; *fol. niveo vittatis*.—A species with white variegation; very hardy, very bushy; well adapted for mountainous sites. It has the advantage of not throwing up as rapidly as other perennial species. Very suitable for baskets and jardinières; may be planted in hedges likewise.

The following species may also be mentioned:—

Bambusa flexuosa (Munro).—From China; 12 ft. high; very hardy; has borne a temperature of 13 deg. C. (8 deg. Fahr., or 24 deg. of frost), in the south of France.

Bambusa sinaensis (Franch. and Savat.), from Japan.—A tall, hardy species, distinguished from all other Japanese species by the large dimensions of its leaves.

Phyllostachys bambusoïdes (Siebold), from the Himalayas, China, and Japan.—A very small plant; very delicate; suitable for making canes.

8. *Bambusa falcata* (Hort.).—This is *Arundinaria falcata* Nees. It comes from the Himalayas, where it forms impenetrable thickets, and is found at altitudes of 3,500 to 10,000 feet above the sea level. This species can literally live without moisture. It is as hardy as Pampas grass; and in a climate like that of England may be propagated by cuttings out of doors. In certain parts of India it is covered with snow every year. The same occurs with *A. spathiflora*, and some others. The stem is slender, yellowish, articulate, each node having a small articulated branch, inclinate and bushy. The foliage of these branches is a delicate yellow and lanceolate. Under the weight of foliage the stems bend over, thereby enhancing the graceful aspect of the tree.

9. *Bambusa gracilis* (Hort.).—Much resembles the preceding, with the difference that the leaves are twice as long and very narrow. The stem is of a characteristic blue-green colour.

SINGLE DAHLIAS.

Single dahlias under name afford such a remarkable diversity of colouring, and are, generally speaking, of so high a quality, that in justice to the flowers and in the interests of cultivators I feel compelled to protest against the opinion of "R. H. B.", as expressed at page 88. In a brief communication on the raising of single dahlias from seed, the writer tells us that the named varieties are worthless both for the garden or the supply of cut flowers. He does not use that exact word, but he says, "I have come to the conclusion that named varieties are not worth the trouble they take to preserve them through the winter and the labour entailed in keeping them correctly labelled," which is practically the same thing. Then, after intimating that last autumn he made a "clean sweep" of a large collection of varieties, he writes, "Until I can see varieties that are really worth keeping I intend to depend upon seedlings." If "R. H. B." has not yet seen a single dahlia under name that is not worth keeping, he must have wasted much money and time during the years he was engaged in forming the collection which he tells us he has "discarded," and one cannot help feeling sorry for him. He must have missed the whole of the many beautiful varieties that have been named and placed at the disposal of cultivators, and not have derived any advantage from the labours of the principal raisers during the past three or four years. It is quite certain that he has not taken advantage of the lists that have been given in the pages of the "Magazine" from time to time in the reports of exhibitions and otherwise, or he would have had possession of a collection consisting of flowers far superior to the average seedlings. The selection of named varieties must certainly have been a very indifferent one, or the seedlings extraordinarily fine; for we are told that the "seedlings were quite equal to the named varieties" both "for garden decoration and the supply of cut flowers." Without knowing what standard was set up, no good purpose would be served by discussing this statement at any length. But this much can be safely averred: no other cultivator has yet succeeded in raising a given number of seedlings which produced flowers equal in form and colour to those of an equal number of the best of the varieties that are in commerce under name. It may be that "R. H. B." is satisfied with dahlias producing ill-shaped and indifferently coloured flowers, and it may not be a matter of much consequence to him whether there is a preponderance of any particular colour in the batch raised. But rough, ineffectively coloured flowers will not satisfy the general body of cultivators; and, unless I am much mistaken, very few would derive much satisfaction from plants of which fifty or sixty per cent. had yellow, red, or white flowers, as the case may be. Or, to state the case in another way, it does not follow that what would satisfy the writer in question would afford pleasure to many other growers.

It appears to me to be especially desirable that those who have but little space at command should limit their attention to named varieties. They are then able to make a selection in which all the various shades of colour will be included, and so dispose the plants as to produce the best possible effects. To arrange the seedlings effectively is practically impossible, because no idea can be formed when they are put out as to the colour of the flowers that will be produced, and it is as likely as not that all the plants with yellow flowers will be at one end of the border, and those with red flowers at the other. I cannot understand how "time and labour" is saved by growing seedlings, for to ensure a fair measure of success it is necessary to begin very early in the year. The seed must, as "R. H. B." states, be sown early in February, and the pots or pans be placed in a structure in which a brisk temperature is maintained. It is also necessary for the young plants to be carefully nursed until the season is sufficiently advanced for their removal to the cold frame. Under the most favourable conditions seedlings do not come into bloom so early as the plants obtained from cuttings, and when the sowing of the seed is delayed they add but little to the attractions of the flower garden until the summer is far advanced. There are not any great difficulties in the raising of seedlings, but it is easier to obtain a stock from cuttings, and the small amount of trouble involved in keeping the tubers through the winter is really not worthy of a moment's consideration. It is in fact simply necessary to place them in a cellar or out-house and heap enough straw or hay over them to keep them safe from frost.

In the propagation of single dahlias from cuttings, the tubers should, as in the case of the show and fancy varieties, be placed, early in March, in a structure in which a temperature of about 60 deg. is maintained. They can be put singly in pots, or several together in boxes, as may be most convenient; but when pots are used it will be necessary to shorten the tubers by about one-half. With a moderate amount of moisure they soon start into growth, and when the shoots are three or four inches in length they can be converted into cuttings. Each cutting should consist of two joints each, and be cut through immediately underneath the lower joint, from which the leaves must be removed. They may be inserted either singly in small sixties, or in five-inch pots, several in each, at the discretion of the cultivator; but whether small or large pots are used they should be filled with a light, sandy mixture, and have a layer of sand on the surface. It will be necessary to place the cuttings where they can have the assistance of a brisk temperature, and a rather liberal degree of atmospheric moisture, and it will be an advantage if the pots are plunged in a hotbed. It will follow as a matter of course that the cuttings must be hardened off when struck, and be subsequently shifted into pots one or two sizes larger. For this shift, a mixture consisting of turfy loam and well-rotted manure should be used, as it is most important they be maintained in a progressive state until they are bedded out. Hardly less important than a substantial compost is a liberal supply of water, and care must be taken to prevent their becoming dry and remaining so for any length of time after they have been transferred to the pots in which they are to remain until planted out.

Much more might be written with reference to the cultural details, but sufficient has been said to show that the propagation of a stock is not a very arduous task, and also to indicate the course that must be taken to ensure success. It appears, judging from the communication of "R. H. B.," that there is gread need for information as to the selection of varieties; and as I am anxious to be brief, I will at once proceed to point out a few varieties that will certainly surpass the average seedlings for all purposes to which the single dahlias can be put. In the course of the summer of 1885, I had an opportunity of critically examining the collection in the Hale Farm Nurseries, Tottenham, which, as is so well known, is unsurpassed in extent and comprehensiveness, and I now propose to give the names and colours of those which were then selected for their distinctness and high quality. Before doing so I would, however, mention that they represent the pick of at least twenty thousand seedlings, of which a considerable proportion were in all probability worthless for the decoration of the garden. From the varieties which were distributed by Mr. T. S. Ware last year the undermentioned were made note of as being exceptionally good and equally valuable for the flower garden and the exhibition stage. The varieties are as under: *Alfred Smith*, rather dwarf in growth, the flowers perfect in form, and of a rich crimson colour, shaded marone; *Gustave Reuthe*, a rather tall grower, producing a profusion of flowers of a deep marone colour, with a sharply-defined margin of bright rose-purple; *Laura Linden*, deep crimson, the stalks very stiff—one of the best for supplying cut flowers; *Lizzie Webster*, rather tall in growth, the flowers brilliant scarlet, and of fine form; *Marion Hood*, rather dwarf, the flowers large, and of fine form, the centre white, shading to deep pink at the edge; *Marion Terry*, bright salmon, suffused rosy scarlet: a very pleasing shade of colour; *Miss Linaker*, brilliant rose-purple, very fine, probably the finest variety in its line of colour; *The Mahdi*, a rather dwarf grower, the flowers lake; striped with magenta, and *Themis*, a very pleasing variety of rather dwarf growth, and producing a profusion of flowers, which are striped with rose on a pure white ground.

From the large number of varieties introduced previous to last year were selected the following, all of which have a good habit, are free in blooming, and produce flowers of fine form and remarkable for their substance. The selected varieties are: *B. Barkway*, deep scarlet, margined with orange; *Beauty of Uplands*, crimson, the point of the petals golden yellow—a medium-sized flower of the most attractive character; *Cetewayo*, velvety marone; *Dr. Moffat*, marone, margined with crimson; *Duchess of Westminster*, the best of the pure white varieties; *Highland Chief*, salmon-pink, tinted yellow; *John Cowan*, deep crimson, shaded marone; *Lizzie Hall*, sulphur, margined with white, very beautiful; *Lutea grandiflora*, bright yellow, the best of the yellow flowers; *Mauve Queen Improved*, bright mauve, unsurpassed in its line of colour; and *Scarlet Defiance*, *T. S. Ware*, and *Victor Stranberg*, three excellent varieties, bearing flowers of different shades of scarlet. G.

A WONDERFUL EUCHARIS.

It has occurred to me that some account of the wonderful form of Eucharis amazonica that we have will be of interest to many of your readers. It is certainly the most remarkable flower of the Amazonian lily that either my employer, R. K. Penson, Esq., or myself have seen. It has ten segments, or petals, which are arranged in two rows, five in each, and quite perfect in every way. There are also ten stamens, and I would add that the flower, which exceeds four inches in diameter, is quite perfect in form. It is not a hose-in-hose flower, like those of the duplex polyanthuses, but a case of doubling of the petals. It will be very interesting to know whether a similar flower has been produced elsewhere, and we shall be very glad indeed if any one who has had such a flower will give publicity to the fact through the pages of the Gardener's Magazine. John Collier,

Gardener to R. Kirke Penson, Esq., Dinham Gardens, Ludlow.

SHORT NOTES FOR SMALL GARDENS.

By the Vicar's Gardener.

Bouvardias.

The simplest way of propagating bouvardias is by root cuttings, and the present time is the best in the whole year to do so. Commence by shaking away all the soil from the roots of two or three old plants, and bear in mind that the stronger the plants are the better will be the cuttings they will furnish. Then select the strongest roots and cut them into pieces ranging from one and a-half to two inches in length, leaving the fibrous roots, if any, upon them. When sufficient cuttings have been secured, fill a pan with fine sandy soil and put the pieces of roots at equal distances, leaving the cut end of each piece a little higher than the other. Then sprinkle some fine soil equally all over, so as to bury all but just the end of the cutting, as it is from the part which protrudes through the soil that the young growth is produced. A warm propagating pit is perhaps the best place in which to start the cuttings, but I have always obtained satisfactory results by placing the pan in a cucumber frame. In any case a brisk bottom heat is desirable, and only sufficient moisture must be applied to keep the soil just moist. In about ten days many of the cuttings will have started into growth, and they should be taken out of the pan as soon as the young shoots have attained a length of about two inches, and be put singly in small pots. They will derive material assistance from being placed where they can enjoy the advantage of bottom heat for a week or two. If they cannot have bottom heat they must be placed in a close, warm corner of a stove or vinery, in which there is a temperature of 60 deg., and they must remain in the structure for at least a month. Afterwards they should be placed in a close, warm house or pit, and there remain until the end of May, when it must be decided how they are to be grown during the summer. I prefer myself to plant them in a bed of soil in a cold pit or frame, and pot them up again in the autumn. I have said that securing plants from root cuttings is the simplest way, but in dealing with the well-known white variety, named Vreelandi, it is not the best, as this variety is liable to sport back and produce red flowers when obtained from root cuttings. I have proved this many times, therefore I advise growers to make a point of raising their stock from the points of the young shoots, and insert them the same way as cuttings of verbenas and similar subjects. I am satisfied that this is the only sure way of securing a true stock; it is pretty well known that all bouvardias have a tendency to sport.

Autumn and Winter Flowering Heaths.

The soft-wooded heaths are so valuable for flowering in the autumn and winter that I often wonder why more people do not take them in hand. The most suitable varieties are Hyemalis and Wilmoreana. These flower on the current year's growth, so that unless they receive the proper treatment they do not bloom in a satisfactory manner. The proper way to manage them is to cut down all the shoots which have flowered to within one inch of the old wood. This is best done as soon as they go out of flower, but it must not be deferred until after the middle of March. At the same time all the small plants should be shifted into larger pots. After they are shifted into pots eight inches in diameter they will only want shifting every second year. These heaths require a higher temperature in which to make their growth than those forming the hard-wooded section. The warmest corner of a greenhouse suits them admirably until the beginning of June, when they should be removed to a more airy position, where they can be shaded during bright, sunny weather. After the beginning of August they may have a sheltered position out of doors, taking care that the pots are placed on a hard surface or a bed of coal ashes. Like the other hard-wooded section, they require very careful watering, for if the roots are constantly receiving more moisture than they can appropriate the plants will soon become unhealthy, and when this happens it will be better to throw them away and commence with a young stock than to try to restore them to health. Good sound peat, to which a moderate addition of silver sand has been made, should be invariably employed. There are two other varieties of winter flowering heaths that are seldom seen except it be in small plants. These are Gracilis and Melanthera—and I must admit that in the condition we generally see them they are not likely to strike anyone with their attractiveness. But I can assure the reader that when they are grown to a large size they are invaluable, for although the individual flowers are small, they are produced in such numbers that a large specimen is very effective. We have plants now in flower that have been in that condition since last November, and they are still fresh and bright. Our specimens are more than four feet high from the pots, and have not had anything done to them for the last four years, as they are now in pots fourteen inches in diameter. But throughout the year they receive regular supplies of liquid manure, and the many thousands of flowers which they produce every winter plainly show that they like our treatment.

Gloxinias from Seed.

Now is the time to sow the seed of gloxinias if you want a few choice flowers early in the autumn. It is indispensable to have a brisk temperature in which to raise the stock, and indeed up to the time the plants come into flower. Anyone having a stove or a warm vinery will be able to give them sufficient heat. Sow the seed in a pan filled with fine sandy soil, and cover the seed very lightly and keep the soil just moist. In about three weeks the seedlings will appear, when they will want careful attention, and not be exposed to the sun or be kept too dry or too wet. If the young plants do not stand too close together in the seed pan they should remain undisturbed until they are large enough to be put into single pots. But if they are crowded they must be pricked off into another pan. It is best to put them into single pots as soon as they are large enough to handle, as they are less likely to damp off when standing singly. Pots that are two and a-half inches in diameter will be large enough at first, and when they have filled these with roots they may be put in four-inch pots. In the latter they may be allowed to flower, for the gloxinia is not very strong in rooting. If the soil in which they are growing is suitable they do not want a large amount of pot room. A very suitable compost is one consisting of three parts turfy loam, one part rotten farm-yard manure, and a good sprinkling of sand. All that I have space to say further is that the leaves will be seriously impaired if the sun shines directly on them; consequently a thin shade on the glass is necessary, and as far as possible the water from the syringe must not be allowed to fall on the foliage.

Propagating Alternantheras.

It is quite a mistake to commence propagating these plants too early in the spring, as so much space is required to keep them growing afterwards. If I could command the room I would not strike alternantheras in hotbeds made with manure, as I find they grow so strong and vigorous that they are a long time before they take on their proper colour. I am quite satisfied that the propagating-pit is the proper place to strike them in, and that nice stocky, highly-coloured plants in single pots are the best, as they can then be put out without any injurious disturbance of the roots. But there are not many growers who can command so much time and room as would be necessary to work out this plan, so that they must resort to hotbeds in which to raise their plants. Even in that case, I find, if the hotbeds are ready to receive the cuttings by March 20, there is then plenty of time for the cuttings to grow into large plants. The beds are, of course, made up in the usual way, and, after the heat has risen, a layer of about four inches of fine sandy soil is placed all over the bed. In this the cuttings are dibbled three inches apart each way. The frame is kept quite close and well shaded for the first three weeks, after which they will not want any shading, but a little air must be given in suitable weather. If there is a strong bottom heat they will want water at the roots twice a-week, and whilst growing vigorously they like a mild, humid atmosphere. It is very important to gradually harden off the alternantheras before bedding-out time. During the last week they are in the frames the lights should be taken off during the day.

SINGLE ROSES AS DECORATIVE PLANTS.

By T. W. Girdlestone.

Single Dahlias! Single Chrysanthemums! And now (O, ye Florists) Single Roses!! Well, why not? Nothing is perfect in this world, and we must have regard to a general law of compensation in the selection of the meritorious. Single roses are so fleeting? True, the individual flowers are; but look how each shattered blossom is replaced by a score of others, until profusion stands declared to compensate the want of endurance. These singles are no good for cut flowers or exhibition?—so much the better for the garden, which will thus be all the more attractive to get and keep people out of the house, while the making of a permanent garden at all times attractive, is of far more importance than the decoration of any tent for a few hours; and at the same time it must be remembered that Hybrid Perpetuals only last a day during July. And then, single roses do not flower in the autumn? Apart from the fact that this is not in all cases true, no more do about half the so-called "Perpetuals" over which the singles have this advantage, that they are as gay in the autumn with heps as they were in the summer with flowers; some bearing fruits large and deep coloured, some small and brilliant, some in bunches as big as rowans. And then again how good natured they are, making themselves at home in soils and situations and with a small amount of attention, that many double roses would die rather than put up with, and at the same time scorning the notion of mildew and green-fly and such-like fashionable complaints. But argument is always useless; for those who only grow what is in vogue, or whose horticultural love is circumscribed and centred in that showy Miss First Prize, will not grow anything that is not prescribed by their leaders of fashion, or conducive to the winning of their mistress; while those whose large hearts (and gardens, since it must be admitted that for very small gardens the most vigorous of the single roses are not well adapted), have room for all that is beautiful, will need no persuasion.

It only remains, therefore, to enumerate the most beautiful and best adapted for general cultivation of those single roses which I have grown, in case others may possibly not have come across some of them, and to give the mockers something definite to mock at; since general mockery is too easy to be entertaining, and we are told that as much entertainment as possible ought to be obtained from every "single thing."

Of all the plants in the garden this year, I think that which was individually the object of the greatest admiration for the longest time was a rose, whose single flower is no larger than one's thumb-nail, namely, Rosa polyantha (=Luciæ), one of the Multiflora (II.) (The Roman numerals refer to groups as arranged at Mr. Baker's Synopsis of Roses, recently published in the horticultural periodicals). This plant covers a split-larch fence twelve feet high and eighteen feet wide, and would readily have covered twice that area, as it grows with great vigour; in fact, rather than waste time over any one-sided arrangement, it has penetrated the interstices of the saplings, and already clothes the fence on both sides. Although the individual flowers are so small, their petals are of the purest white set off by the close bright yellow stamens, and they are delightfully fragrant; whilst they are produced in such immense clusters as to make the tree appear literally snow-wreathed. Gratitude, if that be really the concise term for a keen sense of favours to come, ought to be an additional inducement to the cultivation of this charming plant, since from accidental crosses through the bees' agency of this rose and various tea-scented sorts in the Lyons Rose gardens, have sprung those pretty and truly ever-flowering miniature roses, the polyanthas of catalogues, such as Mignonette, Ma Paquerette, Perle D'Or, &c.

R. Brunonii (II.) is another very pretty rose growing with great vigour, and making a good climber, producing bunches of white flowers somewhat similar to R. Moschata, the single musk rose, but more ornamental.

R. Setigera (II.) (=rubifolia—a name which Mr. Baker does well to discard, as it gets much confused with rubrifolia, a very different rose) is the Prairie rose of North America, and the parent of the "Gem," "Queen," "Beauty," and several other apocryphal things "of the Prairie," and is worth growing if only for the beautiful autumn colouring of its foliage. For its leaves are like those of the bramble, not only in appearance, but also in the varied tints they assume towards the end of the year. The British representative of this group (II.) R. Repens (=arvensis), is the most beautiful of all our native roses, and, if it only came from Peru or Siberia, instead of neighbouring commons and hedgerows, it would probably be grown and admired as it deserves to be. But in spite of its being "only a wild flower," it should be remembered that it probably helped to originate the Ayrshires, and a place should be found for it in the wild garden, where it can grow as it likes; not trained up anything, for it is one of the few *creeping* as opposed to *climbing* roses, but left entirely alone, when it will soon make a great mound of graceful slender growths to be hidden in June under a canopy of pure white flowers.

Perhaps the most winning of the smaller-growing single roses is R. berberidifolia Hardii (I.), formerly said to have been a hybrid between R. berberidifolia (=simplicifolia) and involucrata, but probably a seedling from R. clinophylla fertilized by R. berberidifolia. Anyway, the plant was raised by M. Hardy, at Paris, in 1844,* and though not simple-leaved, it follows berberidifolia in its yellow flowers, about the size of half a-crown, with a purple blotch at the base of each petal. Its habit is slender, but it grows and flowers freely, and makes a most graceful and interesting plant.

Another rose that is a first-class plant, in spite of its being afflicted with a list of names like a biographical dictionary, is R. Sinica (III.) (=lævigata, ternata, triphylla, nivea, camellia, cherokensis)! It would almost seem as if there had been (of course there are not now) people who on finding some well-known plant to be possessed of great merit, have got up stock, and sent it out afresh with a new name. At any rate, most of the best varieties of apples, pears, chrysanthemums, roses, &c., appear to have such a string of names that it is like being at a Royal christening to hear them talked about. Could some such practice as this have originated the use of the word "plant" to signify a "take in"? this of course, *sub rosa*. But to return; of all roses, Sinica is the most easily recognisable, with its ternate, dark glossy foliage, in texture more like that of a camellia than a rose, and it is admirably adapted for covering either a wall or pillar, since, in addition to being practically an evergreen, it grows with great vigour, and when established makes a lavish display of its beautiful large single white flowers. It is often called the Georgian rose, from the land of its adoption, in North America, but it is believed to have been originally introduced from China.

The other Chinese rose, R. bracteata (IV.) (Macartney), and its pretty variety, Maria Leonida, are two very charming roses, but well-known, and perhaps hardly of sufficiently robust constitution to become general favourites. From North America, however, have come several species of considerable interest, especially two which have a more or less strong family likeness in their principal features. These are R. nitida and R. lucida (=baltica, rapa) (V.), both characterized by shining leaves composed of many (five to eleven) small oblong leaflets, stems more or less red and smooth, and rosy flowers succeeded by scarlet setaceous turnip-shaped heps of great brilliancy. The former is the more slender plant in all its parts, and the shoots are covered with numerous fine prickles of various sizes, which, however, are not always persistent; but it is a fairly easy plant to identify, and is very well figured by Redouté. R. lucida, on the other hand, is a very variable species, though always attractive, with its glossy foliage to set off its rosy flowers or brilliant fruit, neither of which vary appreciably. One variety is a vigorous grower and makes a large bush, or if trained on a wall attains the height of ten or twelve feet, and has obtuse pale-green leaflets with an uneven surface, and numerous decidnous prickles on the young growths. But the most beautiful variety does not usually exceed two feet in height, although very vigorous; its dark red stems armed with pairs of straight prickles support pretty rosy flowers, which are succeeded by round heps even more ornamental, gleaming among the deep green shining foliage, which itself assumes a rich purple colour before reluctantly admitting that it is not quite evergreen. In the same group (V.) R. Woodsii is not so interesting, but the foliage assumes pretty tints in autumn; the slender-growing R. Clinophylla (=laxa) is best known through its beautiful double-flowered variety; and R. rugosa (=ferox, Regeliana) is generally cultivated. The white-flowered variety of the last-named is deservedly popular, but the variety coruscans should be grown rather than the red-flowered type. For it must be admitted that the colour of rugosa is of a somewhat dingy red, while coruscans, of similar external appearance, has flowers of the softest clear pink, with petals of wonderfully silky texture. A rich purple semi-double variety called Comte d'Espremenil, sent out by Nabonnand, is of interest as being perpetual, flowering freely a second time in the autumn. R. Kamtschatica, with a habit of growth somewhat similar to rugosa, is inferior in every way, having much smaller red flowers.

Mr. Baker's group VI., bringing together spinosissima and Alpina (the thornless rose), is rather a satire on the classification of plants merely by general external appearances. I must own to a decided preference for the touch-me-not rose all set with little wilful thorns over the plausible insinuating alpina (or pyrenaica). A good plant of the burnet rose in full bloom is a "charming sight to see," but though when cut fresh and young a bunch of Alpine roses is pretty and very fragrant, the flowering is too desultory to be ever very effective on the tree, while nothing short of an earthquake, or at least a general upheaval of rocks, will secure the eviction of its suckers from any Alpine garden in which Rosa Alpina may have been domiciled.

R. Ecæ, with its brown stems covered with equal prickles, appears a very characteristic plant, but I have not yet seen it flower; and a definite position is hardly assigned either to it or R. Beggeriana nigreseens, a slender growing but vigorous plant, producing freely numerous delicate white blossoms, which are very effective among the graceful bluish-green foliage, and which are followed by brilliant little heps like wax-work.

Rosa canina (IX.) may truly be called the slave of the rose family, and like Cinderella, is only thought of in work-a-day garb, and is unquestionably sat upon. It is designated by the contemptuous name of dog, and then dragged out from the hedge rows to be the standard-bearer of Queen Rosa's army; it is cut to pieces to support the mounted infantry that they may achieve glorious victories, and be decorated with medals on the tented field; uniform drills are the rule for its very seedlings till they are drafted into the line for active service with the colours; moreover, it undoubtedly helped to originate many garden varieties, while some of its own variations are very pretty; and yet hardly anyone seems to think it deserving of a place even in the wildest of wild gardens. The versatile Gerard, in his quaint and gossiping herbal, can hardly condescend so much as to mention poor R. canina, "a plant so common and well-knowne, that it were to small purpose to use many words in the description thereof; for even children with great delight eat the berries when they be ripe, make chains and other prettie gowgawes of the fruit; cookes and gentlewomen make tarts and such-like dishes for pleasure thereof, and therefore this shall suffice for the description." (They must have had good digestions in those days, when it was possible to sharpen an appetite by botanizing on the site of the present barracks, and gathering R. pimpinellifolia "in a pasture as you goe from a village hard by London, called Knightsbridge unto Fulham, a village thereby;" for the old surgeon repeats that "the fruit when it is ripe maketh most pleasant meats and banqueting dishes, as tarts and such like: the making whereof I commit to the cunning cooke, and teeth to eate them in the rich man's mouth!") Another aggravation to which R. canina is subjected is the treatment of its different forms. This rose has gone into variations literally by the hundred, to try and obtain horticultural recognition, but without success. For as soon as it has elaborated a fresh attraction and appears in the glory of deeper colour, larger flowers, downy leaves, or what not, some one is sure to be ready with a sesquipedalian name of probably as many consecutive consonants as his own patronymic, and we are indulged with the "discovery of a new species!" The poor dog can gain neither credit nor admission any way. Some years ago, when a crowded train reached Cologne, certain English passengers, engrained with the black dust of the hot night journey, immediately started off to get a bathe, their German fellow-travellers, whose demands on the water supply were—well, more Teutonic—promising to keep their seats for them in the compartment. But when the bathers returned several shades lighter in colour, and radiant in clean collars, the exact mind of the Teuton refused to admit their identity with the whilom grimy companions, and informed them that they must find room elsewhere, that compartment being reserved; So that their smartened exterior nearly cost the renovated Englishmen their seats in the train. This trying to make a specific distinction between a man before and after his bath is the sort of treatment that is discouraging to all effort in the direction of improved appearance—even when applied to roses.

R. rubrifolia (IX.), of which Andrew's name of lurida is much more descriptive, is a very distinct and interesting plant, with its metallic-blue tinted foliage and weird quaint-looking flowers whose long attenuated sepals extend far beyond the rosy petals, a veritable rose of fairyland. The red-brown stems are covered with a bloom like that on black grapes, and this blue colour seems to pervade the whole plant, making with the delicately-tinted flowers a most perfect "arrangement" in rose-colour and French-grey. The beauty of the plant is maintained until late autumn by the great clusters of from fifteen to thirty smooth bright-red somewhat globular heps which succeed the bunches of flowers. Some of the varities of R. indica (IX.) also are interesting from the freedom with which they bloom again during the autumn till cut off by frost, and for their intense fragrance.

R. rubiginosa (X.) (=eglanteria, suaveolens) our native eglantine, or sweet-brier, is much prized for its fragrant foliage, though it is only when they see the plant laden with heps that it seems to occur to some people that it must at one time or other have borne a very ornamental mass of flowers; and floral commendation is generally reserved for such varieties as the double scarlet sweetbriar, a very pretty sort truly, but with neither the vigour nor the fragrance of the species. Nevertheless, one garden single variety is really a lovely rose, with thick, pure white petals, each margined with a bright picotee edge of clear purple. It is very vigorous, and rejoices in the picturesque name of "Hebe's Lip," though why so is not obvious; since Hebe's lips could hardly have been so white as the petals, or so dark as the edging—unless she "enjoyed extremely bad health" as they say in the west, or else was perpetually sipping the ruby nectar she should have been handing round.

The white-flowered form of R. pulverulenta (=glutinosa), another member of this group, makes a pretty pendent on the rockery to R. lucida. It has compact white flowers which are succeeded by elongated red heps, and its smooth, dark stems are clothed with deep green leaves consisting of seven rounded leaflets.

But, of course, it is by the so-called Austrian briars that the rubiginosæ have been made famous in gardens. The double forms, Persian yellow introduced from Persia in 1837 by Sir H. Willock, lutea flore pleno or Williams, double yellow, and Harrisonii sent from America in 1830, though somewhat similar, are all good and desirable roses; but none of them exceed in purity of colour or grace of outline, the single flower of the species R. lutea, a plant whose deep pure yellow blossoms, mounted on their brown stems against their natural back-ground of dark-green foliage, produce an effect only eclipsed by those of its brilliant variety R. punicea. "Copper" Austrian brier is a misnomer; for the petals of this rose, though buff-coloured on the outer side, are of a dazzling orange-scarlet colour on the inside, which is fully displayed by the expanded flowers; and a few branches of this rose and R. lutea, lightly arranged in a good-sized piece of Valérie or other deep-coloured pottery, makes as distinguished a bouquet as can well be.

Let it not, therefore, be said that single roses are not worth growing as decorative garden plants; for if their individual flowers are evanescent, they are also innumerable, and so the plants remain gay longer than many other roses, even without reckoning their harvest decoration of scarlet fruit in the autumn; and the majority of them are no trouble whatever to grow. R. berberidifolia Hardii, lucida, and nitida, with Ecæ, pulverulenta flore albo, and Beggeriana nigrescens, are charming representatives of the genus Rosa for the rockery, and R. polyantha is the most rapid and ornamental of climbers; while, with all deference to Mr. George Paul, the true scarlet rose (to speak pinaforically),

"Resisting all ambition
To come fit for exhibition
Still remains a single rose."

Rosarian's Year Book, 1886.

* Date not certain.—T. W. G.

No Juice in a Flint.—This trite saying has a parallel; *there is no getting juice out of cheap tea.* The Chinese are yearly increasing the supply to English tea-drinkers of redried and worthless leaves, utterly destitute of *theine*, which is the one active principle most to be desired in the beverage; consequently cheap tea becomes dear tea *at any price.* The true policy of supplying wholesome Pure Tea is alone to be commended; hence the enormous and increasing sale of *Horniman's Tea, guaranteed absolutely pure*, by Chemists and others who are Agents in all parts of the kingdom, and supply the public at London fixed prices.—See advertisements in all Newspapers and at Railway Stations for list of Local Agents.—[Advt.]

Exhibitions and Meetings.

RICHMOND HORTICULTURAL SOCIETY.

Testimonial Dinner to J. H. Ford, Esq.

At a meeting of the Richmond Horticultural Society, held in the second week of January, it was unanimously resolved to present Mr. J. H. Ford, the honorary secretary, with a testimonial in recognition of the great ability with which he has discharged the duties of his office. A committee, with Mr. J. F. Gribble as secretary, was at once formed to take the necessary steps for giving effect to the resolution of the meeting, and so highly appreciated are the services rendered by Mr. Ford that the project was very warmly taken up by the residents in the town and neighbourhood. Immediately publicity was given to the fact that it was intended to acknowledge Mr. Ford's good work by a public testimonial, subscriptions began to flow in, and continued to do so at such a rapid rate that the committee were ablo to bring their labours to a successful conclusion in a very short space of time. Tnis they did by entertaining Mr. Ford at a complimentary dinner at the Greyhound Hotel on the 25th ult., and presenting him with a handsome gold watch and chain, of the value of twenty-five gnineas, and a purse containing £100. Sir J. Whittaker Ellis, Bart., M.P., presided, and was supported by Sir E. Hertslett, C.B., the Rev. Canon Procter, Major Bull, and other of the principal residents. About eighty gentlemen sat down, amongst the horticulturists present being Mr. H. Herbst, Mr. W. Steell, Mr. Bowell, Mr. W. Brown, Mr. J. S. Lindsay, Mr. J. F. Kinghorn, and Mr. J. Munro.

After the customary toasts had been acknowledged, Sir J. Whittaker Ellis proposed "The Health of Mr. Ford," which was enthusiastically received. In doing so he said that it was highly gratifiying to him to be present to testify to the great value of the services which Mr. Ford had rendered the society during the time he had so worthily occupied the position of honorary secretary. It was still more gratifying to have the opportunity of presenting him with such a magnificent testimonial, and he heartily congratulated Mr. Ford on the position he occupied in the estimation of his fellow townsmen. On the presentation having been made, Mr. Ford said that he fully appreciated the great honour done him by presenting him with such a handsome testimonial, and trusted that the society would long occupy its present high position, and considerably extend its sphere of usefulness.

In the course of the subsequent proceedings, "The Health of Mr. Chancellor," who was secretary to the society for upwards of seven years, was proposed and heartily received. In response to the toast of "The Trade of Richmond," Mr. Steell and Mr. H. Herbst bore testimony to the good work that had been accomplished by the society, and Mr. Herbst also referred at some length to the importance of the horticultural trade at the present time.

BANBURY FLOWER SHOW.

This show, which for more than a generation past has proved the principal holiday of the year to the dwellers in the town, has suddenly collapsed. At the annual meeting, held a fortnight since, the secretary (Mr. E. J. Hartley) tendered his resignation, after holding the position for twenty-seven years, and as there were but six or seven persons present it was arranged to convene a meeting to dissolve the society. At the adjourned meeting, held on Friday, Febrnary 19, there was a goodly attendance of subscribers, some of whom offered to double their subscriptions to keep the society going; but a large majority present being of opinion that the show had ceased to be an attraction, the society was dissolved. The balance in hand (£10) was offered to the secretary, who declined the offer, and suggested that it remain in the bank in the treasurer's name.

CARNIVOROUS PLANTS.

Professor Boulger, F.L.S., recently delivered a very interesting lectnre on this subject before the Ealing Microscopical and Natural History Society; the Rev. Professor Henslow, F.L.S., presiding. The lecture was illustrated by means of dried specimens and models, and a series of slides shown by an oxy-hydrogen lantern. The lecturer commenced by stating that a few days before had occurred the seventy-seventh anniversary of the birth of the greatest of English naturalists, Charles Darwin; and he drew attention to the fact that, of the multifarious topics which that great observer elucidated as bearing on his theory of "natural selection," few were more fascinating than that of insectivorous or carnivorous plants. It used to be said that one of the differences between plants and animals was that animals were capable of taking in solid food, while plants were not; but it was only true in a very limited sense that animals took in solid food. They did, it is true, take solid food into the stomach, but before it could be taken into the tissues and blood it must become liquid; whilst there were plants, such as the pitcher-plant, which possessed organs quite as much entitled to bo called a stomach as was that of the little hydra, or fresh-water polyp. The food of animals and plants alike had to nndergo fermentation before it was capable of assimilation. The process of digestion was thus identical in plants and animals, and not confined to the so-called carnivorous plants, whose chief peculiarity was that they exuded their digestive fluids, so that digostion took place on the outor surface of the leaf. There were wholo groups of plants which lived exclusively upon organic matter, such as the fungi and other plants destitute of green colouring matter. Theso were, therefore, exactly like ordinary animals in their nutrition. Illustrations were shown of the yeast plant and moulds, and it was stated that some plants have the habit of catching flies without apparently using thom as food, as the campions and catch-flies and the littlo three-fingered saxifrage, common in the south-west of England. The sundows, a genus of about 100 species, of which 40 were natives of Australia, were mentioned, and particularly the commonest of our three British species, *Drosera rotundifolia*. The organism of this plant was fully described. A Portuguese plant, (*Drosophyllum*) allied to the sundows, was hung up by the peasants in their cottages to catch flies; whilst another allied genus (*Byblis*) had similar glands within the flower. Tho next type referred to were the Sarracenias or side-saddle plants of Western North America; then the bladderworts (*Utricularia*); following this *Nepenthes*. A yet higher organization was that of the Venus's Fly-trap (*Dionæa*), a plant confined to some twelve square miles round Wilmington, in Carolina, but first doseribed by Ellis, in a letter to Linnaeus, in 1768, and experimented upon by Knight in 1818. The last plant referred to was *Aldrovanda*, a rootless, submerged plant, found in Queensland, Bengal, and the south of Europo, with its leaves in whorls of six, edged with teeth, and having sensitive hairs over the central part of their surface, and four-rayed ones near the edge. Darwin termed it "an aquatic Dionœa;" but it had been suggested that these four-rayed hairs might absorb the liquid products of decay, as in *Utricularia*, in which case the plant would combine in itself the characters of the two physiological types.

Replies to Queries.

W. S.—The Latania is in a bad state at the roots, probably wet and sour.

Lily of the Valley.—S. F.—The crowns have evidently been subjected to an excessively high temperature.

A Subscriber is informed that it is not "a safe method" to graft a pear scion on a plum stock.

Z. shall have attention if he will state his case in a few words; his letter, just received, is loaded with unnecessary matter, and we cannot find time to discover what he wants.

Herbaceous Phloxes.—V.—Strong plants in three-inch pots will if put out within the next fortnight bloom very satisfactorily in the course of the summer.

Zonal Pelargoniums.—T. J.—It will be very beneficial to shift the plants that are to be bedded out in May next from the small sixties to three-inch pots. Most of the old soil should be removed from about the roots, and a rather substantial compost should be used.

Orchid Rafts.—Beginner.—Rafts for orchids are not difficult to make, but as you have not had any experience in the work it will be advisable to purchase two or three for patterns. You will be able to obtain them from the nurserymen who devote special attention to orchids.

Starting Vines.—Yonng Gardener.—A temperature of 55 deg. will be quite sufficient to commence with, and when the vines are breaking freely afford a rise of 5 deg. by fire-heat and 10 deg. with sun-heat. A liberal degree of atmospheric moisture is essential, and the walls and paths should be sprinkled with water at least twice a day, and nntil the shoots are an inch or so in length the vines should be syringed morning and evening.

Early-flowering Chrysanthemums.—Inquirer.—Some of the most useful of the chrysanthemums flowering at the end of the summer and the beginning of the antumn are—Alexandre Dufour, Isidore Féral, L'Isle des Plaisirs, Mons. H. Jacotot, Madame C. Desgranges, and its golden yellow sport George Wermig, of the large-flowered kinds; and Fiberta, Frederic Marronet, Anastasio, Mrs. Cullingford, Trésorier Lacoste, Lyon, Mr. W. Piercy, Mdlle. Jolivart, St. Crontts, St. Mary, and La Vierge, of the small-flowered-kinds.

Books.—A. T.—Hibberd's "Amateur's Greenhouse," published by Groombridge, price 6s. R. W. T.—Johnson's "Gardener's Dictionary," published by Bell, price 7s. W. Ockerby.—Maund's "Botanic Garden," in six volumes, large octavo, is published by Bell at about £8; the original edition is in fifteen volumes, small quarto. It is not scarce, but it is no use to order it of a publisher. J. Farrer.—Mr. Hibberd's "Treatise on Home Culture of Watercress" is published by Allen, price 2s. 6d.

Dividing Dendobriums.—G. S.—The proper time for dividing dendrobiums is immediately they show signs of beginning to make new growth. It will be quite safe to divide your plants of D. nobile when the young growths are between one and two inches in length. In dividing them avoid unnecessary injury to the roots, and after they aro potted place them in a corner of the orchid-house, where they can be syringed overhead occasionally without injury to the other subjects within the structure.

Streptosolen Jamesoni.—R. O.—Examples of sufficient strength to produce a good display of flowers can be produced in twelve months. As you are desirous of growing a comparatively large stock, your best course will probably be to purchase at once two or three old plants to furnish a supply of cuttings. Tops of the shoots make the most suitable cuttings, and strike very freely when placed in the propagating pit, or other structure where they can have the assistance of a brisk temperature and a moderate amount of atmospheric moisture.

Phalænopsis.—H. W.—It will be advisable to allow the plants to remain nudisturbed until the flowers have lost their beauty, when they should be put into fresh baskets. The best baskets are those of teak, as they will last much longer than baskets made with hazel rods—or, indeed, of any other wood adapted for the purpose. The plants which occupy baskets in a sound state and are in a vigorous state of health, should not be disturbed at the roots this year. Fill the baskets to at least one half of their depth with large crocks and nodules of charcoal, and use sphagnum, in a live state if readily obtainable. In removing them from the decayed baskets to the new ones, care must be taken to avoid injury to the roots.

Rhodanthes for the Conservatory.—W. B.—Tho rhodanthes may, as yon suggest, be employed in the decoration of the conservatory, and when well grown are very bright and effectivo. The practice adopted by the growers is undoubtedly the best, and we would advise you to follow it. Five-inch pots aro filled to within half an inch of tho rim with a mixturo consisting of loam, leaf-mould, powdery manure, and sand. Tho soil is pressed rathor firmly, aud when tho surfaco has been made quite level, the seed is sown thinly and covered lightly with fine soil. Tho pots are placed in a frame, and whon the plauts are well above the surface they are thinned to twelvo or fifteen in each pot. To keep the plants near the glass, aud ventilate freely, is regarded as of the utmost importance, because of their tendency to become drawn.

Obituary.

On the 23rd of February, at Liége, M. Charles Jacques Edouard Morren, Professor of Botany in the University of Liége, Secretary to the Federation of Horticultural Societies of Belgium, member of the British Association for the Advancement of Science, editor of *La Belgique Horticole*, &c. Professor Morren was one of the best known and most deeply respected of Continental botanists, and was held in especial esteem by the British visitors to horticultural exhibitions in Belgium and Holland, as he was an active worker in such undertakings, and possessed a peculiar talent for making things go pleasantly for the men and advantageous for the cause. He was born at Ghent on the 2nd of December, 1833, and had, therefore, attained the age of only 52 years. The news of his death occasions to us the greatest shock, because only a few days previously to its occurrence we received from him a generous response to a request we had made for a favour which only he could bestow. His remains were interred at Robermont, on Wednesday last.

On the 1st of March, at Calke Abbey, Derbyshire, Sir John Harpur-Crewe, Bart., aged 62 years.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 10 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
14	S	**Quadra. 1st Sunday in Lent.**	6 18	9 19	6 0	11 21	2 10	7 18	7 51	4 14	4 43	42·3	Chysis aurea	Venezuela.	73
15	M	Earl St. Vincent died, 1823.	6 16	9 2	6 2	After.	3 6	8 29	9 11	5 16	5 51	42·4	Cycnoches pentadactylon	Brazil.	74
16	Tu	Prince Imperial born, 1856.	6 13	8 45	6 4	1 35	3 56	9 58	10 43	6 36	7 23	42·6	Phalænopsis amabilis	Manilla.	75
17	W	*St Patrick.*	6 11	8 27	6 6	2 51	4 36	11 23	—	8 8	8 48	42·7	,, grandiflora	Java.	76
18	Th	Princess Louise born, 1848.	6 9	8 10	6 8	4 12	5 13	0 1	0 32	9 26	9 57	42·8	,, rosea	Manilla.	77
19	F	Bishop Kurr died, 1711.	6 7	7 52	6 10	5 32	5 45	0 59	1 23	10 24	10 48	43·0	Cymbidium eburneum	India.	78
20	S	○ Full Moon, 4h. 37m. morning.	6 5	7 34	6 11	6 51	6 16	1 48	2 10	11 13	11 35	43·2	Cypripedium Hendersoni	India	79

ROYAL BOTANIC SOCIETY GARDENS, REGENT'S PARK.
EXHIBITION OF SPRING FLOWERS.
The first Exhibition of the Season will take place on WEDNESDAY, March 24. Schedules of Prizes now ready.
The dates of the SUMMER EXHIBITIONS are WEDNESDAYS, May 19 and June 9. Schedules of Prizes now ready.

ROYAL HORTICULTURAL SOCIETY.
The REPORT on the ORCHID CONFERENCE is now ready, and may be had by Fellows of the Society on application to the Assistant Secretary, at the Office, South Kensington, S.W.

CRYSTAL PALACE SPRING FLOWER SHOW, March 26 and 27. —Schedules of this and other Flower and Fruit Shows during 1886 to be had on application to Mr. W. G. Head, Garden Superintendent, Crystal Palace.

ROYAL AQUARIUM, WESTMINSTER. — HORTICULTURAL EXHIBITIONS.—Great Exhibition of Hyacinths, &c., Market Plants, and Cut Daffodils, on March 30 and 31; Great Artistic Rose Show, on June 25 and 26; Great Strawberry Exhibition and Fête, on July 2 and 3; Great Display of Table Decorations, Bouquets, &c., on August 20 and 21. Liberal prizes are offered. Schedules of Prizes on application to Mr. Richard Dean, Superintendent of the Exhibitions, Ranelagh Road, Ealing.

BATH BULB SHOW, WEDNESDAY and THURSDAY, 24th and 25th March.—18 Hyacinths, open, £3 first, £2 second, £1 third; 12 Hyacinths, amateurs, £2 first, £1 second; 6 Orchids (distinct), open, £3 first, £1 10s. second; and several other classes for Plants, Cut Flowers, Fruit, and Vegetables; 49 classes in all. For Prize Schedules apply to Benjamin Pearson, Secretary, 14, Milsom Street, Bath.

BRISTOL SPRING FLOWER SHOW SOCIETY.—The SIXTEENTH GRAND SPRING EXHIBITION will be held at the Colston Hall, Bristol, on March 17 and 18, 1886.—A. Polkinhorn, Secretary, Bishopston, Bristol.

Exhibitions and Meetings for the Ensuing Week.

Tuesday, March 16, and Wednesday, March 17.—Manchester Botanical and Horticultural Society.—Spring Exhibition.
Tuesday, March 16, and Wednesday, March 17.—Royal Meteorological Society. —Exhibition of Barometers in the evening.
Wednesday, March 17, and Thursday, March 18.—Bristol Spring Flower Show Society.—Annual Exhibition.
Wednesday, March 17, and Thursday, March 18.—Preston Horticultural Society.—Spring Exhibition.
Thursday, March 18.—Liverpool Horticultural Association.—Spring Exhibition.

Auction Sales for the Ensuing Week.

Monday, March 15.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
Tuesday, March 16.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
Wednesday, March 17.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Japanese Lilies, Iris, Plants, Roses, &c.
Wednesday and Thursday March 17 and 18.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids, Lilium Auratum, &c.
Wednesday and Saturday, March 17 and 20.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, Shrubs, Border Plants, and Bulbs.
Friday, March 19.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

THE GARDEN ORACLE for 1886 is on the same plan as former issues, the present being the twenty-eighth publication of this work. It contains complete lists of the New Plants, New Flowers, and New Fruits, and a Complete List of the New Parliament.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.
Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.
ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, MARCH 13, 1886.

The Protection of British Plants was the subject discussed by the Horticultural Club at the after-dinner meeting on Tuesday last. In the paper introducing the discussion there were proposals of a general nature, and one that may be described as "practical," although, strictly speaking, it is of negative character. Mr. Hibberd urged the suppression of the customary classes for wild flowers at horticultural exhibitions, declaring his belief that the competitions were of little advantage to the competitors, but of decided disadvantage to the district from which the flowers were obtained for the purposes of the exhibition. In a paper of the kind, a searching view of such a subject must not be expected, but a definite proposal with a practical end in view may be entitled to some serious consideration. It happens that a very considerable proportion of the readers of this paper are directly interested in the organization of exhibitions, and are in a position to contribute by fact and opinion to the discussion of the question. We shall hope to hear from our friends about the utility and reasonableness of the class of competitions in which wild flowers are prominent subjects. That they are often an attractive feature must be admitted; and that, generally speaking, they are at least harmless, if not strikingly useful, can scarcely be denied. But the larger question is scarcely touched by such considerations. Observant botanists, and more especially such of them as have, through a series of years, been familiar with a certain range of country, are perhaps best qualified to offer evidence, for they know of the rarities of the district and the degree in which human curiosity—to say nothing of rapacity—affects them. The advancement of hardy plants in public favour does certainly tend to the destruction of beautiful native plants in certain localities, and it may be said that every busy town is the centre of a large area of sterility, rendered so by the pillaging process of the local plant collectors. The story of an adventure on Dartmoor that appeared in our Christmas number has been spoken of as a "pure fiction" and a "moral impossibility;" but in truth it is founded on a fact; and it is that, much more than any special skill on the part of the writer, that accounts for its air of reality and apparent avoidance of exaggeration. Whether the satyrium spoken of grows on the spot indicated we do not know, but of the fact that underlies the story there is no doubt whatever; and the moral of the fact is that "exterminators" and "eradicators" are to be found amongst professing lovers of plants. The persons who contribute wild flowers to the exhibitions are not to be classed with the exterminators; nor would we in any way suggest that intentional mischief is ever thought of by them. But there remains the question, Does the exhibition of wild flowers tend to the injurious diminution of the British Flora?

The Discussion of the Proposals for the Protection of British Plants revealed the diversity of opinions common to such occasions. Amongst the speakers were the Rev. H. H. D'Ombrain, Dr. Robert Hogg, Mr. Druery, Mr. Cousens, Mr. J. G. Baker (of Kew), Mr. Nicholson (of Kew), Mr. Girdlestone, Mr. Harry Veitch, Mr. G. Bunyard, and other observers of the ways of the world in respect of the subject before the meeting. A number of most interesting particulars were given of the localities of interesting plants, and of the disappearance, within recent years, of rarities known to comparatively few, but none the less sought after by assiduous collectors. Unreserved adoption of the measures suggested in the paper was certainly not to the taste of the meeting; but, on the other hand, there was a partial acceptance of those measures, and a complete approval of the spirit that prompted them. It was pointed out, for example, that gatherings of wild flowers for exhibitions in July and August were not calculated to be harmful, because what the experts regard as "good things" are by that time out of flower, and have shed their seeds, and are not to be considered in danger. But it was thought that in preparing a schedule the peculiar products of the district should be carefully considered, with a view to discourage the gathering of subjects that are of great importance from a botanical point of view, and yet perhaps of but secondary value on the exhibition table. And it was also thought that the number of plants in a group or class should be carefully limited, with a view to ensuring suitable display and interesting variety without ransacking the local flora; for many of our noblest wild plants are produced in such plenty that none need fear their extinction, or seriously discuss the question at present. As regards native ferns, it was thought that many kinds had been very seriously diminished in number by collectors, and, in not a few instances, stations once noted for certain kinds had become perfectly destitute. A course of action in defence of British ferns was unanimously approved of. It consists in simply excluding from the classes the specific or typical forms, the result of which is to limit the choice of the exhibitor to the varieties. Thus for the tasselled, crested, laciniated, and other

eccentric forms, the selection remains as free as before; but the wild forms, as we may term them, or the "normal" forms as usually recognized by botanists, will not, under such a rule, be available for exhibition. It was felt, of course, that the protection of British plants must remain very much a matter of sentiment, reason, and just appreciation of the beauties of nature. The object of the essayist was neither to fret the intelligent collector nor rob the children of their exhibitions of wild flowers, but to check, if possible, wasteful, useless, and wanton collecting by ignorant persons who give momentary attention to wild plants through some superficial impulse that leads to nothing higher than sheer destruction. Thus the final words of the essayist were regarded as full of significance—the best that can be hoped for being to render ferns and wild flowers unfashionable, for that would make an end of the fascination that attracts the mere grabbers and ravagers who are chiefly answerable for the spoliation that is lamented.

Liverpool Spring Show will be held on Thursday next, March 18.

Glasgow and West of Scotland Hyacinth Show will be held in St. Andrew's Hall, Wednesday, March 24.

Royal Aquarium, Westminster, Exhibition of Spring Flowers will be held Tuesday and Wednesday, March 30 and 31.

Royal Botanic Society's First Spring Show will take place on Wednesday, March 24.

Crystal Palace First Spring Show will take place Friday and Saturday, March 26 and 27.

Narcissus Committee first meeting for the season will be held in the conservatory of R.H.S. on Tuesday, March 23.

Bath Floral Fete Committee will hold a show of spring flowers on Wednesday, March 24.

Leicester Flower Show and Gala will be held on Tuesday, August 3.

Dr. E. Regel has retired from the directorship of the Botanic Garden, St. Petersburg, and is succeeded by Dr. Engler.

Manchester Botanical Society's First Spring Show will be held on Tuesday and Wednesday next, March 16 and 17.

Bristol Spring Show will be held on Wednesday and Thursday next, March 17 and 18.

Southend-on-Sea Chrysanthemum Show will be held Tuesday and Wednesday, November 16 and 17.

Preston and Fullwood Spring Show will be held Wednesday and Thursday next, March 17 and 18.

Warwick Horticultural Society will hold its exhibition on August 2.

Japanese Picture Books will be the subject of a discourse by Mr. Ernest Hart at the Society of Arts on the evening of Tuesday, May 18.

Edward B. Poulton, Esq., M.A., will give two lectures on the "Nature and Protective Uses of Colour in Caterpillars" before the Royal Institution of Great Britain. The first lecture will be delivered to-day (Saturday), and the second on Saturday next, at 3 p.m.

Birmingham Gardeners' Mutual Improvement Society, which was formed a few weeks since, is now in full working order, and has made arrangements for a series of lectures to be delivered on the 17th and 31st inst. and April 14 and 28, at the society's rooms, Albert Chambers, Paradise Street.

Dates of Continental Exhibitions, 1886.—Antwerp, June 27 and August 8; Bruges, April 18; Brussels, April 25; Ghent, April 11 and 12, September 12; Huy, August 12; Liége, April 25; Louvain, March 28, June 20, September 5; Mons, June 20, October 3; St. Nicolas, April 25; Schaerbeck, June 13; Tournay, September 12.

Tobacco Cultivation in Russia.—In the province of Kharkow last year tobacco was planted over an area of 640 deciatines (1,730 acres), being 16 deciatines (43 acres) more than in 1884. The crop produced amounted to 5,077 pouds of tobacco from Turkish seed, 240 pouds from American seed, and 25,795 pouds of inferior quality, being a total of 31,112 pouds. In 1884 the crop was 36,218 pouds.

Royal Gardens, Kew, present at the present time but few special features of interest, but in such a place there is, of course, always something worthy of observation. In the succulent house a fine plant of Doryanthes excelsa shows a noble spike of flowers that promises soon to raise the roof and make a sensation. Beschorneria Cobniana, a fine amaryllid from Mexico, is just ready to present its flowers; and Cereus Mallisoni is about to garnish a rafter with a display of colour. The lovers of "the weed" will be gratified to hear that there will shortly be adopted a new rule as to smoking, which will be permitted in all parts of these gardens, save and except in the museums and plant-houses.

Royal Botanic Society.—The schedule of the exhibitions to be held by the society May 19 and June 9 differs but little from that of last year, and accordingly contains ample provisions for stove and greenhouse plants, orchids, pelargoniums, roses, and other subjects which may be had in perfection during the summer. At each of the exhibitions there are two classes for twelve *bonâ fide* specimen orchids, and at the June show there is a class for European orchids. Greenhouse rhododendrons have classes provided for them at each of the exhibitions. Fruit and cut flowers will form, as usual, important features of the show to be held in June, when the prizes for plants suitable for growing in dwelling-rooms will be repeated.

Messrs. Sutton and Sons offer prizes for competition at the Liverpool show of R.H.S. They comprise six prizes for vegetables, and three for melons.

Orchid Conference Report appears in the best possible form for preservation, being No 1 of the seventh volume of the Journal of the *Royal Horticultural Society*. We shall hope to see report on Pear Conference produced in the same manner.

The Weather may be described as very bad for the season, because, although March brings with it easterly winds, it does usually bring also some reminders of the spring. Our note of last week indicated precisely what has happened; but to have been altogether wrong would have been much more to our taste. There seems now to be a slight prospect of a change, and almost any change would be welcome. But proper spring weather does not appear in the reckoning, and we fear the relief that appears in the prospect will be but slight and temporary.

Phylloxera in France.—The *Journal Officiel* publishes the annual report by the director of the agricultural department on the proceedings of the Phylloxera Commission. It has been decided that none of the processes made known during the year 1885 entitle the inventors to the prize offered by the Government, and accordingly the old remedies continue to be recommended. These are (1) submersion, (2) sulphuret of carbon, and (3) sulpho-carbonate of potassium. The surface under vine cultivation attacked, and still resisting, amounted to 642,000 hectares in 1885, against 664,000 in 1884. This apparent diminution is, however, due to the complete abandonment of numerous plantations. Before the appearance of the disease there were in France 2,503,000 hectares planted with vines. Vines now cover 1,990,586 hectares, which fact shows that the vine-growers have to a great extent remedied the evil by planting during the last 15 years, so that the deficit only amounts to 500,000 hectares, but at the same time the amount of loss remains enormous. In 1885 submersion was applied to 24,339 hectares, sulphuret of carbon to 40,585, and sulpho-carbonate to 5,227. American vines which have been planted now replace those destroyed over a surface of 72,262 hectares. Thus the surface which has resisted the attacks of the insect amounts in all to little more than 145,000 hectares, that is about 22 per cent. of the whole surface suffering from the disease. These efforts, which have been continued uninterruptedly for eight years, should, in the opinion of the reporter, inspire full confidence in the future.

International Potato Exhibition.—The time has arrived when practical men who take an interest in this exhibition will be asking what arrangements have been made for the trial of new varieties and for the customary wind-up of the season with an exhibition and a luncheon. We are unable to afford any special information at present, but we believe some changes are likely to occur, and, should the exhibition be continued, it will be under conditions differing somewhat from such as have subsisted hitherto. We have occasionally of late years thought it tending towards the region of the impossible, and it appears still to have its face set that way; but it is no part of our policy to discourage enterprise in horticulture, and should the exhibition be again organized we shall gladly assist it, so far as we can do so without taking any direct part or responsibility in the management. We learn from Mr. McKinlay that the thing is in what may be called working order, the prizes having been paid, and the accounts being in a satisfactory shape. But as a machine must have a motive power, this institution demands for maintaining its vitality the time and strength of competent and willing workers. It, in fact, needs the constant expenditure upon it of personal interest and enthusiasm. These have not been wanting hitherto; but circumstances have cooled the ardour of some of the best friends of the affair, and there is needed to keep it alive what is often needed in a larger field of operations—a new, united, and strong government. Changes now impending might with some special advantage have been entered upon at least a year ago; but better late, perhaps, than never.

Crystal Palace.—The horticultural exhibitions to be held at the Crystal Palace during the current year are sufficiently numerous and comprehensive to ensure a thorough representation of the several classes of plants, fruits, and flowers that obtain attention at the hands of English cultivators. At the first exhibition, which has been arranged for the 26th and 27th inst., very liberal prizes are offered for hyacinths, tulips, forced shrubs, azaleas, cyclamens, and a host of other things. The summer show on May 21 and 22 will be on a rather more extensive scale than in previous years, for the classes have been increased and the prizes augmented. The classes for orchids include one for a group of not less than forty plants arranged with palms and ferns. The rose show will be limited to one day, Saturday, July 3, and will be on the same extensive scale as last year. Special classes are provided for Maréchal Niel, Marie Baumann, Prince Camille de Rohan, François Michelon, Lady Mary Fitzwilliam, A. K. Williams, W. A. Richardson, and Niphetos. A class is also provided for groups of tuberous begonias, and Messrs. W. Paul and Son offer prizes for collections of Waltham-raised roses. The fruit show will be held in conjunction with the exhibition of dahlias on September 3 and 4, when collections will form an important feature. In addition to the three classes for collections of fruit grown by the exhibitors, one is provided for fruiterers, with prizes of £12, £8, and £4 respectively. The dahlia show will be on the same scale as last year. On October 6, and three following days, there will be an exhibition of hardy fruits and vegetables, when exceedingly liberal prizes are offered for collections of apples and pears. The series of exhibitions will be brought to a close with the chrysanthemum show, November 5 and 6, at which the principal classes will be those for forty-eight cut blooms, to comprise equal numbers of incurved and Japanese, for groups of incurved and for groups of Japanese varieties.

Notes of Observation.

JUDGING VEGETABLES.

In the contribution of a "Kitchen Gardener," at page 110, a very proper view is taken of the way in which vegetables are judged at exhibitions. There are, I am well aware, those who do not agree with the assertion that censors favour size instead of quality; but I hold the same opinion as "Kitchen Gardener," and take this opportunity of saying that the judges are chiefly responsible for the general preference shown to size as compared with quality. At every exhibition, whether of fruit or vegetables, the prize cards are invariably attached to the large samples. Take grapes as an instance, and let any one who doubts this look back over the reports of the autumn fruit shows, and they will find that where separate classes were not provided for black grapes the large and showy Alicante invariably took first place and the Black Hamburgh the second. Now, all competent authorities agree that Alicante is only third-rate in flavour, but as it produces much larger bunches than the Black Hamburgh it is preferred by the judges. Last autumn I was officiating at a vegetable show when, in a class for peas, Latest of All was staged in competition with Telephone and other large sorts. Now, it so happened that Latest of All was in a young and fresh condition, the pods being about half the size of Telephone, but they were quite full, and the peas were of a fine dark green colour. To my mind they were in just the right condition for sending to table, whilst Telephone and the other sorts were, although much finer in appearance, considerably past their best. I held out strongly that the first prize should be given to the small peas; but there were two against me, and so Telephone was placed first. This is a fair example of my experience in the whole round of the business of judging fruit and vegetables, and I can only regret to say that I see no hope of the system being changed for the better. J. C. Clarke.

THE BEST HELIOTROPIUMS.

As my employers are very partial to the heliotropiums, we have to grow a large stock, and to extend their season of flowering over as long a period as possible. In the course of the past few years all the varieties in cultivation have been grown and subjected to a careful trial; but at the present time we rely upon three sorts only, and these are: President Garfield, a strong grower, producing huge trusses of bright mauve-purple flowers; Roi des Noirs, a very distinct variety of average growth, and remarkably free blooming—the flowers, which are produced in large compact trusses, are of a deep violet purple colour: it is, in fact, the darkest of the heliotropes, and unsurpassed either as regards its freedom of flowering or its fragrance; White Lady, a robust-growing variety, of which the flowers are produced in immense trusses, and nearly pure white. With these three there is certainly no occasion to be troubled with any of the other varieties. T. R.

WATERING PEACH TREE BORDERS.

On many occasions the Gardener's Magazine has done good service in directing the attention of inexperienced cultivators to the importance of keeping the soil moist about the roots of peach trees during the winter. There is, therefore, no need for me to occupy space in repeating the same instructions. What I want to do in this note is to give an example of the necessity for watering peach borders much further away from the stems of the trees than is usual with those who are not acquainted with the way in which the roots of the trees extend. Having occasion to-day to make some alterations in our peach-house, in which the border is fourteen feet wide, I came upon some strong roots that had extended the whole width of the border, and passed underneath the walk. How much farther they extend, I do not know, as I could not break up the walk to trace them. At the point where they enter the walk the roots are as thick as my little finger, so that no doubt they extend a considerable distance beyond. Considering that the roots had extended fourteen feet from the stem, it plainly shows that when the roots are not confined by a solid barrier they ramble much farther than many suppose. Owing to the want of a knowledge of the peculiarities of the roots, many apply water to the border immediately about the stem of the trees. In consequence the soil about the roots in other parts becomes more or less dry, with the result in many cases of a larger proportion of the buds falling prematurely. J. C. Clarke.

CALADIUMS.

Cultivators of caladiums frequently complain of losing some proportion of the corms when they are started into growth, and many growers will, I am quite sure, be glad to hear of a remedy which may be safely described as infallible. By the practice which I have adopted for some years past it is a very rare occurrence to have a corm decay, although our collection comprises all the best of the weakly growing kinds as well as those of robust habit. The general practice is to put the corms in the pots in which they are to be grown for some time and to use a compost similar to that employed when the plants are in full growth. But we do not allow any soil to touch them until they are beginning to grow freely and are nicely furnished with roots. A rather thick layer of moss or cocoanut-fibre refuse is put in saucers or shallow pans, according to the number of the corms of each variety, and upon this the corms are placed. They may be all started together in shallow boxes and large pans, but there is much less risk of any mistakes being made when they are kept separate, and by using pans of suitable proportions very little additional space is required. The corms are placed rather close together upon the bed provided for them, the crown upwards, and they are then removed to a close frame which is provided for them in the stove. The propagating house is, of course, the proper place for starting the corms, but our house is small in proportion to the work that has to be done in it, and we are therefore compelled to make the most of the conveniences at command. The frame is kept quite close until the corms begin to grow freely, and they are occasionally sprinkled with tepid water to maintain them and the moss in a nice moist state. In due course the roots will begin to make their appearance on the top of the corms and the growth to push freely, and when the roots are of sufficient length to reach the moss potting should be commenced. Those of which it is desired to increase the stock should be divided when sufficient progress has been made for potting to be commenced, as they can then be cut into pieces with greater safety than when they are dormant. George Harris.

LAYERING VIOLETS.

March is the month in which to commence increasing violets, whether by cuttings or layers. As I prefer plants raised from layers, we have already layered a sufficient number of offsets. We procure some turves and cut them into pieces about two inches square. A piece of the turf is then placed under each layer, which is made secure to it with a little wooden peg. In four or five weeks a sufficient number of roots will have pushed into the turf to permit of the runners being severed from the parent plant. The young plants are then taken to a cold frame to be hardened off, preparatory to their being planted out. I do not know that layered plants bloom better than those obtained by cuttings or by division, but I do know that they become stronger and flower earlier. It is not absolutely necessary to have pieces of turf to lay them on, as the runners may be pegged down on the soil, or they may be laid in small pots, as may be most convenient. Next to layers I like plants raised from cuttings, for I am quite sure the stock obtained from runners gives much larger flowers than plants obtained by dividing the old stools. Lovers of violets must remember that success does not wholly depend upon the way in which the stock is raised. The plants must have suitable summer quarters, or they will not make vigorous examples. A cool north border, where the soil is fairly rich, is the proper place for them. R. H. B.

ORCHIDS AT HIGHAM HILL, WALTHAMSTOW.

The owner of Higham Hill, Walthamstow, Alfred Borwick, Esq., has been for many years an orchid fancier, and for something like ten or fifteen years I have known his collection. On the occasion of a recent visit the houses were well furnished with flowering plants, in capital growing condition and in the best possible health. Indeed, some species are exceptionally well grown. The rude health of such well-known orchids as Lycaste Skinneri, Maxillaria grandiflora, Zygopetalum crinitum, &c., Mr. Borwick attributes to the use of the Norwegian fish manure. This is applied in two ways; the first and most convenient is by mixing it with the potting soil. I inquired of the gardener, Mr. Gilks, how much was used, and as a favourable example referred to a handsome plant of Cymbidium Lowianum, which was growing with great vigour, the leaves of a deep green colour, and throwing up three flower spikes with a maximum of twenty-seven flowers on a spike. That plant, he said, had two ounces of the dried manure mixed with the potting soil, which was a good loam and leaf-mould, such as might be used to pot zonal pelargoniums.

In the same house are some really wonderful examples of Zygopetalum crinitum. These had been watered with it; a very weak solution is used occasionally during the growing season. It is merely stirred up in water, and applied at once, and at infrequent intervals not oftener than a week or ten days. It has also been used by spreading a little of the manure over the surface of the pots in its dry state; but this does not answer so well. Mr. Gilks informed me that it had in that state killed the roots. This is a rock ahead the bearings of which have been taken, and it can therefore be easily avoided. Mr. Borwick has experimented with the potting material for orchids during a long period. With some he has not been successful, but his last experiment with the fish manure is, he believes, an unqualified success. My advice to orchid growers is this: try it carefully at first. A shilling or two expended on the manure would be enough for any one to make the experiment for themselves.

It has been extensively used at Higham Hill on the lines indicated above, and on all classes of orchids. There were, perhaps, 100 expanded blooms of Lycasti Skinneri, in many distinct and lovely varieties, and the bulbs formed during the past season were in most cases as large again as those formed in previous years. Indeed, some of the bulbs were enough to astonish even an old stager like myself. The Chatsworth variety of Cœlogyne cristata was remarkably fine. This had been watered with the manure. So also had some wonderful examples of Lælia purpurata. Odontoglossum pulchellum majus was also in wonderful bloom. And what a charming bridal orchid it is! I remember a friend being in difficulties for flowers for a bridal bouquet; he applied to me, and I sent him a box of O. pulchellum spikes, and received the glad reply that "the orchids were just what I wanted." It may be termed the Lily of the Valley orchid. The above are growing in the Cattleya House.

In the cool house are many fine varieties of odontoglossums. For example, O. Cervantesi was in fine form; this pretty species has been named O. membranaceum in some collections. Perhaps it is best to go back to first principles. O. Cervantesi is undoubtedly the right name for it. It was figured and described by Dr. Lindley, in Bot. Reg., 1845, t. 36, from a specimen that flowered with Messrs. Loddiges, of Hackney, in February of that year. O. membranaceum was figured in the Bot. Reg., 1846, t. 34, but the learned botanist was doubtful whether it ought to be considered specifically distinct. With the present knowledge we can safely say it is not, and O. membranaceum must be classed as a varietal form of O. Cervantesi. O. tripudians is also very fine here. There is a very fine variety in flower; it is found growing wild with O. Pescatorei, and may probably be a natural hybrid between that species and O. triumphans, which is also found growing with it in the Peruvian Andes.

In the small house set apart for East Indian orchids are also to be seen some examples of good culture. The rather miffy Oncidium Lanceanum had made exceedingly good growth; it is a glorious species when well grown, but many people fail with it owing to want of knowledge of its requirements. It should be grown in teak baskets; and I noticed that ferns had rooted into the baskets. I found it also succeed well in our own garden in teak baskets in which ferns had taken good hold of the compost. The fine growth on these plants is attributed to the fish manure water. There is a good lot of Angræcum sesquipedale, which has also been watered with the manure, and a thrifty plant of A. Ellisi, from which a vigorous spike is pushing. The angræcums have flowered well. J. Douglas.

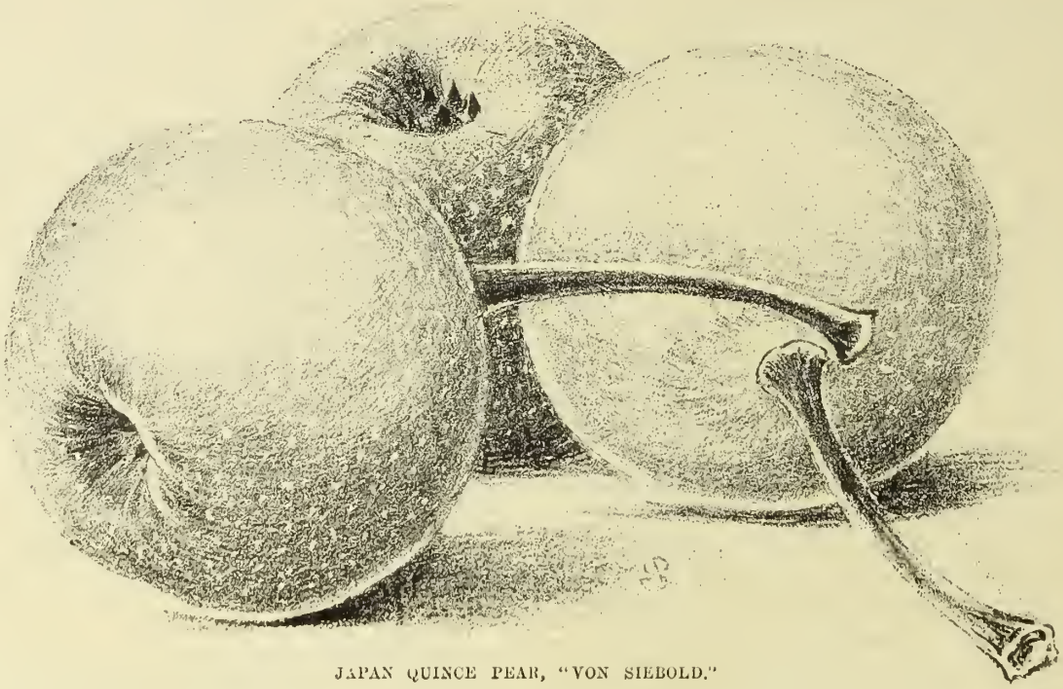
CONGRESS PEARS.

Quince Pear of Japan.

In the Congress collection were several examples of Japanese pears, all of the same type, though differing as varieties. On account of their distinctive character, and the exceeding beauty of one group, we have selected two for a place in these columns. There was not a more interesting dish of pears in the immense exhibition than that labelled *The Damio*, from Mr. Haycock, the head gardener at the residence of Roger Leigh, Esq., Barham Court, Maidstone. These were of large size, in form obtuse turbinate, with prominent eyes and long stalks, the colour a beautiful clear citron-yellow, freely marked with large pearl-coloured spots. Another of the same race, but smaller, rounder, less brilliant in colour, and tinted with brownish bronze, was labelled *Von Siebold*, and was probably introduced by that distinguished traveller.

We were favoured by Mr. Haycock with a few fine samples of the Damio, which, being kept in a dark closet in the library, made known the fact that they had attained perfect ripeness by their penetrating and pleasant quince-like odour about the end of November. They were then quite tender, the flesh coarse and stringy, with more of a quince than a pear flavour. For eating as a fruit, the Damio is of no use, but when cooked is about the same value as a quince; but its chief claim to attention is its exceeding beauty, and this should ensure its place in the garden as a valuable addition to the number of ornamental varieties of pyrus.

The status of the pear in Japan is a matter of some importance, because of the wide range of the Japanese dietary. In his "Yedo and Peking," the late Mr. Robert Fortune said "there were no fine melting pears in Japan," and he speaks of "a pretty round brown kind, good to look upon, but only fit for kitchen" (p. 140). This we suspect is the variety Von. Sielbold, here figured. Thunberg in his "Travels" speaks of a wild Japanese pear allied to Pyrus Japonica (vol. iii. p. 160), and further remarks that "for the dessert the Japanese have Kaki-figs, chestnuts, water-nuts, and pears" (vol. iv. p. 38); but neither in this work nor in his Flora Japonica does he give any clue to the identification of the kinds of pears we are now considering.



JAPAN QUINCE PEAR, "VON SIEBOLD."

PRESERVATION OF BRITISH PLANTS.

By Shirley Hibberd.

Read at a meeting of the Horticultural Club, March 9, 1886.

A suitable text for the present discourse will be found in the remark of Mr. J. G. Baker, in *Gardeners' Chronicle*, Feb. 27, to the following effect: "Through man's greediness, improvidence, and quarrelsomeness, many of the countries that supported the great nations of antiquity have been robbed of their natural beauty and fertility." We have sufficient proofs of man's power to spoil the world; and when he cannot seriously damage the fertility of a country, which may be a difficult matter, where law and order prevail, he may yet accomplish dreadful things, despoiling it of its natural beauties—as, for example, by trapping the wild creatures to kill them with kindness in cages, and by digging up the wild flowers to bury them in graves that are called gardens. Those who move about the world, more especially in the tracks of the tourists, know something of the extent to which ferns and flowering plants are removed from the fields and woods, for the most part for no proper purpose whatever, to the ruin perhaps of the scenes they embellished, and with no corresponding advantage to any one. It is no rash estimate that ninety-nine per cent. of the total perish utterly within a brief space of time; while the small remainder that survive the act of violence are, because of their exceeding beauty, made the subject of eulogy, tending to encourage further the systematic spoliation. Since the establishment of the Primrose League, the destruction of Primula vulgaris has been so extensive, that probably not one plant in a thousand that are carried from the country to the town survives the operation. It may be even possible at this moment to make a reasonable calculation of the number of years that our native primrose will hold its place as a wild plant; for the devastation is universal, the flowery banks of western Cornwall, the Channel Islands, and of Wales and Cumberland, being ravaged equally with those of the home counties. But it may be that bane and antidote are closely associated; for the Primrose League is such a ridiculous thing, that any faint revival of common sense in the nation would cause it to cease from its habitations. I will give one example of the way in which the noble tourist finds entertainment in peeling the planet. Having in high summer found my way up from Ambleside to Kirkstone Pass at an early hour, I saw the gatherings of the previous day by people who profess to love ferns, for they were swept up in heaps like a lot of rubbish, and the landlord of the little inn there—said to be the highest inhabited house in England—told me that the visitors brought down from the mountain much more herbage than they could carry away, and thus there was a daily supply of litter for the stable. I found in the mass of mixed vegetation about a cartload of the parsley fern, Allosorus crispus, and I was amused when the landlord confided to me that if he only knew something about ferns, he could make more money by stripping the hills around him than by waiting for customers in that lonely spot amongst the clouds. For miles and miles around there the blue pinguicula may be found in tens of thousands, with saxifragas, chrysospleniums, and parnassias innumerable. It is the remoteness of the region alone that protects it: render it easily accessible, and it will very soon be as bare of vegetation as Fleet Street,

When the botanizing tourist is assisted by a partner of the tender sex his capabilities are, as we should have anticipated, exalted and refined. There were three wild wall-flower plants growing on the wall of the parish church at Stratford-on-Avon, exactly opposite the spot where, within the walls, the sacred dust of Shakspere reposes safely under the protection of imprecatory verses. A botanist saw them, and obtained permission of the churchwardens to remove from those plants one of the seed pods. He took the one seed pod, and went away contented. The next day a tourist of another description discovered them, and to please his wife, who clamoured for the precious things, he dug them out of the stone with his knife, and lost all the seeds in so doing, while, as you may reasonably suppose, he lost the plants also, for wall-flowers of that kind do not well bear transplanting.

At all the gates of our flowery dells and ferny coombes the trader in ferns and orchids will be found, offering rarities at rare prices, and amply justifying his mission, which is, as one can see, to strip every particle of clothing from the bones of the world. The trade is everywhere encouraged. Even in the shadow of the Bank of England may be seen the peripatetic vendor of orchids and ferns. In years gone by he kept his basket filled by robbing Epping Forest and Hampstead Heath; now he has to push far into Surrey for marketable articles. But the market is sure; and so, if he has to ravage the far-off Peak of Derbyshire, he will secure the needful wares, and when the Peak fails he will push into the Lake District, and from thence make a sweep of the mountains of North Wales. The best of our wild flowers and ferns are on the high road to extinction, and the half-way house is the huckster's basket.

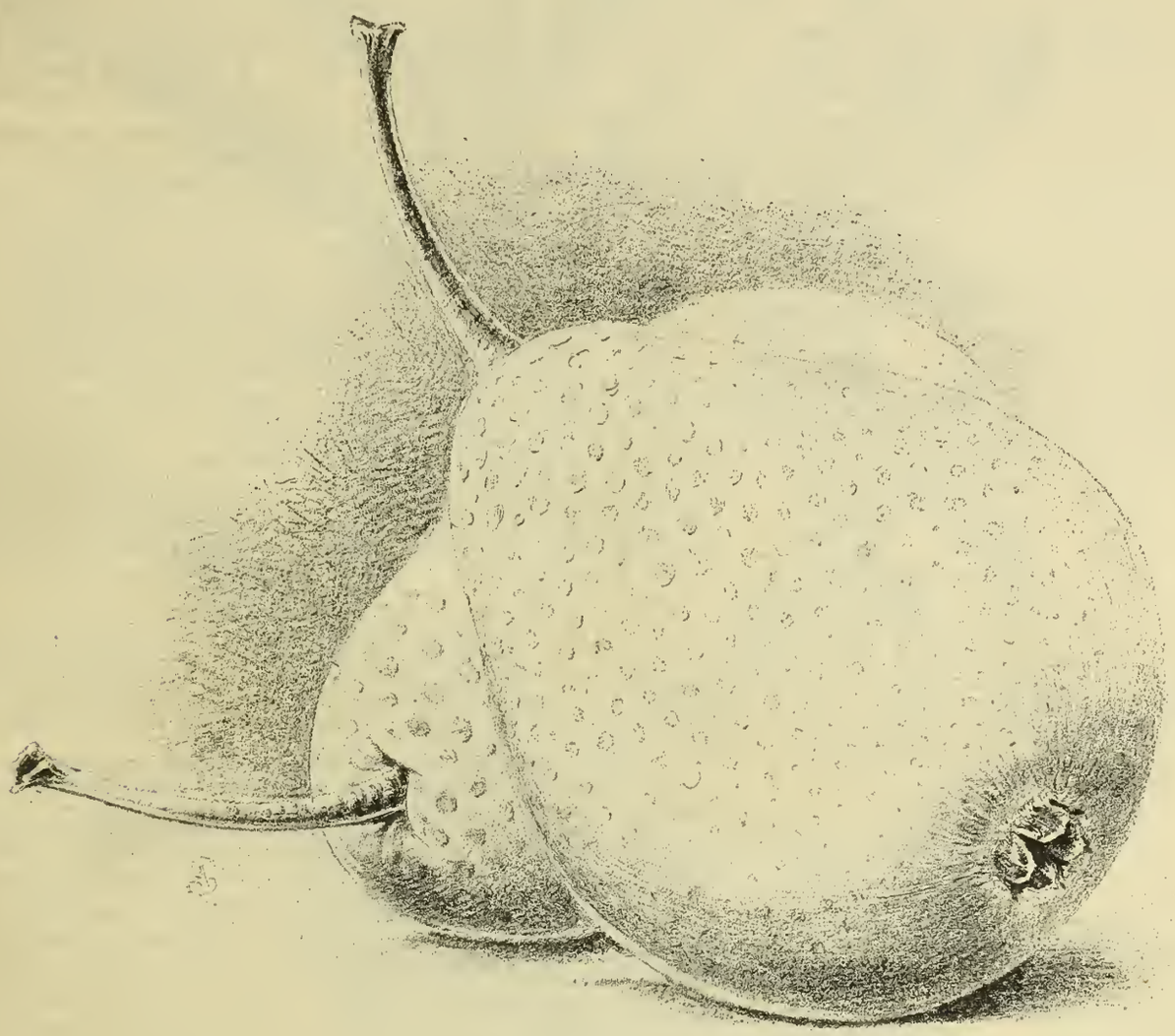
Whatever may be our views of the rights or wrongs of the case, it must be agreed all round that any sensible diminution of the beauties of our home scenery is a calamity. The love of the country is an unmixed good; it quickens the desire for knowledge, acts as a tonic to the moral feelings, encourages the exercise of the physical powers and the expansion of the observing faculties; it is, moreover, the basis of true patriotism. Town life has its advantages, but with many of us it is the decree of cruel fate. In itself it is not so good as it looks: it shaves away the picturesqueness of human character; it takes us from the healthy hands of Nature, and puts us into the feverish fingers of Conventionality. In passing from nature to art we lose the bountiful breast of the loving mother, to pull at a sort of insensitive feeding-bottle, filled with milk that has been sugared, boiled, tinned, marketed, re-dissolved, and made nasty with dried herbs. When the mountains have been scraped bare by the combined efforts of the wasteful tourist, the intending exterminator, and the commercial collector, the best

refreshment and restorative for the townsman who has not utterly lost the sense of beauty will be gone for ever, and with it the finest incentive to noble deeds and honourable sacrifices.

What can we do to avert the threatened destruction? It is our duty to discourage all collecting and cultivating of British plants. When the proposal is considered in detail, it will be seen that many things tending that way are possible. It would be of immense service to the cause if we could render British plants unfashionable, and one step thereto consists in discouraging the people who rave about them. The ravers, perhaps, know a little and love much. But many of their followers know less, and love not at all. But, being followers, they are bound to be destroyers; and the people who put wild flowers and ferns in baskets and portmanteaus believe they are quite in the fashion in their peeling policy; they are imitators, and follow as well as they can in the ways of the ardent amateurs.

It is not in haste, but as the result of observation and reflection, that I propose the removal from the schedules of horticultural exhibitions of the customary classes for wild flowers and British ferns. I am satisfied the little good they do is not worth purchasing at the price of the immensity of evil that is the sure result of encouraging a quest for rarities and a hunger for anything that comes within the category of exhibition subjects. It would be a task for anyone to define on the determination of facts the benefit to botany, to horticulture, or to general enlightenment, of the exhibitions of wild flowers that have become so common. They make unpleasant work for the judges, and by the time the visitors are admitted they have faded past recognition. As for the exhibitors, their work does not usually represent either their love or their knowledge; for they are stimulated to the gathering by the ambition to shine in the prize-list, and the names of the plants are generally supplied by a botanical pedagogue, who thinks more of the glory of his establishment than of the beauty and fame, the pride and the prowess, of this old country, that is now threatened with such floral poverty that were another Plantagenet to arise we should scarce know where to find a broom for his bonnet. An illustration of the notions that sometimes accompany the wild-flower competitions is afforded in the case of the elderly lady who put a tuft of asparagus bearing bright red berries into a bunch of wild grasses. When told the thing was inadmissible, she said, "It's all right; the prize is for wild grasses, and that is the sparrer grass that grows wild, and makes me wild, in my garden."

The system adopted by the Association for the Protection of Alpine Plants that is being worked out by M. Correvon, at Geneva, deserves, I think, the special attention of the Horticultural Club as possibly worthy of imitation in this country. Systematic and scientific cultivation of the British plants that are much valued in gardens would bring them within the reach of thousands of appreciative amateurs who have but few opportunities of obtaining them from their native haunts, and it would make an end of the terrible waste of the unscientific and reckless manner in which they are commonly collected. The generosity of nature need not be always abused. She scatters pearls and rubies broadcast, and a moderate exercise of care on the part of those who reasonably love them would increase the supply for individuals, and in fact tend to the enrichment of gardens without any consequent impoverishment of the woodside and the mountain. I have spoken of the primrose that is as plentiful on the earth as stars in the Milky Way above us, and yet is threatened with speedy extinction. The case can be matched in the fern world, which is a kind of side-walk of the fashionable world, the principal guides thereto being Mr. Heath and Mr. Druery. The common male fern, Lastrea filix mas, a thrifty plant that grows as well in a London back yard as in the pure air of the real fern paradise, is, like the primrose, on the high road to oblivion, for tens of thousands are scooped up and packed for the market; and when that is exterminated, the common hart's-tongue (Scolopendrium vulgare), will follow, and both these gallants will be accompanied into the region of forgetfulness by the lovely lady fern, Athyrium filix fœmina—for that indeed is already scarce, and I have recently noted that the grand avenue of lady ferns on the romantic slope from Troutbeck, under the shadow of the High Street range on which we may still trace the old British trackway, is sensibly thinned of the giant specimens that were its pride and glory, for they have made the pilgrimage to London to be heard of and seen no more. The time seems near when we shall have to employ a guide to conduct us to the site of the last primrose, and, as we have to pay to see a man open oysters, we shall have to look through a peep-hole at so much a head to behold a real lady fern, or the shadow of a royal osmund. What can we do to avert the calamity that is impending? If it be clear that we can do something, let us take off our coats for the task, and cease not until we have at least rendered the floral grabbing that exposes the nakedness of the world to the blasts of winter and the heats of summer, not only impolitic, unreasonable, injurious, and unjustifiable, but unfashionable—yes, UNFASHIONABLE!



JAPAN QUINCE PEAR, "THE DAMIO.

Mr. George Cook has been engaged as gardener at Ranceby Hall, Sleaford, Lincolnshire, the residence of Mrs. Wilson.

A Dreadful Discovery has dawned upon us. In every issue of the *Journal of the Society of Arts* appears a list of meetings for the ensuing week. There we find duly entered meetings of Astronomical, Geographical, Geological, and Microscopical Societies; United Service, Royal, Inventors', Colonial, and other institutes, &c., &c., and, not least important of any, Royal Botanic Society. But there is no mention of Royal Horticultural Society. In the course of one week's announcements (*vide* March 5) no less than twenty-nine corporations are mentioned, but R.H.S. is simply ignored. Now, we have no commission or disposition to throw stones at the editor of the S. A. Journal. We will mildly suggest to the assistant secretary of R.H.S. to favour Mr. Truman Wood, at John Street, Adelphi, with some proper assurance that R.H.S. exists, and carries on business at South Kensington.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 7.

Rare flowering plants—The flora of the hedges—Primroses for market—A Land of Flowers—Summary of the flora of the Channel Islands—The Guernsey lily not so extensively grown as formerly—A fine collection—Historical notes—The Guernsey lily in Brittany—Botanical names of the Guernsey lily—How it is grown in Guernsey—Seldom injured by frost—Why it does not succeed in England as an out-door subject—Cultural notes by a florist—When sent to market—The appearance of the flower described.

Floriculture in the Channel Islands opens up such a wide subject that we can scarcely expect to treat it exhaustively in these columns, nevertheless, it is so interesting, and of such importance, that we shall not dismiss it without giving it the attention it deserves.

In a supplementary article we purpose referring more particularly to the rare flowering plants and shrubs to be found growing in the several islands in such profusion, and that, too, without the slightest protection during the winter. But not only is Nature kind and bountiful in the cultivated garden, but the wild flora is not to be equalled in any territory of similar extent in the same latitude. In spring, summer, autumn, and winter the hedges are never bare. In the two former seasons especially the wealth of verdure and florescence is astonishing, and unfailingly remarked by the stranger. Early in the year the banks become one mass of yellow primroses, so that the grass is scarcely to be seen. The children and women gather these, as they are now beginning to do in West Cornwall and other parts of England, and they are then despatched to London to be worn by the admirers of the late Lord Beaconsfield. Other hedges and banks are alive with the violet, the wild hyacinth, and thousands of the single wild daffodil.

In Jersey the snowdrop is common, but it is rare in Guernsey. Quite remarkable among spring flowers is the *Trichonema columnæ*, a species of ixia. The *Ixia longiflora* has become a weed.

Summer ushers in a bewildering variety of hedge flowers—honeysuckles, dog roses, the convolvulus, and a host besides. The wonderful dimensions to which these flowers attain, and the brilliant colouring in them all is not less noticeable among the wild than the cultivated species. Guernsey may well be called the land of flowers. Jersey is abundantly floriferous, but, considering the relative size of the two islands, the palm must be given to Guernsey.

The following summary of the flora of the Channel Islands, extracted from Professor Ansted's invaluable work, may be given here before proceeding to deal with the strictly market gardening aspect of the subject. It contains a large amount of information in a very small compass:—

	Jersey.	Guernsey.	Alderney.	Sark.	Herm.	Species common to all the islands.	Total Species.
Trees and shrubs	51	50	25	21	15	10	64
Flowering plants	626	505	262	230	184	131	690
Sedges and marsh plants	33	31	11	7	3	3	41
Grasses	82	69	32	21	23	15	95
Ferns and club mosses, &c.	27	29	9	?	?	4	35
Mosses, Jungermanniæ, &c.	67	111	?	?	?	?	135
Lichens	183	184	?	?	?	?	257
Fungi	?	67	?	?	?	?	70
Sea weeds	195	223	102	46	?	?	222
Diatomaceæ	?	253	?	?	?	?	253
Totals	?	1,522	?	?	?	?	1.862

The notion generally prevalent in England that among flowers the Guernsey lily forms the chief article of export from the archipelago is perhaps natural enough, seeing that the flower derives its popular name from the island and is so justly admired, but the assumption is nevertheless erroneous.

Several years ago the trade in this lily was of such importance that it ranked first among the flowers grown for export, and indeed at one time it was the *only* flower cultivated for that purpose. From the fact that the yield of blooms was somewhat uncertain in the open ground it has ceased to engage the attention of those who grow for profit only. Messrs. Smith and Son grow a quantity. At the residence of L. M. T. Le Marchant, Esq., there are some large beds, the yield of spikes being from 1,000 to 1,700 each season. The display is very fine, and the effect is increased by the green background of towering beech trees and umbrageous shrubs. This is the finest collection in the island. Many of the cottagers and farmers grow small patches; in fact, scarcely a garden, certainly not an old garden, is to be found without a few clumps of these characteristic flowers.

This plant was introduced under romantic circumstances—if the statements of the old chroniclers are to be relied upon. The story runs that a Dutch Indiaman, from Japan, having some roots of this flower on board, being wrecked on the island, they were washed on shore, and buried in the sand, where they remained unobserved till the beauty of the flower attracted the notice of the Honourable Chas. Hatton (son of Lord Hatton, then governor of the island), "a great florist, as well as botanist." . . . "Recognizing the value of the prize, he had them carefully transplanted, cultivated the plant himself, and sent roots of it to many botanists and florists in England, where it was much admired, and has to this day continued a great favourite." So writes William Berry, in his *History of the Island of Guernsey*, published in 1815. This story, however, has been disputed, so that the origin of the plant in Guernsey is obscure and doubtful.

Quayle, who wrote at the same period as Berry, says that "it does not appear that they were elsewhere cultivated;" but we recollect reading somewhere that they were subsequently cultivated, and did well, on the coast of Brittany, from whence the roots were forwarded regularly every season in boxes to England. Whether or not this is still the case we cannot say.

The light soil and the moist, equable climate of Guernsey are particularly suited to the growth of this plant. It is raised in narrow beds, which are covered with sand, no special care being taken of them beyond keeping the beds clean and, in the event of unusually severe weather, protecting with some light material. This is not often needed.* Occasionally cold springs prevent the lilies from blooming, but do not destroy the roots. The average rate of flowering out of doors is about 18 or 20 in the hundred, so that the few hundreds of flowers sent to England in the season are the produce of thousands of roots. This explains in a great measure the falling off in the culture of this root.

The reason why the Guernsey lily does not succeed in England is that it makes, or should make, the foliage growth from September to May; thus throughout the winter months the roots are busy laying in store for the next season's bloom. Any check of this leaf growth is fatal for the prospect of bloom, and if grown in England in the open they are inevitably frosted and blackened—in a word, destroyed—unless very carefully protected. While this lily flowers regularly in Guernsey once in two or three years, it can be seldom made to bloom in England a second time.

A practical Guernsey florist, who has grown many thousands of these roots, has furnished to us some cultural notes in which he recommends the following treatment of this lily in England:—

"Pot the bulbs as the flower spike commences to show up (*i.e.*, about the time they arrive from Guernsey), water but sparingly for a while till the root has begun to seek for food. Gradually increase the supply as the plant demands it, and when the foliage comes and the flower has passed away let it enjoy perfect sunlight throughout the winter with every encouragement to thoroughly ripen the foliage. Towards the spring as this commences to turn yellow, and ripe, let the water be sparingly supplied. This will bring us up to April or May. From this stage one might almost write 'They require no water,' but perhaps it is safer to avoid too radical an extreme, though some good cultivators do maintain that none is required, and I have often seen excellent results from this mode of treatment. July-August, they should be kept in a hot position on greenhouse shelves, and in the latter month let the pots be occasionally (say once a week) slightly sprinkled, so as to suggest to the dormant roots the fact that the time is fast approaching when much will be expected of them. In September they will show signs of approval in the shape of pushing forth spikes, looking much like the beak of a bird. Now let them be assisted to a little more water. Thus closes the culture for one year.

"In the matter of soil I use a rich mellow loam, with well-decayed manure and a very liberal admixture of sand, and this they delight in. Good clean drainage is of the utmost importance to their well-being. Their cultivation is made a mystery of by some, but there is nothing easier to grow. However, the flowers are so charming and so universally admired that any amount of trouble should be willingly bestowed upon them."†

From August to September, as the buds make their appearance, the bulbs are carefully lifted, packed in boxes, and despatched by the mail steamboat to Covent Garden (*viâ* Southampton) and elsewhere. On their arrival they are planted in pots, as directed, and are soon in full bloom, the bloom continuing for about a month in perfection. They make up for their deficiency in fragrance by the resplendent beauty of their colours. Before dismissing this part of our subject, we cannot refrain giving the following glowing and truthful description of this superb flower by Dr. Douglas. "Each flower," he says, "when in its prime looks like a fine gold tissue wrought on a rose-coloured ground; but when it begins to fade and decay looks more like a silver tissue or what they call a pink colour. When we look upon the flower in full sunshine each leaf appears to be studded with thousands of little diamonds sparkling and glistening and glittering with a most surprising and agreeable lustre; but if we view the same by candle light these numerous specks or spangles look more like fine gold-dust."

Gardeners' Chronicle Prizes for Young Gardeners should have the serious attention of young gardeners everywhere, and old gardeners may be encouraged to "look on" and find something of interest in the proposal. Prizes of £10, £5, and £3 are offered for the best essays on Roots and their Work, "comprising a discussion of their varied forms, their structure, their uses to the plant, and the manner in which they accomplish their work." The form of application for entering the competition is published in the *Gardeners' Chronicle* of March 6, 1886.

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* A great many years ago the following questions were put by a gentleman to certain Guernsey gardeners: "How long can you remember?" "I cannot exactly say, sir; but I am 55 years old, and perhaps I may remember some things 40 years or above." "Did you ever remember losing any of the Guernsey lilies by frost?" "No, sir, I never lost any, though my garden lies towards the north; but I have heard it said that about 25 years or more agone some person did lose some." The evidence of another man questioned coincided substantially with the above. It is held by some that the climate of Guernsey is growing milder, so that there is less fear now even than formerly of the lilies being injured by frost.

† An old writer observes that "those plants that come with six leaves seldom fail blowing the next year, and never bloom till the plant has attained that number of leaves."

AUSTRALIAN CASSIA.

(*Labichea lanceolata*).

A greenhouse plant of the good old sort known as a "hard-wooded New Holland" subject does not often obtain attention now. But we must not suffer them all to die out while we give undivided attention to "cheap soft things." *Labichea lanceolata* is a neat growing shrub of the cassia section of the papilionaceous plants, native of Western Australia, and one of many that were introduced from the Swan River district by the late Captain Mangles. "Of these plants," says Sir J. D. Hooker (B.M. 6,751), "which were once almost the rage, the *Rhodanthe Manglesi* is now one of the few remaining that is common in greenhouse or conservatory; the rest have for the most part been watered to death, having been treated like geraniums and other greenhouse stuff."

The plant before us is a bright little beauty, with narrow, glossy, grass-green leaves and a liberal show of yellow flowers, with small blotches of red in the centre. It was cultivated by Messrs. Low and Co. fifty years ago, and proved amenable to the most simple treatment.

AUSTRALIAN CASSIA—*Labichea lanceolata* (Flowers yellow).

Percival Orchids are passing away, but some good things remain on hand, and the Liverpool Horticultural Company announce a new and revised catalogue as now in course of distribution.

WORK IN THE ORCHID-HOUSE.

Signs of renewed activity are now manifest in the several structures devoted to orchids, for the majority of both the cool and the heat loving kinds are beginning to make new growth, and many of them are pushing up their sheaths or producing their flowers. With the commencement of the growing season the work of the cultivator is necessarily increased, because each plant must be carefully examined and receive the attention most likely to promote a vigorous growth. There should not be any undue haste in transferring the plants to fresh pots, baskets, or blocks, according to the manner in which they are grown; but promptitude in complying with their requirements is one of the chief essentials of success. Therefore repotting and reblocking should be proceeded with immediately the plants requiring a shift are seen to be in a suitable condition.

The greater proportion of orchids derive more advantage from being shifted when they are becoming active in the spring than at any other season of the year, and it has been suggested to me by an amateur correspondent that a few hints as to the way in which the plants should be transferred from one receptacle to another, and the materials most suitable for the several kinds, would be of service at the present time to many of those who have not long been engaged in the cultivation of these interesting plants. Generally speaking, the several

species are less particular as to the way in which they are grown than is supposed to be the case; but they vary considerably in their wants, and the cultivator should endeavour, as far as circumstances will permit, to comply with them.

For those grown otherwise than in baskets, or on blocks and rafts, we use pots and pans of ordinary make, and the little pans which have found so much favour with growers during the past four or five years. For a rather long time we used pans with open sides, and found the plants do remarkably well in them; but they had one serious drawback: the openings in the sides enabled the superfluous water to escape quickly, thus preventing the material about the roots becoming sour in consequence of its remaining in a constant state of saturation, and they also allowed the roots, on pushing down amongst the crocks, to enjoy a moderately free circulation of air. But they have the serious drawback of affording a free passage to the cockroaches, which was taken full advantage of, to the injury of the plants. These pests located themselves amongst the crocks and did an immense amount of mischief by eating the tips of the roots. Their dislodgment is very difficult, as the only means by which it can be done is by immersing the pans in water for a short time, which cannot be done at frequent intervals without injury to the plants, more particularly during the autumn and winter. In consequence of the trouble we had in preventing injury to the roots we have now entirely discontinued their use.

With few exceptions, we grow the cattleyas, lælias, cypripediums, dendrobiums, vandas, odontoglossums, oncidiums, angræcums, and masdevallias in pots of ordinary make, and the aerides, phalænopsis, sophronites, and saccolabiums in baskets. The small-growing species belonging to the genera in the first group are put either in baskets or the small pans, but chiefly the latter; and the small and medium sized examples of the phalænopsis and the sophronites are also grown in them. The aerides and saccolabiums are exclusively kept in baskets, as they succeed better in them than in either pans or pots. Blocks are very sparingly used because of the constant attention necessary to keep the plants upon them in a thriving state, and only in a few cases should they be employed. They are suitable for Oncidium papilio, Dendrobium Jenkinsi, Sophronites grandiflora, and a few other species of small growth that do not require very liberal supplies of water, but even these can be equally well grown in the shallow pans. The best blocks are those made from branches of the apple tree, as they afford the plants a firm root-hold and do not readily decay. Virgin cork is not suitable for blocks, and we discarded it after a very short trial. Rafts are admirably adapted for species which do not require a large quantity of material about the roots, and many kinds succeed upon them. They are very easily made with a good pattern to work from, but they are so inexpensive that the majority of cultivators will probably prefer to buy them ready made. Those who intend making the rafts for their plants may be advised to use teak rods an inch or one and a-quarter inches in diameter, according to their size. The baskets should also be made of teak, for it is equal in appearance to any other wood, and it has the great advantage of being unequalled in durability. The two sizes of rod recommended for the rafts are the best also for the baskets, and should be employed, the smaller rods for baskets up to nine inches square, and the larger ones for those exceeding that size.

The selection of the materials in which the roots are to run is a matter to which the most careful attention should be paid, because unless they are of good quality the most skilful management will fail to maintain the plants in a satisfactory state of health. There is but little variation in the quality of the sphagnum, and there is not much risk of its being otherwise than good. The principal point is perhaps to see that the bulk consists wholly of sphagnum—that is to say, is free from other moss. When it can be conveniently procured, a small quantity of live sphagnum should be obtained annually to be used for surfacing the pots and baskets containing masdevallias, phalænopsis, and a few others that require a rather liberal supply of water at the roots throughout the year. The live sphagnum will not only enhance the appearance of the plants, but the moisture rising from the green carpet beneath the foliage will be highly conducive to their welfare. The peat varies so much in quality that the greatest possible care must be taken in its selection. The safest course for those who are not well acquainted with the kind of peat best suited for orchids will be to obtain supplies from a nursery in which the cultivation of orchids is carried on, or some other source equally trustworthy, until they have gained experience. The best peat for orchids is that which consists chiefly of the roots of the bracken and wild heath, and is of a deep brown colour, as it does not very quickly decay, and is sufficiently open to allow the roots to run freely in it. Peat formed by the decay of successive layers of moss is quite worthless, and that from moorlands clothed alone by heather is of but little value, and both kinds should be avoided.

We have now to provide for those species which require something more substantial than either peat or moss, or, in other words, for the terrestrial kinds. The compost which experience has shown to be the best adapted for these is one consisting of loam, manure, leaf-mould, and sand, in proportions adapted to individual requirements. It is essential that the loam be rich in fibrous matter and very friable, and horse-droppings which have been thrown into a heap and allowed to ferment for a short time previous to being mixed with the loam are preferable to manure in a thoroughly decomposed state. Flaky leaf-mould is far better than that which is in a powdery state; and in all cases that produced by the leaves of the oak and hornbeam should be set apart for orchids when possible. With reference to the crocks it will suffice to say that they must be comparatively large in size and thoroughly clean when used. A small quantity of charcoal will be required for mixing with the peat and sphagnum in potting many of the kinds; and, like the other materials, it should be the best obtainable. If practicable, well-burnt charcoal made from oak wood should be obtained, as there is no danger of it generating fungi as in the case of charcoal made from soft wood. Orchidophilist.

A CATALOGUE OF JAPANESE AND HYBRID JAPANESE CHRYSANTHEMUMS,

Introduced from Continental Gardens and Nurseries.

Compiled by C. Harman Payne, F.R.H.S.

(*Concluded from page* 131.)

Mdlle. Blanche Pigny. Dr. Audiguier. Pure white; tubulated petals.
Mdlle. Barthère. 1881, Delaux. White, reverse passing to light blue.
Mdlle. Juliette Dordan. 1886, Delaux. Light rose tipped pure white, centre salmon.
Mdlle. Louise Sabatié. 1882, Delaux. Violet rose shaded white, silver reverse.
Mdlle. L. Toulouse. Delaux. Soft rose, centre nankeen.
Mdlle. Lucie. Delaux. Nankeen, flamed and striated rose.
Mdlle. Lacroix. 1880, Lacroix. Rosy white, passing to pure white.
Mdlle. Madeline Tezier. (See Magdeleine Tezier.)
Mdlle. Mélanie Fabre. 1885, Delaux. Soft rose, flamed dark rose, slightly golden centre.
Mdlle. Moulis. 1878, Lacroix. Snow white, spreading petals, sulphur centre.
Mdlle. Paule Dutour. 1886, Delaux. White ground shaded rose, slightly creamy white centre, tipped rose.
Mdlle. Rose Saffores. 1885, Pertuzèr. Soft rose, twisted petals.
Mdlle. Savigny. Delaux. Mauve rose, pure white centre.
Magdeleine Tezier. 1882, De Reydellet. (Syn. Mdlle. Madeline Tezier.) Snow-white.
Malgako. Pertuzes. Dark chestnut, reverse of petals bright gold.
Ma Mignonne. 1886, Delaux. Light pink.
Margot. 1883, Delaux. Drooping petals, golden violet rose, buff centre.
Marguerite Marrouch. 1878, Marrouch. Bright red, lined chestnut and gold.
Marthe Martin. 1885, Pertuzes. Greyish white.
Marsa. 1886, De Reydellet. Rose, centre almost white.
Mastic. 1883, Delaux. Broad dark ochre petals, changing to straw-colour.
Mathilde Cazaux. 1886, Lacroix. Rosy white, centre pure white, outer petals light lilac.
Mélanie Robinet. 1884, Delaux. Slate-coloured lilac, white reverse.
Mentor. 1880, Lacroix. Lilac rose, white reverse.
Messrs. Thibaut and Keteleer. 1885, Delaux. Dark velvety crimson, spotted dark yellow, golden reverse.
Minerve. 1885, De Reydellet. Carmine violet, tipped yellow.
Mignonne blanche. 1885, De Reydellet. No description given.
Mignon. Delaux. Soft rose, lightened violet.
Miss Kepoul. Pertuzes. Light carmine rose.
Mignonnete. Delaux. Crimson fiery red, tipped gold.
Miron. Delaux. Wallflower red.
Mir. Delaux. Large and fine, flamed brown red.
Mon Bijou. Delaux. Fiery red, tipped yellow.
Mireille. 1886, De Reydellet. Bright amaranth, tipped white.
Mons. Antoine. 1885, De Reydellet. Purple violet.
Mons. Astié. Delaux. Rust red.
Mons. Astorg. 1883, Delaux. Silvery white, centre rosy violet.
Mons. Auguste Tezier. 1883, De Reydellet. (Syn. Mdme. Auguste Tezier). coppery red, broad yellow centre.
Mons. A. Vilmorin. 1885, Delaux. Crimson orange, shaded gold; twisted and curled petals.
Mons. Arqué. Delaux. Orange-red.
Mons. Auberjon. 1883, Pertuzes. Mahogany red, tips and reverse lighter.
Mons. Ardène. 1878, Lacroix. Bright lilac.
Mons. Baco. 1879, Delaux. Brick red, shaded fiery crimson.
Mons. Boucharlet. 1884, De Reydellet. Golden yellow, passing to mahogany.
Mons. Bruant. Delaux. Crimson flamed yellow.
Mons. Brunet. 1879, Lacroix. Grey lilac, tipped white.
Mons. Berthier. Delaux. Nankeen, lightened rose.
Mons. Barat. Delaux. Bright red, shaded crimson brown.
Mons. Bousquet. Bernard. Buff yellow.
Mons. Blanc. 1883, Delaux. Bright purple amaranth, silvery centre.
Mons. Boucot. 1885, Rozain Boucharlet. Broad petals; delicate rose, striped light violet.
Mons. Boyer. 1883, Delaux. Lilac rose, strongly silvered.
Mons. Brassac. 1886, De Reydellet. Fine rose; long broad petals.
Mons. Castel. Delaux. Rich fiery crimson, dark yellow centre.
Mons. Cochet. 1884, Delaux. Soft rose, flamed dark rose.
Mons. Crousse. 1879, Delaux. Brown crimson, lightened yellow, centre gold.
Mons. Comte. 1884, Delaux. Violet red and bright amaranth.
Mons. Charles Hubert. Hubert. Canary yellow.
Mons. Cavalier. 1886, De Reydellet. Salmon rose.
Mons. Chrétien. 1886, De Reydellet. Fine bright rose, flat petals, spotted white; late.
Mons. Cossart. 1886, Delaux. Early bloomer; rich golden yellow, edged red and dark crimson.
Mons. Cossart. 1886, Rozain Boucharlat. Long petals; fine bright violet rose.
Mons. D. D. Hillier. 1886, Delaux. ? J. J. Fine brown crimson, speckled gold.
Mons. Dixon. 1885, Delaux. (Syn. Mrs. Dixon.) Light violet rose, on silvery white ground.
Mons Deveille. 1883, Delaux. (Syn. E. C. Jukes.) Bright velvety dark brown crimson, golden reverse.
Mons. Dolfus. 1885, De Reydellet. Carmine violet.
Mons. De Brazza. 1883, De Reydellet. Fine wine-coloured amaranth rose, petals tipped white.
Mons. Délaux. Delaux. Scarlet, reflecting orange.
Mons. Delrieu Jeune. 1881, Delaux. Mahogany red.
Mons. Desbrieux. Delaux. Light mahogany red.
Mons. E. Pynaert van Geert. 1882, Delaux. Rust red, edged dark yellow.
Mons. Eugène Pourquié. 1881, Delaux. Salmon-red, lightened gold; curly.

Mons. Freeman. 1885, Delaux. Wide petals; silvery-rose, shaded bright violet, centre silvery-white.
Mons. F. Marrouch. Dr. Audiguier. Yellow.
Mons. F. Romain. 1881, Delaux. Fawn-yellow, passing to jonquil-yellow.
Mons. Ghys. 1885, Delaux. Large flower; clear gold and violet reverse.
Mons. Garnier. 1885, Delaux. Pure orange, shaded chestnut and buff.
Mons. Harman Payne. 1885, Delaux. Crimson, lightened dark brown, flamed and tipped yellow.
Mons. H. Flauvant. 1882, De Reydellet. Long petals; emerald colour, tipped pure white.
Mons. Henry Jacotot. 1883, Delaux. Brown velvety-crimson, spotted granite colour.
Mons. Hoibian. 1885, De Reydellet. Bright violet, lighter centre.
Mons. Harman Payne. 1886, De Reydellet. Carmine-golden red, tipped gold, centre yellow.
Mons. H. Elliott. 1886, Delaux. Pure salmon, shaded cerise, dark yellow centre.
Mons. Hoste. 1886, Delaux. Early bloomer; dark velvet crimson, old gold ball in centre.
Mons. Ivon. 1885, Delaux. Dull white ground, lightened cream, soft rose centre, petals edged with carmine-violet, tipped gold.
Mons. J. H. Laino. 1885, Delaux. Creamy white lightened rose, dark yellow centre.
Mons. John Laing. 1884, Delaux. Dark crimson red, speckled gold.
Mons. Juan Cruz de Eguileor. 1881, Delaux. Dark crimson, ball of golden yellow in centre.
Mons. J. M. Pigny. Dr. Audiguier. Tubulated flower, cream passing to white.
Mons. J. Aldebert. 1886, Delaux. Dark carmine-rose, lightened salmon.
Mons. Kablé. 1885, De Reydellet. Bright flesh-coloured rose, shaded white.
Mons. Lacroix. Delaux. Rich red ground, shaded orange.
Mons. Lasserre. Delaux. Red ground, shaded dark yellow.
Mons. Lemoine. Delaux. Crimson red, tipped yellow.
Mons. Leon Brunel. 1884, Delaux. Tubulated petals, pure gold, and dull red.
Mons. Licau. Delaux. Rust-red on yellow ground.
Mons. Margottin. 1885, Delaux. Crimson-red shaded, and edges of petals dark crimson.
Mons. Martegoutte. Bonamy. Golden yellow, striped red.
Mons. Maxime Cornu. 1886, De Reydellet. Fine bright rose, somewhat darker towards the centre, spotted white.
Mons. Maney. Delaux. Violet, slightly lightened with white.
Mons. Marrouch. Delaux. Light amaranth, flamed pure white, tipped golden yellow.
Mons. Moussillac. 1883, Delaux. (Syn. Monsillac.) Bright dark crimson red, golden centre.
Mons. N. Davis, 1885, Delaux. Dark crimson, blood-red, tipped gold.
Mons. Patrolin. Delaux. Lilac rose, reverse silvery white, centre spotted white.
Mons. Planchenau. Delaux. Mauve rose and silver white.
Mons. P. Wolkenstein. 1881, Delaux. Bright rose, striped white.
Mons. Paul Dépuntis. 1885, Pertuzès. Pure white, suffused light carmine.
Mons. Paul Fabre. 1885, Delaux. Velvety-crimson, golden centre.
Mons. Rieux. 1879, Lacroix. Coppery mahogany red.
Mons. Roux. 1879, Lacroix. Laciniated petals; fine dark crimson-red, lined white in centre.
Mons. Romain. Delaux. Rust-red ground, flamed and shaded yellow.
Mons. Raoux. 1885, Delaux. Light amaranth, spotted white.
Mons. Sabatié. 1881, Delaux. Long petals; browny-yellow.
Mons. Tarin. 1883, Delaux. Violet-rose, strongly silvered.
Mons. Thomas S. Ware. 1886, Delaux. Tubulated variety; silvery lilac, tips of petals lilac-rose and pure white.
Mons Yvon. 1886, De Reydellet. Fine magenta-rose, tipped white, straw centre.
Mons. Urgel. 1885, Delaux. Red, almost scarlet.
Mons. Valette. 1884, Delaux. Brick-red passing to copperish yellow.
Mons. Vintousky. 1885, Delaux. Dark crimson, shaded buff.
Mons. William Bull. Delaux. Dark red, lightened brick-red, centre tipped gold.
Mons. William Holmes. 1886, Delaux. Early bloomer; dark crimson, shaded velvety dark brown, tipped bright gold.
Mons. Weick fils. 1886, Delaux. Brown crimson, lightened salmon, edged and tipped gold.
Murillo. 1885, De Reydellet. Coppery-purple.
Nec plus ultra. 1885, Delaux. Soft rose, golden reverse.
Néoresse. Delaux. Velvety-dark crimson and bright flame colour.
Négrillon. 1885, De Reydellet. Flame colour, centre copper colour.
Ninus. 1885, De Reydellet. White, passing to rose.
Niobe. 1885, De Reydellet. Carmine-violet.
Nora. Delaux. Yellow ground, shaded rust-red.
Norma. 1885, De Reydellet. Dull red, lined yellow.
Nuit D'Hiver. Delaux. Bronze yellow.
Ondine. 1885, De Reydellet. Bright golden bronze.
Ornements. 1886, Delaux. Red shaded salmon, silvery reverse.
Ornement de la Nature. Delaux. Rosy-white, centre cream.
Orphée. ?1880, Delaux. Brick-red and dark crimson, golden reverse.
Orphée. 1885, De Reydellet. Coppery dull red.
Parasol. 1879, Lacroix. Golden buff.
Papillon. Delaux. Red tipped and flamed yellow, golden reverse.
Paul and Son. 1886, Delaux. Cerise-red centre, edged golden dark yellow.
Pedro Diaz. 1882, Lacroix. Velvety-garnet red, shaded gold.
Pelican. 1885, Rozain Boucharlat. Broad petals, creamy white.
Père Delaux. 1879, Delaux. Dark brown velvety-red.
Perfection. Delaux. Golden red, shaded yellow.
Perle des Blanches. 1879, Lacroix. White.
Petit Antonin. Marrouch. Red, shaded chestnut, tipped gold.
Petit Frisé. 1882, Delaux. Carmine-rose, streaked pure white; curly.
Petit Jean. Marrouch. Light rose, speckled white.
Petit Norbert. 1882, Delaux. Carmine, edged white, golden centre.
Prince Zilah. 1886, De Reydellet. Soft rose.
Phillipe Amiel. Delaux. Wine-coloured rose.
Princesse Blanche. 1886, De Reydellet. Creamy white, slightly salmon; late.
Pierrot. Dr. Audiguier. Dark violet.
Pluie d'Or. 1881, Delaux. Jonquil-yellow.
Poudre d'Or. Marrouch. Golden yellow.
President Grévy. Pertuzès. Amaranth-lilac, with white reverse.
Progrès Toulousain. Delaux. Dark velvety crimson-red, lightened flame-colour.
Rêve d'Or. 1886, Rozain Boucharlat. Chrome-yellow; dwarf.
Reduplicata. 1885, De Reydellet. Carmine-violet, shaded silver; fine new form.
Rêve de Printemps. 1881, Delaux. Dark carmine-violet, silvery white ball in centre.
Rêverie. 1879, Delaux. Dull red, centre shaded gold.
Reine des Beautés. Delaux. Bright fiery crimson, reverse golden yellow.
Richard Larios. Delaux. Dark rose and bright violet, tipped snow-white.
Riche Bouquet. 1881, Delaux. Lilac-white ground, edged white, golden centre.
Robert Owen. 1886, Delaux. Mingled gold, violet, and rose.
Rob Roy. 1886, De Reydellet. Very dark orange, tipped old gold, centre same colour.
Rodrigue. 1886, De Reydellet. Tubulated petals; light lilac and light rose.
Roi Dagobert. Bernard. Velvet chestnut-red.
Roi des Précoces. 1885, Delaux. Early bloomer; dark crimson, lightened gold.
Roi des Japonnais. 1886, Lacroix. Chestnut red, golden tips.
Roi des Japonais. Delaux. Dazzling crimson, reverse gold.
Rosa Bonheur. 1879, Delaux. Carmine bishop's violet, centre Parma violet.
Rosa Superba. 1880, Lacroix. Soft rose, with white reverse; long petals.
Roseum superbum. 1883, Delaux. (Syn. Souvenir de Haarlem.) Lilac-rose, shaded buff, reverse gold.
Rose Suprême. Delaux. Carmine-rose.
Rose Celeste. 1885, Delaux. Tubulated petals; silvery rose.
Rose Pointillé. 1885, De Reydellet. Lilac rose, spotted yellow.
Royal Soleil. Delaux. Dull crimson-red, tipped gold.
Rozain Boucharlat. 1886, Delaux. Pure gold, shaded violet-rose.
Rubrum striatum. 1881, Delaux. Yellow ground, streaked and flamed with red.
Ruy Blas. 1884, De Reydellet. Fine crimson-red, and bright flame colour.
Sanspareil. Delaux. Dark crimson-red.
Sappho. 1885, De Reydellet. Dark red, and flame colour.
Salmonea Plena. 1886, Delaux. Light salmon, speckled gold-shaded brown-red, centre gold.
Secrétaire Général F. Astié. Pertuzès. Lilac-rose, striped white.
Silvie. Dr. Audiguier. Soft rose, centre nankeen.
Simon Delaux. 1882, Delaux. Crimson-red, shaded buff.
Soleil Levant. (See L'Infante d'Espagne.)
Sergent Bopillot. 1886, De Reydellet. Bright rose, marbled whitish yellow.
Souvenir d'Amélie. 1882, Delaux. White, flamed, and shaded violet rose.
Souvenir d'Amsterdam. 1883, Delaux. (Syn. Amsterdam.) Violet-brown crimson.
Souvenir d'Angèle Amiel. 1886, Delaux. Bluish white, changing to very dark carmine-rose.
Souvenir du Caire. 1884, Delaux. Brick-red, petals edged golden yellow.
Souvenir d'Emile Dufour. Marrouch. Velvety-carmine amaranth.
Souvenir du Dr. Gourdon. Pertuzès. Red.
Souvenir de Gustave Rauherbé. Marrouch. Violet-rose.
Souvenir de Haarlem. 1885, Delaux. (See Roseum superbum.)
Souvenir du Japon. 1884, Delaux. Lilac-rose, lightened buff, golden ball in centre.
Souvenir J. M. Pigny. Dr. Audiguier. Bright vermilion-red.
Souvenir de Reine Marie. 1881, Delaux. Violet-rose, shaded white, petals edged white.
Souvenir de l'Amiral Courbet. 1886, Lacroix. Centre red, striped yellow.
Souvenir du Maréchal Niel. Dr. Audiguier. Amaranth-rose, reverse silvery white.
Souvenir d'une Sœur. Bacot. Dark rose.
Source d'or. 1882, Delaux. Orange-shaded gold, washed and tipped rust-red.
Source Japonaise. 1882, Delaux. (Syn. R. Ballantine.) Carmine bishop's violet, edged ashy-violet.
Sphynx. 1885, De Reydellet. Petals tubulated and flattened at tips; mahogany-coloured.
Stimosa. 1880, Lacroix. Fine slaty-violet; tubulated petals.
Striatum perfectum. 1881, Delaux. White ground, streaked violet-rose.
Tagète. 1880, Lacroix. Dark canary-yellow.
Tamirys. 1886, De Reydellet. Light flesh-colour, changing to white in centre.
Tendresse. 1885, De Reydellet. Very fresh rosy white.
Tendresse. 1882, Lacroix. Soft rose passing to bright lilac centre.
Tintamarre. Delaux. Creamy-white ground, variegated, flamed and streaked, dark violet-rose.
Tentation. 1884, Delaux. Fiery crimson.
Thiers. Delaux. Bright crimson red, lightened salmon.
Titien. 1885, De Reydellet. Violet.
Tokio. Delaux. Fiery red.
Toison d'Or. Delaux. Tubulated petals; ochre yellow, shaded and flamed red.
Tricolor. 1882, Delaux. (Syn. Mr. J. Starling.) Lilac-rose, shaded white, centre crimson, tipped creamy white.
Triomphe de la Rue des Châlets. Pertuzes. Salmon-red.
Triomphe de St. Matrin. 1881, Delaux. White ground, flamed rose, centre gold, edged carmine rose.
Troubadour. 1885, De Reydellet. Fine rosy violet.
Traviata. 1885, De Reydellet. Wine-colour, with yellow centre.
Tulipe. 1885, De Reydellet. Yellow, shaded wine-colour.
Theodora. 1886, De Reydellet. Light salmon-rose, base of petals darker, spiral straw-coloured centre.
Val d'Andorre. 1883, Pertuzes Red mixed with orange.
Valmy. Delaux. Rust-red on yellow ground.
Venus. 1882, Delaux. Soft violet, silvery white reverse.
Venus. 1885, De Reydellet. Light lilac-rose.
Vierge Japonaise. 1886, Lacroix. Pure white centre, outer petals lilac rose.
Ville d'Hyères. Hubert. Canary-yellow.
Violaceum album. Delaux. Ashy violet, shaded white.
Violaceum superbum. Delaux. Dark violet.
Victor Hugo. 1886, De Reydellet. Flat white petals, tipped bright carmine rose.
Victor Lemoine. 1883, De Reydellet. Silvery amaranth red, white reverse.
William Clark. 1886, Delaux. Rich salmon, shaded wine-coloured red.
W. E. Boyce. 1886, Delaux. Early bloomer; bright gold and dark cream centre, flamed rose.
Walter Scott. 1886, De Reydellet. Long petals; bright rose, tipped straw, centre straw.
Yo-Go. Delaux. Amaranth, dotted white.
Zaïre. 1886, De Reydellet. Sulphur and orange.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory must be ventilated with great care during the prevalence of keen easterly winds, or the flowering plants from the stove and forcing-pit will suffer severely, and quickly lose much of their freshness and beauty. Climbers if they have not yet had attention must be pruned and trained with as little delay as possible, for the season's growth will soon commence. The borders which contain climbing and other plants of strong growth should receive a liberal top-dressing of some suitable fertilizer. It is a good practice to remove four or five inches of the soil from the surface of the bed, and then replace with a mixture consisting of equal proportions of half rotted manure and turfy loam. Or, if more convenient, a three inch layer of manure may be spread over the bed and covered to a depth of two inches of the soil previously removed from the surface. Camellias and acacias will now require increased supplies of water at the roots, but care must be taken to so regulate the watering that the soil is not kept in a constantly saturated state.

Greenhouse must be freely ventilated on favourable occasions, especially if Cape heaths form part of the stock. Soft-wooded plants required for conservatory decoration during the summer must be shifted on as more root space becomes necessary. They must have a light position and be as near the glass as possible.

STOVE AND ORCHID HOUSE.

Orchids of many kinds come on successively now for their growing or blooming season; but it is not advisable to run up the temperature to a high pitch, because for many days together we have a cloudy sky, and there must be some sort of balance maintained between degrees of light which we cannot regulate and degrees of heat which we can.

Stove Plants need a general revision at this time of year; those that have been blooming all winter require to be cut back, and encouraged to break, then to be shifted to larger pots if needful, or have top-dressings. Crotons must have a light position to ensure the full development of their rich tints.

FORCING AND ORCHARD HOUSE.

Fig Trees in the forcing-house must have air, but cold draughts will cause them to cast their fruit. It is equally important not to chill the roots, as may be done by watering with cold water. The syringe will benefit them and they require a steady temperature.

Peach House.—The fruit when sufficiently advanced must be regularly thinned, and the shoots trained in without tying hard. All this sort of work should be done by degrees; to thin out the surplus fruit at once, or train in all the young shoots close in one day, will be injurious. The temperature of the peach-house should now range from 55 deg. to 75 deg.—the latter, of course, on the brightest days, with sun heat. Varieties that are shy of setting must be aided by slightly agitating the trellis at mid-day, when the air of the house is rather dry, or by the more tedious but more certain way of brushing the pollen on to the stigma by means of a dry camel's-hair pencil.

Pinery.—Pines growing freely must have plenty of water at the root. Those in bloom or fruit must not be wetted overhead, and any bearing fruits beginning to colour must have as much air and light as possible, guarding against a chill, and keeping them rather dry. Succession plants must be encouraged.

Vinery.—The atmosphere of the house in which the crop is swelling must be kept moist, and it will be well to make a special examination of the border, as this is sometimes wet enough upon the surface and quite dry a few inches down. In watering, use water of the same temperature as the soil; better a few degrees warmer than colder.

FLOWER GARDEN AND PLEASURE GROUNDS.

Auriculas require to be top-dressed with good sweet decayed cow-dung and leaf-mould. Give them more water, and examine each under the leaves to see that they are free from vermin.

Tender Annuals for specimens and bedding out to be sown now include balsams, cockscombs, globe amaranthus, portulacas, Schizanthuses, phloxes, brachycomas, stocks, tropæolums, cobæas, lophospermums, and acrocliniums. It is too early yet for asters. First-class annuals should be grown with care, the plants to be pricked out early and stopped; if they once become drawn they never bloom satisfactorily, or show their full capabilities.

FRUIT GARDEN AND ORCHARD.

Scions for grafting must be at once heeled in. It is too early to put grafts on; they will take much better if kept back by heeling in for a few weeks, to give the stocks a chance of getting in advance of them.

Strawberries planted last autumn must now have the ground trodden between to make it firm. A coat of manure may then be spread over the surface, as it will greatly benefit them when the drying east winds blow the life out of everything except chickweed.

Wall Trees will, as they come into bloom, require protection from frost, and as opportunities offer protecting materials should be prepared for covering the trees as soon as it becomes necessary. Frequently trees have the bloom destroyed in consequence of the protecting materials not being in readiness at the proper moment. Work will now increase so rapidly that to prepare protecting materials will every day become more and more difficult.

KITCHEN GARDEN AND FRAME GROUND.

Celery large enough to be pricked out to be removed forthwith to a sweet hotbed. Sow again for the main crop.

Kitchen Garden crops to be cleared off as fast as possible, and the plots ridged up, to be well aired before being appropriated to summer crops. Sow main crops of peas and beans; earth up any that are now out of the ground, and if any fear of vermin, sprinkle with wood-ashes. We believe the common slug has more to answer for as to the destruction of early rows of peas than any other depredator.

Onions required to be very large may soon be provided with a deep, well-manured bed in rather a dry position. Transplant into this bed from the seed-bed of autumn-sown stock, putting the bulbs nine inches apart: if only serviceable bulbs be required, put them six inches apart. After planting, strew wood-ashes or fine siftings of charred rubbish over the bed.

Parsnips to be sown now on deep, well-stirred soil. If heavily manured last year all the better, but on poor soils they give a good return. The parsnip always pays for the ground it occupies, for if sown on poor soil it gives a good return of useful roots—though, as there is great waste when these are forked or cankered, good cultivation is to be preferred, both because more creditable and more profitable.

Peas and Beans sown on strips of turf, or otherwise intended for planting out, should now be hardened by exposing them as much as possible to the open air, but it must be done without causing any serious check, and if the nights are frosty they must be covered up early. When they have been exposed for eight or ten days, they may be planted in rows to take their chance.

Correspondence.

BIG VEGETABLES.

The writer of the article on "Big Vegetables," which appears at page 110, has in his endeavour to prove his case gone out of his way to abuse the judges at horticultural exhibitions, and thus depreciate the labours of a body of very able and painstaking men. The duty of a judge of horticultural productions is to recognize merit, whether it be in a cabbage or an orchid, and to give the award to the cultivator who has shown the highest degree of skill in the production of the specimens before him. In judging vegetables it may well be asked, How is a proper estimate of the skill of the cultivator to be formed if size is not to count for something? We are perpetually hearing about the cauliflower of the size of a breakfast cup, and the potato suitable for the gentleman's table. But the cultivator of vegetables has something else to think about besides the gentleman's table. He has to consider also the wants of the table of the people, and the means by which it can be the most satisfactorily supplied with vegetables of the finest quality. The judge also has to consider this, and encourage production of largest bulk possible from a given space—provided, of course, the quality is good. It is all very well to seek to discount cauliflowers ranging from twelve to fifteen inches in diameter; but I would ask whether they do not represent cultural skill of a higher order than those of the "size of a breakfast cup." It is, of course, assumed that the two are equal in solidity and colour. I shall be much surprised if any one in answering the question says that the most skilful cultivator is he who produces examples three or four inches in diameter. Let us take the case of Brussels sprouts, to which reference has also been made, and in doing so I should like to put one more question to "Kitchen Gardener," "W," and others who hold a similar opinion. It is this: Do large or small sprouts require the most skill to produce? If sprouts of the size of marbles are the most difficult to produce, I should like to know why it is that they are to be met with of all sizes, even where the garden is indifferently managed. If we are to believe that the small sprouts are so much the best, we must also believe that the general body of consumers who are residents in the towns, and have to depend upon the growers for market for their supplies, have a very perverted taste. They invariably prefer the bold sprouts, as growers find by the higher prices they realize in the market. I suppose we shall be next told that it is a mistake to have large fleshy kidney-beans, instead of the small attenuated pods with which our grandfathers had to be content. Perhaps when everything becomes too small to be visible, many people will be happy. A Judge.

BIG VEGETABLES AND JUDGING.

It was with much pleasure that I read the notes on big vegetables, contributed by your able correspondent "Kitchen Gardener," and I hope they will be the means of bringing about a reform in judging vegetables at horticultural exhibitions. It is in the exhibition tent that the cause of the mischief is to be found, and I think it may be taken for granted that as long as vegetables of large size are encouraged by judges the general body of cultivators will not pay so much attention to the quality of the produce as they should do. Those who grow for exhibition will certainly pay more regard to size than quality until it is made clear by the rules of the schedules that quality will have due consideration paid it. But at the present time gardeners are frequently disappointed to find their collections passed by simply because the collections staged by other competitors contain larger cauliflowers, Brussels sprouts, parsnips, and cabbages. I mention these four vegetables because they are frequently the giants of exhibition collections. I have, indeed, seen on the exhibition stage examples so large that I should not have dared to send them to the servants' ball. The foregoing remarks would apply with equal force to potatoes; but as the proper way of judging them has been pointed out on more than one occasion, I shall not refer to it in detail. But I should like to express a hope that those who are judges in classes for potatoes during the forthcoming summer and autumn will pay attention to the quality as well as to the size of the tubers. By so doing they will encourage the cultivation of varieties that have passed their examination with credit at headquarters. I am not writing this because I have unduly suffered when in competition with other growers from the great preference to vegetables of large size, for I consider that I have done as well as the majority of cultivators. I would say, in conclusion, that, of upwards of one hundred and fifty prize-cards in my possession, I have some that do not properly belong to me; but these would be more than balanced by those I have missed in consequence of the judges showing more favour to the size than to the quality of the productions.

The Gardens, Hasfield Court, Gloucester. John Aplin.

PHALÆNOPSIS STUARTIANA.

Your correspondent "J. D." is hardly so clear as one could wish in his interesting note on Mr. Philbrick's orchids. In referring to Phalænopsis Stuartiana, he says "some good judges prefer it to P. Sanderiana;" but, as a matter of fact, they are so distinct that no proper comparison can be instituted between them. It would, indeed, be as proper to institute a comparison between Cattleya Mossiæ and Dendrobium nobile. It is a matter of opinion, and not for judgment, which of the two phalænopsis is the best; but I must say that I have not a very high opinion of the taste of those who prefer P. Stuartiana to P. Sanderiana. Since the introduction of the first-mentioned of these two species several hundred examples in bloom have come under my observation, and I am thoroughly convinced that the species has been much overrated. Not even the best form, known as P. Stuartiana nobilis will justify one half that has been written in praise of the species. The flowers are of medium size, and in the best forms they are creamy white, rather freely spotted with purple-marone. But in the majority of those which I have seen the flowers are greenish white with but few spots, and present as miserable an appearance as could well be imagined. The flowers of the inferior forms appear, when a short distance from the eye, as if they are decidedly stale and have

been wetted several times by the syringe. P. Sanderiana, on the other hand, has flowers nearly as large as P. amabilis, and of a pleasing rosy pink hue. The several varieties vary much in colouring, but even the pale forms are very pleasing. The dark forms are, on the other hand, extremely beautiful, and in point of attractiveness unsurpassed by any of the other occupants of the East Indian house. "J. D." is quite right when, in referring to this species, he says, "P. Sanderiana has suddenly taken its place as one of the finest of the moth orchids." Practical Orchidist.

ORCHIDS IN FLOWER.

Dendrobiums claim special attention at this season, for several species of great interest are in bloom. Our old friend *D. nobile*, is in perfection, and to say more is unnecessary, for it should be known to all orchidists, amateur or otherwise. A rival to this is the magnificent *D. Wardianum*, which produces, in twos and threes, flowers nearly four inches in diameter. The broad waxy sepals and petals are pure white tipped with a bright magenta colour, while the showy lip is of an orange colour at the lower part, and is also embellished with two distinct eye-like crimson blotches. A contrast to this is *D. Pierardi*, an old but useful species, bearing on long pendulous stems delicately coloured flowers, which last a considerable time in beauty. If a blaze of colour is desired, grow a few specimens of *D. fimbriatum*, which is one of the most showy of orchids, its flowers being of a dazzling orange colour, with the lip fringed in a beautiful and distinctive manner. There is a variety of this named *D. fimbriatum oculatum*, which is more handsome than the type, as the flowers are as brilliant in colour, larger in size, and the lip is blotched in the centre with deep purplish crimson. A little known Denbrobe is *D. luteolum*, but it is not deserving of great praise, as the flowers are not nearly so attractive as those of many members of this genus. A very desirable species is *D. crepidatum*, of pendulous growth, and producing white sepals and petals tipped with pink, and a lip suffused with deep orange. We must not pass by the rare *D. aureum*, which is flowering in grand style in the orchid-house at Kew. The flowers are produced laterally, and the curious revolute lip is studded with short brownish crimson coloured hairs; the sepals and petals are creamy white, and the whole flower is of medium size and of neat appearance. *D. cretaceum* rivals D. Pierardi for delicacy of colouring, the sepals and petals being pale pink and the wide spoon-shaped lip creamy yellow veined with lilac. *D. crassinode* we must not omit to mention, for it possesses sterling merits. The flowers, which are produced laterally, are neat and pleasing, the sepals and petals being pure white, tipped with rosy lilac, and the shell-like lip yellow inside and out, and banded with white and lilac at the front part.

Angræcums are going out of flower, but the noble *A. eburneum* is not yet over. One of the most interesting representatives of this genus flowering now is the rare *A. citratum*, which is quite a contrast to the above mentioned, as it is of dwarf compact habit, and may be grown in a basket suspended in a light position. The small white flowers are closely seated on the slender slightly drooping stem, and are furnished with tails of between one and two inches in length. This comes from Madagascar, and may be accounted one of the choicest of the genus.

Lælias blooming now are not numerous, and one of the highest is *L. cinnabarina var. harpophyllum* which has brilliantly coloured flowers of an orange and red hue. The popular *L. anceps* is almost over, but in a few weeks we may expect the gorgeous flowers of *L. purpurata*, which is, without a doubt, one of the finest of orchids at present in cultivation.

Cælogynes in bloom now include the useful *C. cristata*, which is an especial friend of the amateur orchidist; and its variety *C. cristata Lemoiniana*, which differs from the type in having lemon coloured blotch on the lip. *C. elata* is not raved about, but it is deserving of more than passing notice. At Kew, there is a healthy specimen growing on a block in the cool house. It comes from the Himalayas, and the small flowers are produced close together in short racemes. They are pure white, saving the lip, which is banded with yellow in the centre, and embellished with two crimson ridges running parallel.

Odontoglossums are the most important of the cool house orchids flowering at this season. To enumerate all that bloom now and give descriptions would require a volume, but a few of the best will be pointed out. *O. Alexandræ* and its numerous varieties must, of course, be included, and if a species of charming elegance is wanted, select the beautiful *O. pulchellum*—appropriately named—which bears close together in an erect scape pure white flowers of great substance; the crest of the lip is yellow. A variety named *O. pulchellum majus* is more robust than the type, and the flowers are of larger size. These two odontoglots should be in every collection, and they are of easy culture. *O. blandum*, now flowering at Kew, is a distinct and decidedly pleasing species in the way of *O. nævium*, with flowers borne in a short raceme; they are spotted with deep crimson on a white ground; the irregularly shaped lip is occasionally marked with deep pink, and the crest is pale yellow. The popular *O. Rossi majus* is flowering freely, so also is the beautiful *O. Cervantesi*, the flowers of which are almost round in shape, and in colour white, with the sepals and petals regularly lined with pale brown at the base. *O. Sanderiana* bears attractive flowers of a yellowish colour, blotched with brown; the lip is white, and marked at the base with deep pink. Many other Odontoglossums are in bloom besides the above-mentioned, the most important being the old *O. Bictoniense*, which is of but little value from a decorative point of view; *O. aureum*, *O. Ruckerianum*, *O. adspersum*, and *O. maculatum*.

Masdevallias add interest to the orchid-house at the present season, for the singular *M. Shuttleworthi* is flowering, as well as the gorgeous *M. ignea* and a few varieties of *M. Harryana*. *M. polysticta*, *M. triangularis*, and a few other species, are of botanical interest only.

Cattleyas are the most showy of the orchids in bloom now. *C. Trianæ* and its numerous varieties are flowering in fine style in the collection of W. Lee, Esq., Downside, Leatherhead. Less showy, but not less beautiful than these is the fragrant *C. citrina*, which produces large tulip-like flowers of great substance.

Amongst other good things flowering now in all large collections are: *Phalænopsis Stuartiana*, *P. Sanderiana*, *Zygopetalum Mackayi*, *Cypripedium Schlimi*, *C. porphyrum*—flowers neat in form, and dull brownish-crimson in colour: *C. Harrisianum*, *C. conchiferum*, *C. venustum*, *C. villosum*, and *Lycaste Skinneri*.

MUSHROOM GROWING.

It has been often a matter of surprise to me that the mushroom is not raised more generally and extensively in this country than it is. I know there are a few places where it is grown for market, and made very profitable, but these places are not one-twentieth part as numerous as they ought to be. I know of no good reason why the mushroom should not be grown in large quantities, and with a large profit on the capital invested, in the vicinity of any large town or city. I think that the main reason why it is not cultivated more extensively is that most people have an idea that there are certain mysterious and intricate processes to be gone through which are too deep and difficult for the comprehension of common mortals. Now, the sooner this idea is dispelled, the better for all concerned. And I will here make the assertion that there is no more difficulty in growing mushrooms in large quantities for market than there is in growing potatoes, or any other vegetables—that is, if the directions I am about to give are adhered to.

Mushroom-growing on a large scale cannot well be carried on at a long distance from a large town or city, because fresh horse manure, which is one of the principal materials, can only be had in quantity where a large number of horses are kept. The most suitable place, if the rent is not too high, would be a cellar or basement under a public hall, or manufacturing establishment; if this cannot be had, any building where a temperature of 45 deg. to 60 deg. can be maintained during winter will answer the purpose. I am supposing that the person who is about to start intends to make a business of it, so I will give directions for fitting up the space in a permanent manner. The most convenient width for the beds, when there is a walk on each side, is six feet, and as long as the house will allow; a building thirty feet wide would give room for three beds, each six feet wide, with a walk three feet wide between and around them; and to economize space, two beds may be made, one above the other, arranged in the following manner: take good sound three-by-four scantling, in lengths to reach from the floor to the joists; nail these upright, in straight rows, six feet apart and four feet between the uprights in the rows; next, take pine boards, one inch thick, place these edgewise on the floor, and nail to the uprights; this gives a bed six feet wide and twelve inches deep on the floor; next, take good sound boards one inch thick and six inches wide and six feet long, and nail these edgewise on the uprights, with the upper edges four feet from the floor; on these lay one-inch boards close together, to form a floor for the upper bed, and nail these boards down to the cross pieces. Then take boards twelve inches wide and one inch thick, and nail them edgewise to the upright, to form sides for the upper beds, and then you will have your beds ready for the material in which the mushrooms are to be grown.

The material to fill in the beds is from droppings; take fresh horse-droppings from the stables in as large a quantity as can be procured, to which add an equal weight of fresh loam from a pasture field; old soil that has been worked or manured must not, on any account, be used. Let the loam and droppings be well mixed together from day to day as they are received, or, if enough can be procured at one time, all the better. Place the heap in some out-building where it cannot get the least wet. If it is not all procured at once, turn the heap over every day to prevent too violent heating, until enough is on hand to fill the bed or beds. Now all is ready for filling the beds, which should be done as follows: take from the heap of manure and soil, prepared as above directed, enough to form a thin layer over the bottom of the bed or beds; pound this down quite firmly with a mallet or square block of wood, then another layer beaten down like the first, and this must be repeated until you have a depth of eight inches, neither more nor less; if it is deeper than eight inches, it sometimes reaches too high a degree of fermentation, but less than eight inches is not quite enough. Having done this, plunge a thermometer into the bed, which, in about two days, will heat enough to run the mercury up to more than 100 deg. Fahrenheit; wait until this goes down to about 90 deg., then take a sharp stick and make holes in the bed about a foot apart each way, and about half as deep as the bed; into each of these holes put a piece of spawn about an inch and a-half square, cover the holes up again so that the surface of the bed will be level and firm as it was before the spawn was put in.

Nothing is now to be done for about twelve days, when the spawn will have "run" through the whole bed. Next, spread over the whole surface of the bed a layer two inches thick of fine fresh loam, pressed down moderately firm and quite level; cover the bed with about four inches of nice clean hay or straw; now there is nothing to do but to keep a proper degree of heat, which should be as near 60 deg. as possible all the time; but it must on no account be allowed to go below 45 deg. at any time, or else the beds will get cold too soon, and the crop be too late to be profitable. If the air of the house or cellar is not very dry, no water will be required; but the beds must be examined occasionally, and if the surface is dry, give a light watering from a fine-rose watering pot, with the water heated to about 100 deg.

With the above treatment commencing in November, the first crop will be ready in January. The mushrooms do not all come up at once, so the gathering of the crop will last about three weeks. After the first crop is all gathered, spread about half an inch of fresh loam over the bed, beat down firm and level, and gently water with warm water when it becomes dry, and cover up as before, with hay or straw, and another crop, frequently better than the first, will be gathered in February. Mushroom spawn of good quality can be obtained from any good seedsmen.

B. Fletcher, in *Vick's Illustrated Magazine*.

"A SIMPLE FACT ABOUT" KEATING'S COUGH LOZENGES.—Ask throughout the world, in any country that can be named, you will find them largely sold. There is absolutely no remedy that is so speedy in giving relief, so certain to cure, and yet the most delicate can take them. One lozenge gives ease. Sold in 13½d. tins.—[Advt.]

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, March 9.

Floral Committee.

Present: G. F. Wilson, Esq., in the chair, and Messrs. J. Laing, W. Bealby, A. Perry, G. Duffield, J. Walker, H. Herbst, R. Dean, H. Ballantine, J. Dominy, H. M. Pollett, J. O'Brien, E. Hill, J. Douglas, W. Holmes, G. Paul, A. Lendy, H. Turner, H. Cannell, T. Baines, and H. Bennett.

With a severe frost and a biting east wind it was somewhat of a surprise to find such a large and highly attractive display of flowering plants as that produced in the conservatory on this occasion. The principal contributions were the cyclamens, daffodils, and primulas, all of which were staged in large numbers, and in a condition that brought much credit to the respective exhibitors. Orchids were also well represented, and included several species and varieties possessing much interest and of great value.

Cyclamens comprised several collections of exceptional excellence, and produced a beautiful effect. Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, contributed a large group of well-bloomed plants, which admirably represented his fine strain of these flowers, and was awarded the bronze Banksian medal. The collection, it may be added, was equally remarkable for the diversity and effectiveness of the colours and the large size and fine form of the flowers. Mr. H. B. Smith, St. George's Nursery, Hanwell, staged an extensive collection, in which the high colours were especially good, and received the award of the silver Banksian medal. From Messrs. H. Page and Son, Grove Nursery, Teddington, came several hundred plants, evincing cultural skill of a high order, and bearing flowers of superb quality. The white varieties are well deserving of special mention for the large size and purity of the flowers; and amongst the high-coloured forms was a variety under the name of Marmion, which may be described as one of the finest crimson cyclamens that has yet been presented to public notice. The award of the silver Banksian medal was made to Messrs. H. Page and Son. A large, splendidly-flowered specimen of cyclamen Persicum giganteum, one of the finest of the several types, was presented by Messrs. H. Cannell and Sons, who were awarded a vote of thanks. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, contributed several specimens each of Cyclamen Atkinsi, C. Atkinsi album, C. coum album, and C. coum roseum, all of which are exquisitely beautiful and present a very attractive appearance when grown in pans and flowered under glass, as in the Hale Farm Nurseries.

Chief amongst the exhibitors of primulas were Messrs. J. Carter and Co., High Holborn, W.C., who sent from their Forest Hill nurseries a collection consisting of fourteen distinct varieties, each of which was represented by eight or ten admirably grown plants. Amongst other fine types were Venus, a beautiful variety, the flowers striped with carmine on a pure white ground; Elaine, a handsome form, with dark stems and large pure white flowers; Holborn Blue, now so well-known for its distinct shade of colour as to need no comment; Pearl, a beautiful type, the flowers pale rose-lilac, shading to blush white at the margin, which is nicely fringed; Holborn Mauve, a distinct and attractive variety; and Holborn Vermilion, a type remarkable for the fine form and the brilliancy of the colour of the flowers. A vote of thanks was accorded the firm.

Daffodils were represented by four large and tastefully-arranged collections, and constituted one of the most interesting features of the meeting. Mr. T. S. Ware contributed a collection comprising plants in pots and cut flowers, and was awarded the silver Banksian medal. Amongst others were Narcissus pallidus præcox, N. princeps, N. Golden Queen, N. bicolor Horsfieldi, N. spurius, N. poeticus ornatus, N. capax fl. pl., and N. bulbocodium citrinus, which received the distinction of a first class certificate. Mr. Ware staged also, in association with the daffodils, Crocus Aucheri, the most richly-coloured of yellow spring flowering species, Chionodoxa Luciliæ, C. sardensis, Freesia refracta alba, Double Snowdrops, Elwes's Snowdrop, Iris reticulata, I. reticulata purpurea, I. stylosa, a species of great beauty, producing comparatively large lavender blue flowers, and several lachenalias. Messrs. Barr and Son, 12, King Street, Covent Garden, who also were awarded the silver Banksian medal, contributed a large collection of cut flowers of daffodils and other spring blooming plants. The narcissi included N. major, N. telamonius plenus, N. corbularia conspicua, N. cernuus, N. albicans, N. campernelli, N. maximus, N. Achilles, N. poeticus ornatus, and N. princeps. The miscellaneous subjects comprised Lachenalia aurea, L. Nelsoni, Freesia refracta alba, F. Leichtlini, F. Leichtlini major, Iris reticulata, Chionodoxa Luciliæ, and Allium Neapolitanum. T. A. Dorrien-Smith, Esq., Tresco Abbey, Scilly, sent an attractive collection of cut flowers, comprising the majority of those mentioned above and several of the best of the polyanthus varieties. The bronze Banksian medal was awarded to Mr. Smith, and the award of a medal of like value was made in favour of Messrs. Gabriel Brothers and Collins, Waterloo Road, S.E., for an excellent and very tastefully-arranged collection of daffodils and miscellaneous flowers.

Orchids were far more numerous than might have been expected on so cold a day, and gave much interest to the meeting. Mr. C. J. Salter, gardener to J. Southgate, Esq., Selborne, Streatham, exhibited a good specimen of Dendrobium nobile nobilius, the finest of the several forms of this well-known species; and large well-bloomed examples of D. heterocarpum Ellaianum, a variety remarkable for its depth of colour; and D. crassinode album, a beautiful variety, and, as indicated by its name, bearing white flowers. Mr. H. Heims, gardener to F. A. Philbrick, Esq., Oldfield, Bickley, exhibited a large specimen of Lælia lilacina, which is supposed to be a natural hybrid between Cattleya crispa and Lælia Perrini. It is rather robust in growth, and the flowers, which are sweetly scented, and of medium size, have delicate rose-lilac petals and sepals, and a pale rose labellum marked with a deep purple blotch. The plant was imported in 1883 with L. Perrini. A vote of thanks was accorded. Mr. Clarke, Eversleigh, Herne Hill, sent a nicely flowered example of the lovely Dendrobium Devonianum. Messrs. W. Thomson and Son, Cloverfords, submitted cut flowers of Dendrobium Leechianum, a hybrid well known to orchidists for its distinctness and great beauty, and the firm received a vote of thanks. A like compliment was paid to C. L. Ingram, Esq., Elstead, Godalming, for Cattleya Trianæ Ingrami, a superb variety, distinguished by the brilliant colouring of the labellum.

The new Cattleya Lawrenciana was shown by Messrs. Laing and Co., Forest Hill, and Mr. W. Bull, Chelsea. The first mentioned firm submitted two plants, one of which had a spike of three flowers, and the other a spike with two flowers and a single bloom. The plant shown by Mr. Bull was furnished with one flower. The species is very free in growth and neat in habit, and the flowers are of medium size, and borne well above the foliage. The sepals and petals are deep rose shaded purple, and the labellum rich amethyst purple. Messrs. Laing and Co. sent also some good varieties of Cattleya Trianæ, and a well-bloomed example of Dendrobium crassinode. Messrs. F. Sander and Co., St. Albans, presented two large densely flowered specimens of Cœlogyne cristata maxima, which differs from the type in the flowers being of much larger size, and produced in bolder racemes. A cultural commendation was awarded.

Mr. W. Bull contributed seven well-grown plants of the Easter Lily of Bermuda, Lilium longiflorum floribundum, each bearing five or six of the large pure white flowers. The same exhibitor had also Cupania grandidens, a handsome species, with bold pinnate leaves. G. F. Wilson, Esq., presented a good pan of Galanthus Imperati, one of the finest of the giant snowdrops, and was accorded a vote of thanks. Messrs. H. Cannell and Sons exhibited the showy begonia, Semperflorens gigantea rosea, which had a first-class certificate conferred upon it; and cut flowers of B. nitida and B. nitida alba. Mr. Clinkaberry, gardener to F. Brahy, Esq., Busbey Lodge, Teddington, submitted a cineraria bearing flowers of two distinct colours, some being purple and the others bright crimson, the difference in the colour of the flowers being probably due to a peculiar condition of the health of the plants.

Fruit Committee.

Present: Dr. Hogg, in the chair, and Messrs. W. Denning, G. Norman, W. Warren, John Woodbridge, F. Rutland, J. Ellam, C. Silverlock, G. Goldsmith, P. Crowley, T. J. Saltmarsh, G. T. Miles, T. B. Haywood, J. Roberts, H. Weir, G. Bunyard, and R. D. Blackmore.

The duties of the committee were exceptionally light on this occasion, for but few subjects were submitted. Mr. H. Mitchell, gardener to Sir G. Elliott, Bart., Aberaman Park, Aberdare, South Wales, exhibited a remarkably well-ripened fruit of the Black Prince pine, and was awarded a cultural commendation. Mr. A. Miller, Rood Ashton Park, Trowbridge, sent, under the name of Rood Ashton Seedling, a handsome culinary apple in the way of Waltham Abbey Seedling. Messrs. J. Carter and Co. exhibited a large collection of vegetables preserved by a process under which they retain their shape, colour, and general character. The collection comprised peas, and French, runner, and long-pod beans in pod, potatoes, carrots, onions, leeks, tomatoes, radishes, capsicums, and seakale, all of which had been admirably preserved. Mr. J. Crute, Wood Green Potteries, Waltham Abbey, exhibited specimens of his patent concave flower-pots; and Messrs. Foster and Pearson, Beeston, Notts, a new form of ventilator for fruit and plant houses.

Novelties.

First-class certificates were granted as under.

To Mr. Cummins, gardener to A. H. Smee, Esq., The Grange, Wallington, for—

Cyrtopodium Saintlegerianum.—A very handsome species introduced from Paraguay, and producing huge branched spikes of large brightly-coloured flowers, the petals bright yellow, the sepals yellow, freely spotted with deep red, and the labellum crimson and yellow. It is very similar in general character to C. punctatum.

To Messrs. H. Cannell and Son, for—

Begonia semperflorens gigantea rosea.—A very distinct and showy hybrid of the highest possible value for winter and spring decorations. The plant is bold in growth, has very large bright green leaves, and produces a profusion of huge dense trusses of brilliant coral-red flowers.

To Mr. T. S. Ware, for—

Narcissus bulbocodium citrinus.—An exceedingly beautiful variety of the Hoop-petticoat narciss, with flowers of a bright lemon-yellow colour.

MESSRS. LUCOMBE, PINCE, AND CO.'S EXHIBITION OF HYACINTHS.

The annual exhibition of hyacinths held in the nurseries of Messrs. Lucombe, Pince, and Co., Exeter, a few days since, was fully equal to those held in previous years, and, as usual, proved immensely attractive to the large body of visitors. For eight or nine years past the firm have offered liberal prizes for hyacinths, and the competition for them invariably creates much interest amongst cultivators in the Exeter district.

There was a very brisk competition in the class for twelve hyacinths, and the premier award was made in favour of Mr. J. Dawe, gardener to the Rev. T. J. Yarde, Cbudleigh, whose collection consisted of examples remarkable for their long massive spikes and neat leafage. Especially noteworthy in the collection were La Grandesse, the finest of all the white varieties; King of the Blues, which is unequalled amongst the bright blue varieties; and Czar Peter, so well known for its beautiful shade of lavender blue. Mr. F. Viney, gardener to Mrs. Norris, Pinhoe, was a good second, with specimens evincing cultural skill of a high order, chief amongst them being Duke of Connaught, which has flowers of bright red colour, Czar Peter, and Von Schiller, so well known for its brilliancy of colour. Mr. Sparkes, gardener to Mr. Bond, of Tiverton, was third with a very attractive group, the spikes being of medium size, neat, and well finished.

The collections staged for competition were arranged in the spacious show-house, in which there was a brilliant display of hyacinths and other bulbous plants grown by the firm. The hyacinths exhibited by the latter were exceptionally well grown, and the immense spikes with which the majority were furnished surprised not a few of the visitors. Conspicuous in the collection were—Mont Blanc, La Grandesse, Lady Derby, and Miss Nightingale, of the white varieties; Von Schiller, Vuurbaak, and Linnæus of those with red flowers; and Electra, General Gordon, Czar Peter, Charles Dickens, President Lincoln, Garrick, and Surprise, of the several shades of blue. In addition to the bulbs, there was a profusion of flowering plants relieved by palms, and other subjects remarkable for their elegance of habit and nobility of aspect.

TRADE CATALOGUES.

Samuel Shepperson, Belper.—*Florists' Flowers, Spring Flowering Plants, &c.*

Waite, Nash, and Co., 79, Southwark Street, S.E.—*Wholesale Catalogue of Agricultural Seeds.*

James Carter and Co., High Holborn, W.C.—*Farmer's Handbook and Calendar*, 1886.

Henry Bennett, Shepperton, Middlesex.—*Pedigree Seedling Roses.*

James Dickson and Sons, 108, Eastgate Street, Chester.—*Farm Seeds.*

W. and J. Birkenhead, Sale.—*Ferns and Selaginellas.*

Replies to Queries.

S. P.—We are unable to give you any particulars beyond such as have been made public.

Ornamental Asparagus.—H. B.—The elegant Asparagus plumosus nanus can only be propagated by division of the roots, and by means of seed. You can obtain plants at a comparatively cheap rate of any of the nurserymen who grow stove plants.

Peach Trees Losing Their Buds.—Young Gardener.—The border has evidently been kept too dry during the winter. You cannot do anything to prevent the falling of the buds, but you may prevent the trees receiving any further injury by giving the border a liberal watering at once.

Aerides.—G. M. B.—Probably the best way to deal with the old examples of Aërides odoratum that have become bare and unsightly would be to remove the side growths without injury to the roots, and then destroy the old and leafless stems. The young growths can then be put in pots or baskets, several in each, with sphagnum.

Names of Plants.—J.W , Bristol.—1, Platycerium alcicorne; 2, Begonia grandis; 3, Begonia manicata; 4, Begonia fuchsioides; 5, Rochea falcata.—C. D.—The fern is Asplenium flaccidum. We cannot name the coleus.—R. H.—1, Lastrea oreopteris; 2, Gymnogramma calomelanos; 3, Nephrodium molle; 4, Onychium Japonicum.—J. Stevens.—The ficus is an abnormal form of F. indica, due probably to bad cultivation.

Specimen Eucomis.—W. W.—Eucomis punctata is one of the best for the production of specimens. Good examples may be had by selecting strong flowering bulbs and putting them in nine-inch pots, six or seven in each. Use a light rich compost and well-drained pot, and when the plants are in full growth supply rather liberally with water. A well-ventilated frame or a sheltered position out of doors will be the most suitable throughout the summer.

Poppies.—W. F.—The most showy of the poppies are the double pæony-flowered, which may be had either in separate colours or in mixture. For a rough bank, such as you describe, a mixture will be in every way suitable. Sow the seed thinly at once, and bury it by chopping over the ground with a hoe. Should the plants be at all crowded in any part of the bank, thin rather severely, for the plants fail to produce the effect of which they are capable when they have not sufficient space for their development. Moreover, they do not remain in bloom for so long a period as they otherwise would do.

Alnwick Seedling Grape.—R, W.—This is one of the finest of the late keeping black grapes, but it is hardly so well adapted to the requirements of the general body of cultivators as the Alicante and Lady Downes. It has a good constitution and produces plenty of bunches, but some growers fail to set it satisfactorily. A temperature of about 70 deg. is necessary when it is in bloom and the flowers must be fertilized with the pollen of Lady Downes, Black Hamburgh, or some other variety. If you can give it sufficient heat during the flowering season, and spare the time to fertilize the flowers, we would certainly advise you to plant it.

Godetias.—Amateur.—The Godetias do not continue in bloom throughout the summer, but they are exceedingly attractive when in bloom, and you will do well to grow a few of the best varieties in your mixed border. Those which can be specially recommended are Duchess of Albany (white), Lady Albemarle (crimson), and Lady Satin Rose (bright rosy carmine). Sow the seed in boxes, and when of a suitable size prick the young plants off, putting them in large sixties, three in each. They are to remain undisturbed until the end of May, when they are to be bedded out without being separated. Godetias are not particular as to the soil in which they are grown, but they produce the best effect when the border is moderately rich.

Propagating Cannas.—M.—The crowns of the varieties of which you are desirous of increasing the stock may be divided whilst dormant, or they may be started into growth and be then divided. You must divide each crown according to its size and the number of plants required of the variety; but when strong examples are wanted for the formation of bold masses in the flower garden, it is not advisable to cut them into very small portions. The best course is to so divide them that each portion will have two or three growths, and be of a suitable size for a five-inch pot. If you intend starting the roots, first put them in shallow boxes with light friable soil, and place them in a structure in which they will have the assistance of a temperature of about 65 deg. Divide them when the first leaves are beginning to unfold.

Vine Eyes.—W. Richardson.—The best way of propagating vines is by means of "eyes," or buds. Well-ripened wood should be selected for propagating purposes, and the buds be taken off with about three-quarters of an inch of wood on each side. It is advisable to start them in small sixties, one in each, as they can then be shifted on without injury to the roots. Fill the pots nearly level with the top of the rim with a mixture consisting of loam, leaf-mould, and sand, and then press the eye into the soil just deep enough for the point of the bud to be visible above the surface. It will be an advantage to plunge the pots in a brisk hotbed to start the eyes, but after they have been shifted into larger pots they ought to be stood on the surface of the bed or on a trellis, as plunging the vines in a hotbed promotes the production of stout, fleshy roots, which frequently perish in the course of the winter following.

Orchard.—Shelter.—A hedge of the common holly will answer your purpose very well when it has attained a sufficient height to afford shelter to the trees. But as many years will necessarily elapse before the hedge will be high enough for the purpose, it will be advisable to provide, in addition, a belt of some rapid growing coniferous tree on the outer side. Hollies ranging from three to four feet high will be the most suitable for the formation of the hedge; as, whilst large enough to make a good screen within a comparatively short time, they are not so large as that any great risk will be incurred in lifting and replanting them. It is probable that a considerable proportion of the plants that are eight feet high will perish unless they have been prepared by periodical transplanting. Hollies can be most successfully transplanted in May and August, but the second of the two months is decidedly the best. The spruce fir, or Douglas's fir, which will be found in the catalogues under the designation of Abies Douglasi, planted about eight feet apart, will very quickly make an efficient screen. They should be planted before the end of the current month, or in October.

We notice by an advertisement in our magazine that ANTHRACITE is becoming very generally used for hothouse purposes.—[Advt.]

Law.

AN OFFENDING STREET TREE.

In the Queen's Bench Division sittings *in banco*, before Mr. Justice Mathew and Mr. Justice A. L. Smith, the case of the Queen v. Corporation of Lewes raised the interesting question of the right of the public authority to select sites for street trees.

The prosecutor, Mr. Hammond, had indicted the Corporation of Lewes for a nuisance caused by their having planted some ten small trees in the main street of that borough, one of which was put in immediately in front of his house. At the trial the Judge and jury had gone out to view the spot, and the corporation had been convicted, but no judgment had been given. Last November the prosecutor had applied to a Divisional Court for a rule *nisi* calling upon the corporation to show cause why judgment should not be passed upon them, and they should not be ordered to pay a fine. This rule now came on for argument.

Mr. Lumley Smith, for the prosecutor, said that the trees of the planting of which he had complained had not been removed by the corporation after the trial, but they had in fact done this when this rule had been served upon them. There had been some attempt at a compromise of the case, but the prosecutor had asked to be paid £60 out of the £150 which the prosecution had cost him; and as this had been refused, the negotiations had fallen through. Those costs he could not recover in the ordinary way, as the law, as laid in "Corner's Crown Practice" at p. 126, was that "upon conviction the prosecutor is not entitled to recover costs of the defendant, nor the defendant, upon acquittal, of the prosecutor. But if the Court, on passing sentence, impose a fine on the defendant, the prosecutor is entitled, under a writ of privy seal, to one-third of the fine towards his costs, if they amount to so much, and if not sufficient, he may memorialize the Lords of the Treasury to be allowed a further part of such fine towards the costs." The learned counsel submitted that such a fine ought to be imposed on the corporation as that by one-third of the amount being paid to the prosecutor he might obtain repayment of the costs which he had to incur.

Mr. R. S. Wright, for the Corporation, said that as a matter of fact some of the residents in the High Street of Lewes had subscribed to purchase the trees, which the corporation had then caused to be planted. The prosecutor had chosen to take criminal proceedings instead of bringing his action in the County Court; he had chosen to take this course with a knowledge that by proceeding by indictment he would not get his costs, though if successful in the County Court he would have had them as a matter of course. He now asked this Court to fine the corporation in a sum equal to three times the amount of the costs which he had needlessly incurred, so that he might not be made to pay. The learned counsel submitted that the case was one in which only a nominal fine ought to be inflicted, and in support of this contention cited the case of Rex v. Dunraven (Earl) (Wilmore, Wollaston, and Davison, 577) where the Court discharged an indictment for a nuisance caused by the erection of a building on part of a highway, on a merely nominal fine, when the nuisance had been removed, as it appeared that the public had not suffered any real inconvenience; and "Reg. v. Paget" (3 F. and F. 29), where it was decided that on an indictment for obstructing a highway, where it appeared that the obstruction had been removed, there was substantially an end of the proceedings, as its object had been attained.

Mr. Justice Mathew, in giving the judgment of the Court, inflicted a fine of 1s. on the corporation, making no order as to the costs of the present application.

Literature.

Messrs. Cassell send Part 84 of *Familiar Garden Flowers*, containing figures and descriptions of scarlet salvia and yellow lachenalia; also *Doré Gallery*, *Popular Gardening*, and *Library of English Literature*.

Illustrations is the title of a new paper edited by Mr. Francis George Heath. It makes a good beginning, as it contains a little of everything scientific, literary, and artistic. There is a good paper on watches, and an original poem by the author of *Lorna Doone*.

Messrs. Ward and Lock send continuing parts of *Heart of Midlothian* in the beautiful series of "Selected Waverley;" *Beeton's Garden Management*, with a showy-coloured plate of flowers; *Plutarch's Lives*, with two plates; *Works of Josephus*, with six plates; *Universal Instructor*, freely illustrated; *Library of National Information; Popular Histories for the English People; Amateur Work;* and *Sylvia's Home Journal*.

The Heart of Midlothian, in Ward and Lock's "selected Waverley novels," has reached part 7, and with the complaints of Lady Staunton and the death of the Duke of Argyll; the illustrations are many and exceedingly beautiful. From the same publishers we have also received part 4 of *Plutarch's Lives*; part 5 of the *Works of Josephus*; part 16 of *Universal Instructor*; part 11 of *Beeton's Garden Management*; part 5 of *Popular Histories for the English People*; part 16 of *Library of National Information*, and the 16th part of *Amateur Work*.

Handbook of Mosses. By James E. Bagnall, A.L.S. (Swan Sonnenschein). This neat little handbook, by the vice-president of the Birmingham Natural History Society, makes ample amends for the customary shortcomings of small books. It is very small, but it is also very good, and its appearance is seasonable, for a large proportion of the British mosses are now coming into flower and a proper out-door study of their characters will be found full of delight for lovers of nature. Mr. Bagnall presents a compact body of information on the structure, fruitification, classification, and cultivation of mosses, and his figures are well adapted to enable a beginner both to identify species and dissect specimens.

Tourists' Guide to the Flora of the Alps. By Professor K. W. v. Dallatorre. Translated and edited by Alfred W. Bennett, M.A., F.L.S. &c. (Swan Sonnenschein). In view of all Alpine climbing, all good rockery gardening, all honest criticism, compiling and comparing in the great world of alpine plants, this neat little pocket-book is of singular value and importance. In its mechanical aspects it comes near to perfection for a volume of 392 very clearly printed pages, of a proper pocket smallness, encompassed in a substantial leather cover, weighs less than 4½ ounces, and combines this quality with elegance of appearance and agreeable legibility. We are bound to give attention to this part of the subject, for books intended for

tourists are often produced in a style which implies in the producers a belief that the noble tourist will have nothing else to carry, not even a railway guide, or a bag of money, or a spirit flask. As regards the contents we begin with the sweet conviction that Dr. Bennett is most happily circumstanced in regard to Alpine plants, and we admire his courage in referring throughout to the beautiful series of Seboth's "Alpine Plants painted from Nature," which is also a desideratum of the collector and cultivator. The plants described number about 1,800; under each genus is given a brief statement of essential characters, and the several species are described with sufficient minuteness for identification, abbreviations being freely used in aid of condensation.

Ladies' Treasury for March contains a good paper on phrenology—a subject so often treated empirically—that we are bound to note that in the *Treasury* it is treated common-sensically. There are many more good things in the number, including bright stories and a budget of household economy.

No Juice in a Flint.—This trite saying has a parallel; *there is no getting juice out of cheap tea.* The Chinese are yearly increasing the supply to English tea-drinkers of redried and worthless leaves, utterly destitute of *theine*, which is the one active principle most to be desired in the beverage; consequently cheap tea becomes dear tea *at any price.* The true policy of supplying wholesome Pure Tea is alone to be commended; hence the enormous and increasing sale of *Horniman's Tea, guaranteed absolutely pure*, by Chemists and others who are Agents in all parts of the kingdom, and supply the public at London fixed prices.—See advertisements in all Newspapers and at Railway Stations for list of Local Agents.—[Advt.]

Obituary.

On the 28th ult., at Edinburgh, Mr. Charles William Peach, naturalist and paleontologist, aged 86 years.

On the 5th inst., at Orwell Lodge, Ipswich, Mr. R. C. Ransome, of the firm of Ransome, Sims, and Head, the eminent agricultural engineers and machinists, aged 55 years.

On the 17th of February, at Wurzburg, Baron de Kohne, of the Imperial Museum of the Hermitage, St. Petersburg, aged 68 years.

On the 4th inst., Mr. Robert Preston Ker, senior partner in the firm of R. P. Ker and Son, Basnett Street and Aigburth Nurseries, Liverpool, in his seventieth year. The deceased gentleman was born at Hassendean, Hawick; his father was manager of Dickson's Nurseries, a position he occupied for forty years. His uncle, Mr. William Ker, was sent to China from Kew, and afterwards to Ceylon, where he died in 1814. In his honour was named Kerria Japonica, sometimes labelled Corchorus. Robert P. Ker left Hassendean, at the age of fourteen for Edinburgh, and was apprenticed to Messrs. Dickson, at Waterloo Place. From thence he went to Mr. Skirvings, at Liverpool. In the famine year he travelled in the North of Ireland. The business he established in Basnett Street was prosperous from the first, and has become distinguished in the North of England as giving powerful aid in horticultural exhibitions.

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Banksian Medal, Royal Horticultural Society ... 1885
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Banksian Medal, Royal Horticultural Society ... 1883
Large Bronze Medal, Royal Botanical Society ... 1883
Bronze Medal, Royal Botanic Society 1885
The Extra Prize, Crystal Palace 1885
The Second Prize, Royal Horticultural Society ... 1885

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1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
21	S	**2nd Sunday in Lent.**	6 3	7 15	6 12	8 8	6 45	2 32	2 54	11 57	—	43·4	Cypripedium caudatum	Peru.	80
22	M	William I. of Prussia born, 1797.	6 1	6 57	6 14	9 22	7 14	3 14	3 36	0 19	0 39	43·5	Cyrtopodium punctatum	Brazil.	81
23	Tu	National Gallery founded, 1824.	5 59	6 39	6 15	10 33	7 45	3 55	4 17	1 1	1 20	41·7	Dendrobium heterocarpum	India.	82
24	W	Queen Elizabeth died, 1603.	5 57	6 20	6 17	11 39	8 18	4 36	4 56	1 42	2 1	43·9	Dendrobium crassinode	Moulmein.	83
25	Th	Annunciation, Lady Day.	5 54	6 2	6 18	Morn.	8 57	5 16	5 34	2 21	2 41	44·1	Dendrobium Leechianum	Gard. hyb.	84
26	F	Duke of Cambridge born, 1819.	5 52	5 43	6 20	0 39	9 40	5 51	6 15	2 59	3 18	44·2	Epidendrum crassifolium	Mexico.	85
27	S	☾ Last Quarter, 10h. 44m. morning.	5 50	5 25	6 22	1 32	10 28	6 38	7 4	3 40	4 3	44·4	Epidendrum aurantiacum	Guatemala.	86

ROYAL BOTANIC SOCIETY GARDENS, REGENT'S PARK.
EXHIBITION OF SPRING FLOWERS.
The first Exhibition of the Season will take place on WEDNESDAY next, MARCH 24. Schedules of Prizes now ready.
The dates of the SUMMER EXHIBITIONS are WEDNESDAYS, MAY 19 and JUNE 9. Schedules of Prizes now ready.

ROYAL BOTANIC SOCIETY GARDENS, REGENT'S PARK.
VEITCH PRIZES FOR AMARYLLIS.
The Prizes offered for Amaryllis on MARCH 24 are only open to Amateurs and Amateur Gardeners—NOT to the Trade.

ROYAL HORTICULTURAL SOCIETY.
The REPORT on the ORCHID CONFERENCE is now ready, and may be had by Fellows of the Society on application to the Assistant Secretary, at the Office, South Kensington, S.W.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.
The Schedule of Arrangements for the Shows and Meetings to be held in the Conservatory at South Kensington during the current year is now ready, as also that of the Provincial Show, to be held at Liverpool from JUNE 29 to JULY 5 inclusive.
Applications for the same should be made to the Secretary, Royal Horticultural Society, South Kensington, S.W.; or to the Superintendent, Royal Horticultural Gardens, Chiswick.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS: Fruit and Floral, at Eleven a.m., in the Conservatory; Scientific at One p.m., in the Lindley Library, on TUESDAY next, MARCH 23.
SECOND PROMENADE and BAND from Half-past Three o'clock p.m. Admission 2s. 6d.
N.B.—Entrance for Fellows and the Public, North-east Orchard House, Exhibition Road; and Exhibitors' Entrance East side of Royal Albert Hall.

ROYAL AQUARIUM, WESTMINSTER. — HORTICULTURAL EXHIBITIONS.—Great Exhibition of Hyacinths, &c., Market Plants, and Cut Daffodils, on March 30 and 31; Great Artistic Rose Show, on June 25 and 26; Great Strawberry Exhibition and Fête, on July 2 and 3; Great Display of Table Decorations, Bouquets, &c., on August 20 and 21. Liberal prizes are offered. Schedules of Prizes on application to Mr. RICHARD DEAN, Superintendent of the Exhibitions, Ranelagh Road, Ealing.

THE PUTNEY AND DISTRICT CHRYSANTHEMUM SOCIETY will hold their NINTH ANNUAL EXHIBITION, at the ASSEMBLY ROOMS, HIGH STREET, PUTNEY, on TUESDAY and WEDNESDAY, the 16th and 17th of NOVEMBER, 1886. Schedules can be had by applying to the Hon. Sec.—Mr. J. MOORE, Hon. Sec., Upper Richmond Road, Putney, S.W.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, MARCH 23.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.
WEDNESDAY, MARCH 24.—ROYAL BOTANIC SOCIETY.—Spring Exhibition.
WEDNESDAY, MARCH 24.—GLASGOW AND WEST OF SCOTLAND HORTICULTURAL SOCIETY.—Spring Exhibition.
WEDNESDAY, MARCH 24, AND THURSDAY, MARCH 25.—BATH.—Spring Exhibition.
FRIDAY, MARCH 26, and SATURDAY, MARCH 27.—CRYSTAL PALACE.—Spring Exhibition.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C., to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.
Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.
ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, MARCH 20, 1886.

EXHIBITIONS OF THE ROYAL HORTICULTURAL SOCIETY are liberally provided for, and the schedules are at the command of all who require them. The promenade shows are freely varied with special exhibitions, the subjects and dates of which may, with possible advantage, be now set forth. The season may be said to begin with the exhibition of the southern section of the National Auricula Society on the 20th of April, and with this will be associated the Primula Conference on April 21. The two undertakings are, however, so blended by the management as to constitute for all general purposes a primula demonstration covering both days; but the first day will be consumed in criticising and admiring the flowers, and the second in discussions of their origin, classification, and improvement. Hyacinths will be great on March 23 and April 13; Pot Roses and Azaleas on May 25; Orchids on June 8; Pelargoniums, June 22; National Rose Society's myriads of cut roses, July 6; National Carnation Show, July 27; Asters, Fuchsias, and Begonias, August 10 Cottagers' Show, August 24; Grapes, Dahlias, and Tomatoes, September 7 and 8; Hardy Fruits, October 12 and 13; Chrysanthemums and Vegetables, October 26 and 27. A new arrangement will impart new life to these exhibitions in the conservatory, to the delight, probably, of the great public, and we hope not the less delight to the exhibitors. The hour of closing will be ten p.m., and the electric light will be employed to bring the horticultural display into the round of the evening entertainment. Exhibitors will not be prejudiced by this arrangement, for the removal of exhibits will be allowed at the usual hour, or they may be left until ten the next morning. This expansion of the horticultural attraction should prove of advantage to the R. H. S.; and none will doubt it will be so to the larger feature in which the fruits and flowers will serve as a special embellishment. The special prizes offered by seedsmen are not greatly different to those of former years; there is, therefore, a golden promise of busy times at South Kensington.

LIVERPOOL EXHIBITION OF THE R.H.S. is provided for by a liberal schedule, the total of prizes offered amounting to £1,200. The opening day is June 29, and the closing day July 5; the Botanic Gardens and the adjoining Wavertree Park being the happy hunting-ground for all concerned in making and enjoying the undertaking. The schedule is of the fullest nature, and appropriate to the season. It comprises large and small classes for nurserymen, amateurs, and cottagers; the arrangements are judicious, and the scheme comprises at least two new features—which may count for three, perhaps, considering that this is to be a particularly large affair.

The first new feature that commands attention is a class for the illustration of horticulture on board ship. This is strictly appropriate to the locality, and it reminds us to say that the horticultural exhibition will be directly connected with the great exhibition of shipping that is to give delight to Liverpool this year. It does not often occur that those who go down to the sea in ships practise horticulture. There are not many horticultural mariners, but their interests are worthy of the attention of the Society that leads the way in this business; and it will be a most happy event should successful practitioners of marine horticulture enter the lists as exhibitors, and give us some idea of their difficulties and trials. A salad grown on shipboard would prove as acceptable a display as the flowers that some fair hands may have reared in the cabin windows while wandering about the world. We shall hope, too, that some of our friends amongst the "land-lubbers" may find means to illustrate this interesting subject of "Horticulture on Board Ship."

The second feature might be discoursed upon at length, but brevity seems now to be allied with prudence. There are twenty classes provided for horticultural books, periodicals, models, diagrams and specimens illustrative of special operations; also of technical art and botanical and decorative art so far as the subjects are derived from flowers, fruits, trees, and other garden products. This section should prove at once serviceable and attractive. We shall hope that schools of art will take notice of the provisions made in aid of their objects. As for those who are interested in horticultural books, they may be left to take care of themselves.

The third feature is less of a novelty than the two just named, for it is the old-fashioned Implement Show, with a Boiler Trial added. This department extends to twenty-one classes, and comprises conservatories, boilers, mowing machines, tools, ornaments, labels, and whatever else may be reasonably grouped therewith.

The renewal of the provincial show is a matter of great importance. Its success will depend very much on the spirit in which it is regarded at Liverpool. The Society goes there by invitation,

and the proposals are all of a generous nature. But an immensity of work must be accomplished ere success can be assured, no matter how many favouring circumstances, including suitable weather, may lend their aid. The affair must be contemplated by all concerned in a hopeful frame of mind; and then the hands will be found ready for a long pull, a strong pull, and a pull altogether, to bring the ship with its garden safely and with joy into port.

The Cost of Keeping Royal Parks and Pleasure Grounds in the metropolis has hitherto been charged in part to the local authorities and in part to the Treasury. In Committee of Supply in the House of Commons, March 11, Mr. Labouchere made a proposal that resulted in a surprising conclusion, illustrating the new philosophy of the "unexpected." The sum of £112,619 was asked for, whereof £50,403 would be chargeable to the Treasury. The senior member for Northampton moved to reduce the vote by this amount, on the ground that London should pay the whole cost of its parks and pleasure grounds. A lively discussion followed, and, as a matter of course, many irrelevant matters were introduced. But the end of it was that Mr. Labouchere's proposal was adopted by 131 against 114 votes, the majority of 17 being somewhat of a startler to the Government, and possibly also to the mover in the matter. Certain it is that Mr. Labouchere appeared anxious to do something more; and we can but guess that, having gained his point to illustrate a principle, he wished to avert any mismanagement of the parks in the ensuing twelve months as the consequence of his reduction of the allowance for them. But the Chairman refused to recognize a right in anyone to propose an amendment, saying "a reduced sum had been granted, and there was an end of the matter." As a matter of course, that is not "an end of the matter." Battersea Park and Victoria Park are left to take care of themselves without a shilling for wages or material. A vote for the purpose will be included in the Supplementary Estimates, and the Government will ensure its adoption. But a lesson has been taught by the proceeding. We learn that 131 members at least are favourable to charging the cost of the London parks wholly on London; and if this cannot be accomplished at once, it is made clear to all that it will have to be done; and *then* there will be an end of the matter.

The following particulars of the several Estimates have a special interest in connection with this striking episode:—

Battersea Park, £7,027.
Bethnal Green Museum Grounds, £350.
Bushey Park: Total £2,648, including £314 salaries and wages; £219 police and park constables; and £2,061 maintenance.
Chelsea Military Asylum Grounds, £203.
Greenwich Park, £2,341.
Hampton Court Park: Total £1,073, including £155 salaries, &c.; £722 maintenance; and £185 works.
Hampton Court Pleasure Gardens: Total £2,343, including £214 salaries, &c,; £253 constables, £266 works, and £1,534 maintenance.
Kennington Park, £1,432.
Kensington Gardens, £7,019.
Kew Gardens: Total £20,757, including £5,514 salaries, &c.; £1,518 constables; and £12,255, maintenance.
Regent's Park and Primrose Hill, £9,420.
Richmond Park: Total £2,810, including £91 salaries, &c.; £283 constables; £349 works; and £2,036 maintenance.
Ditto (Department of the Ranger): Total £2,753, including £711 salaries, &c.; £353 constables; and £1,643 maintenance.
St. James's, Green, and Hyde Parks, £36,653.
Ditto (department of the Ranger), £1,771.
Victoria Park, £7,369.

Aylesbury Horticultural Society.—Annual exhibition, July 8.

Bath Rose Show, Thursday, July 8.

Shropshire Horticultural Society.—The Spring Show will be held April 1; Summer show August 18 and 19.

Mr. R. D. Blackmore is contributing a new novel, entitled "Springhaven," to *Harper's Magazine*.

Pictures by Mr. Holman Hunt, comprising nearly all his best works, are now on view at 148, New Bond Street.

Oxford Rose Show, originally fixed for July 8, will, to avoid clashing with Bath, be held on Wednesday, July 7.

Maidenhead Horticultural Society.—Annual show, Thursday, August 19.

Horticultural Club will meet on Tuesday next, March 23. After dinner a paper will be read by Mr. Polman Moöy, of Haarlem, on the Hyacinth.

The Next Winter Exhibition at the Grosvenor Gallery will consist of works by Van Dyck. The present Millais show will close on April 3.

Wanstead Flats are to be drained and levelled, to adapt certain parts for public use as recreation grounds. A considerable portion of the space will be levelled for cricket.

The Corporation of London will prepare a special reception for the official representatives of the Colonial and Indian Exhibition. The proceedings will include a service in St. Paul's Cathedral and a ball in the Guildhall.

Société Nationale d'Horticulture de France has postponed the date of the May show by seven days. The announcement for the 4th is therefore now for the 11th, and the show will remain open until the 16th.

Parcel Post.—On and from April 1, parcels not exceeding 7 lb. will be received at any post-office in the United Kingdom for transmission to Holland. On and after the same date, too, parcels not exceeding 7 lb. in weight will be received at any post-office in the United Kingdom for transmission to Barbados and St. Helena.

The Wonderful Eucharis appears to be omniscient, or ambitious to become so. Messrs. Fellowes and Ryder, Northumberland Nursery, Orpington, Kent, inform us that they have at the present time a flower with perianth of twelve divisions arranged in two rows. They are hoping to obtain seed from this wonder.

"Gardens of Light and Shade" is the title of a new book announced by Mr. Elliot Stock. Its object is to show how small suburban gardens may be laid out picturesquely at moderate cost. It will be illustrated by plans and photographs taken from nature, showing the effects that can be produced by taste and management.

Webb and Sons, of Wordsley, Stourbridge, have favoured us with a collection of samples of grass and clover seeds of guaranteed germinating power, which in every case is specified in figures, and of purity warranted by the Botanist to the Royal Agricultural Society of England. They are accompanied by a "new formula" of grass and clover seeds for permanent pasture.

Mrs. Squibbs, of Godstone, a pensioner of the Gardeners' Royal Benevolent Institution, died recently at the age of 78 years. Many years ago her husband subscribed to the institution the sum of fifteen guineas, and immediately on his death the widow was placed on the pension list. She lived long enough to derive from the fund the sum of £300, and her life was probably prolonged by the comfort and sense of security the pension afforded her.

Messrs. Clibran, of Altrincham, make an interesting statement of the growth of their business as nurserymen. They say fifteen years ago they employed only one man, and their nursery stock covered only half an acre; now they cover fifty acres, pay between three and four thousand per annum in wages, and their glass exceeds 50,000 feet. In no country in the world has horticulture advanced with broader and more rapid strides than in Great Britain. The American States show a tendency in the same direction, but differences of circumstances beget differences in the development of the horticultural spirit.

The Weather has undergone some slight changes, ending, as we feared, in worse conditions than before. On Tuesday the result of the change in pressure which commenced two days previously, was everywhere agreeable, but the fall of the barometer was arrested at the same time, and the night set in with renewed frost and fog; and in the home counties and northward the general state of things was painful to the flesh and depressing to the spirit. There now appears a further sign of change, and we shall not say, as we did last week, that spring weather is not in the reckoning. There is, in fact, a cheerful lookout at last, but it should be understood that much rain is due to us ere we dare to dance on the village green.

Selling by Retail in a Wholesale Market will for its legality probably very much depend on local custom and the stipulation of charters, leases, and the like. An interesting case was heard in the Queen's Bench Division, March 16, before Mr. Justice Mathew and Mr. Justice A. L. Smith. The market-keeper at Newcastle-on-Tyne made a complaint against Mary Collins for having sold by retail vegetables and fruits in a part of the market appropriated solely to wholesale business. The justices dismissed the complaint, considering the restriction imposed by the rules of the market unreasonable. But a case being stated for the opinion of the Court, the learned judges named above declared the by-law reasonable, and remitted the complaint back to the justices to be dealt with on its merits.

London groans aloud because of the scarcity of vegetable food. Some midland and northern towns are worse off, but yet are milder in their groaning. It may be said that all the home-grown vegetables now are worthless, save the forced seakale and rhubarb, and the broccolis from Cornwall and the Channel Islands. These last are excellent, and are evidently appreciated by the good prices they are realizing. The sprouting broccoli, cabbages, collards, and savoys ought to be serviceable, but in truth they have been so shrivelled by the east wind as to be comparatively worthless, though sold at famine prices. Whether the growers obtain such prices is not for us to say, but we have seen the dealers dole out handfuls of ill-looking stuff at a price that brings oysters, by comparison, once more within the category of food for the million. Of roots there are fair supplies, but parsnips are less bulky than usual; and of only one root can we speak in a satisfactory manner as regards quality and price, and this root is our old friend the noble tuber, which is at once cheap and good—in fact, extra cheap and extra good; and Magnum Bonum has had the lead of the markets throughout the winter. All that has been said about the produce of last season being inferior in quality and turning black when cooked may be dismissed as rubbish. That the writers of such stuff told the truth as regards their own particular districts need not be questioned; but the markets testify that potatoes generally are good, and in sufficient plenty; and for thousands now, and for some time, the noble tuber stands alone as the vegetable element of the daily dietary, for only certain well-doing classes can keep their tables supplied with broccolis and seakale, which are the beginning and end of greengrocery for the present. Imported salads are excellent, and command moderate prices, and they provide a capital set-off against the other parts of the account.

SWEET PEAS.

Where large quantities of cut flowers are required few plants are more valuable than sweet peas, for they are not only easily grown but they afford a long succession of flowers. Moreover, they are very attractive when in flower, and add much to the appearance of a border. With us sweet peas are held in high esteem for the fragrance of their flowers, and I have to provide a supply for as long a time as it is possible to have them through the summer. Our earliest flowers are obtained from seed sown about the middle of October. They occupy a position on a border facing south-west, where it is very rare for the hardest winter to kill them. But if it should do so, I sow some seeds again in heat early in February, and bring on the plants in the houses until the end of April, when they are bedded out. But the autumn-sown plants always give the greatest number of flowers at one time, and continue to do so longer than those raised from spring-sown seed. It seems to me that the autumn-sown plants strike their roots down further into the soil, for I notice that neither a dry spring nor a hot summer affects them much, for they continue flowering as if they were independent of the weather, if it is only fairly warm. But then we deal with our sweet peas differently from a good many growers. We do not allow them to ripen any seeds, and once a-week throughout the summer, with a basket in one hand and a pair of scissors in the other, I nip off all the fading flowers. The result of this is the plants are not exhausted by having to mature a crop of seeds, which they always do if left alone. They consequently continue to grow, and the making of new growth means in this case a succession of flowers.

To make quite sure of having plenty of sweet peas through the latter part of the summer I always make a sowing about the middle of April. This sowing is made in a border in the kitchen garden set apart for flowering plants from which to cut. I find a row of peas about six yards long is enough to furnish a large quantity of flowers. In regard to sowing sweet peas I am fully persuaded that many people sow the seeds too thick. The plants are so crowded that the growth is much weaker than it would be if they were allowed more room. I generally sow moderately thick, and as soon the plants are three inches high commence thinning. Those sown in rows are thinned to two inches apart. The clumps I sow in shallow circular drills, twelve inches in diameter, and in these rings I have from ten to twelve plants, and I find by judicious thinning out I have much stronger plants, and an abundance of fully developed flowers. I support the sweet peas with feathery pea-sticks, as I cannot find anything better. In regard to soil sweet peas are not very particular, and they succeed in any fairly good garden soil. R. H. B.

PANSIES FROM SEED.

It cannot be so generally known as it should be that very satisfactory results can be obtained from growing pansies raised from seed, or that mode of increase would be largely taken advantage of by cultivators. Where an effective display of colour in the flower garden is wanted, or where a liberal supply of flowers is required for glasses, seedlings answer every purpose.

The seed may be sown at almost any season of the year, and if sown during February or March and assisted with gentle heat the plants will bloom freely during August and September. They will, in fact, form a good succession to the display produced by the plants raised from autumn-sown seed, which usually bloom most satisfactorily early in the summer. Sowing the seed in the beginning of August is, I believe, the method of procedure best adapted to the pansy. When the seed is sown in August the cultivator has nice little plants ready for pricking off at the end of September. They should be pricked out in a bed of soil made up in a cold frame, and there remain until the first mild weather, when they should be planted in the beds and borders in which they are to bloom. By this method a fine early display of bloom is obtained, and the plants have not to struggle against the injurious effects of the excessive dry weather usually experienced during the summer, which bears so hard upon the spring-sown plants. Young seedling pansies wintered in a cold frame continue growing throughout the winter. It is, indeed, surprising what progress they make when everything appears to be standing still.

I would strongly impress upon those who may determine to engage in the interesting work of growing pansies in the manner here indicated to procure seed saved from a really first-class strain. Unless this is done nothing but disappointment will follow. Continental pansy seed is as a rule rubbish, and rubbish only, and should therefore be avoided. There is certainly no pleasure to be had from seedling pansies that are very little better than the wayside heartsease. But there is undoubtedly much pleasure and profit also to be obtained from a bed of fancy pansies raised from a good strain. The colours will all be good, and the markings varied and highly picturesque, and the effect produced by the mass of flowers will be most pleasing. For shallow glasses for table decorations, pansies are always acceptable, and, generally speaking, as good blooms for this purpose can be obtained from seedlings as from named varieties. Of course, few blooms will be obtained equal in shape and distinctness of markings to the best named flowers. Those who know anything of the pansy do not require to be told this. I have seen thousands of seedlings raised from seed saved from the best varieties, and the proportion of flowers that were really improvements upon those in commerce was something less than one per cent. I would repeat, where decoration and effect alone are the objects in view, and not competition at exhibitions, pansies from seed ought at least to be tried.

Bute. W. C.

CARPET BED IN THE GARDENS, COTHELSTONE HOUSE, TAUNTON.

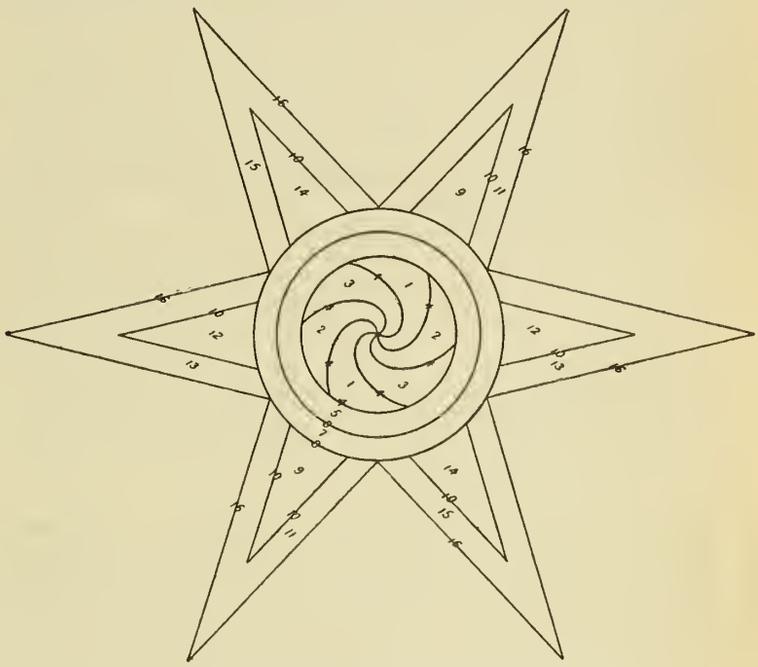
The diagram below represents a carpet bed that proved eminently attractive last year. The planting was as follows:—

1. Mesembryanthemum cordifolium variegatum.
2. Alternanthera amœna.
3. Alternanthera paronychoides.
4. Echeveria secunda glauca.
5. Alternanthera versicolor.
6. The same as No. 1.
7. The same as No. 2.
8. Golden Feather Pyrethrum.
9. The same as No. 2.
10. Sempervivum Californicum.
11. The same as No. 5.
12. The same as No. 1.
13. The same as No. 2.
14. The same as No. 8.
15. The same as No. 5.
16. The same as No. 4.

The bed measures from point to point 28 feet, and through the circle 9 feet 6 inches. J. C. C.

GAINING TIME IN THE KITCHEN GARDEN.

Cultivators will not require to be told that the present season is one of the most trying to the kitchen garden crops that we have had for many years past, or that there is a very general scarcity of green vegetables in both private and market gardens. Their personal experience will have already convinced them that it is a long time since



Carpet Bed in the Gardens of Cothelstone House, Taunton.

the supplying of the table with vegetables from the open quarters and the preparations for the late spring and the summer crops were carried on under such great difficulties. We have not had the kales and other crops cut off by the severity of the weather, as in some winters; but they were much browned, and the continuous frost which has been experienced up to the present time has rendered new growth impossible, and in consequence there is hardly a scrap of any use for the table. The continuous frost has not only practically cut off the supplies of those things which have stood through the winter, but it has seriously checked the sowing and planting of the several crops from which supplies will have to be drawn through the summer. In the short period of genial open weather that we had during last month we were able to push on with the sowing of seeds that could be sown thus early; but very little, if any, progress has been made, some of the seeds not having as yet shown any signs of germinating. It would indeed have been surprising had they made much progress, considering that the ground has been frozen to some depth, and skating proceeding on the neighbouring ponds and lakes as merrily as it usually does at midwinter. Crops sown in the autumn are practically at a standstill, and the rows of spinach and early peas are very thin. The sparrows made themselves so free with the peas that some of the rows will, I am afraid, be of but little use. We have made every effort to keep these marauders in check, but it has been practically impossible to prevent their doing an immense amount of mischief except by the use of the wire guards, for they have had so little green food that their hunger has made them more than usually bold. Under the most favourable circumstances all crops will be decidedly late, and a very considerable period will necessarily elapse before the supplies will again become abundant; and we have now to consider how that period may be made as short as possible. Much may, undoubtedly, be done to prevent unnecessary loss of time, and it has occurred to me that a few hints will

prove useful to those whose experience in dealing with exceptional difficulties is by no means great.

Cabbages and Coleworts constitute a most important crop for the supply of the table during the spring months, and the rapidity with which the coleworts are disappearing is enough to fill one with alarm. As the summer-sown cabbages are coming on so slowly they will have to be sent to table of a much smaller size, and as a larger number will have to be cut each time, the beds will not hold out so long a time as usual. It is therefore necessary that every stump of colewort and cabbage should be carefully preserved for the sake of the secondary crop of sprouts they will produce. The practice of lifting the stumps of cabbages and coleworts and replanting them in a spare corner is frequently recommended; but however suited it is for a soft spring, it will not answer in a cold dry season like the present. Lifting the stumps now would render them worthless, and they should be allowed to stand, and if occupying ground required for other crops the spaces between the rows must be dug and cropped with as little injury to their roots as possible. Where seed of any of the early cabbages was sown under glass the young plants should now be carefully nursed on to have them as strong as possible for putting out when the weather is favourable. If a sowing is made now for early supplies, Ellam's Early Dwarf will be found exceptionally useful because of the comparatively short space of time it requires for attaining a size sufficient for the table.

Cauliflowers that were raised from autumn-sown seed and have been wintered under glass are rather small, but they will be in capital condition for putting out when the season is sufficiently advanced. In view of the fact that there will be a great scarcity of some vegetables until far into the summer, it will be a good plan, where the necessary conveniences exist, to make a larger sowing than usual. It will also be advisable to depart somewhat from the customary practice. Instead of sowing thickly in pans and then pricking off into beds, the best course will be to sow thinly in boxes, and when the plants are large enough to put them separately in small pots, as they are then disturbed but little at the roots; and by avoiding any serious checks a saving of a fortnight or three weeks is avoided. Cauliflower seed can be placed in a high temperature, but the seed-boxes must, as soon as the seedlings begin to make their appearance, be placed in a rather airy position near the glass, or the seedlings will become more or less drawn, and have their value materially reduced.

Kales are as yet of little value, as the side sprouts have not made much progress, and the leaves at the top have been so browned by the frost that the crowns when trimmed are very much smaller than in most seasons. The most useful this season are the Tall Scotch and the Cottager's, as they have passed through the long period of cold with the least amount of injury. The Chou de Milan, which is unsurpassed in flavour by any of the kales, has been rendered practically worthless, thus showing that, as frequently advised in the "Magazine," very little dependence can be placed upon it. The stalks of these, as in the case of those of the cabbages, should be allowed to stand undisturbed; for the sprouts that will in due course be produced, if small in bulk, will be of very high value.

Peas will require more than the ordinary degree of attention for some time hence, for, as already stated, those sown in the autumn have been seriously injured by the birds, and the spring sowings have made but little progress. To gain time with these, sowing under glass must be resorted to without delay, and every care taken to bring the work to a successful issue. The general practice in sowing under glass is to take rather thick turves and cut them into strips, along the centre of which the peas are sown. A channel should be made along the centre of each strip, and in this the peas are sown and then covered with fine soil. The strips are then placed in a vinery, or other structure in which a brisk temperature is maintained, and there remain until the peas are growing freely. They are then removed to a frame, and in due course hardened off and planted out, this operation being performed by simply laying the strips of turf in the previously prepared trenches and carefully drawing the soil about the plants. It is a great convenience to lay the strips in shallow boxes, as they can then be more readily moved about. Peas can be raised under glass without the aid of a scrap of turf, although the fact is not generally known. Five-inch pots are filled with light rich soil, and in these the peas are sown rather thickly and covered with soil. They are then placed where the seed can have the assistance of a brisk temperature, and when sufficiently advanced they are removed to a frame and gradually hardened. In planting them they should be put about twelve inches apart in the rows, the peas in each pot to be turned out without being separated, or, indeed, having their roots disturbed. Both early and main crop varieties may be raised in this way with equal success, but in the majority of gardens it will suffice to sow only those required for furnishing the first and second crops. It is, of course, necessary to avoid keeping the peas so long in a high temperature that they become drawn, because when they are weakened in this way they suffer in some degree when put out, and a loss of time results, if nothing more serious happens. When sowing on turf or in pots is resorted to, some gain of time may be obtained by soaking the peas in tepid water for a few hours previously, as the soaking materially hastens the germination. But it would probably not be safe to soak those to be sown in the open. I have soaked the seed used for late sowings with considerable success, but I am afraid that now the ground is cold it would not be advantageous.

Seakale is doing good service now, and as we have a large breadth that has not yet been started it will continue to afford us valuable assistance. We have several beds from which we obtain supplies without forcing, and find it simply invaluable, for it comes into use at a time when green vegetables are scarcer than at any other time of the year. The crowns have pots put over them when it is seen that they are beginning to grow, and soil from the surface of the bed is then heaped over them, or the exhausted materials from the beds forced early, as may be the most convenient. It may also be useful to mention the fact that the flower stems taken off when about ten inches in length and before the trusses begin to open out are most delicious, and should therefore be utilized. It is, of course, beneficial to the plants to remove the flower stems at this early stage, and from a bed that has not been forced several very acceptable dishes may be obtained in due time.

Spinach should be sown very liberally both on warm borders and in the open quarters, as it will afford supplies in a shorter space of time than any other class of vegetables we have. I should recommend the sowing of both the Round-leaved and the Monstrous Viroflay, the former on warm slopes and the other in the open. The seed of both kinds should certainly be soaked for five or six hours before it is sown, and preferably in tepid water, as a considerable saving of time will be effected. Where there are frames or portable protectors available, a small sowing should also be made under glass, to anticipate the supplies from outside.

Turnips that have stood the winter ought to be allowed to remain undisturbed for the sake of the supply of tops they will yield, and where practicable, a sowing of some early kind should be made in a frame. The best to sow under glass is the Extra Early Munich, which is about a fortnight earlier than any of the other varieties in cultivation.

Kitchen Gardener.

PROTECTION OF WALL TREES.

By W. Bradbury.

The long-continued cold weather that we have had this season has most effectually retarded peach and other fruit trees that are usually grown against walls, and the majority will be much later in coming into bloom than for many years past. This will be a distinct gain, provided the weather does not continue so cold that the flowering is not unduly delayed or the blooms injured after they have expanded. The cultivator must not be thrown off his guard by the quiet state of the trees at the present time; for directly we have an increase in the temperature the trees will soon show signs of activity, and be in full bloom in a surprisingly short space of time. It is certainly of importance that preparations be at once made for affording the needful protection as soon as required, and those who have not yet taken any steps in the matter may be strongly advised to do so without delay. Knowing the risks incurred by delay in this phase of garden practice, and the perplexities of many cultivators in providing shelter for their trees, I have thought it advisable to remind cultivators of the danger of delay, and point out some of the best methods of protecting trees trained to walls.

In discussing this matter it is necessary to take into consideration the circumstances under which the various classes of cultivators carry on their labours. It is not sufficient to point out any one way as being the best, because it may so happen that the particular method may be adapted to the requirements of a few only of those who have fruit trees under their charge. Therefore several alternative methods which have been found to answer very well will be pointed out, and such suggestions made as will enable each cultivator to select that best adapted to his requirements. The most primitive of the several forms of protection is the suspension of branches of the fir in front of the trees. I am not partial to it; because where the fir branches are rather thick the shoots of the fruit trees usually become rather drawn, because it is practically impossible to remove them until the season is so far advanced that it is perfectly safe to fully expose the trees. In using the fir branches they should be cut into rather small pieces, and those portions which are so thick that there is a probability of the shoots being deprived of light and air ought to be slightly thinned. When cut into rather small pieces they can be more regularly distributed over the surface of the wall and be more securely fixed in position. It is a rather general practice to suspend the branchlets by means of the nails with which the shoots are held in position; but there is a very great objection to it, because of the loosening of so many of the nails and the consequent displacement of the shoots. The fir branches afford a cheap protection, and those who cannot use anything better, and are able to obtain a supply, should not fail to take full advantage of the assistance they are so well able to render. The next cheapest method of protecting fruit trees is by means of old fishing-nets, which afford substantial protection at a very low cost. When two thicknesses of old herring-nets are suspended in front of the trees they afford most efficient protection both from the cold easterly winds and the morning frosts. Slight poles should be fixed in a slanting direction to keep the netting about twelve inches from the face of the walls; and failing these, pieces of wood about twelve inches in length, and provided with a fork at the end, should be used to keep the netting away. The efficiency of the netting is very materially increased when the wall is provided with a coping of glass or wood to keep the flowers dry; as it is when they are saturated with rain or moistened with dew that so much mischief is done to the bloom.

Canvas and tiffany can, as is so generally known, be employed to great advantage in the protection of wall trees, and is now generally employed by experienced cultivators who are not for financial reasons compelled to proceed on the most economical lines possible. As in the case of netting, it is an immense advantage to have a coping of some description to carry off the rains. Glass copings are preferable, as they afford all the shelter necessary without presenting the slightest obstruction to the light; and, fortunately, they are comparatively inexpensive. A coping made with thin boards will answer very well; as,

indeed, would one formed with light canvas or material of precisely the same description as that used for the blinds. In the Gardeners' Magazine of June 3, 1876, page 288, Mr. J. Woodbridge, the able chief of the Syon House gardens, describes with diagrams the way in which canvas copings can be made with but little trouble and expense. The plan recommended is so good that I would strongly recommend those who are at all interested in the matter to refer to Mr. Woodbridge's communication. Thirty inches is a very good width for copings, whether of glass, wood, or canvas; and immediately under the lower edge should be stretched a rather stout wire by which to suspend the curtains. Rings are generally recommended, but it is very much better to use stout brass hooks, as the curtains can be drawn backwards and forwards quite as readily as with rings, and they can be put up and taken down much more readily. The hooks should be sewn to the upper edge of the curtain, about twelve inches apart; and when tiffany or other light material is employed, the upper edge should be strengthened by having a piece of binding about an inch in width tacked to it previous to the hooks being sewn on. When tiffany or canvas is used the trees ought to be uncovered during the day, excepting when the weather is wet and cold; because when the trees are coddled by being continually covered up, more harm than good is invariably done by the use of protective materials. Even when the material is merely tacked to the wall at the top it must be so drawn back during the day that the trees are more or less fully exposed to the action of the weather.

One other method for protection must be referred to, and that is the Darlington Wall Cover, of which a description was recently given in these pages. It is probably the very best system of protection that has yet been introduced, and as it is by no means expensive it should not fail to have a widely extended trial. That it will afford most efficient protection there can be no doubt, and by its use all the trouble incidental to makeshift contrivances will be avoided.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 8.

Cape bulbs—Early Guernsey hybridists—The Irids grown—List of best ixias grown—Messrs. Smith and Son's collection—The Gladioli—List of best sorts grown—The severe frosts of 1879-80-81—Notes on the culture of Cape bulbs out-of-doors and in pots—Freesias made a speciality—A very accommodating flower.

We have mentioned the most important of the amaryllidæ, but before speaking of the others we shall refer to the Cape bulbs, such as ixias, babianas, tritonias, gladiolas, Freesias, &c., all of which do admirably in Guernsey; and though tender in England, or generally so, are hardy in these islands.

The love of flowers was inherent in the old Guernsey gentleman. Shut in as he was from the rest of the world, he turned to his garden, and found in it a field of study and an endless fund of entertainment. Stimulated, too, by a most promising climate and an equally promising soil, he set to work with great expectations. The results of the labours of those horticultural enthusiasts far exceeded their most sanguine hopes. They made hobbies of certain classes of flowers, and though men who ride hobbies are frequently unpopular, they are often the pioneers to some grand result. Though they drive at extremes, and possibly may never attain the goal set before them, they frequently accomplish what might otherwise not have been achieved. It is a case of becoming thoroughly master of the subject taken in hand.

The Guernsey lily was rescued from possible destruction by one of these early florists and hybridists. The ixia is another case in point. This lovely class of plants, in company with many members of the iridaceæ, finds a most congenial home in Guernsey. As far as can be gathered, they made their *début* about the beginning of the present century, and early attracted attention as affording a good material for the hybridist. Several, we believe, set to work, but all were outdistanced by the late H. O. Carré, Esq. This gentleman, though attached to the Law Courts and busily occupied with local concerns, yet applied all his leisure to furthering horticultural progress. His was the master hand in the great improvement of ixias. He possessed, in a marked degree, the component parts which contribute to the successful hybridist, viz., patience, taste, and skill, with good botanical knowledge.

Ixias are now extensively grown for the markets, both in the form of cut flowers and bulbs. *I. crateroides* heads the list and commences the season, which begins early in April. A few choice sorts are cultivated under glass, but the great proportion is grown in the open ground. From April a succession come in, keeping up a steady supply till June. Of course, it will be understood that these dates are largely affected by the season, which is late or early, as the case may be. Among the best sorts grown may be mentioned:—

Achievement	Barbara	Bucephalus major
Argus	Bridesmaid	Cato
Conqueror	Crateroides	Coronet
Donatello	Eveline	Galatea
Glory	Lady Slade	Lavinia
Luna	Marvellous	Model
Pearl	Sunbeam	Pretiosa
Sila	Virgilus	Titania
Titus	Vulcan	Viridiflora

Guernsey may be looked upon as the home of all the best varieties of ixia, as they have been made an important speciality by Messrs. Smith and Son, at their Caledonian Nurseries. The collection here is probably the finest and the most select in the world. When in bloom, as we had the good fortune to see it, it was indeed a unique spectacle, and one of extreme beauty. Numbers of visitors come to see this rare exhibition, and it would be well worth taking the boat from Southampton purposely to see it. The bulbs obtained from Guernsey must not be confounded with those obtained from and offered by the Continental growers, many of which require growing one season under special advantages, which everyone has not at command, before they can possibly flower.

Besides ixias, the following irids are extensively and well grown, viz., sparaxis, tritonias, and babianas. They are not cultivated for the flower market, owing to the fragile character of the blooms and the long distance to the markets. They are exposed for sale, however, in the local markets.

Gladioli are largely grown. Among these are some really charming plants, viz.: Noble old *G. insignis* and *G. Ramosa*, in several forms; *G. Blushing Bride*, a most attractive variety, having a pure white ground, with deep carmine flakes on the lower segments of the perianth. This form is admirably suited to pot culture also. *G. Rosy Gem* is another showy plant; *G. ardens* is a bright orange-red, quite a fiery colour; *G. Cardinalis* and *G. Colvili alba* (the Bride). We saw large beds of these at Messrs. Smith and Son's nurseries, a mass of bloom. It is impossible to exaggerate the beauty and variety of these showy flowers.

It is surprising how seldom we meet these plants in England. The whole group is as hardy as G. the Bride. All they require is a warm sheltered position.

Touching culture, it will suffice to describe one mode, and this will answer equally for ixias, sparaxis, tritonias, and babianas, gladiolus early section, and a whole host of closely-allied plants, natives of the same habitat.

The bulbs above enumerated, and others of the same species not particularized, remain in the open ground without protection throughout the severest winters in Guernsey; but it would be far from prudent to adopt such a system in England. The Messrs. Smith, however, tell us that they have known them to stand ten to twelve degrees of frost uninjured. For example, in the winter of 1879-80 and 1880-1, when the thermometer marked ten degrees below freezing point. One thing appears certain, and that is that it is far preferable for them to be submitted to a few degrees of frost than that they should be treated to any artificial heat. We were given to understand that forcing is positively destructive, and should be carefully avoided from first to last.

The same well-known Guernsey grower who supplied the cultural notes on the Guernsey lily has furnished us with some practical hints anent the cultivation of Ixias, &c. They are based on the experience of a life study of these plants. He says:

"To grow them successfully it would be advisable to select some sheltered, sunny spot with south or west aspect, and plant (from September to November) in light sandy soil, about four inches deep and two inches apart, in zigzag lines, in beds three feet wide, in patches in the borders, or in sheltered nooks on the rockery. Hoop the beds over during winter, so that in severe weather they may be readily covered with mats, &c. Another way would be to plant the bulbs as previously directed in a frame and leave the soil totally exposed to the weather (*i.e.*, that the light be left off) till there is fear of hard frost, then place the light over them and ventilate every day, wet or dry, excepting hard frosty weather, but commence giving plenty of air immediately the frost ceases.

"They are well suited for pot culture. When this mode is to be adopted they should be treated as follows: Six or nine bulbs in a 6-inch pot in a good mixture of rich but sandy loam, leaf-mould, manure, and a dash of peat. Should the soil appear to be wanting in sand let this be added, it being necessary to ensure a free drainage, which is of great importance. Cover the drainage with half-decayed manure. They should then be stood outside in a warm place till hard weather sets in, when they should be removed to a cold frame or greenhouse where they can have plenty of light and a free circulation of fresh air. During winter they require a good supply of water, and when they commence to throw up their flower spikes an occasional watering with weak guano or ordinary liquid manure diluted will benefit the blooming. By attending to the above simple rules success is certain. They will maintain a very good show for some considerable time, commencing with sparaxis and finishing with tritonias, each kind being of long duration. They make a good display with other spring flowers in the conservatory."

Another flower very extensively grown at the Caledonian Nurseries is the Freesia. This graceful and useful family are made a speciality here, and they are certainly worthy of all the praise that has ever been given them. They are to be had in bloom ready for cutting by Christmas, and this without any severe urging. At this dismal season of the year, when any and all flowers are welcome, the freesias are particularly so, and more especially that they are white and deliciously fragrant. They must eventually become favourites to anyone who once grows them. They are the gardener's friend. Furthermore, they are universally admired, and therefore are safe plants for every grower.

For potting the dry roots for winter and spring blooming, August and September are the months usually chosen. Their culture is practically the same as that recommended for ixias in pots.

All the bulbs noticed above are exported to London in considerable quantities.

"THERE IS UNQUESTIONABLY" no better remedy in the whole world for all cough and throat troubles than Keating's Lozenges—any medical man will assure you of this fact. Relief is speedy; they contain no strong acting, but only simple drugs; the most delicate can take them. Sold everywhere in 13½d. tins.—[Advr.]

CONGRESS PEARS.

General Todleben.

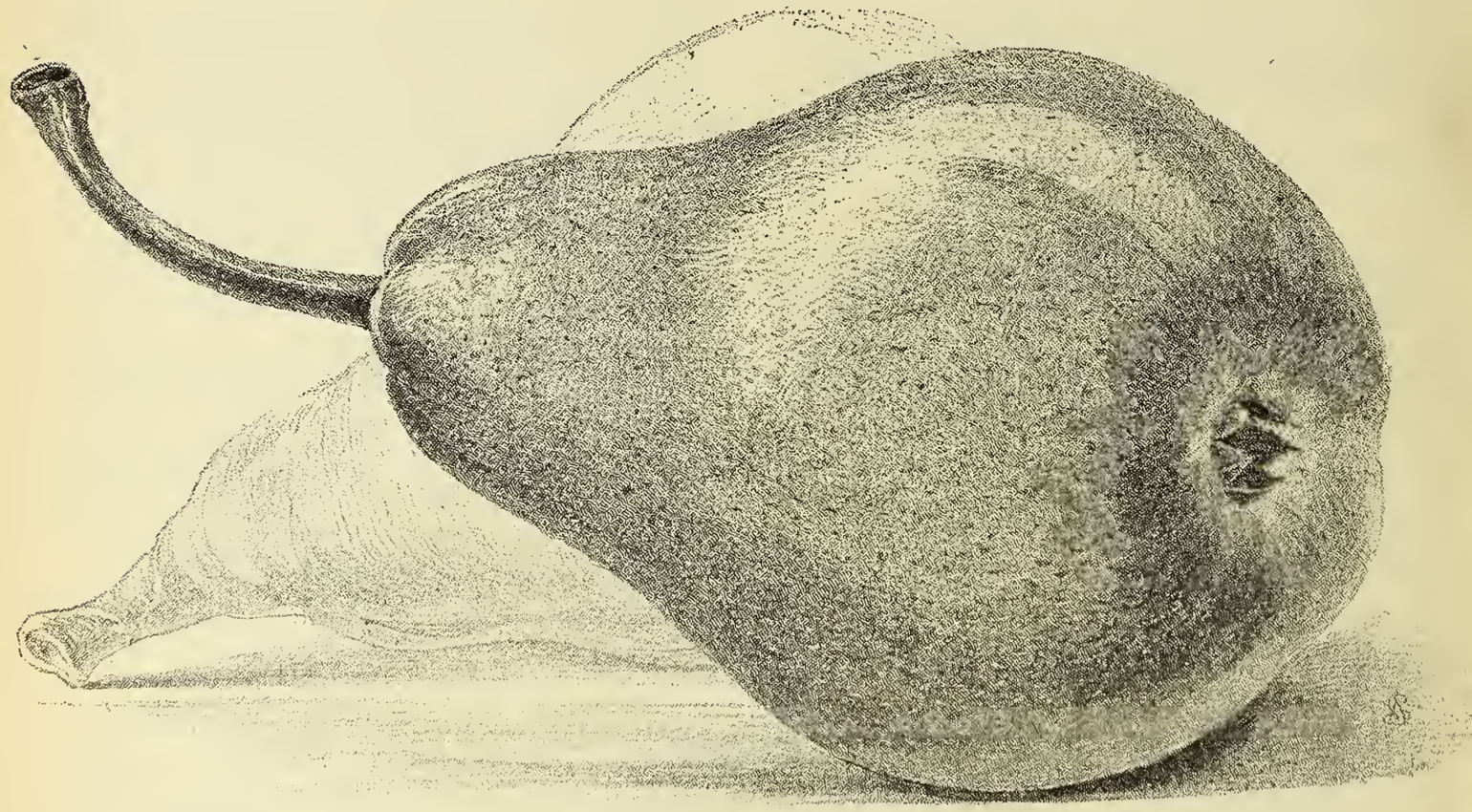
The specimen here figured of the noble dessert pear, *General Todleben*, occurred in the remarkable collection sent up from Messrs. Le Cornu and Son, of St. Heliers, Jersey. The weight was 1 lb. 11 oz. It was accompanied by several equally handsome samples, weighing perhaps a trifle less. This pear was raised by M. Fontaine, of Gheling, in Belgium, and first fruited in 1855, soon after which it was figured in "Illustration Horticole." Its name commemorates the defender of Sebastopol in the time when the Crimean war compelled attention to the merits of that distinguished Russian general. The average size of the fruit is considerably less than our figure, but it is of the first size always, the form handsome, rounded, pyramidal, the eye prominent, the stalk not deeply inserted or continuing the line of the fruit; the colour of the skin beautiful citron yellow, with spots and patches of brown russet. The flesh is melting and juicy, rich, sweet, and perfumed, sometimes a little gritty. Hogg gives the season December to February, which agrees with the general experience. In the Conference collection there were 69 dishes of this noble variety, and most of them were ripe in October, and some were certainly free from grittiness.

GRAPES AND FLOWERS IN THE SAME HOUSE.

By J. Macdonald.

Any one who has mixed much with amateur gardeners, or who has paid any attention to the frequent complaints made by that class of cultivators, will, I think, agree with me that in the majority of cases they have failed by attempting too much. I must not be understood as saying that they ought not to attempt to grow grapes and flowering plants in the same house; because that is not my meaning. What I wish to say is, they have failed because they expect to have a full crop of grapes of first-class quality, and plenty of flowers. This cannot be done, even with the best skill to manage the house. That it is possible to have some grapes of fair average quality and some flowers growing in the same house I know to be quite possible; and therefore it is my desire to assist, rather than to discourage such cultivators. But if the experience of a lifetime spent in a garden is of any assistance in forming a correct judgment as to what it is possible to accomplish in such cases, I feel that I am to some extent entitled to speak with a certain degree of authority.

From my own experience, and from what I have observed in other cases, I feel bound to say that the span-roof form of a house is the most suitable in which to grow flowers and grapes. The house should be twelve feet wide, inside measure, as it will give a walk down the centre three feet wide, and a bench for flowers on each side, four feet six inches wide. In this case the vine should be trained along the house directly over the walk, down the centre; and then the growth will not shade the side benches to any great extent. The amount of shade will depend a good deal on the position of the house. If the ends point north and south, almost any kind of plants may be grown on the side stages, and this form of house admits of the border for the roots being either inside or outside. In a general way, it will be better to have the border outside, and on the east side; then, by training the stem in the angle formed by the end lights and roof, there will be no difficulty in eventually getting the rod in the desired position. If the house has to stand with its ends east and west, the border for the roots should be on the south side. In this case, the internal arrangement is necessarily altered—or, rather, I should say the side benches will have different aspects: one will be facing the south, and the other the north; that on the north side will also be considerably more shaded than when the house stands the other way. But the bench on the north side will suit ferns admirably, as it will also camellias, and in certain parts of the year several other plants. During the winter most kinds of bedding plants may be safely placed there. The south side, I need hardly say, will be suitable for almost every kind of fine foliage or flowering greenhouse plant.



DESSERT PEAR, GENERAL TODLEBEN.

CONGESTED BARBERRY.

Berberis congestiflora.

This very distinct barberry is in Messrs. Veitch and Sons' collection in their nurseries at Coombe Wood, Kingston-on-Thames. It is plentiful on the Cordillera of Chili, and is one of the many useful acquisitions of the late Mr. Pearce, who obtained it from the district of Arguilhue. It is figured B. M. 6,770, as "congestifolia v. hakeoides," but the first is a misprint, as the specific name relates to the flowers and not to the leaves, while it is probably the true species, and not, as supposed, a variety. It is a plant of striking character, with coriaceous or horny leaves of a bright green colour, sharply spined on the margin; the flowers, of a reddish-yellow colour, densely packed in masses in the axils or on the leafless terminations of the branches. It is at once singular and beautiful, and in every way a suitable addition to the shrubbery of an amateur collector of good things. It is perfectly hardy, and associates well with such fine subjects as B. Darwini, B. stenophylla, and B. glumacea. In exposed situations it is worth the shelter of a wall, in which case a good companion plant is B. trifoliata.

The Divining Rod is the subject of a paper by Dr. A. Fryer communicated to the British Archæological Association.

In respect to lean-to houses, they might be more profitably utilized if people would be content with fewer grapes; but so many want the roof covered as thickly with vine rods as a house usually is when devoted wholly to grapes, that it is impossible to grow either good grapes or good flowers under such a canopy of foliage. That grapes may be the best of the two subjects I have no doubt, because they are generally treated with the most consideration; but the plants will be in an unsatisfactory condition for the want of light. It may be taken for granted that in the majority of cases an insufficiency of light is the chief cause of failure of the plants, and an excess of atmospheric moisture the cause of inferior grapes. When flowers and grapes must be grown together in lean-to houses, the best plan is to devote one-half of the roof space to grapes, leaving the other half quite free from obstruction of any kind, that the plants beneath may have the full benefit of the light. The next best plan is to have the vine rods at wide intervals. When all the length of the house must be planted with vines, the rods should be six feet apart, and then if the lateral growth is kept pinched back to two leaves beyond the bunch there will be at least a clear space of two feet between to admit the light. In all cases, for the purpose of admitting as much light as possible, the side lights should be from three to four feet high, and the two ends should be of glass. With regard to the best plants for growing in the manner indicated, I would say that the selection should be confined chiefly to subjects of easy culture. Amongst hard-wooded plants, azaleas, camellias, epacris, acacias, and a few heaths may be included.

There is a much wider choice amongst soft-wooded plants, and the selection may include the show pelargoniums, calceolarias, tuberous begonias, fuchsias, chrysanthemums, callas, and several others. Nor must the ferns and bulbs be omitted, for amongst the last-named there are a number that may be successfully grown. The beautiful Lilium auratum and various other lilies are very desirable. The early-flowering gladioli are charming subjects, especially such kinds as Colvilli alba and Byzantinus, crimson. Then there are the sweet-smelling freesias, which are quite amenable to greenhouse culture. There are also the achimenes, which are very useful for flowering in the months of August and September. I need not stay to give any further names, for each one has his favourite plants, and it is not my desire to interfere in any way with the choice of subjects—so long as he does not attempt what is impossible, and then blame those who have endeavoured to show him how to avoid disappointments.

CONGESTED BARBERRY—*Berberis congestiflora* (Flowers yellow, tipped with red).

Tobacco Cultivation in the United Kingdom continues to be the subject of Ministerial trifling and agricultural indifference. Sir E. Birkbeck made it the subject of a question in the House of Commons, and obtained the usual answer that the Chancellor of the Exchequer would be very happy "if," &c.

Notes of Observation.

A WONDERFUL EUCHARIS.

With reference to the note at page 137 on a wonderful flower of Eucharis amazonica, I should like to say that we have had two similar flowers here. The first of these remarkable flowers was produced in 1883, and the other in the month of August last. The flower produced last year was sent in good condition to Messrs. J. Veitch and Sons, of Chelsea, who said that blooms of a similar description are seldom met with. Instead of having ten petals, as in the case of those mentioned by Mr. Collier, it had twelve, six in each row: and in shape it was quite perfect. I would mention that these two semi-double flowers were produced by the same plant. It is probable also that they were borne by the same bulb, but upon this point I am not able to speak positively. W. Tribbick.

Gardener to C. Seely, Esq., M.P., Brook Gardens, Isle of Wight.

The note of Mr. Collier referring to a flower of Eucharis amazonica with ten petals is very interesting, and it would be well if cultivators generally would place on record any deviation from the normal form that they may meet with in the course of their practice. Following the example thus set, I write to say that we have a plant of the Amazon lily that produced this season a scape bearing six blooms, of which one corresponded exactly with that described by Mr. Collier.

The Newlands, Leamington. T. Cleaver.

TREE FERN ZYGOPETALUM.

The charming Zygopetalum maxillare, which is known also as the Tree Fern Zygopetalum, from the fact of its being sometimes found in a wild state, luxuriating on the stems of tree ferns, is now in perfection, and may be mentioned as one of the most distinct and interesting of the many good orchids flowering during the winter and spring months. The flowers are comparatively large, very attractive in colouring, and they are produced in the most profuse manner. The growth is less compact than that of the other species, and the plants appear, perhaps, to the best advantage when they can spread over a block of wood or a piece of the stem of a tree fern fixed in a pot. The latter is decidedly the best, for whilst it is in every way adapted to the requirements of the plants it presents a pleasing appearance and does not very quickly decay. Stems about four inches in diameter are preferable, and they should be cut into lengths ranging from fifteen to eighteen inches. In preparing the pot put a few large crocks in the bottom, then stand the piece of tree fern on them, and pack round the sides sufficient crocks to hold it firmly. These should be then covered with peat or sphagnum, and the plants placed in position, and have a little more of the same material packed about the roots. The growth may be secured to the stem with bast or thin copper wire, but the latter has a great advantage in its durability. This species can also be grown on a raft, but better results are obtained with less labour when grown on the portions of the stems of the tree ferns in the manner here advised. W. J.

LONGSTANDING SPINACH.

In supplying the table with spinach during the summer we had to depend wholly on the Round Flanders, for my employers will not tolerate Spinach Beet or, indeed, any other substitute, on the table. But we have discarded this old favourite which has done us such good service in the past, and now grow in its place Viroflay Giant and Longstander, both of which are fully equal in delicacy of flavour to the Round Flanders, but much more productive. The first-mentioned of the two is very vigorous in growth, forming dense tufts about two feet in diameter. The leaves, when fully developed, measure nine inches in length by six or seven inches in breadth, and are very stout, and do not shrink so much in cooking as the Flanders. The Longstander also has leaves larger than those of the old kind, but they are not so large as those of the Viroflay Giant, and they are very stout. But the great merit of the variety consists in the length of time the plants will stand without running to seed. Usually the crop will afford supplies fully a fortnight after the variety with which it has been compared has run to seed, and sometimes it will stand three weeks longer, which, in the summer season, is an advantage that cannot well be over estimated. Owing to their robust habit we find it necessary to sow thinly, and to draw out the plants at a rather early stage where they are at all crowded. The Longstander is especially adapted for cultivation on light soils where it is a difficult matter to supply the table with spinach for any length of time during the summer season.

Kitchen Gardener.

LARGE ONIONS.

As the relative merits of large and small vegetables are being discussed in your pages I should like to make an observation which bears on the matter under discussion. As I take part in the competition for the prizes offered in the vegetable classes provided in the schedule of our local horticultural society I grow a few large onions. We have each year a bed of one of the best strains of the White Spanish, which is subjected to a special course of treatment with a view to the production of bulbs of the largest possible size. We are usually successful in obtaining bulbs that bring us credit, some being of immense size. The largest of the onions I have almost invariably found are the most delicate in flavour, but they are the first to decay, and in consequence we send them to the house first, reserving smaller samples for use during the latter part of the winter and the spring months. If I did not require samples for exhibition I should not attempt to produce bulbs of the White Spanish larger than three inches in diameter.

G. H.

SWEET PEAS.

Before the season is too far advanced for the sweet peas to be sown I should like to point out to those who have not hitherto grown them their usefulness for adding to the attractions of the mixed border and for supplying cut flowers for indoor decorations. When grown in the mixed borders they should be sown in clumps, eight or ten seeds in a clump, and be supported by rather stout feathery sticks of a sufficient length to stand about four feet high when fixed in the ground. When moderate supplies of flowers are required, from ten to fifteen clumps arranged along the border will afford sufficient for cutting, without any occasion for stripping them at all bare at any time. But when large quantities of flowers are in constant request, as in our case, it is a good practice to sow two or three rows in the kitchen garden from which to cut. There are two points in the cultivation of these flowers to which special attention may be well directed: one is to provide them with a thoroughly rich soil, and the other is to keep the several varieties distinct. If the soil is poor the growth will be weak and the flowers few in number, and when grown in mixture it frequently happens that the colours are not exactly what are wanted. I have grown all the varieties that are in commerce, and would recommend the following as decidedly the best: Butterfly, white shaded lavender; Scarlet Invincible, scarlet; Purple Invincible, dark purple; Carmine Invincible, carmine; Princess Beatrice, bright carmine rose, and the Old White, which, as indicated by its name, has pure white flowers. G. S.

CATTLEYA LAWRENCIANA.

The comparatively new Cattleya Lawrenciana which you report as being in bloom in Messrs. J. Laing and Co.'s collection promises to prove much finer than many growers supposed. We have three plants in bloom at the present time, and they all have flowers of fine form and very rich in colour. As in the case of Messrs. Laing's examples, the flowers have deep rose-coloured sepals and petals and a rich purple labellum. Cattleya Lawrenciana does not surpass any of the species in cultivation; but it is so beautiful that it must be regarded as a most desirable addition to collections. W. G.

AËRANTHUS LEONIS.

Some of my friends are complaining of their plants of this interesting orchid not growing so satisfactorily as they could wish; and, so far as I have been able to ascertain, their failures are wholly due to the employment of unsuitable materials. In all cases in which the plants are not in a satisfactory state of health they have been potted either wholly in peat or in a mixture of peat and moss. Unlike its near allies the angræcums, the aëranthus appears to have a decided objection to peat, either alone or mixed with sphagnum. The plants we have were at first potted in sphagnum in exactly the same manner as the aerides, and they are all in as thrifty a state as we could possibly wish. W. G.

New Plants, Flowers, and Fruits.

Aloe heteracantha (*Botanical Magazine*, 6,863.) A species of noble growth, flowers pale red.

Colensoa physaloides (*B. M.*, 6,864.) A campanulaceous plant from New Zealand, quite a curiosity.

Jasminum angulare (*B. M.*, 6,865.) A common Cape plant; flowers white, not fragrant.

Solanum trilobatum (*B. M.*, 6,866.) An old plant, known to Philip Miller; flowers purple, fruits scarlet.

Echinocactus Joadi (*B. M.*, 6,867.) A beautiful species, flowers yellow.

Dendrobium (antennata) strebloceras (*Gardeners' Chronicle*, 1886, 266.) A curious member of this small group from the Sondaic Archipelago.

Dendrobium (antennata) stratiotes (*G. C.*, 1886, 266.) A very curious dendrobe, with flowers larger than those of D. taurinum.

Cattleya Trianæ formosa Schroderiana et Russeliana (*G. C.* 1886, 266.) These varieties are chiefly distinguished by the large amount of yellow on the disc of the lip.

Helenium autumnale pumilum (*Garden*, 533.) A dwarf variety of a well known garden plant.

Lælia anceps V. Kienastiana (*G. C.*, 1886, 298.) Differs from Dawsoni in the rosy hue of the petals.

Lælia anceps V. munda (*G. C.*, 1886, 298.) Differs from Schroderiana in trifling particulars.

Kalanchoe carnea (*G. C.*, 1886. 298.) A pretty species, with fragrant pink flowers.

Agonis flexuosa (*G.* 534.) A handsome Australian myrtaceous shrub, with white flowers.

Kennedya coccinea (*G.* 534.) A beautiful papilionaceous climbing shrub, with red flowers.

Unappropriated Land in the United States has been represented as nearly exhausted, but the true state of the case is very different. In an official report on the "Public Domain," published at Washington 1884, the amount of land unsurveyed is 928,126,577 acres. The same document also informs us that "the total public domain to be disposed of will not vary much from 1,160,708,038 acres, equal to 7,254,425 homesteads of 160 acres each." Reckoning only one-tenth of this suitable for agricultural purposes, there is land enough yet unappropriated in the States for the maintenance of thirty-six million persons.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Annuals intended for conservatory decoration should as soon as they make their appearance above the surface, be placed where they will be near the glass and enjoy a free circulation of air. It is very important also that they be pricked off as soon as large enough, because when they become drawn during the earlier stages of growth whether from over-crowding, or an insufficiency of light, it is extremely difficult to have them in such good condition as would otherwise be the case. Petunias grown as annuals are extremely useful for the decoration of the conservatory, and plants raised from seed sown now will be large enough by July to produce a most effective display of colour.

Balsams must be shifted on and kept warm. Any check through becoming pot-bound, or for want of water, will spoil the bloom. In repotting have the soil and pot warm; let the shift be made quickly, and without leaving the plants about to be chilled, and water with tepid water. Many of the failures in growing these annuals arise through neglect of these small matters.

Camellias, Azaleas, and Rhododendrons going out of bloom in the conservatory to have the few remaining flowers clipped off, all seeds removed, and after being well syringed to be shut up close and warm, to promote a vigorous growth. Camellias inclined to be leggy should be pruned and placed in a close warm atmosphere to induce them to start freely.

Fuschias for exhibition must now have large shifts. Pot off cuttings as soon as rooted; never suffer them to starve in the cutting pans, and place them where they will enjoy a brisk temperature and moist atmosphere, to ensure their having a good start.

Liliums growing freely should have a top-dressing of half-rotten cow-dung. Give plenty of water and take care the pots are not exposed to hot sun.

STOVE AND ORCHID HOUSE.

Orchid House must not be neglected, for the plants will require an abundance of atmospheric moisture now and general attention to plants newly potted and those coming into seasonal growth. Give water cautiously to such as are as yet dormant; but encourage growth by sprinkling water about the floors, and keep an average day heat of 80 deg. In the East India house increase the temperature and the atmospheric moisture to encourage growth. Be careful to water so that there is no lodgment of moisture about the crowns of plants that have not yet started. Every plant should be examined now; those on blocks require fresh dressing with moss; those in pots with peat or moss, according to the material in which they are grown. On bright mornings raise a good steam by sprinkling the pipes.

Stove Climbers must be encouraged to make a vigorous growth, and training must be delayed as long as it is safe to do so, as training checks the growth. A large shift, with rich soil, a good bottom heat of 70 deg. to 80 deg., and plenty of moisture, are the conditions under which specimen stove plants will best progress. There must be an abundance of atmospheric moisture in the stove; and this, with proper shifting, good rich soil, and a regular temperature, will do more to keep down insect pests than any of the preparations at the command of cultivators.

FORCING AND ORCHARD HOUSE.

Orchard House.—Trees in bloom to have air in abundance. Some slight agitation amongst the blossoms will help to set them. Keep the air as dry as possible till the fruit is set, and while stoning be very careful not to let them get either too wet or too dry at the root.

Pines, Vines, Peaches, and other subjects in the forcing house—see notices of the last few weeks. Vines will require special attention now, as they are in full vigour; those colouring their bunches to have plenty of air and a brisk heat. Those newly started must be frequently syringed, and the borders kept warm and moist. Newly-set bunches to be thinned with great care; the less handling the better. Remove useless growths and stop laterals.

KITCHEN GARDEN AND FRAME GROUND.

Asparagus and Seakale.—This is the best time in the whole year to sow, where new beds are required. The ground should have been prepared long since, and be now in a friable mellow condition. Dress asparagus beds with manure, and make all ready for the crop of the season. Seakale that has been forced should now be allowed to grow, to gather strength for next season. Remove all the coverings from the stools, lightly fork between the rows, and dress with strong manure.

Beans and Peas.—Sow for succession as required. The marrow peas are the kinds which answer best for present sowing. If any accidents have happened to early sowings, get in a few rows of a first early sort at once; they will come in usefully just before the marrows. Dress the rows of beans and peas with wood-ashes or soot before moulding up.

Capsicums and Tomatoes sown early to be potted off and put in a moderate heat to encourage new roots. Use light rich soil. Tomatoes wanted early may be thrown into a blooming state by allowing them to get pot-bound in sixties; as soon as they show for bloom shift into thirty-twos; and when they fill those pots with roots shift into eight-inch pots.

Cucumbers.—Newly-established beds should be carefully aired every morning, to let off rank steam and prevent damping. Stop regularly before the fruit; never allow any runner to go away neglected, or the distribution of the sap will be unequal, and the fruiting unsatisfactory. Plants that are worn out should be destroyed; it is a folly at this time of the year to attempt to renew their vigour by cutting back.

French Beans must be kept near the glass, have as much air as possible, and while bearing have regular supplies of liquid manure.

Melons that have suffered a check will now be showing fruit, which must be removed, unless the plants are evidently sufficiently vigorous to bring it to maturity. If a few fruits of any small variety are wanted early, the plants may be thrown into a fruiting state by letting them get a little pot-bound in six-inch pots on a warm tank or flue. Melons newly planted to have a generous heat, and as much moisture as cucumbers; but those established and in vigorous growth to be kept drier than young plants, and to have all the sunshine. Night temperature, 65 deg.; day, 70 deg. to 75 deg. Sow now for a good crop to fruit late in the summer.

Shading must be ready in case of sudden outbursts of hot sunshine, but it is not to be used more than can be avoided at present.

Vegetables in Season comprise broccoli, the side-shoots of cottager's kale, chou de Milan, Albert sprouts; coleworts, leeks, spinach, turnips; beet, carrots, onions, parsnips, salsify, scorzonera, endive and lettuce; asparagus, carrots, cucumbers, mushrooms, mint, potatoes, radishes, rhubarb, and seakale.

Calls at Nurseries.

ORCHIDS AT THE CLAPTON NURSERIES.

The enormous collection of orchids for which the Clapton Nurseries of Messrs. Hugh Low and Co. have been so long famous is at all seasons of the year rich in attractions; and at the present time there is such a wealth of flowers as to be fully sufficient to afford abundant gratification to visitors, whether specially interested in orchids or not. The Cattleyas, cypripediums, dendrobiums, odontoglossums, and phalænopsis contribute the principal portion of the flowers; but there are many other subjects in bloom that assist in no small degree the pleasure derived from a walk through the immense number of houses devoted to orchids.

Angræcums in bloom are not very numerous as compared with many other classes; but the elegant little A. citratum is in perfection, and must be mentioned as one of the most elegant of the small growing orchids at present in cultivation. The leafage is very similar to that of a phalænopsis, and the small cream-coloured flowers are produced in slender arching racemes.

Cattleyas, which have several large structures specially set apart for them, are blooming freely; and from the appearance of the thousands of plants of C. Mendeli and C. Mossiæ it is evident there will be no dearth of the gorgeously coloured flowers throughout the spring and summer. C. amethystoglossa contributes not a little to the attractions of the Cattleya house; for in one structure alone there are several hundred spikes of flowers in various stages of development. It is very interesting to note the remarkable diversity in the flowers. All the varieties are remarkably good, but we made note of one which may be described as one of the very finest that has yet flowered in this country. The sepals and petals are spotted in the manner peculiar to the species, and have in addition large brilliant purple blotches at the points. To afford some idea of the extreme splendour of the species when under conditions favourable to its full development, it may be mentioned that some of the plants received have been furnished with spikes that have produced forty-nine flowers. C. Trianæ is now nearly over; but it is being rapidly followed by C. Mendeli, of which several superb varieties are already in bloom. C. marginata, one of the smallest of the Cattleyas, is by no means the least, as exemplified by the several specimens now in perfection.

Cypripediums present a most interesting appearance; for all the species usually flowering at this season are well represented—some by several hundred examples. Especially noteworthy were C. Dominianum, C. Lowi, C. Boxalli, C. Haynaldianum, C. Harrisianum, C. lævigatum (which is flowering with remarkable freedom), and C. selligerum. The free-growing and beautiful C. Lawrencianum is just coming into bloom; and, from the manner with which the plants are now bristling with buds it is computed that there will be between two and three thousand flowers in one house alone when the plants are in full bloom.

Cœlogyne cristata is too well known and highly appreciated for its beauty to be in need of praise; but it must be mentioned that the plants forming a huge importation a year or so ago are now in full bloom, and present a wondrously attractive appearance. Amongst them are several examples of the rare and highly esteemed variety with a lemon-coloured blotch on the labellum.

Dendrobiums are particularly attractive just now, and chief amongst them is the richly painted D. Wardianum. D. Boxalli and D. crassinode are of a quite distinct character, and hardly less exquisite in colouring. They are, indeed, so beautiful that they may well be regarded as indispensable to the East India houses. The best form of D. crassinode is that known as Barberianum, which differs from those of the type in having much stouter pseudo-bulbs, and in the points of the sepals and petals being of a much richer shade of magenta. Much quieter in colouring than either of the foregoing is the D. luteolum, which well merits more attention than it has yet received from the general body of cultivators. The flowers, which are produced in dense clusters, are of medium size, and a very pleasing shade of primrose. It would appear to be very free in blooming; for the greater portion of the stock was very liberally furnished with flowers. At the Clapton Nurseries the plants are grown in baskets suspended within a short distance of the glass, and it is evident that the conditions are highly favourable to them.

Odontoglossums in bloom abound, chief amongst them being O. Alexandræ, of which the stock consists of about 100,000 plants of various sizes. Amongst the other species in flower are O. blandum, a comparatively rare and exceedingly beautiful species, O. gloriosum, O. tripudians, O. Roezli, O. Roezli album, O. pulchellum majus, and O. luteo purpureum. There are also several very distinct and beautiful hybrids in bloom.

Phalænopsis are flowering in the most profuse manner, and in the principal structure devoted to them the display produced is surprisingly beautiful. There are hundreds of spikes of P. amabilis, and P. Schilleriana; and the comparatively new and exceedingly beautiful P. Sanderiana is well represented by flowering specimens, as also is P. rosea. The gem of the house is, however, a very dark form of P. leucorrhoda, the colour extending to the margin of the petals and sepals.

The British Flora.—In connection with the report published last week it will interest many to reproduce the resolution proposed and unanimously adopted by the Horticultural Club. Mr. Shirley Hibberd, remarking that great changes had been wrought from much smaller commencements, and hoping that this would result in great good to the British Flora, it was resolved—"That the club, deploring the extinction in many places of British plants and ferns, which tend so much to the beauty and enjoyment of the country, hereby undertakes to use its best endeavours to prevent this destruction, and especially invites all tourists to discontinue the practice of bringing away specimens from the places they visit, which, in ninety-nine cases out of a hundred, soon perish, and which can most probably be procured from a nurseryman close to their own doors; and urges also on all professional collectors great care in obtaining plants; and moreover desires to impress upon managers of provincial shows the need of limiting the collections for prizes for wild flowers, which they fear tends towards the wanton destruction of many plants."

Literature.

HOW TO GROW ROSES.

How to Grow Roses.—By Samuel Ryder, Jun.—This little tract is published by Messrs. Ryder and Son, florists, of Sale, near Manchester, for the especial use, as we suppose, of their customers. It is, however, so well done that we are bound to bring it under the notice of our readers as a capital thing for consultation when the growing of roses is a matter of question or speculation. In about sixty neat pages there is as much information of a practical kind as the generality of amateur cultivators require; indeed, if they can carry out all the work proposed for them, they will, by the aid of this unpretentious book, become rosarians in the proper sense of the term. The book has the merit of directness and simplicity; there are no digressions or disquisitions, not many ifs and buts, and where opinions take precedence of facts, the author is as "sound as a roach" and "as sure as a gun." The following scraps will justify our eulogy and interest our readers:—

In forming a rosarium the general rules as to position given above will be of service. The form of the garden and the arrangements of the plants will be influenced by the locality, climate, surroundings, &c., but the general hints given hereafter will be found to be of service. The garden will need protection from winds, and if this is not already afforded, it should be given at the outset. The best protection is afforded by shrubs or hedges, tall and stout on the western and northern sides, and not so tall on the eastern and southern. The large-leaved privet makes an excellent hedge quickly, but the best hedge for protection is the beech, but, unfortunately, it is not so quick in growth as privet. Banks of evergreens surmounted with hedges form the best boundary to the rose garden. If the garden has a corner already protected as roughly described above, it is wise to select such a spot, as hedges, &c., always take some time to become established. The design of the rose garden and the arrangement of the beds will have to be modified to harmonize with the surroundings, and hard and fast lines cannot be drawn. I may, however, say that the space between the beds should be divided between lawns and walks—lawns where they are likely to be least worn, and walks in the main passages through. Little beds in curious shapes are objectionable, and a geometrical design is quite out of the question. Generally the beds should be rather large than small, and as far as possible they should be arranged so that the gardener can get readily to each individual plant. *This general rule should not hinder the design of the garden being artistic and free from formality.* Nothing else should be allowed in the garden, not even in winter; let it literally be a garden of roses. The banks round, planted with laurels, rhododendrons, and any other rich deep green evergreens, will form a fitting and appropriate frame for such a picture.

The various forms include Dwarfs (bushes) which will form the bulk of the plants, and consist mainly of hybrid perpetuals, but will, of course, embrace representatives of Bourbon, Tea, Noisette, China, Moss, Provence, Gallica, Damask, Rugosa, Austrian, and a few other roses. It is an excellent plan to have beds devoted to the different sections; there would thus be several beds of hybrid perpetuals, and beds of the others in proportion to their value. Large beds of various kinds are absolutely indispensable, and odd nooks and corners should become the home of some old-fashioned favourite kinds. A charming bed is formed by pegging down the old Moss, and Souvenir de la Malmaison is charming in that form. The old blush China makes a pretty little bed, and many of the free-flowering hybrid perpetuals are very fine also as bedders.

Pillar roses are of great service for effect in the rosarium. The best pillars are iron ones, 8 to 10 feet high and well secured in the ground, but very good pillars may be formed of larch or any similar tree, the branches cut off to within 4 inches of the main stem, and the portion to be buried well tarred or burnt to prevent decay. The best varieties for pillars are such hybrid perpetuals as are of strong growth and free-flowering habit. In all catalogues the varieties best adapted for pillars are always distinguished from the rest. In addition to this class the Bourbons and Noisettes furnish several excellent kinds for pillars, and several Teas, prominently Gloire de Dijon, are also strongly recommended. I cannot help but say a word or two for these grand old roses, Charles Lawson, Madame Plantier, and Coup d' Hêhe, these three may almost be said to be the grandest pillar roses in existence. But probably for the purposes of the rose garden the most graceful pillar will be formed by the abundant flowering varieties of Ayrshire, Evergreen, and Boursault, all of which grow very rapidly and soon form a perfect pillar. These are best for covering arcades and bowers, as well as for rambling over banks, &c., and quickly covering old walls.

Standard roses I do not recommend at all, as I regard them as unnatural and unsightly. I rejoice to see the general public are fast coming to this conclusion, too. For some places, however, in the garden, and to produce certain effects, standards or half-standards may be necessary; in such cases those with young canes are best, they are more vigorous and morelikely to succeed. A rose garden to be perfect should contain examples of every class of roses, each grown in the position best suited to its peculiar requirements. The following may be regarded as among the indispensables for positions as suggested with each variety: Scotch roses for banks and small beds, Rosa Rugosa for odd corners or the summit of a bank, &c., the Sweet Brier for hedges or banks, miniature and fairy roses for the front of beds.

The rosarium should be thoroughly prepared and formed before a single tree is planted; the ground being made perfectly ready, and all walks, &c., be made and completed. This preparation is best made in October or early in November, but if this is not possible the work may be done during the winter and planted in February or March.

Library of English Literature. By Henry Morley. (Cassell).—Part 38 of this important work is occupied with the works of writers of prose of the past half-century, or from about 1790, including William Cobbett, Samuel Taylor Coleridge, Robert Southey, Thomas De Quincey, Charles Lamb, Lord Lytton, and Thomas Carlyle. It may be called a golden number, but as the work will comprise forty-eight numbers in all, it will when completed be comparable to a mountain of gold thrice refined and purified. From Messrs. Cassell we have also received part 23 of *Popular Gardening;* part 85 of *Familiar Garden Flowers*; part 36 of *Doré Gallery.*

Warehousemen and Drapers' Trade Journal (148, Aldersgate Street).—This representative paper has special interest now in connection with the opening of the London season. Traders in the provinces must greatly need to be kept *en rapport* with the London and Paris houses that trade in goods the demand for which depends very much on fashions and seasons.

Exhibitions and Meetings.

COLONIAL AND INDIAN EXHIBITION.

The preparations for the Colonial and Indian Exhibition, to be held in the gardens of the Royal Horticultural Society at South Kensington during the summer, have had a remarkable degree of activity brought to bear upon them for several months past, and substantial progress has been made. Already the several departments are beginning to assume definite form; and although but little, if anything, has been done to place the exhibits in position, a very good idea can be formed of the magnitude of the exhibition and also of the general arrangements. The colonies are all now represented by executive Commissioners who are busily engaged in superintending the arrangements in their respective departments. The goods from the colonies are, in fact, now pouring in, and at the end of last week no less than 11,000 packages had been received. The cordiality with which the scheme has been received both by the colonies and India is highly satisfactory; for home manufactures and products will be wholly excluded.

On entering the exhibition by the principal entrance, visitors will pass through the Colonial and Indian halls to the section set apart for the contributions of India. To the Indian section will be devoted the main gallery and several adjacent courts. In the principal gallery will be exhibited a series of magnificent screens representing the various styles of Hindoo architecture and carvings, which will probably prove one of the most interesting and instructive features of the section. Very interesting and attractive also will be the representation of an Indian jungle, in which will be grouped stuffed specimens of the Indian fauna. The roof of the gallery will be decorated by several thousand banners, of which there will be eighteen kinds. An Indian palace is also being constructed, and this will be entered by the magnificent gate presented to the South Kensington Museum by the Maharajah Scindia of Gwalior. Arrangements are also being made for about thirty Indian workmen to pursue their calling in the courtyard of the palace.

The courts in which the productions of New South Wales, Victoria, Queensland, New Zealand, the Cape of Good Hope, and Natal will be displayed will have spacious conservatories attached to them, for the accommodation of flowering and ornamental-leaved plants, illustrative of the floras of the several colonies. The colours of the walls and roofs of the courts of the colonies above mentioned are very bright, and when the courts are filled they will undoubtedly present a very attractive appearance. The New South Wales courts are painted blue-grey and carmine, with a frieze of buds and flowers; those of Queensland have the walls painted French-grey and salmon; and in the embellishment of the courts of Western Australia, the typical black swan is freely used on a primrose-coloured ground. The colouring of the Canadian courts, which occupy an area of 60,000 square feet, is rather dull, and presents a very striking contrast to the bright and showy colours employed by the other colonies.

It is proposed to provide a more liberal supply of seats in the several courts than at the previous exhibitions, and these will in all cases be made of colonial wood. There will, for example, be seats of pine from Queensland; of red gum, ironback, and blackwood, from South Australia; and blue gum, from Victoria. The various courts and gardens will, as in previous years, be lighted with electricity; and Messrs. Spiers and Pond will again provide the greater part of the refreshments. The tea and coffee houses will be under the direct control of the Royal Commission.

GRAND NATIONAL DAHLIA SOCIETY.

A meeting of the supporters of this society was held on the 9th inst. at the Botanic Gardens, Chelsea, for the purpose of reappointing the committee of management, selecting judges, and transacting such other business as might be necessary. Mr. Harry Turner was in the chair; and the hon. secretary and treasurer, Mr. Thomas Moore, reported that the directors of the Crystal Palace Company had signified their willingness to contribute £50 to the prize fund for the show in 1866; that the committee had accepted the responsibility of preparing a prize schedule; and that the committee did not see their way to make any great alterations from the arrangement adopted, under the late Mr. C. Turner's advice, in previous years, but some few had been made in the interest of amateur growers—a class which the committee would gladly see enter more fully into the competitions. The committee—consisting of Mr. Harry Turner, Slough; Mr. W. H. Williams, Salisbury; Mr. H Glasscock, Bishops Stortford; Mr. J. Douglas, Ilford, and Mr. Thomas Moore—were reappointed, the latter being re-elected hon. secretary and treasurer. The judges who officiated last year were re-appointed, and the hon. secretary was empowered to obtain such assistance on the show day as he might require. Subscriptions are urgently needed to enable the committee to carry out the show in a successful manner..

WESTERHAM GARDENERS' SOCIETY.

The annual dinner of the Gardeners' and Amateurs' Mutual Improvement Society was held at the King's Arms Hotel, Westerham, when some forty of the members and several of the tradesmen of the town sat down to a substantial meal provided by Host Grayson. Mr. J. H. Jewell (the treasurer of the society) took the chair, Mr. H. W. Leggetter occupying the vice-chair. The usual loyal toasts were proposed from the chair, and duly honoured. The toast of "Success to the Westerham Gardeners' and Amateurs' Mutual Improvement Society" was responded to by Mr. Withers, the president of the society, who spoke of the great advancement that horticulture had made in the neighbourhood since the establishment of the society. He was glad to say the society was in a flourishing condition, and he hoped it would continue to spread its influence for many years to come. The toast of "The Treasurer, Secretary, and Librarian" was given by Mr. Charles Jarvis Nicholls, and responded to by those officers. At this stage of the proceedings, Mr. Alfred Watkins asked permission of the Chairman to make a presentation, and though it was not immediately in connexion with their society, it was in connexion with an offshoot of the same, *i.e.*, the Westerham Horticultural Society, with which most of the members of this society were associated. The present consisted of a beautiful gold watch, value fifteen guineas, and was presented to Mr. Charles Hooker, the hon. secretary of that society. Mr. Hooker briefly returned thanks. The watch was purchased of Mr. Waghorn, the watchmaker of the town, and was much admired by the company present. Mr. Fox, in a very humorous speech, then proposed

"The Health of the Chairman," who, he said, was a most energetic worker in the interest of the society, and he understood he attended all the meetings. The toast was received with much applause and musical honours. The Chairman, in returning thanks, said as he was one of the founders of the society, and took a lively interest in anything connected with the horticultural world, he had gained much knowledge from his association with the members, and he was proud to say he had hitherto been considered the champion grower of asparagus in the neighbourhood. The society had now been in existence some fifteen years, and during that period he did not think he had missed fifteen times. He hoped the society would continue its usefulness, and that he might be spared to attend as many more meetings. The toast of "The Committee" was responded to by Mr. Leggetter, who said he had learnt much from the papers read at the bi-monthly meetings, and he had put his teaching to practical account, for he had been an exhibitor of fruit, flowers, and vegetables at the society's meetings and the local flower shows, and had carried off in certificates and prizes nearly two hundred.

MANCHESTER ROYAL BOTANICAL SOCIETY, March 16 and 17.

The first of the two exhibitions of spring flowers arranged by the Manchester Royal Botanical Society was held in the Town Hall on Tuesday and Wednesday last, and was not less successful than previous spring exhibitions that have been held under the direction of Mr. Bruce Findlay. There was a very bright display of hyacinths, cyclamens, primulas, and other subjects peculiar to the season; and orchids, notwithstanding the severity of the weather, were exceptionally well represented, and contributed in no small degree to the interest of the gathering.

Chief amongst the exhibitors of orchids were the Liverpool Horticultural Company, who staged also a goodly number of miscellaneous plants in flower, the azaleas being especially meritorious. In the collection from the nurseries of the company were remarkably good specimens of Cattleya Percivaliana, C. citrina, C. amethystoglossa, the sepals and petals of which are attractively blotched with rose, and Odontoglossum Bictoniensis, one of the most handsome of the several species now in perfection. Mr. John Hooley, of Edgeley, contributed a very pleasing group of orchids, in which were excellent examples of Cattleya Trianæ, Cypripsdium Boxalli, and the exquisitely beautiful and deservedly popular Odontoglossum Alexandræ, and several other well-known species. Mr. Hooley also staged, in conjunction with the orchids, a considerable number of greenhouse plants. From the society's gardens at Old Trafford came a finely flowered specimen of the lovely Dendrobium Wardianum.

The hyacinths formed a most attractive feature, as the principal trade growers in the vicinity of Manchester, as well as exhibitors from a distance, staged collections. Messrs. W. Cutbush and Sons, Highgate, presented a remarkably fine group, in which were admirably developed examples of King of the Blues, Czar Peter, La Grandesse, Macaulay, Von Schiller, Vuurbaak, Ida, and other of the finest varieties at present in cultivation. The firm contributed, in addition to the hyacinths, a group of well-flowered cyclamens, and some good examples of the chaste Staphylea colchica, which is proving of great value for early forcing. Messrs. Dickson, Brown, and Tait, Corporation Street, Manchester, staged an extensive group of hyacinths, which was remarkable alike for the skill evinced in the development of the specimens, and the excellence of the varieties. Messrs. W. Caldwell and Son, staged an attractive collection of flowering and fine foliage plants, amongst the former being the beautiful variety of Azalea amœna, raised by the firm, and known as Caldwelli. Mr. Marson, of Warrington, contributed a group of exceptionally well-grown primulas, the varieties comprising The Queen, which well deserves to be highly appreciated for the large size and splendid shape of its delicately coloured flowers.

The following awards were made:—Cultural certificates to Messrs. W. Cutbush and Son and Messrs. Dickson, Brown, and Tait for hyacinths; cultural certificate to Messrs. W. Cutbush and Son for cyclamens; commendations to the Liverpool Horticultural Company for orchids; to Mr. J. Hooley and Messrs. Caldwell and Son for miscellaneous plants; and to Mr. Marson for primulas. The exhibitor last mentioned was also granted a first-class certificate for Primula sinensis, The Queen, a beautiful variety, with pale rose-lilac flowers.

BRISTOL SPRING FLOWER SHOW, March 17 and 18.

The cultivation of spring flowering plants has long received special attention in the numerous gardens in the vicinity of Bristol, and in consequence of the success achieved by the numerous trade and private growers, the spring exhibitions of the Bristol Chrysanthemum and Spring Flower Show Society are invariably good. The gathering for the current season, which was held on the above dates, was no exception to the general rule, the display being of large extent and remarkable for the high quality of the principal part of the productions. In previous years the spring shows have been held in the Victoria Rooms, Clifton; but this year it was determined to hold the exhibition in a more central position, and accordingly the Colston Hall was secured for the purpose. The schedule of prizes offered for competition was very liberal, and, as the result, the competition was as keen as could well have been desired. The competitive collections were supplemented by several miscellaneous collections, which materially enhanced the attractiveness and interest of the gathering.

Hyacinths and Tulips constituted one of the most attractive features of the exhibition. The competition was very keen in the class for eighteen hyacinths and twelve pots of tulips, and the majority of the specimens evinced cultural skill of a high order. In the result the awards in the class were made to Mr. M. Dunlop, Mr. W. Butler, and Mr. C. Miles, in the order of their names. For twelve hyacinths in pairs of six distinct varieties, Mr. F. W. Gedge was first with excellent examples. In the class for twelve hyacinths, to comprise four distinct colours, three plants in each colour, the premier award was made in favour of Mr. Mark Hookings; and Mr. C. Miles and Mr. C. Taggett obtained second and third places. The most successful of the several exhibitors in the remaining classes for hyacinths were Mr. M. Dunlop, Mr. Gilbert Howes, Mr. W. Butler, Mr. F. W. Gedge, Mr. M. Hookings, and Mr. T. Gibson.

The tulips made a very bright display of colour. In competition for the prizes offered for four pots of Vermilion Brilliant, Mr. C. Taggett, Mr. F. W Gedge, and Mr. T. E. Hill, were awarded the prizes in the order of their names. The examples were good throughout, the flowers being well developed, and the foliage neat, and of good colour. For four pots of single tulips, Mr. W. Butler was first, Mr. Dunlop second, and Mr. C. Taggett third; Proserpine, Keizerskroon, and Potterbakker, being finely represented in the several collections. Double tulips were admirably shown by Mr. W. Butler, Mr. C. Taggett, and Mr. E. T. Hill, who were awarded the prizes in the class provided for those flowers.

Miscellaneous Bulbs comprised amaryllis, polyanthus narcissi, and crocuses, all of which were presented in a condition that did credit to the cultural skill of the respective exhibitors. Mr. C. Taggett and Mr. J. Derham were first and second respectively for amaryllis; Mr. Dunlop, Mr. W. A. Jones, and Mr. W. K. Wait, were the successful exhibitors in the class of polyanthus narcissi and in the class for six pots of crocuses, Mr. G. Howes was successful in occupying the first place, and Mr. W. Butler and Mr. W. K. Wait were second and third respectively.

Stove and Greenhouse Plants in bloom and remarkable for the beauty of their foliage were staged in large numbers, and formed an important part of the exhibition. The banks of plants, occupying a space of twelve feet by seven feet, were of great excellence; and those staged by Mr. H. C. Miles and Mr. J. Derham, who were first and second respectively, were very closely matched in point of merit. The group from the first-mentioned was arranged with exceptional taste, and attracted much attention from the numerous visitors; and the arrangement by Mr. J. Derham was remarkable for its brightness, and was also characterized by considerable taste. The classes for ornamental-leaved plants were well filled, and in that for six Mr. J. Derham occupied the post of honour with a collection in which the crotons were particularly good. Mr. F. Tagart was second with well-grown examples, chief amongst them being Cycas revoluta and Cibotium spectabile. Mr. J. Derham was successful also in occupying the first place in the class for four ornamental-leaved plants; and Mr. J. Lysaght was a good second. In competition for the prizes for four plants in bloom, Mr. J. Derham was first, Mr. W. Pethick second, and Mr. H. C. Miles third. Azaleas were not, perhaps, quite equal in number to those shown last year, but the specimens staged were admirably flowered, and produced a bright effect. The principal awards in the several classes were made in favour of Mr. C. Taggett, who was awarded the silver Banksian medal of the Royal Horticultural Society offered as the first prize in the class for four; Mr. H. C. Miles, Mr. W. Pethick, Mr. S. Budgett, Mr. T. Gibson, and Mr. W, Butler.

Ferns had two classes provided for them, and were represented by good examples of well-known kinds. For six specimens Mr. H. St. V. Ames was a capital first, and Mr. F. Tagart was second; and in the class for six suitable for decorative purposes, Mr. W. Cooper, Mrs. Miller, and Mr. K. Wait were the prizetakers in the order of their names.

Cinerarias, Primulas, and other soft-wooded plants were highly meritorious. Mr. J. Lysaght, Mr. H. C. Miles, and Mr. J. Derham were the most successful of the several exhibitors of cinerarias, staging neat densely-flowered plants. Double primulas were considerably above the average, and the collections contributed by Mr. J. C. Wall, who was first, and Mr. T. Gibson and Mr. D. Thatcher, who were equal second, were exceptionally meritorious. For six single primulas Mr. H. St. V. Ames, Mr. F. W. Gedge, and Mr. W. Webley were the prizetakers in the order of their names, and presented neat well-bloomed examples. Mr T. Gibson staged excellent mignonette; and Mr. F. Tagart, Mr. W. Pethick, and Mr. J. Lysaght were awarded the prizes offered for violets in pots.

Cut Flowers.—There was a spirited contest for the bronze Knightian Medal, offered as the first prize for a vase of flowers, and in the result it was awarded to Mr. H. Mardon; Mr. E. T. Hill and Mr. W. Pethick were second and third respectively. The most successful competitors in the two classes for bouquets were: Mr. C. Winston, who was first in both, Mr. M. Hookings, Mr. T. Gibson, and Mr. W. Pethick. For twelve bunches of cut flowers the prizetakers were Mr. H. C. Miles, Mr. F. Tagart, and Mr. W. Pethick; and for twelve cut roses the awards were made in favour of Mr. W. Pethick and Mr. F. Tagart.

Vegetables and Fruit.—The first prize in the class for a basket of vegetables comprising eight varieties was awarded to Mr. W. M. Baker, and the second to Mrs. Miller. An extra prize was awarded to Mr. H. St. V. Ames. In the Fruit classes the principal awards were made in favour of Mrs. Miller, Mr. W. Cooper, Mr. W. Pethck, Mr. H. St. V. Ames, Mr. E. T. Hill, Mr. W. M. Baker, and Mr. H. Mardon.

Miscellaneous Contributions included a very large and beautiful collection of flowering and ornamental-leaved plants from Messrs. Garaway and Co., Durdham Down Nursery; a collection of cut daffodils from Mr. Dorrien Smith, Tresco Abbey, Scilly; and a good dish of French beans from Mr. J. Aplin, Hasfield Court.

EXHIBITION OF BAROMETERS.

The Royal Meteorological Society held on Tuesday night an exhibition of barometers. A paper was read by the president, Mr. Ellis, of Greenwich Observatory, in which the history of the barometer from the time of Torricelli, in 1643, to the present day was treated. The exhibits consisted of specimens of nearly every kind of instrument which has been invented, from the merest glass tube fitted with mercury and inverted in a cistern of mercury to diagrams of the King's self-registering barometer and the photographic registering barometer, parts of the (Jordan's) glycerine barometer, and the numerous self-recording barographs and aneroids which have been brought out during the past few years. The best of all such contrivances is the photographic intrument employed at the leading observatories, in which friction is altogether avoided and traces of great clearness and accuracy are obtained. Then there are the mechanical instruments of M. Redier, of Paris, remarkably accurate and of exceedingly beautiful make, which give a continuous trace of great delicacy. Then, too, there is the admirable self-registering aneroid of M. Richard, in which the effect of friction is obviated by a multiplicity of vacuum chambers. The records of this instrument when carefully made are exceedingly good, and the instrument is relatively very cheap. Of standard, marine, and other barometers there was an abundant supply, and it was interesting to see how the contrivances of 200 years ago for enlarging the scale of the barometrical range are still being reproduced in the ordinary wheel barometer. In addition to the above there was a collection of new instruments of various kinds, in which various nephoscopes and a self-recording thermometer by M. Richard were conspicuous. The exhibition was held by the permission of the Institute of Civil Engineers, at 25, Great George Street, and was well attended.

LITTLE VEGETABLES.

When penning my note on "small Brussels sprouts," that you published January 23, I had no expectation of more than momentary attention, but the discussion has augmented to something like a storm, the raging of which has almost alarmed me. How I do rejoice that you did not publish my name; for had you done so I should have become famous without having deserved it! Possibly the discussion has run its full length, and it may be time for me to reply, as we say in our village debating club. Very well, as I related a fact and abstained from developing a philosophy, the burden upon me is not very heavy. I certainly did say "the worship of size made me put my knowledge underfoot," and that has stirred a number of brave spirits. Now, by way of reply, I wish to say that the worship of size is not always a folly, for size is often worthy of worship; as, for example, a silver crown is larger than a silver shilling, and may for that reason command more respect. On both sides of the question some wise words have been said; and if I were bound to draw the line between them, I should say that one point, at least, has been missed by all the combatants. And the point is this—that in some classes size is everything; in some other classes size is only something; and in some others, again, it is nothing at all. Very neat, fat, fresh, small button mushrooms are far superior to large mushrooms when an epicure is to be pleased, but for a majority of consumers large mushrooms are preferable, and, for all parties to the bargain, more profitable. When you turn to market cabbages and savoys, size is of the first importance in view of the great mass of the purchasers. When you speak too loud or too often against size, you persuade some to their harm that paltry productions are things to be proud of. Take seakale, for example, and what is the use of the little wiry stuff, scarcely thicker than a lead pencil, that we get in November and December, as compared with the full-sized and handsome heads that come in February and March? Between full size with good quality and full size running into coarseness there is a great difference. I have seen seakale nearly as thick as a man's wrist, and nearly as long as a broomstick, and I would almost as soon have a broomstick and make the best of it with a good boiling. There have been many attempts to keep down the size of exhibition potatoes to an average of about three ounces; but everywhere the men of knowledge and experience have set their faces against such folly, properly contending that we want evidences of profitable production, for toy potatoes, like many other toys, are only fit for doll's-houses. Let us use reason in judging the relative merits of garden products, and let size count where size is a matter of real importance. The finest peas are generally the largest. The best of the beans, as for example, the Green Windsor, is certainly the largest (for length of pod does not come into the argument); and even that mighty rhubarb, Stott's Monarch, that is handsome enough in growth for a place on a great rockery, is described by all who have eaten it as one of the finest things of its class. It is worth remembering that in many instances size is an indication of good quality, because a quick growth ensures tenderness. What would a Scotchman say to a dish of small leeks as regards tenderness and flavour? He would vote for size, and not without good reason. Finally, it will be seen that my small sprouts were not produced by skill, but by accident; and although I found them so good, I am afraid I shall be found growing a lot to the usual size this year, and if I do happen to leave a lot in a starving state for a supply of small buttons, I shall probably not say anything about it. W.

A Bill for the Regulation of Railway and Canal Traffic has been brought into the House of Commons by Mr. Mundella on behalf of the Government, one of the objects of which is to remove certain anomalies in the terms on which goods are carried, and more especially to make an end of undue and unfair preferences. It constitutes the Board of Trade a kind of Court of Appeal in the first instance, and it strengthens the Court of the Railway Commissioners by directing that it shall be presided over by one of the Judges. Where a dispute arises involving the legality of any toll, rate, or fare, the Commissioners have jurisdiction to determine it. On any complaint being made under the Railway Act of 1873 or this Bill, the Commissioners can, in addition to other relief, award damages to the person aggrieved; and they can compel two or more railway companies to make mutual arrangements for carrying an order into effect. Moreover, the higher Courts can transfer questions which arise in railway cases to the Commissioners for their determination. All questions concerning "undue preference" are to be decided by the Commissioners. Whenever a company charges one trader, or a class of traders, lower mileage rates for the same or similar goods, or lower rates for the same or similar services, than they charge to others, the burden of proving that this is not undue preference is to lie on the railway company. In deciding this, the Commissioners are expressly directed that they may, in addition to other circumstances now held to justify inequality, take into consideration whether the charge is necessary for the purpose of securing the traffic. Another change is the extension of the law concerning undue preference and traffic facilities to steamers owned by railway companies.

No Juice in a Flint.—This trite saying has a parallel; *there is no getting nice out of cheap tea.* The Chinese are yearly increasing the supply to English tea-drinkers of redried and worthless leaves, utterly destitute of *theine*, which is the one active principle most to be desired in the beverage; consequently cheap tea becomes dear tea *at any price.* The true policy of supplying wholesome Pure Tea is alone to be commended; hence the enormous and increasing sale of *Horniman's Tea, guaranteed absolutely pure*, by Chemists and others who are Agents in all parts of the kingdom, and supply the public at London fixed prices.—See advertisements in all Newspapers and at Railway Stations for list of Local Agents.—[Advt.]

The Household.

FOOD AND COOKERY.

In the lectures on Scientific Cookery given in the Cantor series at the Society of Arts, by W. Mattieu Williams, occurred the remarks that follow on points of considerable importance in household economy:—

Water, which is so large a constituent of the animal structure, is a mineral rather than an organic compound. It differs from the organic constituents of food in the fact that it enters the body as water, remains there as water, is water always, subject to no decomposition whatever. The same is the case with a few soluble salts, of which common table salt may be regarded as an example. I have described albumen as typically represented by the white of egg, selecting this because the changes effected on it by cookery are the most decided and best understood, and are practically the most important that occur in the cookery of animal food. You will remember the action of different degrees of heat upon it, and the great change of properties which the heat effects. The position held by this albumen in the structure of meat demands further explanation. It is the universal lubricant of the animal machinery. It is, as shown by the peculiar slimy properties of raw white of egg, remarkably well adapted for this purpose. The so-called "joint oil," or *synovia*, is albumen secreted (*i.e.*, concocted from the blood) by a special membrane lining the joints—the synovial membrane.

The contractile fibres of the muscles are bathed in it, and thus it constitutes one of the juices of lean meat, the lean meat being the muscular substance. Time will not permit me to discuss the other physiological functions of this unctuous liquid, so universally diffused throughout the animal body. I may merely mention that it probably acts as a nutrient fluid, not only diminishing the mechanical wear and tear of the working tissues, but supplying them with building material, by means of which their inevitable wear and waste is compensated.

The nutritive value of albumen from our present point of view, *i.e.*, as cookable food, is unquestionable. It not only contains the materials demanded for nutrition, but holds them in a most easily digestible form, provided always the cook does not verify a certain irreverent adage by converting it into the indigestible, shrunken, leathery substance already described as the result of over-heating.

Gelatine is another and very important constituent of animal food. As far as regards quantity, it is more so than albumen, as it is the chief material of the animal tissues. Haller says that half of the animal body is gelatine. The walls of the cells of which the animal is built up are of gelatine; the membranes enveloping the fibres of the muscles, the same; the ligaments and tendons are fundamentally composed of it. It is the chief constituent of the skin. The bones are built by means of cells composed of gelatine, in which the hard mineral matter, the phosphate of lime, is deposited. These facts justify the labour of the Bone-Soup Commission of the French Academy.

Its familiar form is that of the prepared gelatine of the shops, the jelly of stock, calves'-foot jelly, &c. Carpenters' glue is the same, but dirty. These, however, are not exactly the same as the material of the membranes as they exist in the flesh. The membranes are raw gelatine, these preparations are cooked gelatine. The gelatine as it exists in the tissues is not readily soluble in water. This is easily shown by immersing in water a piece of any animal membrane, or of tendon, or, better still, that structure of exceptionally pure gelatine known as isinglass, which is the shredded swim-bladder of a fish—of the sturgeon, or of some substitute for the sturgeon. It resists cold water, but yields to the continued action of boiling water. After having been thus treated, it becomes readily soluble. In this primary cooking it combines with a certain quantity of water. I venture to call it hydrated gelatine.

Here, then, we have a curious contradiction in the cookery of animal food. The cooking of albumen is the conversion of a viscous liquid into a solid; that of the gelatine the conversion of a solid to a viscous liquid. The proper cooking of albumen demands a temperature of about thirty degrees below the boiling point of water, that of gelatine may be conducted at full boiling point, but, fortunately, this is not necessary. If time is allowed, the gelatine may be quite as well cooked at 180 deg. as at 212 deg. Even gelatine is spoiled if kept at 212 deg. when not under water, as the carpenter knows full well, and therefore he uses for the solution of his gelatine a vessel immersed in water—a *bain-marie*, or water-bath, rendering it impossible for the glue itself to reach the boiling point.

There are varieties of gelatine, or the tissue that produces gelatine when cooked, which time will not permit me to describe. *Chondrin* is that obtained by digesting the cartilages of the ribs, the larynx, or of the joints, for eighteen or twenty hours in hot water. *Fibroin*, obtained by a similar cooking of spiders' web, or the silk of silkworms and other caterpillars. The material of these fibres originally existed in the animals as a liquid, which was solidified on exposure to the air. The fibres of sponge yield a kind of gelatine. Another kind constitutes the basis of the structure of insects, and has been named *chitin*. *Chitin* soup may be made by boiling down grasshoppers, locusts, or the shells of lobsters, crabs, shrimps, and other creeping things that I need not specify. Neither will I here discuss the merits of this crustacean soup, as compared with the more popular preparation obtained from the callipash and callipee of marine reptiles.

I have eaten fried shrimps at Naples, where they are cooked as we cook whitebait, shells and all, without any previous boiling. They are excellent, and I understand that locusts similarly cooked are not distinguishable from them, but have not yet had an opportunity of practically testing this delicacy. That large tracts of country should be periodically desolated by locusts, is a striking proof of the neglected condition of the science of cookery. If the locusts devour the crops, why not cook, preserve, and eat the locusts? As regards any inherent repulsiveness in the idea of eating them, they are far less objectionable than pigs, and not worse than oysters and periwinkles.

I have already referred to the Bone-soup Commission of the French Academy. Its object was to determine whether or not the vast quantities of gelatine contained in bones, and which is commonly wasted, might be used in making soup in hospitals and other public institutions. The Academicians arrived at a negative conclusion on the main question of the nutritive value of gelatine. They found that dogs fed upon it exclusively at first appeared satisfied with it, then ate it with difficulty, and finally rejected it, and died of starvation when supplied with no other food. Some of the Academicians experimented on themselves, but did not carry their researches so far as with the dogs. They reached the loathing stage, and then retired from the investigation, and dined as usual.

A multitude of such experiments led to the conclusion that gelatine is not nutritious—a conclusion curiously at variance with ordinary experience. Liebig stated it very broadly and positively. Further investigation has, however, refuted this conclusion. It is worthy of note that this later conclusion of science is but a confirmation of the intuitions of our natural instinct—our sense of taste. The gelatine obtained from bones is nearly tasteless—pure gelatine quite so; the addition of a little table salt improves it, but not satisfactorily. If, however, we add to insipid gelatine the juices of fruit, as when jellies are made for evening parties, or to tasteless broth the saline juices of flesh—of which I shall speak presently—then we obtain a mixture that men, or dogs, or other animals, eat with satisfaction. It has also been found that the addition of a very small quantity of meat juices is all that is required to render gelatine nutritious.

What, then, are these juices of meat? As we have already seen, albumen exists in a liquid state between the fibres of lean meat, and therefore is one of them; but when the juices of meat are particularly specified, reference is usually made to the juices that are not coagulable—to juices that are saline, and which partake of the general properties of mineral salts rather than organic compounds. Some of them may be regarded as standing between the organic and inorganic.

This is especially the case with two of the most characteristic of these juices, kreatine and kreatinine, which have been described by some physiologists as products of the wear and tear of the used-up tissues that are about to be removed from the body. Besides these, we find in the meat lactic acid and certain salts of potash, such as the phosphate of potash, and minute quantities of other salts.

Time will not permit me to enter upon the details of the composition of these. I must need lump them all together, as the saline and sapid juices of flesh. When tasted alone, in concentrated form, their flavouring energies are strikingly manifested; they are painfully acrid to the tongue and palate.

There is one characteristic of these that is very little understood, but is very important. Although they are constituents of food, *they are not digested.* They are not converted into chyme by the gastric and mucous secretions of the stomach, then further changed into chyle by the secretions of the liver and pancreas, and afterwards passed along the alimentary canal, gradually taken up by the lacteals, and further changed by the mesenteric glands, before reaching the blood. Instead of all this, they pass directly through the walls of the wondrously delicate miles and miles of blood-vessels which form a velvet on the inner coat of the stomach. These juices thus enter the general current of the blood directly, as water does.

That any liquid should pass through a water-tight membrane seems impossible, but it is nevertheless a fact that it can and does. If a wide-mouthed bottle be filled with salt water, or with a solution of sugar, and a piece of air-tight and water-tight bladder be tied firmly over the neck, so that no mechanical leakage can take place, the solution of salt or sugar will pass out through the bladder, if the bottle thus filled be immersed in water deep enough to cover the bladder. Or if a bladder itself be filled with brine, tied firmly, and then immersed in distilled water, the same occurs, as may be shown by adding a few drops of a solution of nitrate of silver to the outside water, after the bladder has been immersed in it for a short time. A white precipitate will be thrown down, the same as would be seen if a little of the salt water had been poured out of the bladder into the distilled water.

This is called endosmosis when the passage is from without to within a vessel, or exosmosis when from within to without. They usually occur simultaneously, though not in equal degrees.

As the saline juices of meat are contained, for the most part, within the cell walls of the muscular fibre, or the sheaths of the bundles of fibres, we may avail ourselves of this mysterious action, and extract these saline juices by exosmosis. In spite of its unfamiliar name, it is one of the most familiar of kitchen operations, both useful and mischievous. When meat is rendered tasteless in the course of boiling or steaming, it is due to the exosmosis of its juices. On the other hand, in making meat broth, or soup, or beef tea, exosmosis is usefully applied to produce an intended result.

The making of beef tea is a good example of this, especially when made by simple maceration, *i.e.*, by using cold water only. To work out the *rationale* of this, the distinction between colloids and crystalloids must be understood.

Certain solutions perform the endosmosis and exosmosis I have just described, while others do not. On comparing them, it has been found that those which do thus pass through animal membranes are solutions of crystallizable salts, while those which do not are solutions that when evaporated down form jellies, mucilage, or amorphous, formless masses; hence the terms colloid and crystalloid. This being the case, it is evident that if we immerse a piece of gravy beef in cold water, only one class of its juices will pass through the enveloping membranes; this class will include the saline juices of which I have spoken, and will not include the albumen, nor any gelatine that may be dissolved. If the beef is minced, as in ordinary practice, a little of the albumen will be washed off the surface exposed by the cutting, and a modicum of gelatine may be dissolved from these surfaces. If, on the other hand, we stew beef in water heated just below the temperature at which albumen coagulates, more of this albumen will be washed out, and much more gelatine will be dissolved.

Thus we shall obtain two kinds of beef tea, the first containing only those juices which are directly absorbed by the capillaries of the stomach, and thus pass directly into the blood; and the second containing these same, *plus* some gelatine which has to be digested after the manner of solid food. In both cases the albumen is separated from the liquid, by heating it to the boiling point of water. It then rises to the top as a "scum."

I have been asked which is the proper method of making beef tea—by cold maceration, by moderate stewing, or by boiling? The boiling may be at once dismissed, for reasons that will be understood by all who have listened to what I have said concerning the coagulation of albumen.

The relative merits of the other two processes demand further consideration. If the beef tea is required for a very delicate invalid, the "cold-drawn" may be the best, but this conclusion presupposes a condition of the body demanding a supply of those particular saline juices which perform certain parts of the work of nutrition and appear to have a kind of stimulating influence. A skilful physician is required to decide whether this is or is not the case.

If the beef tea is made for a convalescent regaining digestive power, and demanding full nutrition, there can be little or no doubt that the liquid prepared by digesting minced beef in warm water (which I prefer to call beef broth, or beef soup, restricting the name of beef tea to the cold drawn) is the best. In this there is a little gelatine, together with abundance of the saline juices, which render the gelatine digestible and nutritious.

Liebig's extract of meat, when properly prepared, is what I have called beef tea proper, in a concentrated form. When it was first introduced, great expectations were formed, based on the theory that it is concentrated nutriment. Further investigation has proved that it has many great merits, but it is not a complete nutriment, and that, after being used for a while, it becomes nauseous. Hence the preparations that are offered to supersede it, meat essences, &c., which are merely equivalent to Liebig's extract *plus* gelatine, and may be made by stewing beef in warm water, or by adding Liebig's extract to calf's-foot jelly, or to its equivalent, the jelly made from isinglass, or the prepared gelatine sold by grocers. I am not aware whether jelly for invalids is ever prepared thus, by adding a little dissolved Liebig before consolidating; but I believe that it would form a very good and easily prepared form of delicate food, always remembering that it is still but a partial diet, as it lacks the carbon-food supplied by sugar and the farinaceous compounds.

I now come to stewing, and venture to describe this an almost unknown art in England so far as ordinary domestic cookery is concerned. This is curious, because among our neighbours across the Channel it is the primary process of ordinary domestic cookery, and is well understood by the wife of every peasant.

The prevailing idea in England is that stewed meat only differs from boiled meat by being kept in the water for a longer time—that stewing is simply protracted boiling. I venture, nevertheless, to declare the total fallacy of this, and to assert that, so far as flesh food is concerned, boiling and stewing are diametrically opposite, as regards the special objects to be attained. In boiling a joint—say, a leg of mutton—the best efforts of the cook should be directed to retaining the juices within the meat, and allowing the smallest possible quantity to come out into the water. In stewing, the business is to get as much as possible out of the meat, to separate the juices from the meat and convey them to the water. This is the case whether the French practice of serving the liquid *potage*, or *bouillon* as a separate dish, and the stewed meat or *bouilli* as another, or the English and Irish fashion of serving the stewed meat in its own juices or gravy, as in the case of stewed steak, Irish stew, &c. The cruel murder that is commonly perpetrated upon good mutton chops, in preparing Irish stews, is very deplorable. The chops are put into a saucepan in water, and the water is *boiled* or "*simmered*," *i.e.*, kept at 212 deg. whereby the albumen is at once coagulated, thus hindering the ready exosmosis of the juices. This is continued until both albumen and fibrin are so much hardened that they contract (as the white of egg does when used as a cement). The meat curls up curiously in consequence of this contraction, the albumen is made to resemble gutta-percha, and the fibrin to resemble cotton wool, before the extraction of the juices is completed.

Not so with the frugal stew of the poor French peasant, who does more with one pound of meat, in the way of stewing, than the English cook with three or four. The little bit of meat and the large supply of vegetables are placed in a pot, and this in another vessel containing water—the *bain marie*. This stands on the embers of a poor little wood fire, and is left there till dinner time, under conditions that render boiling impossible, and demand little or no further attention from the cook; consequently, the meat, when removed, has parted with its juices to the *potage*, but it is not curled up by the contraction of the hardened albumen, nor reduced to stringy fibres. It is tender, eatable, and enjoyable, that is, when the proper supply of saline juices of the meat, *plus* the saline juices of the vegetables, have been taken into the system.

Eaten alone, like our roast beef, it would be like the bone soup offered to the dogs by the Academicians; but eaten with these juices, it is wholesome, and sufficiently savoury. Whether the *potage* and the meat should thus be separated, or whether they should be stewed together, as in an Irish stew, &c., is merely a matter of taste and custom; but that a stew should never be boiled, nor placed in a position on the fire where boiling or "simmering" is possible, should be regarded as a primary axiom in cooking where stewing is concerned.

Correspondence.

To the Editor of the Gardeners' Magazine.

Dear Sir,—

My client, Mr. George Henry Rogers, has instructed me to call your attention to the report of the proceedings between Mr. Coombs and himself at the Worship Street Police-court, contained in your paper of the 27th ultimo, the material portions of which are almost wholly incorrect, and their inaccuracy is causing much annoyance and damage to Mr. Rogers. My client was not gardener to Mr. Coombs, but was foreman florist in his employ, under an agreement by which he was entitled to a share of the profits in addition to a salary. The gardenias were not "dwarf and bushey, and just coming into bloom," as described in the report, but were thin and straggly, and a few only were in bud. The Ficus elasticus were not "large specimen plants, 6 feet in height, laden with young growths," but were stock plants 9 feet high, and suitable for taking cuttings only. The complainant, Mr. Coombs, expressed no dissatisfaction with my client until after my client had given him a month's notice to leave, and complainant admitted in the witness-box that my client gave him notice, and the notice was produced in court. The branches which were found upon the rubbish-heap were the cuttings from the gardenias only, and my client was in a position to prove that the mould was prepared for the cuttings which he had taken from the Ficus elasticus. From your report of the case, an opinion is likely to be formed that the magistrates dismissed the charge on a technical ground only; but when I tell you that the defendant had numerous witnesses of high standing in the trade to prove that his treatment of the plants was the only proper mode of treating them, having regard to their condition, you will note that it is important to my client (inasmuch as his side of the case was not heard in court) that the report in your paper should be absolutely correct and fair, and I must ask you to be good enough to insert this letter in justice to the defendant.

I am, Dear Sir,
Yours Obediently,
H. Clifford Gosnell,
Solicitor for Mr. George Henry Rogers.

64, *Finsbury Pavement, London, E.C.*, 11*th March*, 1886.

Replies to Queries.

J. L.—Your plant is Cotoneaster microphylla. Both samples are the same.

C. E. T.—Erythrinas are so easily obtainable of any respectable nurseryman that we really must not depart from our rule of abstaining from advising where to purchase.

Paper Labels.—E.C.—On some of the paper labels common ink becomes indelible, or sufficiently so for the length of time the labels last. Probably Wolff's indelible prints would be better than any ink.

Roses.—B. G.—A few roses may be grown on the peach border without material injury to the trees; but if the number is large in proportion to the space, they will so exhaust the border as to check the growth of the peach trees and render them unable to produce fruit of full size and good quality.

Camellia Buds.—Constant Reader.—It is extremely difficult to say why any particular plant is losing its buds without having previously examined it with great care. But, judging from the appearance of the partly-expanded flowers before us, we are inclined to the opinion that the cause of the mischief is a water-logged condition of the soil in consequence of imperfect drainage.

A. G.—Generally speaking, florists' flowers are not admissible in a class for "herbaceous." The work of the world is not accomplished by technical definitions, but by common-sense applications. If you put carnations in a group of herbaceous, the judges may or may not count them. We will tell you what we will do when we see them.

Cucumbers and Tomatoes.—A Constant Reader.—There is no remedy for the production of an excess of male flowers by the cucumber plants. The Large Red Italian or Common Red is well adapted for outdoor culture. Hibberd's Amateur's Kitchen Garden, price 6s., published by Messrs. Groombridge and Son, will give you full information on the cultivation of vegetables.

Steeping Seeds.—Pomar asks if he can expedite the germination of such seeds as peas, beans, spinach, &c., by steeping before sowing, as the frost makes him a month later with his out-door work. The query reminds us of certain gardeners in days gone by who always steeped their seeds before sowing. We do not recommend the practice for general adoption, but it is serviceable at times, more especially when the season is advanced and the ground is warm. At the present time it would be bad practice.

Centaurea ragusina.—Herefordiensis.—The best results in the raising of centaureas from seed are obtained by sowing in July and August. The seed should be sown in pans filled with light sandy soil, and be placed in a frame occupying a shady position. Cuttings can be the most readily struck in the spring months. The proper course of procedure is to place the plants in a structure in which a temperature of about 65 deg. is maintained, to start them into a brisk growth as the cuttings strike more readily when tender. The side shoots should be taken off close to the base when they are commencing to grow freely, be dibbled into pots prepared in the usual way, and placed where they can have the assistance of bottom heat.

Ficus elasticus.—J. B., Brockley.—Small examples of the india-rubber should, as a rule, be repotted annually, but it is not necessary to shift specimens more frequently than every second year. If your plant is becoming pot-bound it will be advisable to give it a shift; but if on examination it is found that the pot is but moderately occupied, the proper course will be to allow it to remain undisturbed until next year, and give it one or two top dressings of some suitable fertilizer in the course of the summer. The spring is the best season of the year in which to repot both india-rubber plants and dracænas. Use for the ficus a mixture consisting of three parts loam, two parts peat, and one part sand, and for the dracænas a mixture of two parts peat, one part loam, and a rather liberal addition of sand.

THE FIRST DAY OF SPRING.

March 20 is properly the first day of spring, for then the sun is on the line gilding the horns of the uxorious ram. The day and the night are of equal duration, but the first is crescent, and as high summer advances, will consume the darkness utterly, so that the almanack shall duly record "no real night." The trifling apparent difficulty of determining when spring begins is illustrated as apparent only and not real, by the fact that April 6, Old Style, originally represented the vernal equinox, showing that the ways of the Medes and Persians are not applicable to almanack making; for it is with the heavenly bodies we have to do in the consideration of this subject, and not with the impossible compromise that bears the name of almanack. The time will come when the style we now observe will be rendered obsolete by the fact that the solar year consists of 365 days and *something more*. The intercalary day of Leap Year does not effect a perfect compensation; and hence there is a constant accumulation of error until reform is rendered *absolutely* necessary to keep the business of the world in order. When the last revision of the calendar was accomplished, and the people clamoured for the eleven days of which they they thought they had been robbed, their real relief was to be found in the aspects of nature; for the seasons were ordained for the uses of the world, and not for the convenience of almanack makers, who will never discover the way to make things exactly fit. The planetary laws underlie the phenomena of the seasons; and the changes that we behold in the field, the grove, and the heavens, are the exact representation of the invisible forces that Oersted personified as the Soul in Nature, and of which a certain poet had ample prescience when he said "There is a soul in all things, and that soul is God."

These considerations make an end of a delusion that prevails pretty generally, that Old Style represented facts differently to New Style, and that there must, therefore, be some virtue in Old Style still. In truth Old Style is as obsolete in regard to nature as it is obsolete in the reckonings of time by man for the most ordinary affairs of daily life. When April 6 was first regarded as the opening of the spring, the sun was in the same position in the heavens as it is now on March 20. Thus, as regards the phenomena of the seasons, Old Style explains nothing, although as regards certain customs and usages it may be allowed a degree of importance that the facts of nature fail to sanction. There is no virtue, then, in reckoning by Old Style, for the New Style is not a new notion, but a scientific adaptation of the business of the world to the order of Nature.

Markets.

COVENT GARDEN.

Fruit.

Apples .....per ½-sieve	2s. 6d. to 3s. 6d.
Apples, American, per bar.	10s. 6d. ,, 15s. 0d.
Cobs, Kent.. per 100 lbs.	27s. 0d. ,, 31s. 6d.
Grapes .....per lb.	4s. 6d. ,, 8s. 0d.
Lemons ..... per case	8s. 0d. ,, 10s. 0d.
Pine-apples, English, per lb.	1s. 0d. ,, 1s. 6d.
Pine-apples, St. Michaels, each	3s. 6d. ,, 7s. 6d.
Strawberries .....per oz.	0s. 6d. ,, 0s. 9d.

Vegetables.

Artichokes, Globe, per dz.	3s. 0d. ,, 4s. 0d.
Asparagus, English, per 100	5s. 0d. ,, 7s. 0d.
Asparagus, French, per bun.	7s. 6d. ,, 20s. 0d.
Beans, French ....per lb.	2s. 0d. ,, 2s. 6d.
Beet .....per doz.	1s. 0d. ,, 2s. 0d.
Broccoli Sprouts per bush	3s. 6d. ,, 4s. 6d.
Carrots .....per bun.	0s. 4d. ,, 0s. 6d.
Cauliflowers .....per doz.	3s. 6d. ,, 4s. 6d.
Celery.....per bun.	1s. 6d. ,, 2s. 6d.
Coleworts, per doz. bunch.	4s. 0d. ,, 6s. 0d.
Cucumbers .....each	1s. 0d. ,, 1s. 6d.
Endive .....per doz.	1s. 6d. ,, 2s. 0d.
Garlic .....per lb.	0s. 4d. ,, 0s. 6d.
Herbs .....per bunch	0s. 3d. ,, 0s. 4d.
Horse-radish .... per bun.	3s. 0d. ,, 4s. 0d.
Lettuces, Cabbage, per doz.	1s. 6d. ,, 2s. 6d.
Leeks.....per bun.	0s. 3d. ,, 0s. 4d.
Mint, Green .....per bun.	1s. 0d. ,, 1s. 6d.
Mushrooms ...per basket	1s. 0d. ,, 1s. 6d.
Onions .....per bushel	3s. 6d. ,, 4s. 6d.
Onions .....per bunch	0s. 4d. ,, 0s. 6d.
Parsley .....per bun.	0s. 4d. ,, 0s. 6d.
Parsnips.....per doz.	1s. 0d. ,, 1s. 6d.
Radishes ..per doz. bunch	1s. 0d. ,, 2s. 0d.
Rhubarb .....per bun.	0s. 6d. ,, 0s. 8d.
Salsify .....per bun.	0s. 8d. ,, 1s. 0d.
Seakale .....per bun.	2s. 0d. ,, 2s. 6d.
Scorzonera .....per bun.	0s. 9d. ,, 1s. 0d.
Shallots .....per lb.	0s. 3d. ,, 0s. 9d.
Small Salading .. per pun.	0s. 3d. ,, 0s. 4d.
Spinach ..... per bushel	6s. 0d. ,, 8s. 0d.

Vegetables—*continued.*

Tomatoes ..... per lb.	1s. 0d. ,, 2s. 0d.
Turnips ..... per bunch	0s. 4d. ,, 0s. 6d.

Cut Flowers.

Abutilons....per doz. bun.	2s. 0d. to 3s. 0d.
Acacia, French ..per bun.	1s. 0d. ,, 1s. 6d.
Azaleas ..per doz. sprays	1s. 0d. ,, 1s. 6d.
Bouvardias ... per bunch	0s. 6d. ,, 1s. 0d.
Callas .....per doz.	4s. 0d. ,, 6s. 0d.
Camellias, per doz. blooms	2s. 0d. ,, 5s. 0d.
Carnations, per doz. blms.	1s. 0d. ,, 2s. 6d.
Cyclamens, per doz. blms.	0s. 4d. ,, 0s. 8d.
Daffodils .....per bun.	1s. 0d. ,, 2s. 0d.
Eucharis, per doz. blooms	4s. 0d. ,, 6s. 0d.
Gardenias, per doz. blooms	5s. 0d. ,, 10s. 6d.
Heliotropes, per doz. sprays	0s. 6d. ,, 0s. 8d.
Hyacinths, Roman, per doz. sprays	0s. 9d. ,, 1s. 0d.
Lilac, French ....per bun.	2s. 6d. ,, 5s. 0d.
Lily of the Valley, per doz. sprays	0s. 9d. ,, 1s. 0d.
Marguerites, per doz. bun.	5s. 0d. ,, 8s. 0d.
Mignonette, per doz. bun.	4s. 0d. ,, 6s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 9d. ,, 1s. 0d.
Primulas, Double, per bun.	1s. 0d. ,, 1s. 6d.
Primulas, Single, per bun.	0s. 6d. ,, 0s. 8d.
Roses .....per doz. blms.	2s. 0d. ,, 3s. 0d.
Roses, Tea ..per doz. blms.	1s. 6d. ,, 2s. 6d.
Snowdrops.. per doz. bun.	2s. 0d. ,, 4s. 0d.
Tropæolum ..per doz. bun.	2s. 0d. ,, 3s. 0d.
Tuberoses .....per doz.	2s. 0d. ,, 3s. 0d.
Tulips ...per doz. blooms	0s. 9d. ,, 1s. 0d.
Violets.....per doz. bun.	1s. 0d. ,, 1s. 6d.
Violets, de Parme, per bun.	4s. 0d. ,, 6s. 0d.
Violets, Czar ....per bun.	1s. 0d. ,, 2s. 6d.

BOROUGH AND SPITALFIELDS.

Potatoes.

Regents .....per ton	70s. to 100s.
Magnum Bonum .....per ton	65s. ,, 90s.
Scotch Champion ....per ton	50s. ,, 65s.
Victorias .....per ton	70s. ,, 80s.

Obituary.

On the 6th inst., at his residence, Brook Green, Mr. George Bouverie Goddard, animal and landscape painter. He was a contributor to *Punch* of sporting sketches, touched with a fine vein of humour.

On the 14th inst., at his residence, Eccleshall Manor House, Sheffield, Mr. James Poole; the eminent landscape painter. He assisted David Cox in the renewal of the celebrated sign of the Royal Oak Hotel, at Bettws-y-Coed.

Auction Sales for the Ensuing Week.

Monday, March 22.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Lilium Auratum, Freesias, Eucharis, Tigridias, and other Bulbs.

Tuesday, March 23.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

Wednesday, March 24.—Messrs. Protheroe and Morris, at their Central Sale Rooms 67 and 68, Cheapside; Lilium Auratum, Iris, Plants, Roses, &c.

Wednesday, March 24.—Messrs. Protheroe and Morris, at the Exotic Nursery, Tooting; Pæonies, Iris, Nursery Stock, &c.

Wednesday and Saturday, March 24 and 27.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, Shrubs, Border Plants, Bulbs, &c.

Thursday, March 25.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

Thursday, March 25.—Messrs. Protheroe and Morris, at the Bell Lane Nursery, Hendon; Nursery Stock.

Friday, March 26.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

TRADE CATALOGUES.

Webb and Sons, Wordsley, Stourbridge.—*Special Manures.*

William Paul and Son, Crossfleet Nursery, Paisley.—*Pansies, Pinks, and other Florists' Flowers.*

Ed. Pynaert van Geert, Ghent.—*Description of the Establishment, by M. C. De Bosschere.*

Soft Cheeses.—Are English dairy-farmers preparing to overcome the difficulty of utilizing their skim milk by the profitable manufacture of soft cheese? The *Journal* of the Bath and West of England Society, just issued, contains an article by Professor Long again calling attention to this important subject. It will be remembered how, in the Model Dairy at the Brighton Show last summer, Mr. Long gave explanatory demonstration of the simple methods of making three kinds of soft cheese—employing such elementary appliances as tinned-iron hoops, beech boards, straw-mats, milk vessels, draining shelves, and a thermometer. Anybody can learn the processes, and a few experiments will teach the practice of ripening the cheeses in an apartment having a regulated temperature proper for the development of the necessary white mould followed by blue mould, producing the most admired flavour. From a gallon of whole milk, costing 6d., he made Brie cheese (the most famous of French varieties) worth at ten days to three months old from 1s. to 1s. 6d.; from half a gallon of milk, half of it skim milk, valued at 2½d., he made Coulommiers, a round cheese, worth at least 8d.; and from skim milk only, costing about 1d., he made a square variety, of his own invention, named Gravely cheese, partaking of the qualities of the Limburg of Germany and the Livarot of France. Farmers must not mind a little trouble if they can thereby convert their skim milk into a product saleable at treble or quadruple the value of the milk. Nearly six millions of the delicious Brie cheeses are made annually in five *arrondissements* supplying Paris. Another soft cheese, the Gervais, is sold in France by tens of thousands, and the little Boudon, or Neufchatel, of which forty per head of the population are yearly consumed in Rouen, may be seen in the cheese rooms of very small French farms standing upon the shelves by thousands. However, the great point for English farmers is to seriously make trial of a method of gaining profit from their skim milk in the form of soft cheese—the whole art and mystery of the business being now open to all.—*Times.*

D. of M.	D. of W.	ANNIVERSARIES, FESTIVALS, OCCURRENCES, HISTORICAL NOTES, &c.	SUN. Rises.	SUN. Souths After Noon.	SUN. Sets.	MOON. Rises. After.	MOON. Sets. Morn.	HIGH WATER AT London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. temp. Avrg. of 40 yrs. Chiswick.	ORCHIDS IN FLOWER.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
28	S	**3rd Sunday in Lent.**	5 48	5 7	6 24	2 18	11 20	7 32	8 3	4 29	4 57	44·5	Cologyne cristata alba	East Indies.	87
29	M	John Keble died, 1866.	5 45	4 48	6 26	2 58	After.	8 39	9 23	5 28	6 4	44·7	Cattleya Mendeli	South America.	88
30	Tu		5 43	4 30	6 28	3 34	1 14	10 18	10 47	6 48	7 33	44·9	Dendrobium luteolum	Moulmein.	89
31	W	Charlotte Brontë died, 1855.	5 41	4 12	6 30	4 4	2 15	11 24	11 55	8 12	8 49	45·4	Dendrobium nobile	Assam.	90
		APRIL.													
1	Th	Expedition to the North Pole, 1818.	5 38	3 54	6 31	4 31	3 17	—	0 23	9 20	9 48	45·5	Epidendrum vitellinum majus	Mexico.	91
2	F	Length of Day, 12h. 57m.	5 36	3 36	6 33	4 55	4 22	0 45	1 5	10 10	10 30	45·7	Phalænopsis Schilleriana	Manilla.	92
3	S	*Richard, Bishop.*	5 34	3 18	6 35	5 20	5 26	1 25	1 42	10 50	11 7	45·9	Vanda suavis	Java.	93

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

The Schedule of Arrangements for the Shows and Meetings to be held in the Conservatory at South Kensington during the current year is now ready, as also that of the Provincial Show, to be held at Liverpool from JUNE 29 to JULY 5 inclusive.

Applications for the same should be made to the Secretary, Royal Horticultural Society, South Kensington, S.W.; or to the Superintendent, Royal Horticultural Gardens, Chiswick.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, MARCH 30, AND WEDNESDAY, MARCH 31.—ROYAL AQUARIUM.—Exhibition of Spring Flowers.

Auction Sales for the Ensuing Week.

TUESDAY, MARCH 30.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

WEDNESDAY, MARCH 31.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Lilies, Plants, Roses, &c.

WEDNESDAY, MARCH 31.—Messrs. Protheroe and Morris, at the Royal Nurseries, Ascot; Nursery Stock. (Three days).

FRIDAY, APRIL 2.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

MONDAY, MARCH 29.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; 9,000 Liliums from Japan, Gladioli, Tubroses, Tigridias, Seeds, &c.

WEDNESDAY, MARCH 31, AND SATURDAY, APRIL 3.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, Border Plants, Bulbs, &c.

THURSDAY, APRIL 2.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C., to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, MARCH 27, 1886.

THE VOTE FOR THE ROYAL PARKS, on which Mr. Labouchere had snatched a victory in the interest of the provinces—or, at all events, to the momentary damage of the metropolis—was rectified on the night of the 18th, as it was foreseen it must be. On the report of Supply, Mr. H. Fowler moved that a further sum of £50,403 be granted to bring up the total to £112,619. There was a certain dignity in Mr. Labouchere's reduction of the amount asked for in the first instance, apart altogether from the political question involved; but there was none—indeed, instead of dignity it was sheer puerility he exhibited in moving that the vote be reduced by the sum of £2,150. On a division he was beaten by 76, the numbers being—for the vote 141; for the reduction 65. Mr. H. Fowler announced that the Chancellor of the Exchequer would bring in a Bill to transfer the parks in London, other than the royal parks, to the jurisdiction of the Metropolitan Board of Works; and that being accomplished, there will be an end of the charges now made against the Treasury. In respect of the proposed Bill, it will be found that the question has two sides; but it can scarcely be doubted that the Treasury will be relieved of the present charges and the metropolis will be but little the poorer for having to pay for its playgrounds.

CLAYCROSS FLOWER SHOW will be held August 10

HEREFORD ROSE SHOW is fixed for July 8.

SOUTH ESSEX HORTICULTURAL SOCIETY.—The summer show will be held June 10.

SURREY SCENERY will be illustrated in a series of drawings by Mrs. Allingham in an exhibition of the Fine Art Society.

A FLORA OF THE ENGLISH LAKE DISTRICT, by Mr. J. G. Baker, of Kew, has been recently published by Bell and Sons.

CALNE HORTICULTURAL SOCIETY.—Annual exhibition in Bowood Park, August 17.

LAMBETH AMATEUR CHRYSANTHEMUM SOCIETY will hold its exhibition at the Bridge House Hotel, November 8, and two following days.

NEWCASTLE-ON-TYNE SPRING FLOWER SHOW will be held April 7 and 8.

LEEDS FLOWER SHOW will be held June 30 and two following days.

MR. POLMAN MOOY supplied, as promised, a paper on the Hyacinth for the entertainment of the Horticultural Club, on Tuesday last, but he being unable to be present, it was read by the secretary.

TITHE RENT CHARGE AND EXTRAORDINARY TITHE are the subjects of measures now before the House of Commons, and the Bills will be overhauled by select committees.

ALBERT PALACE, Battersea Park, has been leased to Mr. William Holland. The special attraction for the season will be an Exhibition of British Industry.

A NEW EDITION of "Hulme's Wild Flowers" is in course of publication by Messrs. Cassell. No. 1 contains exquisitely beautiful figures of the field convolvulus, and the wild rose of the hedges.

BECCLES BURIAL BOARD invite tenders for laying out and planting land lately purchased by the board. The clerk of the board is Mr. F. S. Rix.

CHRISTY'S GUIDE TO POULTRY REARING, published at 155, Fenchurch-street, will be useful to raisers who practise artificial incubation, and should have their serious attention at this season.

GARDENING APPOINTMENTS have been made as under through Messrs. John Laing and Co.: Mr. J. Child, as head gardener, &c., to the Earl of Rosslyn, St. Anne's House, Stamford; Mr. J. Ford, as head gardener to F. C. Cater, Esq, Enfield, Middlesex.

GUERNSEY AND JERSEY FRUIT COMPANY (LIMITED) has been formed for growing and selling various kinds of vegetable produce peculiar to the Channel Islands. The capital is £20,000 in 4,000 shares of £5 each. The London office is 4, Tokenhouse Buildings, E.C.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY will hold its exhibitions in the Waverley Market, Edinburgh, on the following dates: Spring show, April 7 and 8: summer show, July 7 and 8; and autumn show, September 8 and 9.

MESSRS. F. SANDER AND CO., ST. ALBANS, are about to issue a monthly work on orchids, under the title of *Reichenbachia*, which will be illustrated by coloured plates and woodcuts. Mr. Walter Fitch will supply the drawings from specimens selected at St. Albans.

MR. B. S. WILLIAMS invites lovers of plants to inspect the imantophyllums, orchids, cyclamens, amaryllis, &c., at his Victoria and Paradise Nurseries, Upper Holloway. The exhibition will continue until April 10, from nine to six, daily.

TAXATION OF GROUND RENTS is to be the subject of formal consideration by the Towns Holding Committee of the House of Commons. The resolution was moved by Mr. Saunders, and met with considerable support.

MR. SHEPPARD SCOTT has stated, in a meeting of the Common Council of the City of London, that the keeping of Epping Forest is costing the Corporation the enormous sum of £2 10s. per acre per annum. Nobody will believe this until it is clearly established on a basis of facts. Mr. Scott should be held responsible to prove his case.

MESSRS. VEITCH AND SONS' Hybrid Amaryllis are now in full splendour, and present many new and beautiful characters. The exhibition is in the same house as in previous years. In the orchid-house we noted a new dendrobe, a supposed natural hybrid between D. crassinode and D. Wardianum.

DISA GRANDIFLORA is in process of extermination by the collectors who haunt the Table Mountain. The conservatives of the Cape are in alarm; and when it is too late, perhaps, they will start a Disa League for the protection of the mountain beauty, so that when our primroses are in the gardens of oblivion the disa may be brought here to take its place.

THE WAREHOUSEMEN AND DRAPERS' TRADE JOURNAL will suggest doubts about the truth of the declaration to the effect that trade is dull. The issue for March 13 contains 84 pages of advertisements. It is impossible to look at them without a sort of watering of the mouth, or without entertaining a comfortable suspicion that trade is not so bad as it is represented.

Flowers as seen under Canvas will be illustrated in a picture Mr. G. D. Leslie will contribute to the forthcoming Academy Exhibition. The subject is a group of girls forming garlands of roses, and the colouring will explain in part the reason that exhibitors of the "old school" are still unshaken in their faith that the light under canvas is particularly favourable to the artistic display of flowers.

Boxwood from the Cape is coming into the market for the use of engravers. It is the produce of *Buxus Macowani*, being so named after the director of the Botanic Gardens at the Cape. The wood heretofore known as "Cape box" is the produce of *Celastrus buxifolius*, an alliance of the euonymas. As regards the quality of the new candidate for a place in the market, engravers do not speak favourably; but it may be found to improve on further acquaintance.

Tithe Rent Charge.—A Bill introduced by Mr. Stanley Leighton, M.P., would impose the payment of tithe rent charge on the landlord. Whenever the tenant of any lands pays it, it is provided by the Bill that he should deduct the amount so paid from the landlord's rent; and contracting oneself out of this provision is forbidden. There is, however, a clause saving existing contracts during the continuance of the tenancies. As regards this, the time at which a yearly tenancy or a tenancy at will would be deemed to end would be just as if notice were given at the commencement of the Act.

The Political Status of the Gardener is newly defined in a pamphlet by W. Bookey (Brownrigg) entitled "Negative Property with Parliamentary Title" (Simpkin). At page 42 the author says: "A good gardener must needs be a good Radical; but he is also a good Conservative. In fact, he cannot be good in either unless he be good in both. If he loves the tree, he will approach its radicals (roots) carefully, desirous to nourish and strengthen them; for he knows they are the very life of the tree which he seeks to conserve. He must have much skill, and more kindness: or he will do harm. Unless the whole tree is doomed, he does not use the axe."

The Weather has kept faith with the calendar, for spring was ushered in on Saturday last with a soft south wind and a little real sunshine. The day following was a surprise for Londoners, but the sky alone was bright; the ground was scarcely green and not all flowery, the crocuses being almost alone in their glory. At the same time the South Coast was bathed in fog, and in the North flocks were falling in snowdrifts and rivers were flooded with a sudden thaw. That the winter is over no one can doubt; but the spring will occasionally entertain us with small agonies. For the present we can only expect changeable weather, and some of it unpleasant.

Ensilage Commission has completed its labours and drafted its final report. During the past week the evidence given by Sir John B. Lawes, Dr. Voelcker, Professor Long, Mr. C. H. Sharman, Mr. J. Darby, and other witnesses, confirmed the high value of the system of ensilage for many descriptions of crop not at first contemplated as available, and was favourable to the easy and cheap method of preserving green forage by compressing it in open-air stacks. Sir John Lawes stated the waste by fermentation in silos to be about four to ten per cent., the loss being greatest in making sweet silage; so that his advice was to adopt that process which would cause least fermentation. The waste, however, is chiefly in albuminous compounds, and probably chemists attach too much importance to these constituents in food.

Notes of Observation.

NAMED *V.* SEEDLING SINGLE DAHLIAS.

Probably, when "G," at page 137, finished his interesting article in support of cultivating named single dahlias in preference to unnamed seedlings, he said to himself—"There, that is a clincher for him!" But I can assure "G" that it had no such effect. Knowing him to be rather more susceptible than some of us to the influences of fashion, I accept his criticisms with perfect good grace, only he must allow me to say that I am not altogether unacquainted with Mr. Ware's collection, to which he refers. I have grown some of the varieties which "G" mentions, and on two occasions I had the pleasure of seeing last summer Mr. Ware's exhibits of single dahlias at two large shows, and although the flowers possessed all the merits that "G" claims for them, I failed to see that they were so much superior to many of the seedlings which I had then growing. "G" knows very well that I am so situated that I am obliged to provide a lot of pleasure in flowers out of a limited outlay, and I do not think I have altogether failed. I certainly have not if the admiration my single dahlias received is any guide. It was that which induced me to pen the note to which "G" refers, and which I do not regret doing. R. H. B.

ROSE SUNSET.

Notwithstanding all that "Practical Cultivator" says at page 130 in favour of this rose, I maintain that it is not wanted, because we already have a sufficiency of apricot-coloured roses. "Practical Cultivator" must know that it requires a good judge of roses to tell the difference between Madame Falcot, Safrano, and William Allen Richardson, not to mention Shirley Hibberd, when they are mixed together in a bouquet of flowers. Therefore an addition in that line of colour is not desirable. I am not judging this rose on what "Practical Cultivator" says only, because I saw it in a large rose nursery last summer, and I must say he has described it very truthfully. All that I wish to say about it is that it is too much in colour like others that are already well known. R. H. B.

BATH FLORAL FETE SPRING SHOW.

The Floral Fête Committee started a Bulb Show in 1885, and the success was such that the thing was repeated in 1886, the result being that Bath city was very gay on Wednesday and Thursday last, the select society of the city of health seeking in the Assembly Rooms new tokens of the return of spring. The weather was delightful, even better than that which gladdened Londoners at the same time, for there were fears (happily soon dispelled) in London on Wednesday that "Queen's weather" would not prevail, for the day dawned with impenetrable fog. But at Bath the day began as it intended to go on, and the visitors from London and other eastern parts were astonished to see the brilliant greenness of the gardens and pastures of the western city, the air being warm and soft, as though the last days of May had taken the place of the later days of March.

The exhibition comprised all the horticultural products proper to the season, but hyacinths were a special feature, and made a brilliant display of colour in the magnificent ballroom, where a long central table was filled with them; with tulips, primulas, and cyclamens to give variety and add to the interest and usefulness of the undertaking. The sides of the great room were dressed with great groups of plants, put up by Mr. Cypher, of Cheltenham, Messrs. Cooling, and Mr. Drummond, of Bath. These comprise crotons, ferns, palms, amaryllids, and many more showy subjects forming a grand background to the central broad line of gay colour. In the adjoining smaller chambers were beautiful groups of cut flowers, bouquets, epergnes, and herbaceous and alpine plants, that were not less admired than the fine features of the principal apartment.

Hyacinths were admirably shown, the first eighteen from Mr. S. P. Budd being stout and compact with good foliage; Messrs. Cooling were second. In the three classes for twelve and nine, the winners were the same; and in the same order, with one exception, in which they changed places. Class 5 brought a new feature, for here Mr. Tredwell took first place with the best lot of hyacinths in the show; they were in tall pots of regulation width, the spikes very even and perfectly finished, the foliage good. In the class for six, Messrs. Jolly and Mr. S. P. Budd were equal first with beautiful examples; Mr. C. H. Dutton second.

Tulips were not cleverly handled, and the exhibitors might be advantaged by a study of the London style of showing them. But the groups from Messrs. Cooling, Mr. Dutton, and Mr. S. P. Budd were stout and gay, and comprised the best varieties for show purposes. Narciss were well shown by Messrs. Cooling and Mr. C. H. Dutton; Crocuses by Mr. Jolly and Mr. W. Dobson. The lily of the valley from Messrs. Cooling were superb in growth, and as specimens perfect; and not far below this high standard were the beautiful specimens from Mr. S. P. Budd. The Amaryllis from Mr. S. Tredwell and Mr. T. Jolly were of the useful class, and make a cheerful change of colour.

Orchids were in sufficient plenty to make a distinct and fine feature. Mr. Cypher, of Cheltenham, was placed first for six; and for single specimens Messrs. Cooling had the best three, Mr. R. B. Cater being second in this class. Azaleas from Mr. E. E. Bryant and Mr. T. Jolly were good. Roses in pots from Mr. S. P. Budd were extra good; in fact, the plants were models of what pot roses might be in all private gardens—healthy, flowery, well proportioned, but not of great size or indicating that a great roseman had bestowed his special talent upon them. Of the cinerarias we are bound to speak well, the first lot, from Biss, were grandly grown; the second lot, from Mr. Tredwell, were examples to be proud of, and all appeared to be of the finest strains, the "James' strain" unmistakeable. Mr. Budd put up the best cyclamens in the schedule class, and Miss Charles had second place. But there was one group of cyclamens from the Rev. E. Handley surpassing all others in size, leafage, and splendour of flowers. These were not entered for competition, but in a contest would have carried all before them.

The groups of ornamental plants from Mr. E. E. Bryant were of great value, as were the stove and greenhouse plants and ferns from the same exhibitor, who carried off a series of first prizes by showing the society something for its money. There were two beautiful collections of herbaceous plants in pots, the best of them coming from Mr. S. Tredwell, who also had the best violets in pots and the best basket of ornamental plants.

The decorative contributions were of a gratifying character. The first bouquet, from Mr. W. Pethick, was quite a model of size and form, and filled with good things; the second from Mr. C. Winstone, too "spriggy," the sprays spreading far out from the mass. The one that obtained for Mr. Drummond a certificate of merit was smallish, and lively with colour. The best spray for a lady's dress was from Mr. W. Pethick; second, Mr. C. Winstone. There were two others in the competition, and all were good. The epergnes were in excellent taste, the first from Mr. E. Thomas, quite a model of richness without excess, and of high finish, with just a touch of delightful negligence. Mr. W. Pethick had a certificate of merit for an epergne that was at once brilliant with colour and yet not overdone or wanting in artistic unity. The cut roses were good enough for the month of June. Mr. S. P. Budd put up a lovely lot of perpetuals and teas, and Mr. J. Chaffin a delicate group of teas only. Messrs. Cooling had a fine lot. and two boxes of Maréchal Niel came from Mr. J. S. Popo.

From Mr. W. Duck came good grapes; from Mr. E. Thomas and Mr. A. T. Hall, fine lots of apples; from Mr. Hooper Taylor and Mr. W. J. Smith grand dishes of pears, with extra dishes for the luncheon table from Mr. Taylor. The best thing in the vegetable department was the basket of soakale from Mr. T. Evry; nor often do we see such perfect modelling the beauty of which was made evident by comparison with Mr. Smith's really fine basket that stood next it.

A special note must be made on a plant of Amaryllis aulica in a fine group of plants from Mr. R. B. Cater. It was in a twelve-inch pot, which was densely filled with healthy and quite stout leafage, above which stood twenty flowers. These are of the platypetala section, and one of the best types; so that we had an example of one of the best of the historic species in the very best style of cultivation, a style never to be obtained by annual repotting.

The judges were: Mr. John Woodbridge, of Brentford; Mr. Brown, of Bristol; Mr. Challis, of Witton; Mr. Bannister, of Westbury-on-Trym, and Mr. Shirley Hibberd, of Kew, near London.

Improvement of Sandy Coasts is the subject of an essay by M. de Mey, engineer of Ponts et Chaussées, Bruges, for which the King of the Belgians' prize of 25,000 francs, or £5,000, has been awarded in a competition of 59 persons. This prize is offered every year by the King of the Belgians for the best essay on some predetermined subject tending to advance the well being of mankind.

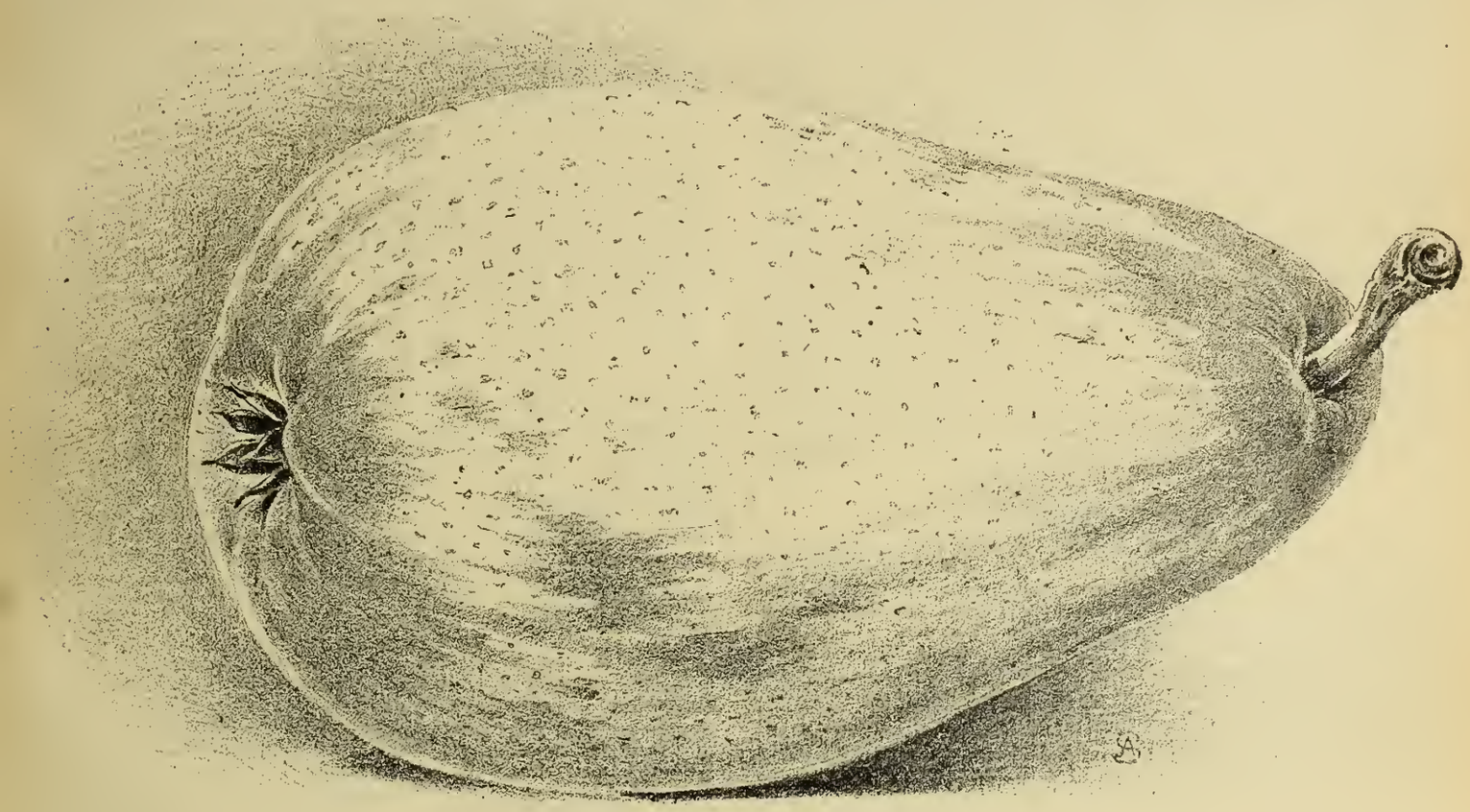
CONGRESS PEARS.

Pitmaston Duchess.

Of this noble fruit there were seventy-three dishes in the Congress collection, and there was a general agreement among the critics that the dish from the Royal Nurseries, Slough, contained the finest samples as regards size, evenness, and colour. Our figure represents a typical sample, as regards form, but the size is in excess of the average, and pears of such magnitude are less to be desired than those of moderate growth and fine quality. But "big things" must be recognized at times; and it is well to remember that in the case of fruits it is not much man can do in augmenting size, the season and the soil having most to do with it. A large pear, therefore, may be regarded as a proof of the generosity of Nature, and the wise man will be thankful for it should it prove eatable.

Pitmaston Duchess was raised by the late Mr. Williams, of Pitmaston, and is the result of crossing Duchesse d'Angoulême with Glou Morceau. It differs from both in all its characters. In form it may be described as pyramidal or oblong, rounded at the ends, with bold open eye in a wrinkled depression, the stalk short and stout, and nearly even with the contracted base. When ripe, the skin is of a fine lemon-yellow colour, patched with cinnamon-coloured russet, which is almost unbroken around the stalk.

Several samples tasted at the Congress proved to be of excellent quality—the flesh melting, juicy, rich, and delicately perfumed. A majority of the samples shown were grown on pyramids and espaliers on the quince stock. Its season is from the middle of October to the middle of December. As compared with Duchesse d'Angoulême it is not only different, but superior in every way.



DESSERT PEAR, "PITMASTON DUCHESS."

REPOTTING ORCHIDS.

In continuation of my notes at page 147, on the work requiring attention in the orchid-house at the present time, I shall now proceed to speak in detail of the way in which the plants should be shifted into fresh pots or baskets, and to point out the materials best adapted to the requirements of the principal genera.

The first matter to be considered is the proper time for shifting plants that require more space at the roots, or are growing in material that has become more or less exhausted, as very much of the benefit to be derived from a shift depends upon the stage of growth at which they receive it. A considerable proportion of the kinds may be transferred to fresh pots, baskets, or blocks, at any time during the spring and summer months; but it may be stated, as a general rule, that orchids of all kinds should be repotted when they are commencing to make new growth. I have found from long experience that when they are moved just as the growths are beginning to push and the roots to elongate, they very quickly become established in the new material, and at once begin to grow as vigorously as could possibly be desired. There are two distinct advantages in carrying out this work at the stage mentioned—one being the rapidity with which the roots recover from any injury they may receive, and the other the assistance afforded by the material throughout the whole time the growth is in progress. With reference to the frequency with which orchids should be shifted, it may be stated, as a second rule to be observed by the cultivator, that they ought not to be disturbed at the roots so long as they remain in a healthy state and continue to make a satisfactory growth. There is no occasion, as in the case of the majority of plants, for annual repottings; but on the other hand, they must not be allowed to remain undisturbed so long as to suffer either from an impoverished condition or a sour state of the material.

When it is decided to remove a plant to a fresh pot or basket it should be carefully lifted out and be placed on the potting bench, or a platform formed on one of the side stages, and have as much of the old material removed as possible. Considerable care will be necessary in handling the cattleyas, aerides, and others which have long fleshy roots, to avoid injuring them. Sometimes the roots will attach themselves to the sides of the pots or the base of the basket, so as to render it most difficult to detach them without their being injured. When the roots are numerous and very firmly attached to the pot or basket, no hesitation should be felt in breaking up the receptacle and repotting the plant with the fragments adhering to the roots. It will not often be necessary to break up the pots, as, with but few exceptions, the roots can with a moderate degree of care be detached. I find a rather blunt table knife that has been worn rather thin the best for separating the roots from the sides of the pot and from baskets and blocks. When the plants have been removed from the receptacle in which they have been grown, a portion of the old material must be taken away from the roots. Provided the roots are not injured, a very considerable proportion may be removed with advantage, because it is not desirable that the plants should have any large quantity of exhausted or sour stuff about them. Examples that are in an unhealthy state should be more thoroughly overhauled, and have nearly, if not quite, all the old stuff removed from about the roots, which must be closely examined, and have all dead and decaying parts cut away. If the plants have become unhealthy in consequence of a sour state of the moss or peat, the roots should have a thorough washing in tepid water previous to the repotting.

The drainage must in all cases be sufficient to carry off the superfluous moisture quickly, for if it remains long enough to cause sourness the plants will very soon become unhealthy. Generally speaking, the pots should be filled to about one-third, and the pans and baskets to one-half of their depth with crocks, which should be rather large and quite clean. When the pots are of large size, a smaller pot may be inverted in the bottom, and then have crocks packed about and over it. In the drainage of small and medium-sized pots crocks should alone be used. In all cases the crocks ought to be covered with sphagnum, and upon this should be put a layer of the material in which the plants are to be grown; the thickness of the layer to be determined by the depth of the ball and the height it is desired to have the base of the pseudo-bulbs above the rim. On placing the plants in position, the roots must be carefully arranged, and the peat or moss be packed about them in such a way that they will be equally distributed. Plants that do not require repotting should have the old stuff removed from the surface and replaced with fresh; for the constant

waterings wash the goodness out of that forming the top layer, and it is moreover found that the young roots push more readily into the recent top-dressing. The material must in all cases be pressed firm, and in top-dressing large plants that are raised considerably above the rim of the pot it will be advisable to insert a few short pegs to prevent its being displaced before the roots have had time to obtain a sufficiently firm hold to keep it in position.

Newly imported plants ought not to have anything but crocks, and in some cases a little moss, about them until they are growing vigorously. When examples in a perfectly dormant state are potted in the same way as those in full growth it frequently happens that the roots decay, and a very great difficulty is experienced in starting them into growth. Plants of all classes should first have the dead and decaying roots cut away, and the pseudo-bulbs evincing signs of decay removed. On this having been done, the roots must be well washed, preferably in tepid water. Cattleyas and lælias can be started in pots with comparatively small crocks about them instead of peat, or they may be attached to rafts and placed upon the stage. Phalænopsis, aerides, saccolabiums, oncidiums, and several other genera, start into growth most readily when they are attached to rafts and suspended to within a short distance of the glass. Odontoglossums start very well when potted in the usual way, provided they do not have too much moss or peat about them; or they may be placed upon a layer of moss on one of the side stages until they show signs of vitality. The best way of dealing with the dendrobiums, especially when there is a considerable number, is to form a layer of moss in a shallow box, and stand them on the moss with the pseudo-bulbs resting against the sides. The chief point in handling newly-imported orchids is to place them where they will enjoy a moderate degree of humidity without having any wet material in direct contact with them. Of course, when they are growing freely they can be potted or put in baskets, and otherwise dealt with in precisely the same manner as established plants.

To speak in detail of the receptacles in which the several genera should be grown, and the material most suitable for them, would require much space; and it is, therefore, not possible to do more than refer to these points otherwise than in a general way. The cattleyas, lælias, robust oncidiums, strong-growing dendrobiums, lycastes, and cœlogynes, thrive in peat. For the odontoglossums, masdevallias, and the less robust oncidiums and dendrobiums, a mixture of peat and sphagnum in about equal proportions is the most suitable; and for the aerides, saccolabiums, vandas, phalænopsis, and angræcums, sphagnum is decidedly the best. Generally speaking, the plants requiring peat should be grown in pots, and the smaller-growing kinds thriving in moss in baskets. The robust vandas and angræcums may be grown in baskets, but they appear to greater advantage in pots, especially when they have attained to specimen size. It remains to be said that newly potted orchids should have very little water at the roots until they are beginning to grow freely; but a liberal degree of atmospheric humidity will be very beneficial to them. ORCHIDOPHILIST.

POTATO CULTURE IN GARDENS.

In consequence of the soil having been frozen to a considerable depth from early in February until the last few days, potato-planting, in common with seed-sowing and some other important outdoor operations, is so far behind this season that in many cases the most strenuous efforts will be necessary to bring up arrears. The crop will not suffer to any appreciable extent from the planting being commenced at a later period than usual—provided, of couse, there is no unnecessary delay in making a beginning, or in proceeding with the work after a start has been made. The early varieties may perhaps be rather later in furnishing supplies for the table than in years in which the soil has been in a favourable condition for planting operations early in March. But if the suggestions that will be made in the course of these remarks be acted upon, it is very probable the difference in the time of lifting, as compared with previous years, will be so small as to be hardly appreciable. To the late sorts, the delay in planting will not make any difference, either as regards the bulk of the crop, or the time when it may be lifted. There cannot well be any doubt upon this point; for it has been proved by recent experience that early planting, to which so much importance was attached by a large body of cultivators a few years since, is of but little consequence. It is not, of course, advisable to delay the planting of the main crops long after the middle of March, when the soil and season are alike favourable to the work, because of the risk of the work being unduly delayed by a press of other matters requiring attention as the spring advances. This year the planting will, so far as can be determined at the time of writing, be done under very favourable conditions. The soil has undergone a thorough pulverization by the frost, and it is also sufficiently dry to be worked without difficulty, and to be trodden upon without the slightest risk of its being worked into a paste. The sets are also in capital condition; for, owing to the low temperature which has so long prevailed, they have not made so much growth as is usual at this season. The tubers that have been stored in large quantities, and well covered up to exclude the light from them, are growing freely, and have shoots of considerable length. The sets that have been spread out on the floor and the stages of sheds from which the frost is just excluded, have, on the other hand, made very little progress, and are now furnished with short sprouts that are so hard as not to occasion any anxiety as to their being broken or otherwise injured when handled. We are always careful to regulate the growth of the sets previous to planting, so that they can be planted without the shoots being injured; because when they are so long it is extremely difficult to plant them without breaking or bruising the shoots; they come up irregularly, and occasionally prove very unsatisfactory.

To produce a heavy crop of tubers that will be of large size and good shape a thorough preparation of the soil is essential. The staple must be so broken up that the fibrous roots can run freely in it and extend to a moderate depth in search of nutriment, and that the tubers can swell freely and evenly. The fact that the condition of the soil has a very material influence upon the shape of the tuber is very frequently lost sight of by cultivators. In consequence it is a quite common occurrence to see large quantities of misshapen tubers at exhibitions held in districts in which the greater proportion of the land is peculiarly favourable to the production of smooth well-finished examples. The best practice, judging from the results obtained, is to commence the preparation of the quarters as early in the autumn or winter as the various circumstances of each case will permit. Every effort should be made to have the ground dug over or trenched by the middle of December, to afford time for the rains and frosts of winter to act upon the soil brought up from the bottom of the trench and thoroughly pulverize it. It is a still further advantage to throw the soil up into rough ridges, to expose a much larger surface to the action of the weather. It is especially necessary to ridge up heavy soils; for when they are simply dug over in the autumn or the winter it is a quite common experience for them to become so consolidated by the spring as to be in very little, if any, better condition for planting than ground that has remained undisturbed. But when ridged up a soil is not only much drier in the spring, but the frosts so act upon it that a touch with the fork is almost sufficient to break it to pieces. A short time previous to planting the ground should be again worked by being forked over to a depth of ten or twelve inches. At the same time a liberal dressing of stable or farmyard manure should be dug in with such artificial fertilizers as the cultivator may decide to use. The application of a dressing of stable manure in autumn is sometimes advised; but unless the soil is strong and holding, a considerable proportion of the fertilizing properties is lost to the crop. In manuring light soils in the autumn there is great waste, probably amounting to one-half of the fertilizer employed. There is no occasion to apprehend any injury to the crop from the roots coming in contact with manure that is otherwise than in a thoroughly decomposed state, as no harm whatever will be done. It is in some degree preferable to fork in the stable manure a short time previous to planting; but when we have reason to believe that the soil has not been sufficiently enriched we have no hesitation in putting both stable manure and artificial fertilizers in the trenches before the sets are placed in them. This practice is also adopted by some of the cultivators who usually occupy a high position in the principal competitions. For ordinary soils about fifteen cartloads of stable or farmyard manure and three hundredweight of artificial manure will be sufficient, and for very poor soils these quantities may be slightly increased. The artificials should, generally speaking, be distributed along the trenches before the sets are laid in them.

Dry weather should, so far as practicable, be taken advantage of for planting potatoes, as when the surface soil is dry at the time the sets can be lightly covered with fine soil and the space between the rows is not trodden so firm that it cannot be readily broken up when the shaws begin to make appearance above the surface. The practice of planting in trenches should in all cases be adopted, and these should be rather shallow, the exact depth being, of course, regulated by the character of the soil. When the staple is light and friable the trenches may be five or six inches deep, but when it is heavy and close in texture a depth of three or four inches will be the most suitable. It is decidedly better to plant them rather too shallow than too deep, because it is a very simple matter indeed to give them a sufficient depth of soil in the process of earthing up, which should be done more gradually than is usually the case. The distance at which the rows are apart and the space between the sets in the rows must be carefully regulated by the growth of the several varieties, and in some degree by the character of the soil. On rich, well-tilled soils the rows should range from two to three feet six inches apart. The Ashleaf and other compact-growing varieties should be planted in rows two feet apart; those of moderate growth in rows with a three feet space between them; and the strong growers, of which Magnum Bonum may be mentioned as an example, should be allowed a space of three feet six inches in the rows. The sets should be from fifteen to twenty-four inches apart, the distance being proportionate to the space between the rows. The several distances mentioned will probably exceed those considered necessary by many cultivators, but they are not too great, except perhaps for very poor soils, on which the respective spaces between the rows may be reduced by four or five inches. Overcrowding must be avoided; for, as stated on so many occasions in the pages of this magazine, it is quite impossible to obtain heavy crops and samples of first-class quality where sufficient space is not allowed for the full development of the green shaws.

When shallow planting is adopted in accordance with the advice here given the shaws will very soon make their appearance above the surface and require protection from morning frosts, from which they are not safe until the end of May. With a very light covering of soil the sets are more directly under the influence of solar heat, and consequently start into growth more quickly—a point of considerable importance in the case of the early varieties, of which the planting has been delayed by the state of the soil, or indeed any other circumstance. To protect the shaws from the frosts, the earthing up should be commenced as soon as they begin to push through the soil, and be continued at intervals until the end of May, when there will not be any further risk of them being injured. Earthing up at intervals in the manner here advised will necessarily take up more time than where the work is done in two operations. But there are two great advantages, either of which will more than compensate for extra time occupied. The first of these is the safety of the shaws, and the other consists of

the favourable conditions under which the potatoes are placed for making a rapid growth. At no time is the thickness of the soil very great; and a moderate degree of sun heat is sufficient to warm it through in a very short time, and thus afford the roots more heat than they would enjoy with a thick covering of soil over them.

Kitchen Gardener.

PREPARATION OF BEDDING PLANTS.

By J. C. Clarke.

There is more truth in the remark that we frequently hear respecting the behaviour of the majority of summer bedding plants than many people are willing to acknowledge. The remark I allude to is to the effect that in many cases nine months of the year are devoted to preparing plants that will only give a few weeks' display of colour worthy of the time and space which have been devoted to prepare them. I have said that there is truth in this statement; but I cannot admit that it applies with any particular force to the character of the subjects used for summer bedding as a whole. But I am bound to admit that it is strictly true when it refers to the manner in which they are prepared.

Probably not more than one-quarter of the bedding plants put out every year in our flower gardens are plants in the strict sense of the word. They are little better than cuttings; for at the best they have only a few leaves on a single stem, with scarcely any roots, owing to the fact that for many months they have been crowded together in cutting pots or boxes. I therefore maintain that it is the system of preparing them which is at fault, and not the useful or effective character of the plants themselves. It would be much more reasonable on the part of those who declaim against the use of so many tender plants for bedding out, if they were to expend their strength in showing people how they fail to obtain all they might do from a free use of tender bedders.

The strongest opponent of the bedding system must be pretty well convinced by this time that the system thrives, and is likely to do so, notwithstanding their many attempts to bring it into disrepute. Seeing that such is the case, it will be more rational if we make an effort to show the way in which the plants should be treated so as to prevent as far as possible the opponents having a chance of pointing to them as failures. Not until plants, instead of rooted cuttings, are used for filling the flower beds shall we be free from the reproach that is now cast upon a system of flower garden decoration which, if properly carried out, is capable of affording much pleasure.

The first step towards effecting a change for the better in this matter is that of reducing the number of beds or borders to be filled. This is a step that many should take, because in nine cases out of ten there is not sufficient house room or labour provided to work up a stock sufficient to make an early display. But as the space must be filled, the gardener has to resort to any makeshift plan to keep a sufficient number of plants through the winter. The result is the cuttings are inserted in pans or boxes in the autumn, and there they have to remain until bedding-out time comes round. They have, in fact, to be kept in the boxes for a period of nearly nine months; and what, I would ask, are pelargoniums worth for producing an early display after they have been crowded together so long? The condition of the plants at the end of June in hundreds of gardens will answer that question. It will have to be acknowledged that they have only just begun to recover from the unavoidable mutilation of the roots to which they have been subjected in the endeavour to separate them from each other, and that it will, under the most favourable conditions, be the end of July before they have made sufficient growth to fill the beds in a manner that will justify their use for any such purpose.

It is this having to wait so many weeks for results that have laid the bedding system open to attack; and not without some reason has the system been unfavourably criticised. But there would be less chance of opposition if large and well-prepared plants were turned out for the most part, because they would then make an immediate effect. Those who cannot provide the time and space to prepare the stock in such a manner will act wisely if they reduce the number of beds to be filled. In the end they will find they will obtain a much longer display of flowers if they do not have quite so large a space covered.

There is even time now to do something in this direction, even if it is not considered necessary to turf over any of the beds. Those who have pelargoniums standing thickly in pots or boxes should immediately put them into single pots; and then if they are grown on in a warm house until the third week in May, and then hardened off, they will have gained something, although they will not be equal to those which have been standing in single pots since the autumn. They will have made some growth, and, what is of more consequence, they will have pretty well filled the pots with roots. Consequently, if carefully potted, they will have at least three weeks' start of those not so prepared. Surely such a gain is worthy of an effort; and if the advice is acted upon I am sure the result will go a good way to convince anyone that a less number of properly prepared plants will give more pleasure than twice the number of what are little better that rooted cuttings when bedded out.

No Juice in a Flint.—This trite saying has a parallel; *there is no getting juice out of cheap tea.* The Chinese are yearly increasing the supply to English tea-drinkers of redried and worthless leaves, utterly destitute of *theine*, which is the one active principle most to be desired in the beverage; consequently cheap tea becomes dear tea at *any price.* The true policy of supplying wholesome Pure Tea is alone to be commended; hence the enormous and increasing sale of *Horniman's Tea, guaranteed absolutely pure*, by Chemists and others who are Agents in all parts of the kingdom, and supply the public at London fixed prices.—See advertisements in all Newspapers and at Railway Stations for list of Local Agents.—[Advt.]

SHORT NOTES FOR SMALL GARDENS.

By the Vicar's Gardener.

Shading Plant-houses.

Having many opportunities of seeing how amateurs and others who have the care of small gardens manage their work, I want to give them a little advice on the subject of shading, for I notice that this is a point in their management that requires from them a little consideration. I think they will agree with me when I tell them that, as a rule, they do not commence to apply shading to many plants so early in the season as they ought. In the course of my observations I have noticed that stove plants are the greatest sufferers for the want of timely shading, and especially such subjects as ferns, eucharis, and clerodendrons.

On many occasions when I have been visiting gardens I have found these plants flagging to a serious extent on bright sunny days early in the month of March. From my own experience of the treatment these subjects require, it is hardly possible to estimate the injury done by a sudden outburst of brilliant sunshine after the plants have passed through the dark days of a long winter. I have not space allowed me to dwell further on the evil effects of the neglect of shading; I will briefly refer to the most efficient as well as the simplest means of affording shade to the various forms of plant-houses. Roller blinds are undoubtedly the most suitable in every way, as they make it convenient to afford the necessary shade when it is wanted; and this is of more importance from the beginning of March until the end of May than it is later. For if a permanent shading is put on so early it must necessarily be up on many days when it is not wanted; when, in fact, it will be an injury, because it will exclude a certain amount of light that would benefit the plants if it could reach them. This is not all; for it tends to keep down the temperature, as very often in the early morning and in the afternoon the sun might be allowed to shine on the house with great advantage, and thus assist in keeping up the temperature, and a natural temperature is in every way better for the occupants than an artificial one. The best material for making roller blinds is tiffany, and the whiter this is in texture the better for the admission of light.

The best kind of permanent shading is secured by fixing tiffany inside the house. This is best done by stretching it from rafter to rafter, and securing it with small tacks. For ferneries and structures in which camellias are grown, a thick kind of scrim or canvas is necessary, whether inside or outside the house, as these subjects require a denser shade than the majority of stove or greenhouse plants.

Elliot's Floral Shading is a useful article where a thin shade is required. This has to be painted on the inside of the glass, and if put on when the glass is quite dry it will remain for two years if it is not intentionally removed. There is a very pleasing tone of green about this material that certainly enhances its value.

Common lime or whiting made into a thin paste with milk is also much used for painting the glass with, and except that it has not an elegant appearance it is fairly satisfactory.

For pits or frames, as well as for low-roof houses that have not very long rafters, I find the most satisfactory way to shade is to get two pieces of thin boards, about three-quarters of an inch thick and six inches wide. These must be the length of the lights to be shaded. Then cut pieces of tiffany the same length as the boards and also the length of the house, and tack the ends of the tiffany on to the boards, one at each end. It will then be found by turning over the boards the tiffany will be gathered up into a roll, and can be conveniently carried to where it is wanted. When placed on the roof it can be unrolled so as to shade the whole or part of the house as required, and the boards will help to keep the tiffany in its place. This plan, it will be seen, has many of the advantages of the roller blinds, but the shading cannot be put on quite so expeditiously as with rollers. But it is superior to any permanent system of shading.

Sowing Small Seeds.

It is to be feared that many losses occur through sowing many small seeds in the open beds, especially in the case of flowers. The plants may perhaps be hardy, but some of them are very small, and others require to lie in the ground some time before they vegetate. In cases where the soil is naturally fine and light there is not so much risk in sowing such seeds in the open, but there are a great number of gardens in which the soil is not of that character, and therefore it is not good practice to trust such seeds in the open ground when the soil is heavy in its nature. The kind of seeds I refer to more particularly are the hardy perennials, such as Carnations, Sweet Williams, Canterbury Bells, Polyanthus, choice coloured Primroses, and plants of similar character. Many years' practice have convinced me that under any circumstances it is always best to sow these seeds in pans or boxes, and to raise the plants in a cold pit or frame. However kindly the soil may be in the open ground, sudden spells of drought and heavy storms of rain are both prejudicial to the vegetating power of the seeds; whereas, if they are under the protection of glass they are easily shaded from drying wind or bright sun, and the soil, too, is kept in a more uniform state of moisture with very little trouble.

Protecting Fruit Tree Blossoms.

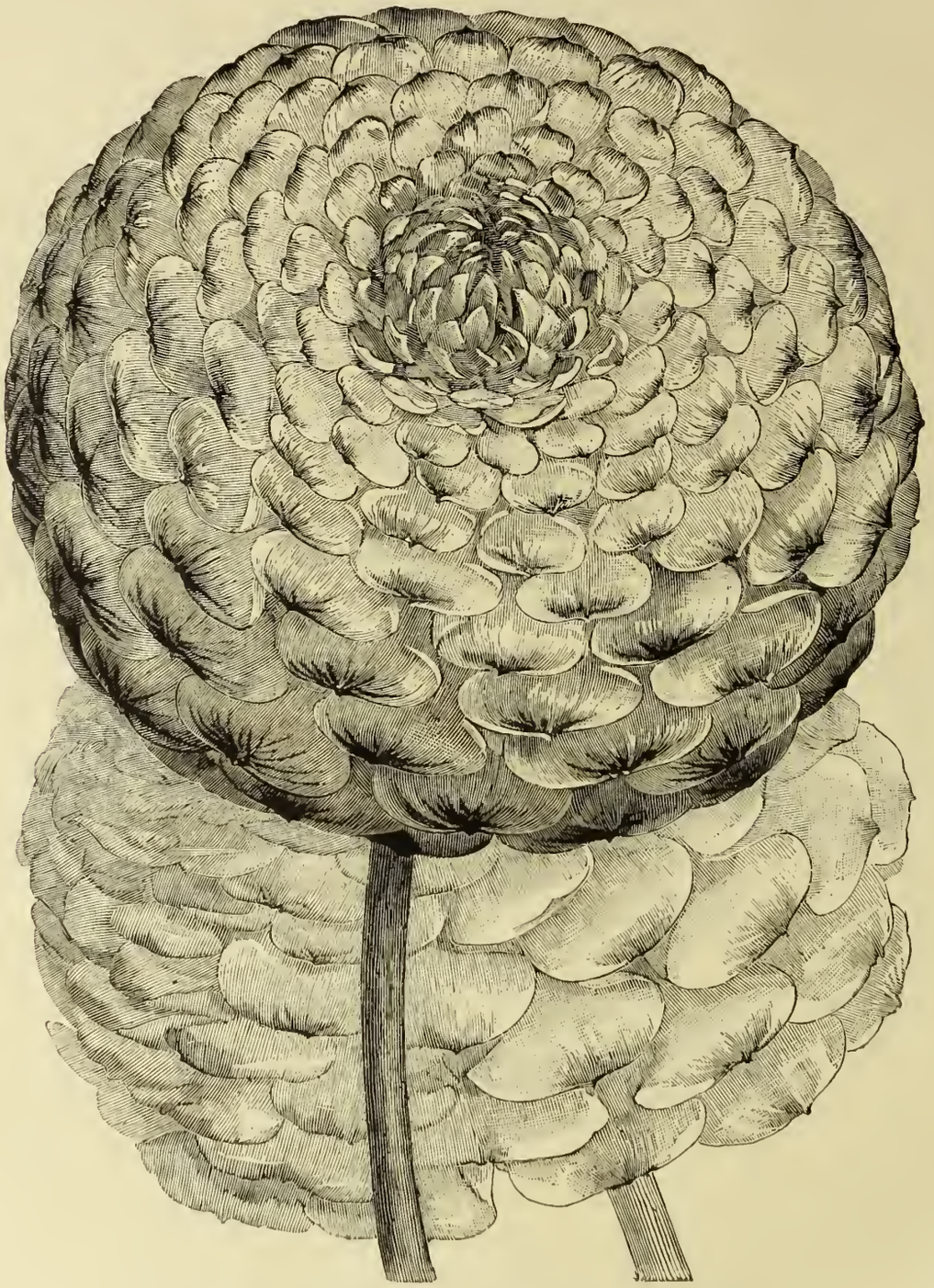
Where it is possible to protect the trees in an efficient manner without excluding the light, by all means do so, but not otherwise, for experience has convinced me that half measures do more harm than good. A wood or glass coping reaching eighteen inches out away from the wall, and three or four thicknesses of netting suspended before the trees, is the only kind of rough and ready protection I can recommend; and even that will not always ensure a crop of fruit.

NOTES ON DAHLIAS.

Dahlia *George Rawlings*, of which an excellent illustration is here given, was raised in 1881 by Messrs. Rawlings Bros., of Romford, and sent out by Messrs. Keynes and Co. in 1882. As we predicted in our notes on new dahlias, it has taken a high position—in fact, a stand of blooms is seldom put up without it. The flowers are large in size, high in the centre, of grand form and great depth. The petals are beautifully cupped and very stout. The colour is blackish marone, richly shaded. As a back-row flower for bringing out the lighter colours it is of immense value.

Mrs. Geo. Rawlings is an exquisitely beautiful show flower, which, we venture to say, will at once come to the front. It was exhibited last year for the first time, and was much admired. From more than twenty varieties it was selected for the highest award in the classes set apart for seedlings at the Crystal Palace National Dahlia Show, where it obtained a first-class certificate. It was also certificated at the Royal Horticultural Society. The colour is blush, heavily tipped with purple, but when shaded the ground colour is pure white. It is of beautiful form, petal, and outline, and should prove to be very constant, as twelve blooms were exhibited cut from three plants. This also was raised by Messrs. Rawlings, by whom it will be sent out in the spring.

Looking at the fact that so many good varieties have been introduced during the last ten years, the question arises, Have the florists succeeded in raising a perfect dahlia? We anwer, No. Mrs. Gladstone among the show flowers, and Professor Fawcett among the fancies, more nearly approach the standard of perfection than any others we can call to mind; and it must be admitted that they are nearly perfect, though not entirely so. To those unacquainted with the subject, it would appear that to obtain further acquisitions is a hopeless task. Not so. A certain number of new dahlias are sent out every year; but it is only at rare and distant intervals that we obtain so striking a novelty as Mrs. Rawlings among the light flowers, and Geo. Rawlings among the darks. Now, we contend there is room to bring all the varieties up to the level of these two.



TIPPED SHOW DAHLIA, "MRS. RAWLINGS" (Colour blush, tipped purple).

Let us carefully examine a first prize stand of twenty-four blooms, and take Mrs. Gladstone and James Stephen as guides. Comparing them with these, we shall find that one is too flat, another is rough, another too low in the centre, and so on. Judging, then, the collection by these, we find there is any amount of room for improvement. We say, therefore, that the business of raising new and better sorts must still be continued. If we look down the list of varieties in the dahlia election, published in the Magazine November 21, 1885, we find there is a great scarcity of scarlets. We want more flowers of the W. H. Williams class. There is not one really good dahlia of this colour. Chris. Ridley is of splendid form, but is bad in the centre, and cannot

be depended on. Mr. Harris and Joseph Green are very fine flowers, but they are not of such dazzling brightness as the first named. What we want to see are real scarlets with the good qualities of James Stephen. When are we to get a pure white with the petal and outline of John Henshaw? Miss Henshaw, raised more than twenty years since, is the only white show dahlia, but not one in twenty exhibitors can "get" it. As it is, Georgina has to do duty, but the colour being creamy, it must be shaded to secure it pure. Let us glance at the yellows. Here again we find better sorts are wanted. Jos. B. Service is very clear in colour, and of good quality; but it is too small, and it is only an experienced grower can "get" it. Harrison Weir is much more easy of culture, but unless it is shaded it is not clear in colour. J. Nevill Keynes, though good in its day, does not seem to please every exhibitor.

If we look at the tipped flowers we find more varieties are wanted of the John Bennett class, particularly those with yellow grounds and scarlet tips. John Bennett, though grand in colour, is not of the finest form. Lilac and rose flowers appear to be wanted; also clear white grounds with crimson and purple tips. Lastly, what a striking variety would that be with a white ground and scarlet tip!

Now, here is work for the seedling raisers, and most interesting work too. It is safe to say that many years must elapse before all these wants are supplied, as all novelties are to be bred up to the form of Mrs. Gladstone, James Stephen, and other varieties we have mentioned. Turning to the handsome and interesting collection of fancies, we find there is a vast amount of improvement to be effected ere they can be said to be equal in quality to the show flowers. There is hardly a dark tip in the whole thirty selected. Peacock is the best we have at present; it is exceedingly gay in colour, but is flat, and apt to come coarse. Mrs. Carter, a new variety, is said to be promising. Some new flowers in this line of colour, with the form and quality of George Barnes, General Gordon, and others, are badly wanted. We want more varieties of the Mrs. Saunders class, an old flower now, but still the best of its colour, and everybody's favourite. There are not more than a dozen really fine flowers in the whole collection. Exhibitors tell us they have the greatest difficulty in making up a stand of twenty-four on account of having so small a number of varieties to choose from, and from the fact that many of them produce self flowers, which is one of their most persistent idiosyncrasies.

SELF SHOW DAHLIA, "GEORGE RAWLINGS" (Colour blackish marone).

Having considered this part of our subject at length, a question forces itself upon our notice, viz., Does the dahlia still retain its popularity? There can be no doubt of the continued popularity of

the dahlia. Of this no better proof can be adduced than the number of collections staged for competition at the principal exhibitions and the crowd of spectators they invariably attract. In respect of popularity there has always been a notable steadiness about the dahlia, Its cultivators are doubtless enthusiastic enough, but their enthusiasm is of a quiet character. They are generally constant to their first love, and the man who takes up the fancy—as it is termed—is apt to continue it through a long series of years; the secessions from its ranks are therefore remarkably "few and far between." It is true that one of its most redoubted champions has throughout the past season been missed from his accustomed place. But has the place been vacant? Not so! The ranks are crowded with recruits. Let the old-stagers look well to this. If they fail to keep pace with the times, if they cease for one moment to "move on," there are young ones treading closely on their heels, fully alert to take advantage of the slightest falter, by tripping them up and leaving them fairly in the lurch. It is no uncommon circumstance now to see a collection not even "placed" which only a few years ago would be "safe" to win. Here, then, is proof positive that the dahlia has lost none of its popularity.

And wherefore is the dahlia thus popular? It is because for years past it has exhibited, and still continues to exhibit, unmistakeable signs of improvement. Perfection, as we have seen, has not and will not be attained, inasmuch as the standard itself will be raised in proportion as its requirements appear likely to be realized. Still, there cannot be a doubt that great progress has been made. Where are now the varieties with which the greatest triumphs were achieved twelve years since? With the solitary exceptions of Vice-President and James Cocker, they are gone. Gradually, by twos and threes, they have vanished from the scene, and their places have been supplied, and in some instances their very names appropriated, by other and more meritorious sorts. The additions made to our collections have been duly chronicled; it is therefore unnecessary to re-enumerate them now. Take, for one instance, the seedlings exhibited last year, and we think we have succeeded in demonstrating that the dahlia does exhibit marks of improvement.

Finally, as to all such matters we would suggest to amateurs and others the desirability of their entering the field of seedling raising. We can promise them a most interesting and profitable occupation, and, by dint of perseverance and care in saving the seed from the best kinds, they are sure to have their reward by raising first-class dahlias

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Balsams for early flowering to be kept growing freely; if starved they will be spoiled. Let the soil be sweet, light, and rich, with plenty of fibre and thoroughly-decayed manure. Keep the plants near the glass, and let them have plenty of water.

Cacti and succulents generally require attention now, if they have not yet been dressed up for spring. They should have liberal feeding, and as long as sunshine is abundant ought to be grown freely, and then be rested perfectly, and the result will be they will bloom abundantly.

Camellias require careful attention now. As soon as the new growth begins there is an end of bloom, and any unopened buds that remain may as well be removed. The temperature for growing plants is 65 deg. by day and 55 deg. by night; the atmosphere moist and the position shady; but there must be no coddling. Give air at all favourable opportunities, or the new growth will be long and weak, and the next season's bloom decidedly inferior.

Greenhouse.—A general clearance may now be made of all such plants as can be removed to turf-pits, frames, and other cool receptacles. This will make more room for spring flowers, and give a better chance to Pelargoniums and other specimen plants now growing into shape and size. The best shading for plants in flower is tiffany. Hitherto shading has not been wanted, but it will be henceforth, and should be put up while the house is in process of rearrangement.

Heaths and New Holland Plants.—Repot as required, using fibry peat and plenty of drainage. Newly-potted plants to be carefully watered until they begin to make new growth, which is always a sign they have taken hold of the new soil.

Fuchsias are growing freely, and must be shifted as they need it. Overpotting, usually to be avoided, is not an evil with fuchsias, if they are kept warm and are not saturated with moisture at the root.

Herbaceous Calceolarias will be injured by green fly unless they are well looked after. The best preventive is to keep them growing freely; and if any need to fumigate, do it promptly and effectually.

STOVE AND ORCHID HOUSE.

Orchids now require an increase of heat, and the atmosphere to be some degrees more moist. Beware of overdoing the watering where succulent spikes are rising, and, as far as possible, do not allow water to lodge in the hearts of the plants. All kinds of vermin are now active, and must be trapped, or the mischief they will do to the new growths will be disastrous. Shade from the mid-day sun.

Stove Plants should have free ventilation early in the day, when the weather is bright, with westerly winds, which will allow of shutting up early, to reduce the amount of firing. Plants that have flowered, and are not yet cut down, must have immediate attention, for the tendency of everything now is to grow, and the growth from the first should be as we wish it; far better than allowing growth at the tops of shoots that are to be cut off, for that compels the plant to make a second start from buds lower down.

FORCING AND ORCHARD HOUSES.

Peach house.—Peaches and nectarines that have passed through the stoning process to have more water at the root, and occasional syringing to keep down red spider and help the young growth. Those lately set to be thinned moderately, remembering that in the process of stoning a considerable quantity of fruit will fall.

Pinery.—Pines swelling their fruit will be benefited by clear soot-water; when ripening to be kept rather dry. The fruiting-house to range from 65 deg. to 83, the utmost day temperature to be 85 deg., and that only when there is a strong sun heat. Succession stock may go down to 60 deg. at night.

Strawberries must have as much light as possible in every stage of forcing, and never suffer through insufficiency of water. A good heat may now be allowed. Where the berries are acquiring colour give less water at the root and none overhead.

Vines in the first house may be supposed to show fine bunches changing colour. The temperature may be raised, and this will allow of freer ventilation; neglect now will cause the fruit to be badly coloured. Vines just showing fruit to have the bunches thinned as soon as possible, and with the greatest care. Remove useless shoots; stop laterals; see that the border is moist enough a foot below the surface.

FLOWER GARDEN AND PLEASURE GROUND.

Auriculas to have abundance of air, shade during strong sunshine, and water enough to promote healthy growth and free bloom.

Bedding Plants to be shifted if needful, but, generally speaking, the business of importance now is to harden them off by transference to pits, cradles, &c.

Chrysanthemums are growing freely, and must be shifted on and stopped as required, without any delay beyond the proper time. It is the securing an *early* growth that is the key to success in forming fine specimens and obtaining an abundance of bloom.

Dahlias may now be struck in quantities with the greatest ease, and they will root quickly. It is a good plan to put the cuttings into pots in which there is a small empty pot inverted, then fill up with light stuff, and put an inch of sand on the top. From this they may be removed with nice bundles of roots.

Ivy on walls and fences should now be stripped of its loose shoots; any gaps to be filled up if possible by nailing in, and the whole to be left as a close feltwork of bare stems.

FRUIT GARDEN AND ORCHARD.

Grafting to be proceeded with, and any lately done to be looked over; as if the clay cracks, and is neglected, the grafts will probably fail as soon as they begin to start.

Newly-planted Fruit Trees should be examined for the purpose of ascertaining whether the winds have loosened their supports. If, on examination, it is found that the stakes or other supports have become loose, make them thoroughly firm, and have the soil well trodden about the trees.

Wall Trees will now require protection, and those protected with canvas, Frigi Domo, or other thick material will require constant attention, for whilst it is of the highest importance that the bloom should be carefully protected from frosts, it is essential that the trees should not be injured by being deprived of light and air. Therefore the protecting materials should be drawn on one side during the day to fully expose the trees to the light. Netting admits of a free circulation of air, and its removal is not necessary until it can be taken away altogether.

KITCHEN GARDEN AND FRAME GROUND.

Beans to be earthed up; successions to be sown. Sow none but Windsor now, if quality is of any consequence.

Broccolis to be sown in variety and quantity for use in autumn, winter, and next spring.

Cauliflowers may be planted out in southern and western districts, but in cold or damp places it is as yet too early, as if cold weather occurs many will be destroyed, and the rest will be crippled. Plants pretty strong in seed-pans will be greatly benefited by pricking them out in frames on a slight heat; or they will do without it if in light rich soil, and carefully managed as to giving air, &c.

Cucumbers will be greatly benefited by judicious ventilation in the morning when the sun shines. Stop the principal shoots as soon as they reach the sides of the frame, and then stop all laterals one joint beyond the fruit; and where two fruits show nip one away. Be careful not to break the leaves in any of these operations. An occasional thorough soaking of the bed is desirable, but it must be done when the weather is bright and warm.

Lettuce to be pricked out from seed-pans, as advised for cauliflowers. The winter bed may now be thinned out, putting the plants on well-manured ground, but leaving some in the bed to supply a few small hearts earlier than those planted out will do.

Melon-house.—Melons advancing to a fruiting state to have a good temperature by linings or otherwise, and though they require less water and more light than cucumbers they must not be too dry, or the red spider will obtain possession. Young plants lately turned out must be kept rather close to encourage free rooting, but as soon as growing freely to have air, or they will get drawn. The night temperature to 60 deg., rising by day to 75 deg. or 80 deg. at the utmost; if beyond 75 deg. give air to reduce the heat.

Onions.—Sow main crop.

Peas.—Sow succession crops, and earth up and stake any that are ready.

EXHIBITING WILD FLOWERS.

It is not to be expected that Mr. Hibberd's proposal to discontinue the exhibition of wild flowers altogether would meet with universal support. I for one cannot go with him so far, because when children only are allowed to exhibit, there is no fear of any particular plant being exterminated. What is wanted is a law that will prevent the strolling plant collector from carrying on his business in such an avaricious spirit as now prevails. These are the exterminators of our native plants. The question as to whether exhibitions of wild flowers do any good is, in my opinion, a very proper one, and I hope many will give their answer. For myself, I say No. The prizes usually offered are not enough to do the prize-taker any good. Educationally, they do no good, as simply collecting the flowers for a prize does not increase the children's knowledge, and therefore there is no benefit derived from it. Where it is decided to continue these exhibitions, I should like to see the prizes awarded to the most tastefully arranged collection, and not to those who may have the greatest number of different flowers. The confused manner in which these flowers are usually set up is not creditable either to the exhibition or the exhibitors.

J. C. Clarke.

Calls at Nurseries.

MESSRS. J. VEITCH AND SONS' AMARYLLIS.

The magnificent exhibition of Amaryllis which Messrs. J. Veitch and Sons have in their Chelsea Nurseries at the present time evinces a marked advance upon the best of those held in previous years, and must therefore be described as the finest display of these flowers that has yet been produced. The exhibition of last year was so remarkable for the number of flowering specimens, and the high quality of the newer varieties, that it was supposed by many who had an opportunity of seeing it to be practically impossible to make any appreciable improvement. But in a walk through the house in which the plants are arranged it at once becomes apparent that the flower scapes are more numerous and the average quality of the seedlings decidedly higher. The best idea of the extent of the exhibition, and the effect produced may perhaps be conveyed by stating that the number of flowering bulbs is 3,634, of which 888 are arranged in the central bed and the remainder on the side beds. Many of the bulbs are furnished with two scapes each, and the majority bear four flowers each. Seedlings of this year and varieties selected in previous seasons are both in full bloom and conspicuous amongst the latter are—Ajax, a very distinct variety, the flowers of good form and of a deep crimson colour, distinctly flaked with white; John Heal, a very handsome flower of a brilliant crimson colour, the segments tipped with white; Clarinda, a distinct and beautiful variety, with large finely-formed flowers, attractively painted and speckled with crimson on a creamy white ground; Empress of India, a rather old but very fine crimson variety; Fire King, a comparatively small flower, of a deep rich marone crimson; James Douglas, a large well built flower, of a deep crimson hue; and Mark Tapley a dwarf-growing and fine blooming variety, the flowers of medium size, greenish, veined and margined with crimson.

The following are the finest of the varieties now flowering for the first time that have had distinctive names conferred upon them.

Nestor.—A brilliantly coloured variety of high quality; the flowers large and of fine form, the colour vermilion scarlet, the segments tipped with creamy white.

Nonpareil.—A very distinct and effective variety, and one of the best of the seedlings that have yet bloomed. The flowers are of immense size, and superb shape; the colour rich scarlet, with white band extending half way up each segment.

Charmer.—An exceedingly pleasing variety, freely feathered with claret on a pure white ground, and with well defined white margin.

Fulton.—An effective flower, of medium size and good shape; colour red crimson, with white band to each segment.

Cavalier.—A very distinctly coloured variety, of high quality; the flowers large and of fine form; the colour bright claret, the segment tipped with white.

Tampico.—A medium-sized flower of good quality, the colour brilliant red, with white breaking through. Very dwarf, and exceptionally free in blooming.

Le Dante.—A medium-sized flower, remarkable for the pleasing shade of colour it affords. The flowers are well expanded, and the prevailing colour is bright salmon-pink, shading to light crimson in the centre, and pure white at the margin of the segments.

Hunstanton.—A handsome flower in the way of Empress of India, but larger in size and of finer form.

Nemesis.—An exceptionally attractive variety, of excellent quality; the flowers large in size and of good shape; the colour vermilion scarlet.

Arago.—A medium-sized flower of a bright rosy red colour.

Aureole.—A large, exceptionally well-built flower, of a bright orange-scarlet hue.

Elaine—A beautiful light variety; the flowers large, of superb form, and veined with crimson on a pure white ground.

Mars.—A showy variety, the flowers of full size, well built, and of a deep rich scarlet, the segments tipped with white.

Alcyon.—A superbly formed flower, of full size; the colour vermilion, with broad white band down the centre of each petal.

Lauderdale.—A distinct variety, remarkable for the large size and superb form of the flowers, which are of a brilliant scarlet colour.

Barungo.—A full-sized and well-formed flower, of a bright orange-red.

Arcturus.—A very distinct variety, with flowers of average size, and a bright claret colour.

Perdita.—A pleasing variety; the flowers of full size, and the colour deep rose, feathered with red.

Normanton.—A medium-sized flower, of fine form and a brilliant scarlet hue.

Falkirk.—An especially attractive variety; the flowers large, pure white, veined and suffused with rosy red.

Brennus.—A distinct variety, with medium-sized flowers of rich marone crimson colour.

New Plants, Flowers, and Fruits.

Cyrtanthus Macowani (*Belgique Horticole*, 1885, 15.) An interesting amaryllid with orange-red flowers. A valuable paper on the genus cyrtanthus, by the late Professor Morren, accompanies the description of this plant.

Caraguata osyana (*B. H.*, 1885, 16, 17.) A bold bromeliad, with contracted inflorescence, vermilion red and yellow.

Cattleya Trianæ Vanneriana (*G. C.*, 1886, 331.) A variety in which each lateral sepal bears a broad orange-coloured stripe.

Calanthe sanguinaria (*G. C.*, 1886, 331.) A hybrid raised by Sir Trevor Lawrence, Bart., M.P. The outside of the flower is pale purple, inside deep blood red.

Eremurus Bungei (*G.*, 535.) A good figure of a fine plant; flowers yellow.

"ANY DOCTOR WILL TELL YOU" there is no better Cough Medicine than Keating's Lozenges. One gives relief; if you suffer from cough try them but once; they will cure, and they will not injure your health; they contain only the purest and simplest drugs, secretly and skilfully combined. Sold everywhere in 13½d. tins.—[Advr.]

Exhibitions and Meetings.

LIVERPOOL HORTICULTURAL ASSOCIATION, March 18.

Although less extensive than in previous years, the exhibition of spring flowers held by the Liverpool Horticultural Association on the 18th inst. was in every way worthy of the large and able body of cultivators in the vicinity of Liverpool. The slight falling-off in the number of the productions was wholly due to the cold weather experienced on the day of the exhibition as for some time previously, and the consequent risk of exposing tender plants, and not from any decrease in the interest taken in the spring gatherings of the association. Having regard to the unfavourable conditions under which the several classes of plants invited by the schedule have been produced this season, and the low temperature that prevailed on the day of the show, it is surprising that the display produced should have been so large and good.

Hyacinths had liberal provisions made for them in the schedule, and were staged in large numbers, and, on the whole, in a manner that did credit to the exhibitors. The most important class was that for eighteen, and in this there was a keen competition. The first prize in the class was awarded to Mr. Charles Waring, gardener to Mrs. Aikin, Prince's Park, for a collection consisting of plants furnished with massive spikes and neat foliage. Mr. J. Kelly, gardener to R. Singlehurst, Esq., Aigburth, was a close second with examples that brought him much credit; and Mr. E. Green, gardener to John Woollright, Esq., Mossley Hill, was third, staging a collection of a highly meritorious character. The class for twelve was particularly well filled, and the several collections were decidedly good. The first place in the class was worthily occupied by Mr. Thompson, gardener to W. P. Sinclair, Esq., Prince's Park, with splendidly developed specimens; and Mr. J. Bounds, gardener to A. S. Jones, Esq., Aigburth, and Mr. W. Kneale, gardener to Captain Gaskell, Woolton, were second and third respectively. There were two classes for six hyacinths, and in these the principal awards were made in favour of Mr. J. V. Thompson, Mr. Charles Copple, gardener to T. S. Rogerson, Esq., St. Michael's Hamlet, Mr. C. Waring, Mr. J. Jellicoe, gardener to R. Cornelius, Esq., Waterloo, and Mr. P. Barber. The most important of the varieties in the winning collections were Czar Peter, King of the Blues, Lord Derby, Charles Dickens, Pieneman, General Havelock, and Marie, of the blue shades; Macaulay, Solfaterre, General Pelissier, Madame Hodson, Princess Clothilde, Fabiola, and Von Schiller, of the red shades; and Alba Maxima, Madame Van der Hoop, Mont Blanc, and La Grandesse, of those with white flowers.

Tulips and Polyanthus Narcissi were both well represented, the first-mentioned producing a bright display of colour. For twelve pots of single tulips, Mr. W. Kneale was first, and Mr. A. Collins, gardener to S. Smith, Esq., M.P., Prince's Park, was second. The prize-takers in the class for six pots of single tulips were Mr. C. Waring, Mr. John Lowndes, gardener to S. S. Parker, Esq., Aigburth, and Mr. C. Copple, who were first, second, and third respectively. The double tulips were less satisfactory than the single varieties, owing doubtless to the greater difficulty experienced in having them in bloom on the day of the show. The only exhibitor in the class for ten pots was Mr. James Kelly; and in the class for six pots the successful exhibitors were Mr. E. Green, gardener to J. Woollright, Esq., Mossley Hill, Mr. C. Copple, and Mr. J. Lowndes. The single tulips included: Proserpine, White Pottebakker, Joost van Vondel, Keizerskroon, Fabiola, Vermilion Brilliant, and Cottage Maid, all of which are well known for their high quality. Tournesol, Imperator Rubrorum, and Duc de Bordeaux were well shown in the collections of doubles. The premier award for six pots of polyanthus narcissi was made in favour of Mr. J. V. Thompson, and Mr. C. Waring; and Mr. J. Jellicoe were second and third.

Stove and Greenhouse Plants were more numerously represented than might have been expected. In the important class for a group of miscellaneous plants, Mr. A. R. Cox, gardener to W. H. Watts, Esq., Wavertree, was first with an excellent collection, which was very tastefully arranged; and Mr. J. Jellicoe was a very close second. For six stove and greenhouse plants Mr. A. Crosbie, gardener to Bernard Hall, Esq., Wavertree, was a capital first; Mr. J. Jellicoe second; and Mr. A. R. Cox third. The prizes for a single specimen stove plant were awarded to Mr. A. R. Cox, Mr. A. Crosbie, and Mr. H. Went, Newton-le-Willows, and in the corresponding class for greenhouse plants the awards were made in favour of Mr. G. Rhodes, gardener to Mrs. Horsfall, Aigburth, Mr. J. Lowndes, and Mr. C. Copple, all of whom presented good examples. Fine foliage plants were well shown, the principal exhibitors being Mr. Crosbie, Mr. A R. Cox, and Mr. W. Bustard, gardener to J. Lewis, Esq., Aigburth. Palms were presented in excellent condition by Mr. A. Crosbie, Mr. J. Vaughan, gardener to R. Coltart, Esq., Aigburth. Mr. W. Bustard, and other exhibitors.

Azaleas and Rhododendrons were plentiful, and as they were admirably flowered, they presented a bright and effective appearance. In competition for the prizes for three Indian azaleas Mr. J. Lowndes was first staging densely flowered specimens of Stella and Virgin Queen. The first place in the open class for six azaleas was occupied by Mr. W. Wilson, gardener to H. Cunningham, Esq., Gateacre, whose most noteworthy specimens were Charmer and Vesuvius. The other successful exhibitors of Indian azaleas were Mr. A. Crosbie, Mr. W. Bustard, Mr. Peter Barber, Mr. T. Gowen, gardener to J. Cunningham, Esq., and Mr. J. Jellicoe. Azalea mollis was represented by several admirable collections, the pleasing hues afforded by the flowers proving immensely attractive. The chief prizetakers were Mr. J. Lowndes, Mr. W. Bustard, Mr. P. Barber, and Mr. C. Copple. Rhododendrons were represented by excellent examples from Mr. W. Bustard, Mr. J. Lowndes, Mr. G. Rhodes, and Mr. A. Crosbie.

Miscellaneous Plants in bloom constituted an important part of the exhibition. Cinerarias were contributed by Mr. E. Green, and Mr. W. H. Jolliffe, Mossley Hill. Primulas were staged by Mr. J. Kelley, Mr. Blundell, gardener to J. Blackledge, Esq., Waterloo, and Mr. C. Copple. Cyclamens were represented by the contributions of Mr. W. Crosbie, gardener to J. C. Gale, Esq., Aigburth, Mr. A. Eaton, gardener to H. J. Robinson, Esq., Woolton, and Mr. J. Jellicoe. In each of the three classes the awards were made to the exhibitors in the order of their names.

Orchids were so good as to surprise not a few of the visitors who are conversant with the risk incurred in removing the plants from the structures in which they are grown on a bleak day in March. Mr. T. Worth, gardener to Enoch Harvey, Esq., Aigburth, was first in both the classes for those plants, and staged splendidly flowered specimens of Dendrobium crassinode album, D. Falconeri giganteum, one of the most beautiful of all the dendrobes, and Cattleya Trianæ; Mr. E. Green, Mr. W. Moss, gardener to W. Holland, Esq., Mossley Hill, Mr. A. Smith, gardener to D. de Yborrondo, Sefton Park,

Mr. A. R. Cox, and Mr. G. Rhodes were also very successful in the orchid classes.

Grapes had one class set apart for them, and in this Mr. J. Smeatham, gardener to F. D. Nuttall, Esq., St. Helens; Mr. T. Elsworthy, gardener to A. R. Gladstone, Esq., Broad Green; and Mr. G. Middleton, gardener to R. Pilkington, Esq., Rainford Hall, were the successful competitors, in the order of their names.

Miscellaneous Collections included a collection of hyacinths and cyclamens from Messrs. W. Cutbush and Son, Highgate; a collection of orchids and bulbous plants from the Liverpool Horticultural Company; a group of azaleas from Messrs. R. P. Ker and Son, Aigburth; a collection of miscellaneous flowering plants from Messrs. James Dickson and Sons, Chester; and greenhouse rhododendrons from Messrs. Fisher, Son, and Sibray, Sheffield. Certificates of merit were awarded to the exhibitors.

ROYAL HORTICULTURAL SOCIETY, March 23.

Promenade Show.

Visitors to the exhibition held at South Kensington on Tuesday who take a special interest in hyacinths, daffodils, cinerarias or cyclamens, found plenty to interest them; for each of these important classes of flowers were represented by collections of great extent and remarkable for the cultural skill that had been brought to bear upon the individual specimens. Of hyacinths there were two collections, comprising about three hundred plants, all of which were furnished with splendidly developed spikes. Cyclamens were even more numerous, and of daffodils there were sufficient to fully occupy a broad stage extending nearly the whole length of the conservatory. In addition there was a plentiful contribution of orchids and a considerable number of novelties for the consideration of the committee.

Hyacinths.—Messrs. J. Veitch and Sons, King's Road, Chelsea, exhibited a magnificent collections of hyacinths, comprising about one hundred and fifty plants, and were awarded the silver-gilt Banksian medal. The whole of the examples, it may be mentioned, were furnished with massive well-finished spikes and neat foliage, and the display produced was singularly rich and effective. The most noteworthy of the numerous varieties represented in the collection were—Red: Vuurbaak, one of the most brilliantly coloured of the red varieties; Charles Dickens, a pleasing pink flower of good quality; Rosea Maxima, a delicately-coloured flower of excellent form and finish; King of the Reds, a comparatively new variety, of an intense crimson colour; Solfaterre; Etna, very bright; Koh-i-noor, Lord Derby, Von Schiller, General Pelissier, and Distinction, a dark variety with blackish marone bells, broadly margined with crimson. Blue: General Havelock, Sultan, King of the Blues, so well known for its high quality and effective shade of colour; King of the Blacks, a decided acquisition amongst the very dark flowers, the spikes being large, the bells of good form, and the colour deep violet; Grand Maitre, bright blue; Lord Derby, greyish blue, very bright and pleasing; Masterpiece, dark purple, the best in its line of colour; Leopold II., not unlike King of the Blues in build, but of a lighter shade of blue. White: Baroness van Tuyll, Alba maxima, Alba superbissima, and La Grandesse, the last-mentioned being the finest of all the white varieties for exhibition purposes. Yellow: King of the Yellows and Obelisque. The firm exhibited also several new varieties, of which two were certificated. These were: Princess of Wales, a very fine variety, the spike long and well arranged, and the bells of comparatively large size, the colour bright pink with deep carmine stripe down the centre of each segment; The Bride, a distinct variety with long and very compact spikes of pure white flowers; Blush Perfection, a high-class variety with large spikes of blush-coloured flowers; and Grande Fleur and Queen of the Pinks, on which first-class certificates were conferred.

Messrs. W. Cutbush and Son, Highgate and Barnet, staged a remarkably fine collection, consisting of about one hundred and thirty plants, and received the award of the silver Banksian medal. The plants were admirably grown, and fully sustained the reputation which the firm has so long enjoyed as cultivators of this important group of spring-flowering bulbs. The following comprise the best of the numerous varieties represented in the collection:—Dark blue: Sultan, King of the Blues, Baron Van Tuyll, an old, but most excellent variety; Marie, General Havelock, General Gordon. Light blue: Cavaignac, Charles Dickens, Grand Maitre; Queen of the Blues, a very beautiful variety, the spikes large, the bells of fine form, and the colour pale greyish blue tinted lilac; Czar Peter; and Blondin, the last-mentioned one of the very best of the pale blue varieties; Red: Linnæus, Etna, Howard, Vuurbaak, Macaulay, Von Schiller, and Solfaterro, White: Madame van der Hoop, Lady Derby an exceedingly fine pure white variety, and La Grandesse.

Cyclamens were exceptionally well shown by Mr. H. B. Smith, St. George's Nursery, Hanwell, and Mr. J. Wiggins, gardener to W. Clay, Esq., Elm Villa, Kingston-on-Thames. Mr. Smith, who was awarded the silver-gilt Banksian medal, staged about one hundred and fifty specimens, all of which were well furnished with large heads of bloom and remarkable for the splendid quality of the flowers. Mr. Wiggins presented a large group of nicely-flowered plants, and was awarded the bronze Banksian medal.

Cinerarias were represented by a large and very attractive collection from Mr. J. James, Woodside, Farnham Royal, which consisted of exceedingly well-bloomed examples, distinguished by their dwarf habit and the large size and superb form of the flowers. The group was especially rich in selfs, and included several very fine crimson, blue, violet, and mauve shades. The award of the silver Banksian medal was made.

Daffodils consisted of three large trade collections, comprising many thousand flowers, and an important contribution from the Scilly Islands. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, contributed an extensive and highly attractive collection in pots, in which the finest of the trumpet varieties were well represented. Particularly noteworthy were the examples of Golden Prince, Cernuus pulchor, Rugilobus, Calathinus, Horsfieldi, Emperor, and Obvallaris. Mr. Ware, who was awarded the silver Banksian medal, staged, in addition to the daffodils, Saxifraga Bursoriana major, a large form of this beautiful early flowering species; Anemone stellata alba, a pleasing variety with greyish white flowers; Muscari commutatum, a pale blue species from the south of Europe, and of great beauty; Anemone stellata; Lachenalia Nelsoni, and L. luteola.

Messrs. Barr and Son, 12, King Street, Covent Garden, who were awarded the silver Banksian medal, contributed a comprehensive and tastefully-arranged collection of cut flowers, in which the under-mentioned varieties were well represented: Incomparabilis albidus, Poeticus ornatus, Emperor, Horsfieldi, Concolor, Minor, Titan, Maximus, Glow, and Major. Messrs. Barr and Son also had a liberal contribution of scarlet anemones, blue scillas, and snowdrops. Messrs. Collins Brothers and Gabriel, 39, Waterloo Road, London, who also were awarded the silver Banksian medal, presented a large and very attractive collection of cut flowers, in which were good examples of Stella, Nanus, Horsfieldi, Cernuus, Obvallaris, Emperor, Mary Anderson, Capax, and Incomparabilis plenus. The collection from S. Dorrien Smith, Esq., Tresco Abbey, Scilly Islands, was especially interesting, as it comprised a very considerable proportion of the flower varieties, and consisted exclusively of flowers produced in the open. Amongst other fine forms represented were Dr. Hogg, Michael Foster, Rugilobus, Empress, Sulphureseens, Princeps, Michael Foster, Ernest Hart, Humei albidus, C. J. Backhouse, John Stevens, Beatrice, Mary, and Sir Watkin. The award of the bronze Banksian medal was made.

Floral Committee.

Present: Mr. J. O'Brien, in the chair; Dr. Masters, Major Lendy, and Messrs. E. Hill, H. M. Pollett, J. Dominy, T. Baines, R. Dean, W. Holmes, J. Walker, H. Herbst, H. Bennett, W. Bealby, J. Laing, W. H. Lowe, A. Perry, H. Turner, and B. S. Williams.

The orchids were so numerically strong as to form a very large proportion of the subjects submitted. Cattleya Lawrenciana was again shown, the examples on this occasion being presented by Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, Messrs. J. Laing and Co., Forest Hill, S.E., and Mr. B. S. Williams; and a first-class certificate was granted to the first mentioned of the three competitors. The plant shown by Mr. Ballantine was medium size and furnished with about twelve flowers, which in size and colour are about equal to the best of the two forms shown by Messrs. J. Laing and Co. at the previous meeting. Messrs. J. Veitch and Son submitted Dendrobium micans, a very pretty hybrid obtained from a cross effected between D. Wardinaum and D. lituiflorum. The flowers are of medium size, and the sepals and petals are blush, the former suffused and tipped with bluish purple, and the labellum white, with very large marone blotch and tipped with purple. Mr. O. Thomas, gardener to the Duke of Devonshire, Chatsworth, exhibited an example of Odontoglossum trinmphans, bearing a finely developed spike, and distinguished by the richness of the colours of the flowers, Comte Oswald de Kerchove, Ghent, exhibited a bloom of one of the best forms of Lycaste Skinneri alba. From Messrs. Vervaet and Co., Mont Saint Amand, Ghent, came a beautiful Odontoglossum, closely allied to O mulus, and an unnamed Pleurothallis with tall spikes of comparatively large flowers marked with broad bands of brown on a green ground, and Mons. J. Heye, Ghent, sent Cypripedium Sallieri, a very handsome form, supposed to be a natural hybrid between C. villosum and C. insigne. A vote of thanks was accorded to each of the exhibitors. A like compliment was paid to Messrs. J. R. Pearson and Son, Chilwell Nurseries, Notts, for several well-flowered examples of Dendrobium Wardianum and D. nobile. The small-growing and beautiful Aerides cylindrica was represented by a good specimen from Mr. E. Hill, gardener to Lord Rothschild, Tring Park, who was voted a cultural commendation. The same exhibitor presented a good example of Lælia flammea, a very handsome hybrid, producing erect spikes of brilliant orange-coloured flowers. Messrs. F. Sander and Co., St. Albans, again exhibited Cœlogyne cristata maxima, which differs from the Chatsworth and other forms in the greater breadth of both sepals and petals, and a vote of thanks was accorded. B. De Crawshay, Esq., Rosefield, Sevenoaks, received a similar compliment for nicely-flowered specimens of Odontoglossum crispum and Cattleya Trianæ. From Messrs. W. Thomson and Sons, Clovenfords, Galashiels, came a basket of exceedingly well-bloomed plants of the exquisitely beautiful Dendrobium Leechianum, one of the finest of the hybrid dendrobes, and well deserving the certificate conferred upon it.

Conspicuous amongst the miscellaneous subjects was a grand specimen of Imantophyllum robustum Mrs. Laing, from Messrs. J. Laing and Co. The plant is of strong growth; and the flowers, which are very large and of superb form, are borne in trusses ranging from ten to twelve inches in diameter, the colour rich scarlet. Mr. T. S. Ware exhibited the singular Scoliopus Bigelowi, which has spotted leaves and small flowers, marked with brown on a green ground. Mr. W. Bealby, Roehampton, staged Carnation Madame Benary, an excellent tree or perpetual flowering variety, with large beautifully-flaked flowers.

Fruit Committee.

Present: Mr. T. F. Rivers, in the chair, Dr. Hogg, Major Mason, and Messrs. A. W. Sutton, W. Warren, G. T. Miles, J. Willard, C. Ross, G. Norman, P. Crowley, Harrison Weir, T. B. Haywood, W. Denning, G. Bunyard, J. Woodbridge, R. D. Blackmore, and H. J. Veitch.

The duties of the committee, as at the previous March meeting, were very light, the subjects submitted being few in number, and of but little importance. Mr. J. Lye, Market Lavington, exhibited good bulbs of a fine type of White Spanish onion, and was accorded a vote of thanks. Mr. Lye sent also tubers of King of the Russets potato, a blush coloured round, large in size, of excellent shape, and with a distinctly netted skin. Messrs. Foster and Pearson, Beeston, Notts, again exhibited their excellent iron ventilators for plant and fruit houses; and Mr. Horley, Toddington, Beds, submitted his "Handy" hand-lights, which are well adapted to do good service in both the kitchen and flower garden.

Novelties.

First-class certificates were granted as under:

To Messrs. W. Cutbush and Son, Highgate, for

Azalea mollis Lord Shaftesbury.—A superb variety, with large smooth flowers of a rich golden yellow.

To Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, for

Dendrobium crassinode Wardianum.—A superb form, supposed to be a natural hybrid between D. crassinodo and D. Wardianum. It is very robust in growth, and the flowers are of immense size; the sepals blush, the petals white, blotched with rose, and the labellum white, tipped rose, and with large golden blotch in which there are two marone spots.

Cattleya Lawrenciana.—A beautiful species, bearing medium-sized flowers; the sepals and petals deep rose, and the labellum amethyst purple.

To Messrs. J. Veitch and Sons, for

Hyacinth Grande Fleur.—A remarkably distinct variety; the spike and bells of medium size and good form, the colour bright rose-purple.

Queen of the Pinks.—A fine variety, the spike extra large, the bells of good shape; the colour pink, with bright carmine stripe down each segment.

To Messrs. E. Vervaet and Co., for

Odontoglossum Pescatorei Vervaetianum.—A lovely variety of this handsome species; the flowers of fine shape, suffused rose, and marked with large crimson blotches.

To Messrs. W. Thomson and Sons, for

Dendrobium Leechianum.—A handsome hybrid, the flowers large, the sepals and petals blush tinted rose pink, the labellum marone with white margin.

ROYAL BOTANIC SOCIETY, March 24.

First Spring Show.

The exhibition season of the Royal Botanic Society was inaugurated on Wednesday with one of the most thoroughly successful spring shows that has yet been held under the auspices of the society. There was an immense display of spring flowering plants, as the competitive collections were largely supplemented by the contributions not for competition. The weather was eminently favourable and the attendance of the Fellows and their friends very large.

Azaleas were contributed in sufficient numbers to produce a bright display of colour. The first prize in the amateurs' class was awarded to Mr. H. Eason, gardener to B. Noakes, Esq., Hope Cottage, Highgate, for neat bushes of Roi Leopold, François Vervaen, Madame A. Verschaffelt, and other good varieties. Mr. G. Wheeler, gardener to Lady Louisa Goldsmid, St. John's Lodge, Regent's Park, was a close second with well-bloomed pyramids, amongst which A. Borsig, Duchesse A., De Nassau, and Ceres were the best; Mr. Butler, St. Dunstan's, Regent's Park, third.

Dentzias were considerably above the average, and presented a very pleasing appearance. Mr. J. Douglas, gardener to F. Whitbourn, Esq., Great Gearies, Ilford, was, as usual, first, and staged immense bushes quite solid with bloom. Mr. G. Wheeler and Mr. H. Eason were second and third, with excellent collections.

Roses formed a very attractive feature, and did not fail to receive the attention of visitors. In the class for six specimens Messrs. Paul and Son, Cheshunt, were first with large specimens well furnished with finely developed flowers, the varieties being Celine Forestier, Madame Crosy, Heinrich Schultheis, Madame Lacharme, Souvenir d'un Ami, and Souvenir d'Elise Vardon. Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, was second, with neat bushes of tea-scented varieties. Messrs. Paul and Son contributed a beautiful group of scented roses to the miscellaneous class, and were awarded the silver medal. Amongst the varieties were Dr. Andry, Lady Mary Fitzwilliam, Duke of Teck, Catherine Soupert, Gloire Lyonnais, Madame Gabriel Luizet, La France, Gloire de Lyon, and Sunset. Messrs. Paul staged also several attractive standards of Mignonette and Paquerette, two of the best of the polyantha roses. Mr. Rumsey staged eight specimen roses and three boxes of cut flowers, and was awarded the large bronze medal.

Amaryllis were exhibited in splendid condition by Mr. J. Douglas, whose two collections were probably the finest that have yet been staged in competition for prizes. There were two classes for these flowers, one being for amateurs with the Veitch Memorial Prize as the premier award, and the other was open; and in both the first prize was awarded to Mr. Douglas. The principal varieties in the collection in the limited class were: Dr. Masters, Clarinda, Red Gauntlet, Great Gearies, Calypso, Madonna, Lady Hulse, Sir G. Wolseley, and Napoli. Chief amongst the varieties in the open class were Orion, Oriflamme, Empress of India, Georgie, John Heal, and Dr. Masters. The whole of the plants were in the most robust state, and the majority were furnished with two scapes, each bearing four flowers. Messrs. J. Veitch and Sons, Chelsea, exhibited a selection from their seedlings now in flower.

Hyacinths and Tulips were admirably represented both in point of numbers and quality. The first place in the amateurs' class for twelve hyacinths was occupied by Mr. J. Douglas, with finely developed examples of Czar Peter, Prince Albert Victor, Grandeur à Merveille, King of Blues, Koh-i-noor, Souvenir de J. H. Veen, La Grandesse, Vuurbaak, and Grand Lilas; Mr. H. Eason second. In the corresponding class for trade growers, Mr. H. R. Wright, Turner Road, Lee, and Messrs. H. Williams and Son, Fortis Green, Finchley, were first and second respectively, with capital collections. There was a brisk competition in the tulip classes; and in that limited to amateurs Mr. Douglas was first with a collection in which Joost van Vondel, Van der Neer, Proserpine, Vermilion Brilliant, White Joost van Vondel, and Keizerskroon were represented at their best; Mr. Eason second. Mr. H. R. Wright and Mr. H. Williams were first and second respectively in the class set apart for nurserymen.

Narcissi and Crocuses contributed materially to the attractions of the exhibition. The prize-takers in the class for the narcissi were Mr. Wright, Messrs. H. Williams, and Mr. J. Douglas, who were first, second, and third respectively. The exhibitor last mentioned was first for crocuses, with a very showy collection.

Cyclamens and Primulas were both good, the latter especially so. The first prize in the amateurs' class for twelve cyclamens was awarded to Mr. J. Wiggins, gardener to W. Clay, Esq., Elm Villa, Kingston-on-Thames, who had large, well-flowered specimens. Mr. D. Phillips, gardener to R. W. Mann, Esq., Langley, Slough, was a capital second. In the open class for twelve cyclamens, Mr. H. B. Smith, St. George's Nursery, Hanwell, was first with magnificent specimens, and Mr. J. Wiggins was second. Primulas were admirably shown by Mr. J. James, Woodside, Farnham Royal, Slough, Messrs. H. Williams and Sons, and Mr. J. Wiggins, to whom the awards were made in the order of their names.

Bulbous Plants were represented by an excellent collection from Mr. T. S. Ware, who staged good specimens of Lachnelia Nelsoni, L. luteola, L. luteola maculata, and Muscari commutatum.

Miscellaneous Contributions comprised an immense collection of hyacinths, tulips, and narcissi from Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, who was awarded the silver medal. Mr. James contributed a fine group of cinerarias, and was awarded the large bronze medal. A similar award was made to Mr. Smith for an attractive collection of cyclamens. The small silver medal was awarded to Messrs. J. Veitch and Sons and Messrs. W. Cutbush and Son for hyacinths; and to Mr. T. S. Ware, Tottenham, Messrs. Barr and Son, and Messrs. Collins Bros. and Gabriel for daffodils. A certificate was awarded to Mr. Wiggins for cyclamens. Mr. Stephen Castle, West Lynn, Norfolk, sent three baskets of grapes, comprising Alicante, Lady Downes, and Gros Colmar, all of which were superbly finished and in an excellent state of preservation.

Novelties were staged in considerable numbers, but a few only received the distinction of a certificate. Botanical certificates were granted as under:—

To Messrs. W. Thomson and Sons, Clovenfords, for

Dendrobium Leechianum.—A beautiful hybrid, described in report of R.H.S.

To Messrs. J. Laing and Co., and Mr. B. S. Williams, for

Cattleya Lawreneiana.—A handsome species, of which a description has been already given.

To Messrs. E. Vervaet and Co. Mont St. Amand, Ghent, for

Odontoglossum Pescatorei Vervaetianum.—A beautifully marked variety of this fine species.

Floricultural certificates were granted as under:—

To Messrs. J. Veitch and Sons, Chelsea, for

Amaryllis Plato.—A magnificent variety; the flowers very large and of superb form, the colour rich scarlet, with white band to each segment.

Lascelles.—A pleasing flower of a light orange-scarlet colour, and with white centre.

To Messrs. W. Cutbush and Son for

Azalea mollis Lord Shaftesbury.—A fine variety, with golden-yellow flowers.

To Mr. J. Douglas for

Narcissus General Gordon.—A beautiful variety, with large, finely formed flowers, the segments light yellow and the trumpet deep yellow.

To Messrs. J. Laing and Co. for

Imantophyllum robustum Mrs. Laing.—A very distinct and handsome form, of robust growth, and producing immense globular trusses, of large, finely formed, orange-scarlet flowers.

LIVERPOOL EXHIBITION OF R.H.S.

On the evening of Thursday, the 18th inst., a special general meeting of the Liverpool Horticultural Association was held in St. George's Hall to consider the advisability of endeavouring to enter into an agreement with the Royal Horticultural Society for the admission of the subscribers and members of the Liverpool association to the proposed exhibition to be held at Wavertree in June next. Mr. T. White occupied the chair, and there was a large attendance. The Chairman gave a history of the negotiations which had passed between the two societies, from which it appeared that the R.H.S. had offered for the sum of £250 to admit the 3,500 subscribers and members of the Liverpool association to their exhibition. Several members of the Liverpool committee had thought it more desirable that the Liverpool show should be held separate, as usual; hence that meeting had been held to decide the matter. He explained that 1,500 of the tickets only, according to the Society's proposals, would be available for the first or second day. Several speakers addressed the meeting on either side. A resolution was finally put substantially similar in its proposals to those received from the Society, and carried. The slight difference was that the R.H.S. should be negotiated with to allow 1,500 tickets to be available for the first day, and the remainder for the second, in order that the gardeners might have an opportunity of seeing the show at its best. The chairman thereupon declared that the usual summer exhibition of the Liverpool Horticultural Association would be amalgamated with that of the Royal Horticultural Society.

PRESTON AND FULWOOD HORTICULTURAL SOCIETY,

March 17 and 18.

The exhibition of spring flowers held by this society on the dates above mentioned was eminently satisfactory throughout, and was generally regarded as one of the best shows of its kind that has been held at Preston. The whole of the subjects for which provisions were made in the schedule were strongly represented, the hyacinths and tulips being especially good. The exhibition, which was formally opened by Mr. Councillor Galloway at two o'clock on the first of the two days, was held in the New Public Hall, and the whole of the available space within this spacious building was fully occupied.

Hyacinths and Tulips had a large number of classes devoted to them, and as they were very plentiful and of excellent quality, the effect produced was remarkably good. The first prize in the trade class for twenty-four single hyacinths was awarded to Mr. E. Payne, Fulwood Nurseries, for a collection consisting of well-grown specimens, and comprising the best of the varieties now in general cultivation. Mr. H. Winwood, Ashton, was second. The first and second prizes in the corresponding class for double hyacinths were also awarded to these exhibitors, and in the same order as in the preceding class. The most successful of the exhibitors in the classes set apart for amateurs was J. B. Dixon, Esq., who was first for twenty-four double, twelve single, twelve double, and six double hyacinths. Mr. R. Leazelle, gardener to R. Smith, Esq. was also successful in the hyacinth classes, and occupied the first place in several. Mr. Peter Whittle, gardener to W. H. Wilding, Esq., also exhibited well in the hyacinth classes.

The tulips, which made a very bright display, were presented in a condition considerably above the average. The chief prize-takers in the six classes set apart for these showy flowers were J. B. Dixon, Esq., and Mr. T. Moss, who were first and second respectively in each class. J. B. Dixon, Esq., exhibited several fine collections of narcissi, and was successful in taking the first prize in each of the classes set apart for these flowers.

Primulas, Cyclamens, and Cinerarias were represented by several good collections. The best cinerarias were those from Mr. P. Rigby, Mr. Leazelle, Mr. T. Moss, and Mr. Frisby, who were awarded the prizes in the two classes. The premier award in the class for six primulas was made in favour of Mr. A. Waters, gardener to J. Eccles, Esq.; and Mr. P. Whittle and J. B. Dixon, Esq., were second and third. Mr. Whittle was first in each of the two classes for cyclamens, and had neatly-bloomed examples.

Collections Arranged for Effect formed a feature at once distinct and attractive. There were three entries in the great class for a collection occupying an area of one hundred square feet, and the premier place was occupied by Mr. T. Moss, with a highly effective arrangement; J. B. Dixon, Esq., was a good second, and Mr. Frisby third. For a collection of twenty pots of bulbous plants, Mr. T. Moss was first, and J. B. Dixon, Esq., second. Mr. Tronghton exhibited a very fine collection of miscellaneous plants, not for competition.

Orchids and Stove and Greenhouse Plants were fairly represented for so early in the year. Mr. Wright was first in each of the two classes for orchids. J. B. Dixon, Esq, had the best collection of ornamental-leaved plants, Mr. Clarke being second. Azaleas were well shown by J. B. Dixon, Esq.; and miscellaneous plants, in collections of six, by Mr. Frisby, J. B. Dixon, Esq., and Mr. Clarke.

Vegetables were represented by two collections, which were shown by Mr. Frisby and Mr. Leazelle, to whom the first and second prizes were awarded.

WARWICK HORTICULTURAL SOCIETY.

The annual exhibition of this society, which has hitherto taken place in the month of July, in the spacious Drill Hall, will be held this year on Bank Holiday in August, in the picturesque grounds of Warwick Castle, by permission of the Earl of Warwick. In addition to the attractions of the flower show, some athletic sports will be provided.

NORTH OF SCOTLAND HORTICULTURAL ASSOCIATION.

The monthly meeting of the North of Scotland Horticultural Association was held in the Christian Institute Buildings, Aberdeen, on the evening of the 19th inst. There was a large turn-out of members; the president (Mr. Peter Harper (Duthie Public Park), occupying the chair. Professor James W. H. Trail (Aberdeen University) read an able and interesting paper on the history of well-known plants, specifying the different orders, and then sketching the history of the different plants comprised under each. The plants treated of included the cabbage, turnip, radish, pea, bean, carrot, parsnip, parsley, celery, lettuce, dandelion, artichoke, potato, tomato, spinach, beet, asparagus, onion, &c. None of the plants, he said, were indigenous to Scotland, but they had been introduced by the original settlers—by the Romans and others. At the close of the paper a cordial vote of thanks, on the motion of the chairman, was accorded to Professor Trail. The secretary of the association (Mr. Reid), subsequently read a paper sent by Mrs. Farquharson, of Haughton, on "Fern Spores, and their Development." The paper, which was illustrated by microscopic slides, was exceedingly well received. Several plants were exhibited on the table, which the members inspected. These included a cyclamen from Mr. Auld, the Firs, Murtle, for which a cultural certificate was awarded; a pot of lilies from Mr. R. Gregor, Sunnypark; and cinerarias from Mr. Smart, Lesmurdie, to each of whom a vote of thanks was accorded. A similar compliment to the chairman brought a most enjoyable evening to a close.

HULL CHRYSANTHEMUM SOCIETY.

The annual meeting of the society was held at the Royal Station Hotel on the 19th inst., and was well attended. The report submitted congratulated the members on the great increase in the number of annual subscribers during the past year, and the remarkable degree of success with which the exhibition held in November last was attended. The financial condition of the society is particularly sound as shown by the fact that it has a balance at the bankers, of £173 1s. 9d. The chairman, George Bohn, Esq., the hon. treasurers, Mr. C. Judge and Mr. W. W. Cogan, and the honorary secretaries, Mr. R. Falconer Jameson and Mr. W. Hawksworth, were unanimously re-elected.

EALING, ACTON, AND HANWELL HORTICULTURAL SOCIETY.

The annual summer exhibition of this society is fixed for Wednesday, July 7th, in the grounds of Hanger Hill House, Ealing, the residence of E. M. Nelson, Esq., J.P. The usual exhibition of chrysanthemums, &c., in autumn will take place in the Lyric Hall, Ealing, on Tuesday and Wednesday, Nov. 2 and 3.

Handbook on Dairy Factories, Creameries, and Home Dairying. By the Rev. Canon Bagot, LL.D. (Smith and Son.)—The author of this shilling pamphlet has had much experience of the subject treated, and has laboured sincerely and with effect to improve the rural industries that are now chiefly looked to as likely to afford a counterpoise to agricultural depression. The Handbook should have the prompt attention of all who are interested in the subject.

Replies to Queries.

X.—We prefer not to publish your letter, although we agree with you that the paltriness referred to deserves rebuke. It is best to leave such worms alone, for it soils one's sole to crush them.

Turnips in Frames.—W. J.—The best turnip to sow in frame is the Extra Early Milan. It is the earliest of all the varieties, is of excellent quality, and produces comparatively few leaves; each plant, consequently, occupying very little space.

Brussels Sprouts.—R. Woods.—To obtain a supply of first-class sprouts early in the autumn you must sow at once in heat; and when the plants are large enough prick them out on a bed of soil made up within a frame. They should be planted out when the leaves begin to touch, and with as little injury to the roots as possible.

Azalea amœna.—Inquirer.—As the plants have been in the same pots two or three years, and are not growing so vigorously as could be desired, it will be advisable to give them an extension of root space this year. It will be advisable to shift them immediately the beauty of the flowers is past, and to use pots one size larger. Fibrous peat, to which a liberal addition of sand has been made, should be employed.

African Marigolds.—B.—The two most useful varieties for borders of moderate width are the Dwarf Lemon and Dwarf Orange, both of which attain an average height of eighteen inches. Sow the seed at once, place the seed-pans in a structure in which a temperature of 65 deg. is maintained. When large enough, prick the seedlings off into boxes filled with light rich soil, and allow them to remain in the boxes until they are bedded out.

Sunflowers.—Amateur.—The stocks of the annual sunflowers may be raised in heat and nursed under glass for a short time preparatory to their being planted out; but there is no necessity for resorting to this troublesome method. It will suffice to sow the seed where the plants are to remain about the middle of April, and thin to the proper distances apart. The dwarf varieties will probably be the most suitable for your borders, as they are so limited in size.

Obituary.

On the 11th inst., M. Francois Antoine, Director of the Imperial Gardens, Vienna.

On the 17th inst., at Camberley, Surrey, Mrs. Frances Collins, widow of the eminent novelist, Mortimer Collins.

On the 18th inst, at the Rectory, Stoke Newington, the Rev. Thomas Jackson, M.A., Rector of the parish since 1852, aged 74 years.

On the 20th inst., at 74, Portsdown Road, W. Thomas Spencer Cobbold, M.D., F.R.S., &c., aged 57 years.—Dr. Cobbold was a painstaking student of helminthology, and in early issues of the *Intellectual Observer* described all the more important parasites that prey upon our domestic animals.

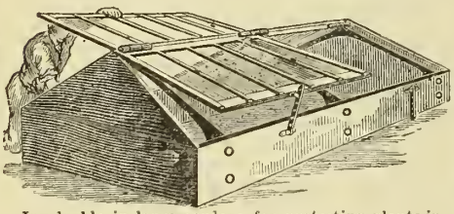
BOULTON & PAUL, NORWICH.

SEND FOR CATALOGUES.

MADE OF BEST WOOD AND ENGLISH 21 oz. GLASS.

WOOD FOR ALL THE FRAMES, 1½in. THICK.

No. 60—Span-Roof Plant Protector.

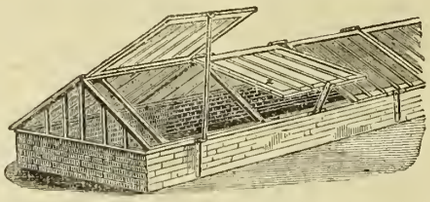


Invaluable in large gardens, for protecting plants in open ground, or storing same when turned out of Conservatory.

Cash Prices, Carriage Paid.

6 ft. long,	3 ft. wide,	including one pair of ends	£2	2	0
12 ft. „	3 ft. „	„ „ „	3	12	0
6 ft. „	4 ft. „	„ „ „	2	14	6
12 ft. „	4 ft. „	„ „ „	4	12	6
12 ft. „	5 ft. „	„ „ „	6	0	6
12 ft. „	6 ft. „	„ „ „	7	12	0

No. 64—Span-Roof Plant Frame.

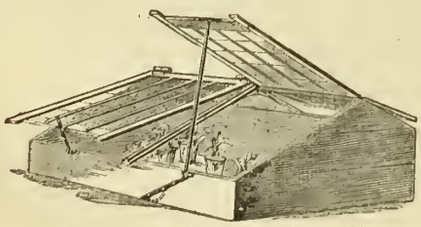


The Gardeners' favourite frame, used for storing bedding plants in winter, and in summer for growing Melons, &c., arranged to build on brickwork, as shown, including two glass ends.

Lnth.	Wdth.	Price.	Lnth.	Wdth.	Price.
12ft.	5ft.	£5 5 0	12ft.	6ft.	£6 10
18ft.	5ft.	7 5 6	18ft.	6ft.	9 0
24ft.	5ft.	9 2 6	24ft.	6ft.	11 10
30ft.	5ft.	11 2 6	30ft.	6ft.	14 0

Made to any length. See Catalogue for larger sizes.

No. 74—Three-quarter Span-Roof Garden Frame.



Reduced Cash Prices, Carriage Paid.

Size.	Length.	Width.	Price.
No. 2	8 ft.	6 ft.	£4 12 6
No. 3	12 ft.	6 ft.	6 5 0
No. 4	16 ft.	6 ft.	8 0 0

Height in front, 11 in. back, 22 in.; centre, 32 in. Lights made to turn over. Set-opes for ventilating.

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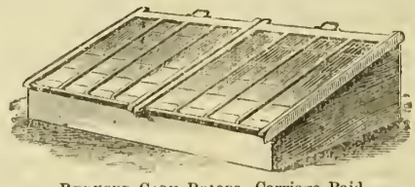

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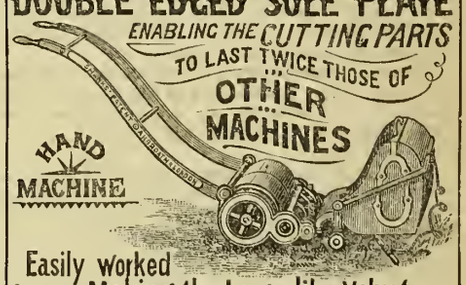

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1886		[31m. after.	H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
4	S	**4th Sunday in Lent.** ● New Moon, 2h.	5 32	3 0	6 37	5 43	6 33	1 58	2 14	11 23	11 39	46·2	Loptotes serrulata ..... Brazil.	94
5	M	Princess Victoria of Hesse born, 1863.	5 29	2 43	6 38	6 8	7 40	2 30	2 45	11 55	—	46·5	Cattleya Skinneri ..... Guatemala.	95
6	Tu	*Old Lady Day.*	5 27	2 25	6 40	6 36	8 48	3 2	3 16	0 10	0 27	46·7	Phalænopsis Schilleriana ..... Manilla.	96
7	W	Prince Leopold born, 1853.	5 24	2 8	6 41	7 6	9 57	3 33	3 51	0 41	0 58	46·9	Aerides Fieldingi ... . India.	97
8	Th	Lord Chatham, 1778.	5 22	1 51	6 43	7 42	11 3	4 9	4 27	1 16	1 34	4·71	Dendrobium aduncum ..... Manilla.	98
9	F	Lord Bacon died, 1626.	5 20	1 34	6 44	8 25	Morn.	4 45	5 3	1 52	2 10	47·2	Dendrobium anosmum ..... ,,	99
10	S	Battle of Toulouse, 1814.	5 18	1 18	6 45	9 16	0 6	5 23	5 45	2 28	2 48	47·3	Dendrobium primulinum ..... India.	100

ROYAL BOTANIC SOCIETY GARDENS, REGENT'S PARK.
WEDNESDAY, April 14, SECOND EXHIBITION OF SPRING FLOWERS.
Tickets and Schedules of Prizes can be obtained at the Gardens.

RICHMOND (Surrey) HORTICULTURAL SOCIETY, 1886.—The TWELFTH ANNUAL SUMMER EXHIBITION of PLANTS, FLOWERS, FRUITS, VEGETABLES, &c., will be held on WEDNESDAY, July 7, and the SIXTH AUTUMN EXHIBITION on November 11 and 12. Nearly the whole of the Classes are Open. Apply for Schedules to the Hon. Secretary, Mr. J. H. Ford, 22, George Street, Richmond.

STOKE NEWINGTON AND HIGHBURY CHRYSANTHEMUM SOCIETY.—ANNUAL EXHIBITION, November 4 and 5. Over £100 in Prizes offered. Schedule upon application to the Hon. Sec., Mr. W. Goldsmith, Grove Road, Stamford Hill, N.

Auction Sales for the Ensuing Week.

Tuesday, April 6.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

Wednesday, April 7.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Roses, Plants, Carnations, &c.

Friday, April 9.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

Monday, April 5.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; 7,000 Lilium auratum, 4,000 Freesia refracta alba, Gladioli, Tuberoses, &c.

Thursday, April 8.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

Saturday, April 10.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, Border Plants, Shrubs, &c.

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SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, APRIL 3, 1886.

Orchid culture derives direct aid and encouragement from the Report of the Orchid Conference. The compilers have done their work well, and they had good material to begin with in the papers by Mr. H. J. Veitch and Mr. James O'Brien. The President's address is full of interest; Professor Reichenbach's communications are simply disappointing; and the summaries of Messrs. Burbidge and Ridley are worthy of any amount of praise.

The exotic orchids exhibited at South Kensington May 12 and 13, 1885, comprised 348 species representing 57 genera. The genera described in the "Genera Plantarum," number 334; consequently the Conference display may be said to have represented, at a rough estimate, only about one-sixth of the more distinctive types. As the recognized species of orchids number near upon six thousand, the Conference collection comprised only about one-seventeenth of the entire family. Mere figures are of little use, however, in such considerations. For example, there are 150 species of Stelis, but probably only one in cultivation, which, possibly, is enough for the present. A hundred species of Spiranthes are known, and one at least is famous as a possible register of climatic phenomena; but we should not admire the taste of the cultivator who should accommodate many of the genus. There are 350 species of Pleurothallis known, and here again the cultivator may be allowed to ignore their several attractions. Thus, in a rough and ready way, we may dismiss so many that the numbers shown at the Orchid Conference acquire more and more importance, for they represent the taste of the collector and the products in the way of orchids proper to the season as well as the vast variety of nature. It is of much more importance to say that the show included 66 species of Odontoglossum, 48 species of Masdevallia, 40 species of Cypripedium, 34 species of Dendrobium, 27 species of Cattleya, 19 of Oncidium, 11 of Lælia, and 6 of Cœlogyne. The names are suggestive of things noble and glorious: the cultivator of orchids desires to see something as the result of his endeavour; and half a-dozen visible beauties are better worth his attention than hundreds of obscure curiosities that appeal only to the inward eye that has been trained to the study of minute particulars.

The papers on hybridizing and cultivating which appeared in full in our issue for May 16 last year have a quite fresh appearance in the report, and are admirably supplemented by observations on various subjects, not the least important being those on the employment of manures in orchid culture. Mr. Borwick speaks of the virtues of fish manure—which, perhaps, is in the way of the ancient gentleman who said "there is nothing like leather;" but this subject is destined to obtain further attention, and it is likely that the successful amateur of orchids who led the way in the administration of special nutrition has inaugurated a new era in orchid cultivation. The argument for the use of manure is altogether reasonable. Mr. Borwick says, with truth: "Birds throng the trees on which orchids are found, and they supply in the dung a rich diet, containing, as it does, ammonia, phosphoric acid, and some potash, which is washed by the rains and dews into the interstices of the trunks; so that the plants not only enjoy the advantage offered by residence on living trees, but the stimulant and food provided by the birds. Terrestrial orchids in the same way have the benefit of decaying vegetation, which supplies stores of ammonia." The poor state in which orchids of robust habit often appear after flowering has suggested to the reflective cultivator that teak wood, sphagnum, and syringe are comparatively innutritious aids in the building of vegetable fabric; and it cannot be doubted that there is much need for inquiry and experiment to acquire for the question a scientific position, or, at all events, to remove it from the region of doubt in which it stands at present. But, in the interests of novices, we will repeat the advice we have felt bound to offer of late—that the employment of special fertilizers in the orchid-house demands caution always; and as regards the practice of beginners, it will be well for them to do less, rather than more, than has been recommended. Mr. O'Brien, in his admirable paper, touched the subject in a few words that are full of meaning. He said: "I recommend all who wish their plants well to keep to the sphagnum moss and the best peat they can get, using the less of the latter when it is not good, and to leave experiments to others. There are always plenty ready to try new things, and, curiously enough, it is never the learner who carries the experiments to a serious conclusion; but the well-tried old hand, who, having done all that is good and reasonable, goes in for a new idea on a large scale."

By such remarks we are reminded of the remarks of Dr. Masters in addressing some young gardeners lately. He said, in effect: "Your first duty is to know how to do it; and, therefore, your safe course is to follow in beaten tracks to acquire skill in garden practice. But as experiences accumulate, and to work well becomes a matter of habit, you will have to learn how not to do it; for until you understand somewhat of that side of the subject you cannot give an intelligible reason for your work." The safe course is the proper first course for all beginners.

The Queen will open the Colonial and Indian Exhibition on the 4th of May.

Ludlow Horticultural Society's show will be held Wednesday, August 25.

Mr. W. J. Ireland has been engaged as gardener at Nostell Priory, Wakefield, the seat of Lord St. Oswald.

Mr. J. Wear has been engaged as gardener by H. G. Close, Esq., Condover Hall, Shrewsbury.

National Health Society has inaugurated a series of lectures at the Kensington Town Hall.

British Association will meet in Manchester in the year 1887, under the presidency of Sir Henry Roscoe.

Hinckley and District Working Men's Society will hold a show of flowers, fruits, bees, &c., on Friday, August 27.

Prince Albert Victor will open the Edinburgh International Exhibition on the 6th of May.

Croydon Horticultural Society.—Summer show, June 30; Autumn show, November 10 and 11.

Railway and Canal Traffic Bill is stoutly opposed by the railway companies; and the trading classes in whose interest it is promoted object to some of its provisions.

Potatoes from Scotland are selling at good prices in the New York markets. Thus the tables turn. But it is always a matter for surprise when the States become importers of British food-stuffs.

Mr. E. S. Dodwell's Treatise on the Carnation and Picotee is completed, and may be obtained from the author, Stanley Road, Oxford, or from Messrs. Groombridge and Sons, Paternoster Row.

Viccars Collyer and Co., of Leicester, announce a show to be held by them at Leicester, August 4, for which a series of prizes is offered. The highest prize is ten guineas.

Royal Southampton Horticultural Society.—Summer show in Westwood Park, July 31 and August 2. Chrysanthemum and Fruit show, November 9 and 10.

Brussels Société Royale de Flore.—The 106th exhibition will be held in the Palace of the Fine Arts, April 25, 26, 27. Schedules are obtainable at 5, Grand Place, Brussels.

International Potato Show will be held in the Crystal Palace at the usual time. It will be at the expense and under the management of the Crystal Palace Company.

Mr. J. Rees, sometime foreman in the Canford Manor Gardens, has been engaged as gardener at Llanover Court, Abergavenny, the residence of Lady Llanover.

Witney Horticultural Society annual exhibition, August 10; Abingdon Horticultural Society second show in Abbey Grounds, August 12.

A Flora of the West Riding of Yorkshire has been prepared by Dr. F. Arnold Lees, and will be published by subscription, under the auspices of the Yorkshire Naturalists' Union.

An International Fruit and Floral Exhibition for 1887 was proposed by Mr. W. S. Manning at a meeting of the Royal Botanic Society on Saturday last.

Primrose Day falling this year in Holy Week, the Grand Council of the Primrose League have decided not to summon Grand Habitation until May 19, but April 19 will as usual be strictly observed by the wearing of primroses.

Mrs. Allingham's drawings of Surrey cottages, announced by us as being prepared for exhibition, have been mounted by the Fine Art Society in the place of the Holman Hunt pictures, which have been removed. These delightful studies of English rusticity should win for their fair producer a new tide of honours.

Tobacco Cultivation in the United Kingdom obtained serious attention in the House of Lords on Monday last, when Lord Harris called attention to the subject. On behalf of the Government, Lord Sudeley promised that the subject should have immediate and full consideration.

Sanitation of London is largely illustrated by facts and figures in the essays by Mr. W. Woodward, Mr. H. H. Bridgman, and Mr. J. Corbett, to which the Westgarth prizes of the Society of Arts were awarded. The essays fill a respectable volume, published by Bell and Sons.

The rate at which Meteors travel has been calculated from one that it is believed was seen both in England and in India, and the result is in this case a rapidity equal to 35½ miles a minute. The rate at which meteors travel in regions beyond the earth's atmosphere is 40 to 50 miles per second.

A Potato Festival is to be held at Montdidier, in honour of Parmentier, who established in France the cultivation of the noble tuber. When honoured with a title by Louis XVI., Parmentier chose a potato flower for his crest. On that point we will venture to remark that the flower is admirably adapted for artistic treatment; it certainly has character that renders it suitable for emblematic purposes.

Seedling Amaryllis shown by Mr. James Douglas at Regent's Park last week, and certificated, comprised the following varieties: *Lady Hulse*, a robust variety, flowers of fine form, crimson scarlet with white centre, eight flowers in two scapes; *Clarinda* (Veitch), very fine in proportions, creamy ground, clouded with reddish crimson, four flowers in a scape.

Paris Exhibition of 1889 appears to be progressing favourably, and a Bill for authorizing the necessary expenditure has been prepared. The total expenses are estimated at 48 millions of francs. The whole sum will be met—by the State, to the extent of 17 millions, by the Municipal Council of Paris to the extent of 8 millions, and by receipts at the Exhibition estimated at 18 millions.

Devolution of Land.—A Bill lately introduced by Mr. Arthur O'Connor would place real estate on the same footing as personal as regards the administration of a deceased person's estate. Land would thus vest in the personal representatives, and be capable of being disposed of by them subject to the same rights and obligations as personalty. A memorandum signed by them to the effect that all the debts have been paid, or that any real property is not required for their payment, would put an end to the representative's estate, and vest the property in the person to whom it is given by will, or, in the case of intestacy, in the heir-at-law.

Allotments and Small Holdings Bill met with so much support on Wednesday, when Dr. Foster moved the second reading, that, although the Bill will probably fall through, the general proposal, with the compulsory principle for its working centre, will have to be taken up by the Government. It will be, in fact, one of the first fruits of the extended franchise, irrespective of party and all voluntary effort.

Thousand-headed Cabbage has appeared in the London markets in considerable plenty, the produce, mostly, of sheep farms in Devon and Dorset. It is an excellent table vegetable, and has realized at retail so high a price, that householders, while glad to obtain it by way of a change, declare it dearer by comparison than Cornish broccolis.

Crocuses and Sparrows.—At the recent meeting of the Scientific Committee of the R.H.S. Mr. McLachlan alluded to the periodical injury sparrows do to crocuses by biting off the contracted portion of the perianth tube. As the nectar is secreted there it was probably due to the discovery of this fact by the birds. Mr. Henslow observed that he had not experienced the fact, though both crocuses and sparrows were abundant in his garden.

London Sewage is likely to obtain the respectful attention of the Metropolitan Board of Works, the Board having hitherto systematically abused it, to the injury of the metropolis at large and the ruin of London's river. A report that finds favour with the Board will provide a reasonable opportunity of putting to a proper test the agricultural value of sewage sludge; and it may be hoped the test will prove its usefulness.

Royal Geographical Society's Medals.—We understand that it is proposed to award the Founder's Medal of the Royal Geographical Society to Major Greely, the leader of the late United States Arctic Expedition to Grinnell Land; and the Royal Medal to Cavaliere Guido Cora, professor of geography at the University of Turin, and founder and conductor of the geographical journal known as the *Cosmos*. The Back Grant will probably go to Sergeant Brainard, who did such admirable work on the Greely expedition.

Universal and Local Time are both shown on the same dial in a clock invented by Mr. Sidney Waters. It is accomplished by causing an inner dial carrying the universal time to revolve in the same direction as the hour hand, once in 24 hours. Thus the two reckonings appear together. None of these contrivances are needed by people who can remember that by adding the number 12 to the hours after twelve that are usually marked p.m., the universal time is obtained. Thus 12 and 5 make 17, and the hour denominated 5 p.m. becomes the 17th hour in universal time.

Ceylon is so beautiful that Mr. G. A. Sala, writing from Calcutta to the *Illustrated London News*, declares his inclination to place it first in order of beauty of all places on the earth. It is, he says, "one green garden circled by a sea ring, now ultramarine, now emerald, now cobalt, now sapphire, now opalesque in tint." But it is somewhat of a drop down when he says, "it is almost as beautiful in degree as Richmond Hill, or as Chalk in the county of Kent." These home scenes are indeed lovely, and the view from the Crown Inn at Shorne, about a mile from Chalk, is one of the finest in the country; but the comparison seems unfortunate.

Trimorphism in Narcissus Triandrus.—The Rev. C. Wolley Dod submitted to the meeting of the Scientific Committee of the R.H.S. on March 24 three different lengths in the pistils of Narcissus triandrus—a short, medium, and long-styled form, as in Lythrum Salicaria. The short-styled form occurs in 20 per cent. of flowers examined, the mid-styled form in 10 per cent., while the more usual condition is to be long-styled. In the variety N. t. pulchellus the style is always longer than the stamens, and the tube of the perianth is also longer than usual. The short-styled form was received from Oporto. In all cases, as observed by Dr. Masters, the flowers appeared to be protandrous.

Spring is fully inaugurated in southern counties, but in the north the awakening is but just commencing. London is almost leafy, and a few days of soft weather will make an immense change. A few almond trees are in flower, the parks and pastures are of a lively green hue, and the gardens are freely dotted with colour, as primroses, daffodils, squills, and snowflakes come forth to take the place of the crocuses that are now passing away. The weather has agreed closely with the expectations expressed in the note of last week, and the best that can be said for it is that it is seasonable, for spring weather combines delights and agonies in about equal proportions. The present prospect favours the expectation of very variable weather, but generally improving.

New Plants, Flowers, and Fruits.

Epidendrum arachnoglossum candidum (*Gardeners' Chronicle*, 1886, 362).—A white variety of great beauty.

Cypripedium concolor Reynieri (*G. C.*, 1886, 362).—Flowers yellow, on the outside of the sepals a blotch of mauve-purple.

Cypripedium Winnianum (*G.C.*, 1886, 362).—A hybrid raised from C. villosum and C. Druryi.

Cattleya Lawrenciana (*G.C.*, 1886, 394).—A beautiful orchid in the way of *C. superba*.

Polybotrya Lechleriana (*G.C.*, 1886, 394).—A fine creeping Acrostichoid fern that in some of its characters comes near to *Cyathea microphylla*.

Bomarea oculata (*Garden*, 536)—A fine hardy or cool greenhouse plant, with flowers of a deep purple-red colour.

Linum arboreum (*G.*, 537).—A beautiful yellow-flowered sub-shrubby flax that proves hardy in ordinary winters near London, but is not hardy enough for general purposes.

POTATOES FOR PROFIT.

When potatoes are grown simply for the supply of the table there is no occasion for the cultivator to be burdened with a large number of varieties; and those who have neither time nor space to spare may be advised to be content with just sufficient to maintain a continuous succession throughout the year. The selection must not be so unduly restricted that the same varieties have to furnish both early and late supplies; but it ought not to include a greater number than is necessary for ensuring a good succession. In growing for exhibition it is necessary to have a rather large collection, because the varieties vary according to the soil and season, and unless a good margin is allowed there is frequently a difficulty in making up a collection of a given number of varieties that will bring the exhibitor honour in a close competition. But in supplying the table it is alone necessary to provide a plentiful supply of tubers of good quality, and this can be done as well with a dozen kinds as with fifty. I have grown nearly all the varieties at present in cultivation, and, as the result of my experience, I have selected the following for their exceptional excellence, and have no doubt as to their being the most suitable for the general body of cultivators.

White Kidneys comprise some of the most valuable potatoes at present in cultivation, and form a section of great importance. For cultivation in frames and on warm borders, for furnishing the first early supplies, there is not one that can surpass the Old Ashleaf; for, although not a heavy cropper, it affords a fair return for the space occupied, and can always be depended upon to be of good quality. Equally well known, and not less useful, is Myatt's Prolific, which forms a good succession to the first mentioned, and is a heavy cropper and invariably good in quality. Where the space is so limited that only one first kidney can be grown, Myatt's Prolific should have the preference, because of its greater productiveness. Midsummer Kidney, introduced a few years since, has proved a most desirable addition to the early white kidneys, and should be generally grown. It is neat in growth, a good cropper, and the tubers are comparatively large in size, of good appearance, and excellent in quality. Woodstock Kidney is a good cropper, and leaves but little to be desired when upon the table, but it is so quickly affected by the disease that it cannot be very strongly recommended. For the main crop, the best of all the varieties which have a place in this section is Magnum Bonum, which still maintains its high position for productiveness, immunity from disease, and good quality. Complaints have been made during the past winter of the tubers being discoloured. But this defect has not been at all general. I believe that those who have had to complain of the tubers becoming black when cooked allowed their crops to remain in the ground too long. I am inclined to this belief because our samples, which were lifted early in September, are of the finest possible quality; whilst some of my neighbours, who have allowed their crops to remain in the ground until the middle of October, complain very much of the inferiority of Magnum Bonum during the winter, as compared with previous seasons. Those who would have this fine potato in perfection, should commence lifting as soon as the tubers have attained their full size and the skin is set; because, like the Fluke and a few other varieties, the produce becomes greatly deteriorated when allowed to remain for any considerable period in soil more or less saturated with moisture, as was the case last autumn.

Red Kidneys, well adapted for the supply of the table, are comparatively few in number, and for the majority of gardens one or two will be quite sufficient. For general purposes the best is, perhaps, Beauty of Hebron, which bears some resemblance to the Late Rose, but is rather more productive and decidedly better in quality. It is, in my opinion, the best of all the American varieties for the table. Daniel's White Elephant is a very good potato for sharp thin soils, as it produces heavy crops on them and is dry, mealy, and delicately flavoured. Reading Ruby is a heavy cropper and of good quality, and as well suited for supplying the table as for furnishing exhibition tubers, for which purpose it is at the present time very popular. It should, therefore, not fail to obtain attention from cultivators generally.

White Rounds constitute a very important section, there being so many good varieties that it is no easy matter to limit the selection to three or four. For the first supplies the best is unquestionably the Early Regent, which comes in very quickly, and is unsurpassed either as regards productiveness or quality by any other potato of its class and season. By planting in March on a warm border we are able to commence digging early in July. This variety is so thoroughly good that I have discarded Early Coldstream and two or three other early rounds that are still regarded with much favour by some growers. Paterson's Victoria is not a particularly heavy cropper, neither is it free from disease; but it is so thoroughly good in quality until quite late in the season that a considerable breadth should be grown. The Regent is by no means superseded, as supposed by some growers and writers; for of the large number of varieties that have been introduced not one, with the exception of the Early Regent, comes near it in general character. Lady Truscott is an excellent white round in which good quality and productiveness is combined. Prime Minister also claims attention for high quality and heavy cropping; and Reading Hero may be well described as one of the very best of the varieties in its class, and also as especially adapted for field culture. It has a robust habit, produces heavy crops, and is not quickly affected by disease.

Red Rounds suitable for the table form a very small group, a few only of the varieties in the section being otherwise than decidedly second-rate. One of the most desirable kinds is Reading Russet, which is very handsome in appearance and leaves but little to be desired, either as regards productiveness or quality. It ripens off rather early, and should be lifted as soon as sufficiently advanced for it to be done with safety. The other variety that may be recommended is Vicar of Laleham, which is the best of the purple-skinned rounds, both as regards cropping and appearance when upon the table.

Kitchen Gardener.

FUCHSIA-FLOWERED GENTIAN.

Leianthus longifolius.

The beautiful long-leaved Leianthus has always been a scarce plant in gardens, though introduced as early as 1793. In the year 1825 it acquired some degree of popularity from a figure published in B.R., which was followed, at an interval of twenty years, by one in B.M. (4,169). In 1844 it attracted attention at Sion and at Kew, as in both places it was admirably flowered, and produced a due effect. Its near allies, known as *Lisianthus princeps* and *L. Russelliana*, are occasionally met with, the last named being prized for its large cup-shaped deep blue flowers.

FUCHSIA-FLOWERED GENTIAN—*Leianthus longifolius* (Flowers yellow).

In common with others of the genus, this plant requires warm greenhouse or stove culture, in a light, rich, leafy soil, with the most perfect drainage. It should be wintered in the stove and kept rather dry, and in summer and autumn should have abundant ventilation in a position partially shaded in the greenhouse. It is easily propagated from seeds or from spring cuttings. Its numerous synonyms suggest that it has received much attention at various times. We find it variously catalogued as *Lisianthus*, *Tachsia*, and *Rapunculus*. The name we have adopted is that of *B.M.* 4,169, and also Van Houtte's *Flore des Serres*.

The Marronnier du 20 Mars failed of its dues to society, and more especially to the Bonapartist section of society in Paris. If the non-flowering of the idealized chestnut tree was the only sad circumstance for the devotees of Imperialism on the other side, we might venture to say the cause is still sound and sweet. But a cause that lives on omens is always poor, and the untimely flowering of a tree would never save it.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 9.

The Belladonna lily—Lilium auratum—Narcissi—Few large growers of flowers in the islands—The luxuriant aspect of the Guernsey gardens—The horticultural societies of Jersey and Guernsey—Floriculture in Jersey—Violets—Roses under glass—The culture of maidenhair ferns—The small florists of Guernsey—Personal experience of one of them—Brompton stocks—Profits realized—Dutch bulbs—Statistics of the flower trade—Last year's prices not favourable.

In addition to the bulbous flowers already mentioned as cultivated in Guernsey, the Belladonna lily (*Amaryllis belladonna*) is grown to some extent. This flower, which is even handsomer than the Guernsey lily, blooms regularly every year—that is, after the bulb has attained its flowering size. In most of the cottage gardens a clump of these grand flowers is to be seen.

The Lilium auratum is another lovely flower of this order that is cultivated rather largely by cottagers for sale in the home and distant markets.

Of recent years narcissus of the single and double varieties have been grown by some of the gardeners, and the breadth is likely to extend.

There are few large growers of flowers for market in Guernsey, and fewer in Jersey. The great bulk of the flowers sent away is the produce of hundreds of small cottage gardens and gardens attached to farmhouses. The gardens of Guernsey are justly subjects of admiration to English visitors, and the great luxuriance which they present is really astonishing when we consider the small advantage which the island possesses over England in respect of geographical position. The sorts that flourish here seem endless. In many places the walls, and even the roofs and chimneys of the houses, are covered by roses, fuchsias, and geraniums; and the parterres around St. Peter's Port present generally a very beautiful appearance, the various flowers being brought to a state of great perfection.

Cottage gardeners in both islands receive every inducement and encouragement to prosecute the cultivation of flowers, for not only are the conditions of soil and climate admirable, but in both there is an active horticultural organization. The flower-shows held by both societies are capitally got up and well supported by the islanders, but it is an apparently anomalous fact that Jersey, which exports hardly any flowers, produces finer shows, and exhibits equal in point of merit, and in some respects far superior, to those provided by the sister isle.

Both societies offer very substantial money prizes, which are contributed to by voluntary subscriptions and from legacies made in the past. Last year the Royal Horticultural Society of Guernsey (formed in 1842) held two shows, one in spring and the other in autumn. In the latter shows the exhibits of camellias and chrysanthemums were remarkably fine. The Royal Horticultural Society of Jersey (established in 1833) last year held four shows—viz., one in spring, two in summer, and one in autumn, the latter being the chrysanthemum show.* A very fine specimen of Rhododendron Edgworthii Fortiseana, beautiful in habit, being some four feet through by three feet high, having about forty large fully expanded trusses, was exhibited at the May show, and the picotees and carnations, for which Jersey ought to be famous, were very charming at the August show.

Those several institutions cannot fail to be beneficial to the growers at large in the island, as they stimulate enterprise and competition, and are admirable educational agencies.

Flowers are largely raised in Jersey; but, owing to the difference of temperature, more care has to bestowed on them than in Guernsey, and this the cottagers are not able or inclined to give. In Mr. Elliott's nursery there is a fine stock of chrysanthemums and Jersey camellias, and Messrs. Le Cornu and Sons' show of roses (over 10,000 plants), which we have had the pleasure of seeing in bloom, was a very fine spectacle. These are both large establishments, but nothing in the export line appears to be done. Both St. Hellier and St. Peter's Port consume immense quantities of flowers, not to mention other garden produce. The displays of flowers made daily in the handsome market houses in Jersey and Guernsey, are the finest we remember having ever seen in the kingdom, outside Covent Garden.

A few of the farmers—but only a few, so far as we could gather—send small quantities of flowers to London. A great many of the cottagers send their produce into the town. The demand for flowers is, of course, larger in Jersey than in Guernsey; and this may explain, to some extent, the limited quantity conveyed by the grower to England.

Mr. Pond, of St. Lawrence, grows several hundreds of The Bride gladiolus, a few beds of paper-white narcissus, and a large breadth of Czar violets. Violets are cultivated also by Mr. Bashford, of Bagot, and a few by other growers. Roses are cultivated under glass on a small scale by Mr. Blisset, of St. Saviour's, and others.† This is about all that is done for export from Jersey.

It will be scarcely relevant to the subject of this article, but it will be as convenient here as anywhere to mention that Mr. Blisset, of St. Saviour's, has made a specialty of ferns for cutting, which he grows very successfully and remuneratively in his vine-houses. The collection already comprises about 30,000 fine plants. The compost which he usually employs is a mixture of peat loam and sand in the proportions of three, two, and one. Some of the plants are grown in large 20-in. pots. They make a most luxuriant growth both in the heated and unheated houses. In the latter the plants are cut over three times in the course of the year, while in the former four crops are usually taken. The fronds are cut close over, and made into bunches of thirteen to the bunch, each bunch realizing to the grower from 1s. to 9*d.* to 6*d.* each. They are packed in flats and boxes and sent to Covent Garden. Mr. Blisset has just succeeded in raising a very fine new fern, which he intends growing largely.

Reverting again to floriculture in Guernsey, we will now say a few words about the small growers. We have already stated that it is from these numerous cottage gardens that the major supply of the flowers exported is drawn. One case will be representative of the whole class. We have conversed with many of the peasantry, and the facts which have been thus elicited generally agree.

A very respectable couple living at St. Martin's, a populous village about three miles east of St. Peter's Port, has sent to London hundreds of baskets of flowers plucked from their own limited garden in the front and to the rear of the small house which they occupy. Like most of the Guernsey folks who can talk in English at all, the old woman's speech was remarkably free from any provincialism, and you could at times with difficulty detect the French accent, and only when she turned to her aged spouse, to whom every language but his own Guernsey patois was as Greek, and spoke in the more animated tongue of the South, could it be known that she was not an Englishwoman born and bred.

The substance of her conversation may be given briefly as follows: She has a small plot of ground in the front and to the rear of the house. These she cultivates entirely by herself. The rent of the house is about £3 a-year, but the majority of the cottagers own the house they live in, and usually the land on with it stands. This £3 she generally defrays from the proceeds of a comparatively small bed of Brompton stocks, the size of the bed being, perhaps, ten or twelve feet square. The seed had been sown broadcast in May, and at the time of our visit the plants were looking strong and dwarf. She would, she said, do very little thinning out as she found she could get just as many flowers in proportion by allowing them to come up rather thick as if she were to thin out, the plants, and so induce side branches. The proceeds from the other flowers grown by her, all very fine samples, went very far towards the support of herself and husband. She enumerated several instances where, in the past, neighbours of hers and people she had known in several parts of the island had, by diligently cultivating their limited property in flowers, accumulated small portions of land, the foundations of their after prosperity. But the trade is not now as remunerative as formerly, from the fact that there are so many more competitors in the field. She sends all her produce direct to Covent Garden by the Southampton boats. Formerly she sent viâ Weymouth, but on several occasions the flowers were delayed so long in transit, that they were worthless ere they arrived at their destination. Gathered over night, and the stems placed in water, the flowers are early the following morning packed loosely in baskets and covered with fresh ferns, the whole being fastened over and neatly sewn with white calico. The baskets cost her one shilling each, and this, together with the profit on the flowers (of late about 1s. on each basket), is returned to her by the salesman. She grows a plot of Dutch hyacinths, which she has cut usually in March. "Until last year," she said, "this was early enough, but now I must get them earlier. Last year the Dutch growers sent to Covent Garden thousands of boxes of blue and white hyacinths just showing bloom, and these consignments spoiled our trade in this article."

The export trade in flowers has grown rapidly of late, especially so in stocks, single and double narcissus, primroses, ixias, and gladiolus; though "we are inclined," says Messrs. Smith and Son, "to think it is about developed, and will make no more gigantic strides."

In 1885 about 65 tons of flowers were exported from Guernsey. The consignments for the three previous years were as follows: 1882, 5,600; 1883, 8,660; 1884, 11,200. The above "packages" average about 20 lb. each.

Respecting prices, a large grower, to whom we applied for information, said he could afford no reliable figures. It is difficult to strike an average price, because when prices are highest the quantity is least, and *vice versa*. This informant observes that "the season just closed has been remarkable principally for the unprecedentedly low prices, such prices as have never before shaken the faith of the growers." We, however, heard less gloomy accounts from others. The outlook, we think, is probably not so bad as it is stated to be.

One of the small farmers who grows for the London market has furnished us with a few items as to prices, which may be taken as fairly reliable. They are as follows: Brompton Stocks, 10d. to 1s. 3d. per dozen bunches; Gladioli, 6d. to 1s. per dozen spikes; Ixias, 1s. 3d. to 1s. 6d. per dozen bunches of 24; Roses, 10d. to 1s. 6d. per dozen; Primroses, 6d. to 10d. per dozen bunches; Summer Chrysanthemums, 8d. to 10d. per dozen blooms; Narcissus, 1s. per dozen bunches; Lilies (arum), 1d. to 3d. each; Chrysanthemums, 1s. to 1s. 6d. per dozen bunches of 12.

Hothouse flowers are packed in boxes; all other flowers in grape baskets or hampers.

* Money prizes, silver and bronze medals, and certificates are awarded. Fruit and vegetable exhibits are also included in these shows. Each island has also a very largely supported agricultural society.

† While speaking of Guernsey we omitted to say that roses form a larger item in the early months of the year. They are grown under glass, the houses in many cases being heated by piping. At the Caledonian Nurseries, we were fortunate enough to call when roses were in fine condition. The blooms were particularly fine, and notwithstanding the excessive drought of the summer the foliage and wood were clean and bold.

No Juice in a Flint.—This trite saying has a parallel; *there is no getting juice out of cheap tea.* The Chinese are yearly increasing the supply to English tea-drinkers of redried and worthless leaves, utterly destitute of *theine*, which is the one active principle most to be desired in the beverage; consequently cheap tea becomes dear tea at any price. The true policy of supplying wholesome Pure Tea is alone to be commended; hence the enormous and increasing sale of *Horniman's Tea, guaranteed absolutely pure*, by Chemists and others who are Agents in all parts of the kingdom, and supply the public at London fixed prices.—See advertisements in all Newspapers and at Railway Stations for list of Local Agents.—[Advt.]

POMPONE DAHLIAS.

There does not appear to be any occasion for instituting a close comparison between the pompone and single dahlia, although it is a quite common occurrence to hear their relative merits discussed. But in referring to the first mentioned of the two groups it must in justice to them be said that whilst well able to produce a rich effect in the garden the flowers are of immense value for indoor decoration at a time when the country house is usually well filled with guests. The flowers of the pompone varieties are not, perhaps, quite so light as the single flowers; but the flowers are so small that those who have an ordinary degree of taste do not experience any difficulty in the production of the most pleasing arrangements with them. They have one great advantage as compared with the single flowers, and that is the greater length of time they remain in good condition after they are cut—an advantage of great importance when the flowers are employed for church decorations on the occasion of harvest festivals. This fact is mentioned, not because there is a desire to promote the cultivation of the pompone varieties in preference to the single sorts, but to show that they are worthy of attention, and to induce those who have a partiality for dahlias to grow the two classes in about equal proportions.

The pompones can be employed to great advantage in the formation of bold masses in beds; but they appear to the greatest advantage in the mixed border. When arranged at the back of the border at a distance of five or six feet apart, they present a most effective appearance, and are exceedingly useful for maintaining the attractions of the border during the early part of the autumn, when the herbaceous phloxes and other summer-flowering plants are past their best. A moderately rich soil is highly favourable to their full development, and it is essential that the border should be dug over to a depth of not less than twelve inches, to enable the roots to strike down deep enough to be beyond the influence of a short period of dry weather. The position selected for the dahlias should not be overshadowed by the branches of trees; for when shaded to any appreciable extent they become drawn, and fail to produce that striking effect obtained from them when they enjoy a fair share of sunlight. If they can be placed beyond the influence of the effects of the roots of trees it will be an advantage, but the roots are less injurious than the branches, as the fertility of the soil can be maintained sufficiently for all practical purposes by the liberal use of manure, but nothing will compensate their being deprived of a full share of light. As in the case of the other sections, the stocks are raised from cuttings struck in heat during March, and grown on under glass until the end of May, when they are bedded out. Where the frame room is very limited the plants can be removed from the frames about the second week of May, and be placed in a sheltered position outside and covered at night with mats as a protection from frost. When they remain in the frames until the season is advanced sufficiently for them to be transferred to the borders, the ventilation must be abundant at all times when air can be admitted without exposing the plants to the risk of injury by frost. After the middle of May the lights should be withdrawn entirely during the day, and the plants be left uncovered also at night when it can be done without risk. To ensure strong plants they must have a free circulation of air about them from the time they are removed from the propagating pit. It is a great advantage to put them in small sixties when they are removed from the cutting pots, and subsequently shift them into five-inch pots, as they attain a much larger size than when kept in three-inch pots. But as very few cultivators can afford either the time or the space to shift them as here advised, it may be useful to state that very good plants can be had by growing them in three-inch pots, provided a rich compost is employed and care taken to keep them well supplied with water.

The selection of varieties requires special care, for of the comparatively large number in cultivation a considerable proportion are decidedly inferior or wanting in distinctness. The under-mentioned varieties comprise the very best in their several colours, and are quite sufficient for any one cultivator.

Darkness.—A beautifully formed flower of a rich marone crimson colour, rather dwarf, and very free-blooming.

Dora.—A charming variety; the flowers perfect in form, white tinted cream colour, habit stiff and erect.

Fashion.—Very bright and attractive, the flowers of good form and a rich orange colour.

Favourite.—A beautiful variety, fully justifying the name it has received; the flowers are small, quite perfect in shape, and of a rich purple-marone colour.

Gem.—One of the most desirable of the pompone varieties; the flowers are of medium size and superb form, the colour bright crimson. It has an excellent habit, and the flowers are borne well above the foliage.

Junker.—A distinct variety; the flowers of average size, and a pleasing fawn colour; habit exceptionally good.

Isabel.—A remarkably good variety; the flowers brilliant scarlet, and of medium size; the best pompone of its colour.

Lady Blanche.—One of the best of the pure white varieties, the flowers being of good form and very freely produced.

Little Arthur.—A showy variety; the flowers scarlet and orange.

Little Prince.—A distinct and pleasing variety, with rather large flowers, which are of a rich crimson colour, tipped with white.

Madame Fauconet.—An attractive variety; the flowers rather large and freely striped, on a white ground. The habit is exceptionally good, and the flowers stand well above the foliage.

Minnie.—Bright and pleasing; the flowers yellow salmon, tipped with rose.

Osiris.—A pleasing flower, of a pleasing shade of rose-lilac.

Titania.—Bright yellow; very free and fine; the best of the yellow varieites.

White Aster.—A very desirable variety; the flowers pure white and elegantly fringed; one of the best of the white varieties for the supply of flowers for indoor decorations. W.

HARDY FLOWERS IN THE HALE FARM NURSERIES.

As Tottenham is not specially favoured in the matter of climate, the vegetation in the Hale Farm Nurseries is, as elsewhere, in a very backward state, and the number of plants in bloom in the open quarters is considerably below the average. There are, however, a few very interesting subjects in flower, and as a rapid growth is being made on all sides the number will be very largely augmented in a week or ten days, should the weather continue favourable.

Colchicum luteum, which usually blooms during the winter months, was fully in flower a few days since, and presented a very pleasing appearance. The flowers are comparatively small, but they are of a bright yellow colour, and produce a striking effect when grown in clumps of good size.

Chionodoxa Luciliæ is flowering with great freedom on the sunny slopes of the rock garden and in the open quarters of the nurseries, and may well be described as one of the most beautiful of the hardy plants now in bloom. It appears to have borne up bravely against the sharp frosts and biting winds that were experienced until quite the middle of last month, and fully justified the praise that has been so freely lavished upon it since its introduction to English gardens. It may be mentioned as a point of some interest that the plants can be lifted from the open quarters and potted without injury, and be then employed for the decoration of the conservatory or drawing-room. It is simply necessary to lift good clumps with a moderate quantity of soil about the roots, and to handle them with a sufficient degree of care to prevent separating the plants.

Crocuses in bloom include several fine species. Chief amongst them is C. Oliveri, which for freedom of flowering and richness of colouring has no equal. The flowers are small as compared with the best of the Dutch varieties, but they are produced profusely and are of an exceptionally rich shade of orange yellow. C. Sieberi, which has large flowers of a purplish violet colour, must also be mentioned for its effectiveness.

Daffodils are plentiful under glass, but at present so few are in bloom outside that as yet they contribute very little to the attractions of the other quarters. Those which were in flower were Narcissus nanus, N. minimus, and the Tenby daffodil, N. pallidus præcox—the last mentioned being one of the most attractive of those flowering very early in the year.

Hepaticas are now in perfection, and the large breadth devoted to them affords sheets of the most exquisite shades of colour. One of the very finest of the several beautiful forms is H. Angulosa, a robust growing species which is equally at home in all soils and situations, and produces in a very profuse manner large flowers of a lovely shade of light blue. The varieties of H. triloba are all more or less beautiful, the double blue form being particularly noteworthy. H. variabilis possesses a considerable degree of interest and beauty, and should be grown in all gardens in which hepaticas have a place. The flowers are single, and vary from pure white to deep blue, white and blue flowers being frequently produced on the same plant.

Irises now in flower are few in number, but they are all good, and well deserve the attention of cultivators of these beautiful plants. Foremost amongst them is I. reticulata, which is valuable alike for border and pot culture. The foliage is grass-like and elegant, and the flowers are violet blue, marked with deep gold, and highly fragrant, the perfume resembling that of the violet. I. reticulata cyanea, for which Mr. T. S. Ware was granted a first-class certificate at the February meeting of the R.H.S., is a beautiful form, perfectly distinct from the type, and equally desirable. The flowers are light blue, marked with violet and gold, and are very fragrant. Some plants in the rock garden commenced blooming in November, and continued to produce flowers until the end of March, which suffered but little from either the frost or the snow of which we had so much during the past winter. There is yet another variety of the netted iris which, if not quite equal to either of the forms mentioned, is so good that it must not be overlooked. This is variously known as I. reticulata purpurea and I. reticulata Krelagei. The flowers are similar in size and form to those of the type, and are of a deep purple hue, and destitute of fragrance. I. stylosa is flowering freely in the cold-house, and, although not quite hardy, is so valuable for flowering during the winter months that some reference must be made to it. This species is rather neat in growth, and bears comparatively large, finely-formed flowers of a delicate lavender blue, marked with golden blotches. An example which is planted in a bed of soil within the house, and is now well established, has been in bloom throughout the winter, and has already produced upwards of one hundred flowers. It is still in full bloom, and promises to continue so for some time hence. For frame culture for the supply of cut flowers during the winter and the early part of the spring it has but few equals.

Megaseas are now coming into flower, and will contribute materially to the attractions of the herbaceous border for some time hence. The finest of these are M. cordifolia purpurea, a free-blooming form, with bright rosy purple flowers; M. Stracheyi, with delicate flesh-coloured flowers; and M. speciosa, of which the flowers are bright rose-pink.

Spring Snowflake presents such an attractive appearance in the several quarters in which it has a place as to suggest the advisability of its being planted more liberally than has yet been the case, both in the dressed borders and in the semi-wild parts of the pleasure grounds.

Snowdrops in flower comprise nearly all the forms in cultivation. The now well-known Galanthus Elwesi fully asserts its claims to be considered one of the first of the several species, and justifies the distinction of a first-class certificate which was recently conferred upon it by the R.H.S. The remarkably distinct G. Redoutei is also very attractive, and does not fail to arrest attention by its large flowers and its broad glossy green foliage, which differs materially from that of the other snowdrops.

Scillas are too well known to need any special comment, but it must be mentioned that S. bifolia and S. siberica are now at their best, and that their brilliant blue flowers afford a striking contrast to the pure white flowers of the snowdrops and snowflakes.

Saxifrages include Saxifraga Burseriana major, which has much larger flowers and is stronger in growth than the species; S. Burseriana Boydi, a distinct variety, with large yellow flowers; and S. Tombeana, a fine species, neat in growth, and bearing large pure white flowers.

GREAT BRUNSWICK AMARYLLIS.

Brunsvigia magnifica.

The genus Brunsvigia is defined by Herbert at page 78 of "Amaryllidaceæ," and the species known to him are described at page 281 of the same work. From amaryllis to this genus the transition is easy, and with many botanists it is a question if the separation is desirable. The Brunsvigias have a cartilaginous margin and broad recumbent leaves, a triangular capsule, and the petaline filaments do not adhere to the petals. In the figure accompanying this note it may be observed that the filaments curve upwards, and there is no special prolongation of a lower petal to support them as in many of the amaryllis or hippeastrums.

The genus was instituted by Heister in 1753 in honour of Duke Charles of Brunswick-Luneburg. The plant before us, *Brunsvigia magnifica*, one of the finest species, is a recent acquisition of the Compagnie Continentale of Ghent, who have several times exhibited specimens in flower, and won thereby for it golden opinions. The bulb is large and globose, producing a bold mass of leafage and a grand head of flowers, remotely resembling those of Lilium lancifolium. The separate flowers average six to eight inches in breadth, and are very regular in form. In colouring, too, there is some resemblance to the lily, the very regular petals of this amaryllid being white, with bold central stripe of purplish red, the enclosing spathe being also of the same purplish red colour. The pistil is of a violet colour, and the anthers are yellow.

The cultivation adopted for the tender crinums suffices for this magnificent beauty. It is certainly not hardy, but, being a native of the Cape, needs no more than ordinary greenhouse temperature.

FLOWER OF BRUNSVIGIA MAGNIFICA (Colours white and red purple).

Studies of the Temperature of Waters and the variations of geographical temperature generally, by Mr. A. C. Woeikoff, of St. Petersburg, appear in *Archives des Sciences Physiques et Naturelles* for February, 1886.

SPRING WORK AMONGST ROSES.

The cold weather held out so long that I should think there has not been a rose tree pruned too early this year, for there was nothing tempting in the weather until more than half of the month of March was past to entice anyone to face the biting wind to undertake such delicate work as pruning roses. Certainly there was nothing in the appearance of the rose trees themselves to make one anxious to see the pruning completed. The continued cold weather was a complete check upon them, and, so far as the future prospect of the rose season is concerned, there is every reason to hope that it will be an abundant one. In regard to newly-planted roses, I find they have suffered in some cases from the prolonged cold weather. The roots are, no doubt, uninjured, though long dormant. It is the growth above ground which has suffered; at any rate, some few of our collection have the tops of the shoots much injured, so that we have decided not to prune them until the end of the first week in April, and then we will cut all the shoots both on standards and dwarfs back to within three buds of the old wood. At present sufficient rain has not fallen since the warmer weather set in to reach all the roots, but as soon as we think the roots have had sufficient moisture we shall lay a thick layer of half rotten farmyard manure on the surface, so as to confine the moisture and to prevent the drying wind from penetrating the soil. In a general way we mulch all our roses every year, but I think in the case of established plants it is best not to lay on the mulch until the end of April or the beginning of May, as I like the surface to be warmed by the sun before the ground is covered up. I have an idea that the warmth strengthens the action of the roots. Where the pruning of established plants of the hybrid perpetuals has been delayed until now the operation should be completed at once.

Tea-scented roses have with us passed through the winter unharmed. The plants alluded to are trained against a south wall. In the autumn the branches were unnailed and tied in bundles, and the bundles wrapped up in straw. As soon as the weather changed I had the straw removed, for if it had been allowed to remain the pro-

tection it afforded would have unduly hastened growth which might not be able to endure the sudden changes of weather which generally occur up to the end of May. As it was they had already commenced to make young growth. The trees have now been pruned and nailed to the wall, as they will not require any further protection. Those who have tea roses protected in open beds may now safely remove the coverings, and they may also have such pruning done as they require.

April is the best month in the whole year to plant climbing roses against walls or fences, providing the plants have not been brought on into growth in warm houses. Plants that have been kept all the winter in cold pits or frames will be in capital condition now for planting. If they have made any growth on the points of the shoots it will not do the plants any harm to cut them off. When preparing the ground for climbing roses it should be kept in mind that in all probability the plants will occupy the position for many years. It is therefore necessary to thoroughly prepare the soil. If it is fairly good and deep all that need to be done to it will be to dig out a hole three feet square and two feet deep. When filling in the earth again a barrow-load of good rotten manure should be mixed up with it. But if the staple is not good the bad earth must be taken away and fresh brought in its place. A good fibrous loam is the proper thing to provide; but if that is not available any garden soil that will grow good peas and cauliflowers will be fairly satisfactory.

Should any reader wish to know which is the best hardy climbing roses, I should recommend Gloire de Dijon, Reine Marie Henriette, Cheshunt hybrid, William Allan Richardson, Solfaterre, and Aimee Vibert Scandens. But those who have warm walls and a fairly good climate should plant the better forms of tea roses, such as Marie Van Houtte Lamarque, David Pradel, Catherine Mermet, Céline Forestier, and Rêve d'Or.

The month of May is plenty soon enough to plant roses out of pots if they are to occupy open beds or borders, and those who want to make rose beds that will last a lifetime are advised to secure own root roses growing in pots, and plant them out in ground well prepared. If the beds are to last for a number of years in good condition the preparation of the soil must be thorough, and then the effect will be lasting. A depth of 18 inches of good rose soil is necessary, and if the natural staple is not of a loamy nature it will be necessary to provide loam for the purpose. In many cases an addition of half loam to the staple will make a suitable medium. Roses will not last many years in vigorous health unless the roots have a fairly heavy soil to sustain them, and even in that case they will want a rich surface dressing with either old hot bed or farmyard manure every winter. Where it is intended to form such beds this season the preparations should be made and completed at once, so that the soil may have time to settle down before planting.

The plants may be purchased at once, and as soon as they arrive let them have a frame or pit to themselves, so that the light can be drawn off during the day, or they may be stood close to a warm wall, with a mat over them on frosty nights. Any way, the cooler they are kept, so that they are sheltered from frost and cold cutting winds, the better. The roots will, of course, require water occasionally.

I lately read in one of the gardening papers that roses planted in May do not make any growth the same season. Perhaps they do not when the planting is carelessly done. But my experience is that they do make good growth, when the plants are carefully turned out of the pots, and the roots round the bottom of the ball disentangled and spread out, and some fine sandy soil laid carefully on the roots and round the ball, the whole being gently but firmly pressed down. I have no doubt, also, that if roses are planted in a slipshod manner, and do not receive any attention afterwards, that the growth they make the first year is of a poor character; but one who loves roses (and only those who do so should have anything to do with them) will not fail to watch them and attend to the wants of the roots in dry weather, and supply them with the needful moisture. If this is done, and the season should be a favourable one, the cultivator will not have to look in vain for a few roses in the autumn.

VIATOR.

BRUNSWICK AMARYLLIS—*Brunsvigia magnifica.*

MESSRS. W. AND A. K. JOHNSON'S NEW MAP OF THE WORLD, measuring 72 in. by 63 in., very boldly defines the possessions of Great Britain, and will be much valued by politicians as well as by geographers. The tables that accompany it are of great importance as illustrating the statistics of our colonial policy.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Azaleas and Camellias, as they go out of bloom, should be placed under the conditions most favourable to their commencing at once to make new growth. A house in which a rather brisk temperature and a liberal degree of atmospheric moisture are maintained will be the most suitable place for them during the time they are making new growth. Azaleas that require more root space should be repotted as soon as the beauty of the flowers is past, and have pots one or two sizes larger, but for specimens one size will be sufficient. A mixture consisting of silky loam and fibrous peat in equal proportions, and a moderate quantity of sand should be employed. In repotting, care must be taken to make the new soil thoroughly firm or the water will pass through it, and not moisten the old ball, to the injury of the plants. A light syringing overhead once or twice a-day will be most beneficial to both azaleas and camellias during the time they are making their new growth. But neither the atmospheric moisture nor the syringing must be overdone, or the growth will be wanting in firmness. It will be necessary to shade during sunny weather, but at other times the plants must enjoy uninterrupted light. Camellias in the conservatory borders should be occasionally syringed, preferably late in the afternoon, provided it can be done without injury to other subjects in their immediate neighbourhood.

Pelargoniums to be encouraged to grow freely by the use of the syringe and regular tying out. Fumigate as soon as fly appears, or much mischief may ensue. Plants showing for bloom to have weak manure or soot water at every other watering.

Plants in Bloom comprise azaleas, cinerarias, cyclamens, cytisus, hyacinths, lily of the valley, Narcissi, and tulips.

STOVE AND ORCHID HOUSE.

Orchids.—An increase of heat and moisture will now be required for orchids of all kinds, in both Indian and Mexican houses, but water must be applied with caution until growth has fairly commenced. Specimens of cattleya, calanthe, phajus, saccolabium, stanhopea, zygopetalum, brassia, dendrobium, and sobralias will require frequently syringing about their pots and blocks as the plants advance; in fact, the cultivator must now encourage luxuriant growth as early as possible, in order to have the pseudo-bulbs well ripened in the autumn. Shading must be put up not later than the second week of the month, but a better plan is to have good roller blinds, so as to shade at will, if only for an hour or two, when there is a hot sun with an east wind.

Stove Plants growing vigorously should enjoy rather liberal supplies of water at the roots, and be syringed overhead at least once a day. Shade will be necessary during periods of sunny weather.

FLOWER GARDEN AND PLEASURE GROUNDS.

Auriculas to be shaded as the bloom progresses, and have shelter at night by means of mats. Give plenty of water and an abundance of air. Thin the pips in good time to the standard number, whatever that may be.

Chrysanthemums for general decorative purposes to be now propagated. Suckers are as good as cuttings, and there need be no disputes about the relative values. They do not require much heat to start them, and nothing is better than a gentle hotbed on the old-fashioned plan. Old stools may be planted out in the borders.

Hollyhocks planted now from store pots will bloom to perfection, and have no check from frost. Put a couple of spadefuls of rotten dung in each hole, plant firm, tally, and stake at once; cover each pot with an inverted flower-pot for a week, and then remove it. Give plenty of water and liquid manure as required.

Hyacinths must have abundance of water while in bloom, and for some time after; as long, indeed, as the foliage continues green and growing. After it begins to get discoloured dry them off gradually, and lay the pots on their sides, where they will have morning and evening sun to ripen the bulbs.

Violets planted in a short time hence from young runners of Russian and the double-flowering kinds will make fine plants.

KITCHEN GARDEN AND FRAME GROUND.

Forcing must be continued with Carrots, Lettuce, Mint, Asparagus, Potatoes, and Radishes. Many of the complaints of failure which reach us are attributable to high night temperatures. All sources of heat that are under full control, such as hot water, admit of being reduced or increased as required, and the temperature should always fall from five to ten degrees at night in heated structures of *all* kinds.

Dandelion, especially the thick-leaved form, grown in seakale pots in a gentle heat, forms an elegant and acceptable salad. Strong plants may be forced the same as seakale and asparagus, and must be thoroughly blanched, to prevent bitterness. Any old plants in places about the garden may be blanched where they are by turning a pot over them, and stopping the hole with a piece of tile. Seed should be sown for the production of roots for forcing next season.

Successional Sowings may be made of all leading kitchen crops, and, generally speaking seeds sown at once will not be much behind those sown last month. Sow Windsor and Longpod Beans. Sowings should also be made of Early Nantes Carrot, Savoy, Brussels Sprouts, Scotch Kale, Broccoli, Cauliflowers, and Cabbages, for autumn use, a succession of such things being preferable to a glut all at once for the private grower. Beet should be sown in the second week, in ground deeply dug, but not manured. Sow also Onions, Lettuce, Radish, Small Salad, Seakale, and Asparagus; the two last in drills, one foot apart, and one inch deep for asparagus, and two inches for seakale. Another mode of raising seakale plants is to sow in four-feet beds, the seed to be in patches of eight inches in diameter, and two feet apart, and about eight seeds in each, the plants to be thinned to three plants in each patch; the ground should be rich, well drained, and deep. Beds may also be formed now by planting roots, but the best plantations are those raised on the spot from seeds. Potatoes should be planted without delay. The main crop of carrots should be sown about the fifteenth of the month, and there is still time for a crop of parsnips, but the seed must be sown directly.

Tomatoes, Capsicums, &c.—Pot off as fast as needful, and keep them growing vigorously. It is not too late to sow if they have been neglected.

Vegetable Marrows sown now will produce almost as early as those sown a fortnight or a month since. It is best to bring the plants on singly in pots, as they are shorter and stronger when turned out than if grown several in a pot and allowed to sprawl about and spindle away their strength.

Vegetables in Season comprise broccoli, celery, kales, leeks, spinach, turnips, beet, carrots, onions, parsnips, salsify, scorzonera, endive, lettuce, asparagus, cucumbers, mushrooms, mint, potatoes, radishes, rhubarb, and seakale.

Correspondence.

LARGE *VERSUS* SMALL VEGETABLES.

I am much surprised that so little has been said in defence of large vegetables, and am certainly not inclined to allow the terrible onslaught of "R. H. B." (page 96) to go unchallenged. He asks, Who has tasted a big cabbage or cauliflower equal in delicacy of flavour to a small one? In answer to this question, I should say it all depends upon the manner in which the respective samples have been grown. The flavour of vegetables does not so much depend upon the size as the culture. Vegetables extract from the soil certain ingredients, and their quality depends in no small degree on the way in which they do their work. I hold that the more active they are and the more quickly they are brought to maturity or attain a size suitable for the table, the more tender and delicate will they be in flavour. I would ask "R. H. B.," and those who hold the same views, to compare small examples of either cabbage or cauliflowers that have been produced in an out-of-the-way corner, or in ground not suitable for them, with large examples that have been produced under conditions favourable to their full and rapid development. If they will do this without prejudice, they will not fail to see that the more finely grown samples are the best. For many years past several able and painstaking men have devoted much of their time and labour to effecting a combination of size and quality in the several classes of vegetables; and I venture to claim that their labours have been attended with a large measure of success. In referring to peas, "R. H. B." has endeavoured to prove too much; for surely the wrinkled marrows which are the largest are also the finest in quality. If they are not the best flavoured, I would like to ask why they are so greatly preferred by all classes of the community. Your correspondent also mentions carrots and other roots in his endeavour to prove his case. With regard to parsnips, I would refer the writer to the remarks at page 97, where it is stated, and in my opinion correctly so, that large, handsome roots are alone worth cooking. I hold that the quality of vegetables depends upon the way in which they are grown, and I hope that the raisers will persevere in their efforts to give us vegetables that are large in size and delicate in flavour.

Wheatlands, Stirlingshire. J. Cocker.

Having paid special attention to the cultivation of vegetables for many years past, I have read with interest the correspondence on the relative merits of big and little vegetables. As the competition for prizes for vegetables is decidedly on the increase, the matter cannot be too much discussed. It certainly is to the advantage of exhibitors that they should know on what lines the awards will be made. If they knew more definitely than is at present the case, much of the dissatisfaction that is now felt when the result of a competition becomes known would be avoided. I cannot agree with "A Judge" when he says that a cultivator of vegetables has something to consider besides supplying a gentleman's table. He may have; but I think all must admit that it should be the first duty of a gardener to provide the vegetables best suited for his employer's table, and not to produce those most suitable for the market-cart or the greengrocer's window. With reference to cauliflowers, I would say that I have invariably found it more difficult to obtain, in the summer and autumn months, firm white heads of medium size suitable for the dining-room than large over-grown heads that I have been glad to send to the servants' hall. As regards Brussels sprouts, it must be admitted that not much skill is required to produce the large examples so often met with on the exhibition table. I have not yet met with anyone who has not preferred sprouts which are firm and of medium size. The same remark applies to cabbage, beetroot, and many other vegetables. The selection of varieties for cultivation should have more care and attention bestowed upon them, as in the case of grapes, melons, cucumbers, and other things. It is also of great importance that those who have to award the prizes at exhibitions should be well acquainted with the relative merits of the varieties in the several classes, to enable them to readily determine the amount of skill brought to bear upon the respective examples staged in competition.

The Gardens, Aldenham Park, Elstree. Edwin Beckett.

PRESERVATION OF NATIVE PLANTS.

As an admirer of our wild flowers, and of the beauties of nature in the larger sense of the term, I have read with much interest your paper on the danger of extinction that threatens many of our favourites. I am sorry to say that I can supplement what you say, and I feel bound to direct your attention to the wholesale destruction of flowering plants and ferns from the practice of encouraging children and ignorant adults to gather them for hospitals and other such purposes. This is all done with the best intentions, but the consequences are often deplorable. Let anyone examine flowers gathered by children, and it will be found that scarcely any have stalks, while often the roots are bodily torn up and the stations of scarce plants are completely obliterated. My sister and myself travel very much, being amongst woods and hills for months together, and we constantly have to grieve at seeing roads and lanes in England and Wales literally strewn with ferns and flowers that have been torn from their sites only to be thrown away. I quite doubt if one twentieth part of the flowers so gathered are ever put into water or made any use of whatever, whether at hospitals or elsewhere. How can they be fit for anything, when gathered anyhow, in full sunshine, carried for a time in hot hands, and perhaps nursed for an hour or more in a close church or chapel during what is called a flower service? The next day they are packed in a hamper and sent to a London hospital, and it is expected that many poor sufferers will be gladdened with a sight of the crushed and faded things that have been insulted the utmost possible as a preparation for this high service. Wild flowers carefully gathered last but a short time even if seen placed in water, and it demands experience to gather them advantageously—a consideration that applies with especial force in the case of ferns. I often feel anxious to direct the attention of promoters of horticultural exhibitions to this matter, for there is immense mischief done by the practice of offering prizes for wild flowers, while any good that may attend it is hard to discover.

Tunbridge Wells. M. L. Sewell.

You ask if the wild flower classes do any good. Well, I do not believe in them; but that, perhaps, is not to the purpose. But it is to the purpose to read in the rules, as we may often do, that the prizes are to be awarded according to *the number of species shown*. That looks like a short way of wiping out

the native vegetation. And the people who promote this sort of thing invite men of ability to judge the contributions, when, in fact, the only judge wanted is one who can count! The whole business is objectionable, and begets in the young a destructive spirit. R. B.

VEGETABLES AT BRISTOL SPRING SHOW.

The collections of vegetables at the late exhibitions held at Bristol quite astonished the visitors, many of them wondering how such a display could be produced in such an unfavourable season as this has been. As there has been some discussion of late on judging vegetables and encouraging size instead of high-class quality, it has occurred to me that a few notes on those exhibited at Bristol would be interesting. They will, perhaps, enable some of your readers to better understand what is meant by quality. In the first place I must say that at Bristol the vegetables were admirably judged. The first collection to which I will refer was that shown by Mr. F. Nichols, gardener to Mrs. Miller. It consisted of eight varieties, and these had to be arranged in a basket not exceeding three feet in diameter. The collection contained a splendid sample of celery, the sticks not large, but nicely blanched, clean, and fit for the table. Also good leeks and onions, mushrooms about the size of the top of a teacup, beet of medium size, and a good dish of seakale. These six varieties were of first-rate quality, and there remain two others. In the course of the day I heard some one say, "What splendid potatoes and Brussels sprouts." The latter were larger than common eggcups, and gave one the idea that they ought to have been sent to table many months ago. The potatoes were no toys, for they probably ranged from eight to twelve ounces each, and Mr. Nichols made the most of them by placing them round the edge of the basket. Now if these giants had been left at home for some other purpose, and others about half the size substituted, no doubt Mr. Nichols would have taken the first prize instead of the second. The next collection deserving of special mention was that shown by Mr. Bannister, gardener to H. St. V. Ames, Esq. This consisted wholly of first-class produce, and included broccolis about the size of a breakfast cup, beautiful dishes of Brussels sprouts and seakale, and good mushrooms. By an oversight Mr. Bannister put up nine kinds instead of eight, and was thus unable to take either of the two prizes. Mr. E. T. Hill staged a basket which contained splendid celery, Brussels sprouts, and broccoli, and very handsome beet and asparagus. He had also a dish of new potatoes, but as they were not larger than marbles they told very much against his obtaining a place on the prize list. The first prize collection consisted of asparagus, good; Cole's Dwarf Red celery, Wheeler's Winter broccoli, Early Nantes carrots, Student parsnip, Wheeler's Extra Fine beet, Radstock Beauty potato, and a dish of mushrooms. As this collection was shown by myself it would not become me to make any comment on the quality of the several dishes. But I would like to say that the premier prize was not awarded me for the size alone of the several samples. John Aplin.

Gardener to W. M. Baker, Esq., Hasfield Court, Gloucester.

Notes of Observation.

CINERARIAS.

Having an opportunity of inspecting a collection of cinerarias grown from seed obtained on the Continent, I wish to say of them that if large flowers of good substance, possessing a variety of colours, go to make up a perfect strain, why then the Continental strain must have the palm for quality. The flowers that I saw are perfect monsters. I will not attempt to give the diameter of some of the largest flowers, nor the width of the petals, lest I might be thought to exaggerate. It must suffice to say that in size and substance they surpass all I have ever seen before. But I have no hesitation in saying that in my own estimation what is known as the Covent Garden strain is altogether more suitable both for exhibition and home decoration. Although the flowers of this strain are so much smaller than the Continental, they are produced in such numbers that well-grown examples are very effective, and the flowers are more perfect both in form and correct markings; moreover, the colour of the disc is in contrast to the petals. In the case of the Continental varieties it is not so, and thus a really fine character is lost. J. C. C.

LATE-KEEPING GRAPES.

We are now sending to table as fine samples of Mrs. Pince's Muscat as we have ever grown. The bunches were kept on the vines until early in January. They were then cut and put in bottles of water; the bottles being suspended in the fruit room, which is heated by a stove when necessary for keeping the air dry. The only other attention they have required has been to fill up the bottles occasionally when the water has evaporated. There have been a few shrivelled bunches amongst Lady Downe's seedling, but a very few decayed berries have occurred this season, which I attribute to the perfectly ripe condition of the berries when cut. By far the greater number of bunches have kept perfectly fresh, the footstalks being as green and sound as they were last October. In the matter of flavour both varieties have suffered nothing from being kept three months with the stems of the bunches inserted in water. In my opinion Mrs. Pince's Muscat is superior to Lady Downe's, although I must acknowledge that the last named is a grand grape for late keeping. J. C. C.

AMORPHOPHALLUS RIVIERI.

It may perhaps be of interest to those of your readers who cultivate aroids to know that the specimen of Amorphophallis Rivieri, referred to in the *Gardeners' Magazine*, October 5, 1885, is now in full bloom. The spathe is very similar to that of the calla, but instead of being white it is, like the stem, mottled with brown, pink, and white on a green ground, and has a very singular appearance. W. Shipman.

We notice by an advertisement in our magazine that ANTHRACITE is becoming very generally used for hothouse purposes.—[Advt.]

ORCHIDS AT ST. ALBANS.

The great trade establishment for commercial orchid culture at St. Albans is known to all. It is distant from London only half an hour by Midland or Great Northern Railway. Having heard much of it myself, I had often anticipated the pleasure of visiting it, but was only able to do so quite recently. This is one of the places that has been built for the business, but not for pictorial purposes. When you are once within the boundaries the mind is impressed with its gigantic proportions. One house after another has been built to be filled to overflowing with orchids. The thirteenth house is now in course of construction; it is about one hundred feet long, to be filled, when completed, with Vandas planted out.

It is needless to say that the heating and ventilating arrangements of this and all the other houses are perfect. As this house is in course of construction it afforded an opportunity to examine the latest improvements in the internal arrangements. The house is span-roofed—as, indeed, they all are—and twelve feet wide. One hot-water pipe runs round the house, level with the top of the brickwork; against it are the side ventilators, through which the air passes in contact with the pipes. There are six four-inch pipes under the stage, in a chamber. The air is partly confined, but passes into the body of the house, which it efficiently heats, through numerous holes in the brickwork supporting the stage. The house is heated by two separate boilers, and not only so, but there are separate sets of hot-water pipes to each boiler. The value of this arrangement will be appreciated should an accident happen to one of the boilers in a severe snowstorm, or at any such critical time.

Passing from this house into the next, which is of the same width, and 300 feet long, we find it filled entirely with Odontoglossum crispum (Alexandræ) planted out. This is the first stage for the imported plants. Here they are in hundreds of thousands; no one knows how many there are; Mr. Sander himself could not say. There are 600 feet run of staging, over four feet wide, the plants being quite close together at first. In from twelve to eighteen months they are well rooted, ready to be potted, some into small sixties, but some of them into larger sizes. Indeed, a considerable proportion of them had formed large plump bulbs.

Proceeding through this house to the further end, we enter a long corridor, instead of going out of doors to face the cold east wind. From its roof are hanging thousands of baskets filled with various orchids, conspicuous amongst them being Odontoglossum citrosmum. They are not in flower now, of course; indeed, they are just starting to grow from their long winter rest, and with the growth the flower spikes appear. In two months they will hang from the baskets in full beauty—a glorious sight. On the wall of the corridor every inch of space is taken up. Oncidium Jonesianum and other new things are in plenty. The length of the corridor is 300 feet.

Another and a wider span-roofed house, as long as the first, is occupied with Odontoglossum crispum, but it also holds a fine lot of Oncidium Rogersi (varicosum), numbers of Odontoglossum Cervantesi, and the beautiful O. Rossi, most of them being of the majus type, a few amongst them having very large flowers beautifully marked. Another Odontoglossum house, as long as the others, and wider, contains larger plants of O. crispum and O. Pescatorei. Oncidium Marshallianum suspended from the roof is to be seen in magnificent specimens. Mr. Sander considers the cool house best for this species; the plants were certainly starting to grow with great vigour. This is certainly one of the very best of Oncidiums, and, as it is seen growing in the Cattleya house, after five or six years the growths become small and beautifully less. Let those who have failed with it in the Cattleya house try it cooler and near the glass.

Yet another Odontoglossum house. This is as long as the others too, and twenty feet wide, with a long stage in the centre as well as on the sides. The largest plants are here, Odontoglossum crispum forming larger growths year by year; and great plump massive bulbs some of them have made. A few glorious spikes show that they are the right type; broad petals of great substance, forming well-rounded flowers. Large, healthy plants of O. Rossi, suspended from the roof, are furnished with flowers as variable as O. crispum. Although an ordinary form can be purchased for a few shillings, a variety may turn up worth ten guineas. Here are also two groups of Odontoglossums which will help us to settle the difference between O. gloriosum and O. odoratum. They are quite distinct as species, and are not found together. O. gloriosum comes to us with O. crispum from Bogota, in the United States of Columbia; while O. odoratum is found in the neighbouring State of Venezuela. The formation of the lip is different, and O. odoratum is, singular enough, *not* sweet scented. Again, O. odoratum is of a yellow colour, the sepals and petals well-spotted reddish brown; but O. gloriosum has sepals and petals of a straw colour, also spotted reddish brown and with a very pleasant perfume.

Our next house is twenty feet wide, and is used for Dendrobiums. These beautiful orchids require special treatment, and here, in a house specially provided for them, they are doing well. Amongst the imported D. nobile, it may be expected that some fine forms will turn up. There are also the usual popular species, such as D. Wardianum, D. crassinode; lots of the glorious D. thyrsiflorum, &c. Here again is an immense quantity of Odontoglossum citrosmum in pots; they have had no water for three months. Now that they are watered, the bulbs have plumped up, and growth has begun. Next to the Odontoglossums is a quantity of very fine specimens of Mormodes luxatum eburneum. They have made splendid growths, Mr. Sander having hit off the right treatment for them. Here it is in a few words: being a Mexican, it likes plenty of sunshine, and in winter complete rest; no water having been applied for six months! They are now being watered, but none must be applied to the bulbs, or to the centre of the mass. The water is applied to the compost round the plants only. Lælia harpophylla, one of the most beautiful of recently discovered orchids, is doing well in this house. So also are some of the Trichopilias. The yellow T. Turialvæ turns up here under the name of T. Galeottiana. It is figured in B.M., t. 5550, under the name of T. Turialvæ, from a plant exhibited by Mr. Williams, in July, 1865. T. crispa marginata is also grown here, and is one of the very best of Trichopilias.

No. 7 is a similar house to the last. It contains thousands of plants of Epidendrum vitellinum majus, a species that every one should grow, its glowing orange-red flowers are so distinct and so beautiful. In this house Odontoglossum Insleayi leopardinum is very fine, the plants very large and in fine condition. There are a few of the pretty O. blandum, the more showy O. nebulosum, O. maculatum, &c.

Now we are at No. 8, and amongst the Cattleyas. A grand house it is, 31 feet 6 inches wide and 260 feet long. In this and in another house Mr. Sander is trying a novel feature, viz., planting out cattleyas and lælias on

artificial rock. Immense masses have been planted in depressions formed purposely for them, and they are doing remarkably well at present. An orchid fancier would like to spend a day in this house. Here, on the left hand side, is a beautiful group of Cælogyne cristata, comprising the ordinary form, and that usually termed the Chatsworth variety; also C. Lemoniana; the pure white form, C. cristata alba; and last, but not least, C. cristata maxima, which as seen here in comparison with the other forms is the best of all. The lip is distinct in form from the Chatsworth variety, the sepals and petals larger and thicker in texture. It is not a new introduction, having been grown in England for many years, but it is evidently very scarce. There are in this large house thousands of Cattleya Mossiæ; also the spring flowering variety of C. mossiæ, introduced from a new district, and flowering six weeks before the ordinary form. C. Mendeli is also well grown here. Angræcum candatum, from the west coast of Africa, is doing well in this house. It is an old species not often seen, but described and figured by Lindley in B.R., t. 1844. The new species, A. Leonis (Aëranthus), is also doing remarkably well in the cattleya house, suspended close to the roof in baskets. The flower spikes are now showing on the strongest plants. This species seems to be common; at least here are hundreds of plants.

No. 9 is another large cattleya house, the same size as the last, but more attractive, as it contains most of the flowering plants—hundreds of specimens of C. Trianæ, mostly in flower, white and rose-coloured varieties, some with scarcely any trace of colour on the lip, others resplendent in crimson and gold, and in one case magenta and blackish purple; and C. Percivaliana in many varieties, one of them thought to be the best yet flowered: it was being painted by an artist. The flowers are five inches across, sepals and petals rosy purple, a rich orange blotch in the throat, next to the orange purple marone, the front of the lip being magenta purple. Lælia albida, with its delicate rose or white flowers suspended from the roof, are also very attractive and useful to cut from. One species of cattleya here deserves special mention. C. Gaskelliana is certainly very distinct from anything yet seen, and is specially valuable as producing its flowers when C. Mendeli, C. Mossiæ, &c., are over. As a rule the flowers are paler. The growth of these plants is most remarkable; the vigour of some of them must be seen, for the truth is almost past belief as related in the present fashion.

Here are also hundreds of C. amethystoglossa, one with a truss of its beautiful flowers as large as a man's head; the sepals and petals rosy salmon, thickly spotted magenta, and having a rich magenta purple lip. There are 24 flowers in the truss. We must also linger a moment over a few of the rarities, as a pure white C. Percivaliana with just a yellow tinge on the lip. Here also are a few plants of Lælia anceps Percivaliana; it was a single plant a few weeks ago, and cost Mr. Sander a hundred guineas. Here also is perhaps the finest plant of Lælia purpurata in the country; it has fifteen sheaths and cost eighty guineas; both were purchased from the Percival collection. There are also immense masses of Lælia elegans suspended from the roof, such as are to be seen nowhere else. Cattleya Lawrenciana is not too plentiful; nor is it likely to be. It is very distinct, and will improve as it increases in strength.

No. 10 is 20 feet by 150 feet—full of Odontoglossums, principally O. Crispum. No. 11 is 31 feet by 130. O. Crispum, again, with O. Rosai, and one or two choice species in quantity. A plant of Masdevallia melanoxantha in flower is interesting as a botanical specimen; the flowers are dull purple with a claret coloured lip; the sepals have yellowish tips.

The next house, No. 12, is a warm one, 21 feet by 100 feet, and contains that sensational Vanda that has been recently introduced from the Philippines at such immense cost. A few of the specimens of Vanda Sanderiana are unique. Saccolabium illustre is also doing well here; and Cypripedium Spicerianum, first introduced in quantity by Mr. Sander, is also very fine. Here also is a quantity of Calanthe ignea oculata gigantea, a summer-flowering variety which all orchid growers ought to obtain now it is so cheap.

We must now push on to No. 13, which is 24 feet by 50 feet, and contains artificial rockwork on which Lælia purpurata is doing remarkably well; Cattleya Gaskelliana again in plenty; and an excellent importation of Cattleya Warneri. The plants retain the foliage made in the "forest primeval," which is of wonderful size and texture. A novel feature here is the free fern Zygopetalum, growing on the original plants on which they are found. Z. maxillare was first discovered by Mr. Gardner on the Organ Mountains in 1837, and flowered for the first time in June, 1838, in the Botanic Garden, Glasgow, a few months after the plant was imported. It was, says Mr. Gardner, always found growing on tree ferns, and nowhere else. The species of tree fern it prefers is Alsophila ferox. This house is termed the Lælia purpurata house; it is well filled with clean, healthy specimens.

This immense establishment is yet in its infancy. Carpenters and bricklayers are still actively employed. I have said nothing of the large ranges of packing and unpacking sheds, where I saw sufficient quantities of cattleyas and odontoglossums being unpacked to stock a large establishment. The whole place is heated by twelve boilers of the terminal end saddle form. They are low in the crown, being only eleven inches from the fire bars to the lower portion of the arch. These boilers are, I believe, made in Scotland: they are of very simple construction—do not require a very deep stokehole, and do not swallow up such immense quantities of fuel as some boilers which shall for the present be nameless. I have, it must be admitted, very inadequately described what I saw in a visit of a few hours. Where there are so many houses of such immense size, crammed full of orchids, something must be omitted. I can only advise those who wish to know more than I have told them to go and see for themselves. J. Douglas.

GREENHOUSE AND STOVE FLOWERS.

There is not much either of novelty or splendour in the plant house just now; the better reason, perhaps, for making as much as possible of what little we have. In respect of hyacinths, tulips, cinerarias, cytisus, and the like, we need say nothing now, as all such subjects are treated at length in reports from time to time. It will, perhaps, suffice to record that in looking round we find beautiful clumps of *Milla uniflora*, *Pancratium illyricum*, *Gladiolus sulphureus*, *Veltheimia viridifolia* (often labelled "viridiflora," which is ridiculous); *Epacris onosmæflora*, both single and double, the last-named a delicate beauty; *Hypoxis stellata*, white with black centre; *Monochætum Lemoinianum*, lovely mallow colour, with a glow of carmine in centre; *Freesia refracta* and varieties; *Medinilla magnifica*, now in splendid colour; *Æchmea glomerata*, fiery scarlet crimson, touched with full blue, or say bracts crimson, flowers violet, wonderful in colour; *Ixora Prince of Orange*, a fine variety for specimen culture.

HYACINTHS.

By Mr. Pelman Mooy, of Haarlem. Read at a meeting of the Horticultural Club, March 23, 1886.

The honorary secretary of our Horticultural Club has invited me to say a few words upon bulbs and bulb-growing in Holland; and while feeling willing or even anxious to oblige the members, I will endeavour to meet your wishes, but the subject has been treated upon so much before that I must request your kind indulgence.

Bulbs or flower roots have for over 250 years been grown and cultivated in the vicinity of Haarlem, and their cultivation has gradually increased in importance until it has reached its present position. Among the admirers and lovers of plants and flowers, bulbous plants have always found many ardent protectors.

No doubt the great and constant advance which civilization has made in nearly all quarters of the world has greatly aided to extend the cultivation of flower roots and increase the demand, even in countries where fifty years ago there was not a single bulb, and where hyacinths and tulips were nearly unknown.

An advantage which bulbs have over plants in general is that bulbs have nearly all a yearly period of rest, when they can without much fear of injury be packed and be exported to the most distant places. An advantage worth mentioning is that after they have done blooming and have grown to their full maturity they require only to be placed in a dry locality, and for a considerable time require no labour or attention. A further important advantage of such bulbs as hyacinths, tulips, &c., is that by artificial treatment, they can be brought to grow and bring out their bloom several months earlier than they would do when kept out of doors and left to their natural development, which for winter-blooming plants makes them unequalled by any other family among living plants.

I must mention first of all the so much beloved hyacinth, as being not only one of the most esteemed among bulbs, but also one of the most beautiful, although at the same time the most difficult of cultivation and the most expensive to bring to perfection. The name of this genus originated with the writers of antiquity. Hyacinthus, a beautiful boy, was the son of a Spartan king and the favourite of Apollo. Zephyrus, being envious of the attachment of Apollo and Hyacinthus, so turned the direction of a quoit which Apollo had pitched while at play that it struck the head of Hyacinthus and slew him. The fable concludes by making Apollo transform the body of his favourite into a flower that bears his name.

The hyacinth is a native of the Levant, and was first introduced into England in the year 1596; but it was known to Dioscorides, who wrote about the time of Vespasian. Gerard, in his Herbal, published at the close of the sixteenth century, enumerates four varieties—the single and double blue, the purple, and the violet. In that valuable book on gardening, "Paradisus in Sole, Paradisus Terrestris," published by John Parkinson in 1629, eight different varieties are mentioned and described. He tells us: "Some are pure white; another is nearly white with a bluish shade, especially at the brims and bottoms of the flowers. Others, again, are of a very faint blush; some are of a deep purple, near violet; others of a purple tending to redness, and some of a paler purple. Some, again, are of a fair blue, others more watchet, and some of a very pale blue. After the flowers are past, the stem bears a round black seed, great and shining, from which, after sowing and protecting, the new varieties can be obtained." During the 250 years that have passed since the above was published there has been a steady improvement in the size, form, and colour of the flowers of this plant.

From the eight varieties of 1629 more than 4,000 varieties have been produced, of which, however, the greatest number have become extinct or out of cultivation. Many have been thrown out to make room for the latest improved sorts, from which about 200 varieties only are at present subject to extensive commerce.

The hyacinth is a general favourite in the most extensive application of the word; and the varieties in colours of different shades, from the purest white to the deepest shades of scarlet, purple, black, yellow, and violet, are fully equal to that of any other florists' flower. The hyacinths are usually grown for forcing into flower in the dull cheerless months of winter and early spring, when their delicately coloured flowers and rich fragrance lend a charm not otherwise to be obtained. They are equally desirable for planting in beds or in the garden border.

When looking over the cultivation of the hyacinths in Holland, which I have studied practically all my life, I must say that very great changes have taken place during that period in the taste and opinions of what a good hyacinth should be; and, as a matter of course, this change has considerably influenced the varieties which have been propagated and grown. About sixty to seventy years ago there was a taste in general for the double-flowering varieties, and more particularly for the flowers with dark or in other colours striking eyes or centres, and I remember the time that a few beds sold by public auction realized very high prices indeed, while the varieties thus sold at present are not to be found. These double varieties were mostly very small bulb producers, which fact contributed very much to their being neglected and to their loss of favour in public estimation; while the considerable increase of trade and (in consequence of this) also increased competition among nursery and seeds men abroad, stimulated by the feeling of revival in all branches of trade at the fall of Napoleon, our French oppressor, brought on a gradual alteration in the hyacinth fancy, as every tradesman, excited by the competition of his neighbours, was looking out for the largest sized bulbs among hyacinths, basing their trade recommendation upon the general but erroneous belief of the general public that naturally the largest bulbs must also produce the largest flower spikes.

The small bulb-producing varieties, however beautiful they might be, could not at that time find buyers, and growers were then compelled to meet the alteration in public taste as quickly as possible; and as this alteration in taste came rather suddenly, and much quicker than the slow growth and propagation of the desired sorts could meet, prices at that time rose wonderfully high.

In this run after large bulbs among hyacinths many sorts with very inferior flowers were brought out in quantity; but although these large bulbs did increase the general trade, and so far gratified the tradesmen abroad by a greater sale and more profit, still they did not satisfy the amateurs, and better large flowers were looked after. After large-sized bulbs with large spikes of flowers became the demand, the single-flowering varieties have been found more capable of giving satisfaction than doubles; and when we compare the large spikes of the present day with the sorts we had sixty years ago we can only be well satisfied at the great progress we have been able to make.

Although the double-blooming varieties have at present become so much neglected, mostly because of their small-sized bulbs, there are some few double sorts which have pretty well maintained their position in public estimation, but their number is small compared with the large number of single ones in cultivation, and their very great beauty will certainly keep them very long the great favourites with lovers of very fine large flower spikes.

Among the esteemed double sorts I may mention Lord Wellington and Grootvorst, rose; Prince of Waterloo, La Tour d'Auvergne, and Florence Nightingale, white; Louis Philippe and Garrick, dark blue; Blocksberg and Rembrandt, light blue. Of the double yellow flowers Goethe is about the best, but most in this colour are rather of small spike. Of dark red among the double flowers there are only very few varieties, of which Louis Napoleon and Waterloo are about the best; but the latter sort is not so double as could be wished for.

Among the single varieties we at present possess the greatest variety of colours, and among them we can now show superb large and handsome flowers, such as are Garibaldi, Pellissier, Scarlet Light, brilliant scarlets; Fiancés Royale, Gertrude, Koh-i-noor, Prima Donna, Von Schiller, reds; Carlyle, Charles Dickens, Dr. Livingstone, Gigantea, Macaulay, roses; La Grandesse, Alba Superbissima, Crown Princess, Madame Van der Hoop, pure whites; Grandeur à Merveille, Baroness Van Tuyll, Mammoth, Seraphine, blush whites; General Havelock, Baron Von Humboldt, Masterpiece, Mimosa, William I., black blues; Baron Van Tuyll, Charles Dickens, King of the Blues, Bleu Mourant, dark blues; Blondin, Czar Peter, Grand Maître, Leonidas, Grand Lilas, Lord Raglan, light blues; L'Honneur d'Overveen, Sir Henry Havelock, Charles Dickens, Haydn, violets; Ida, King of the Yellows, La Citronière, Obelisk, Anna Carolina, pure yellow; Beauty of Waltham, Clio, Lamplighter, Lord Palmerston, Argus, flowers with striking eyes or centres.

All the varieties have been obtained from seed selected out of thousands of seedlings and by artificial crossing and impregnation, which is an occupation of very long duration, as a little bulb grown from seed requires six or seven years before it is of sufficient size to produce a good flower; and when, considering that this bulb, if found worthy to be grown on, requires twelve to fifteen or twenty years' careful artificial propagation before a moderate stock can be had, it may not create astonishment when many times new varieties have realized large sums of money. New varieties in almost every shade of colour have been saved from year to year, showing improvements in size of spike, in size of bulb, size of bells, &c.; but it may be worth remarking that in all the different colours we have obtained improvement in size of bells with the exception of the bright scarlet-coloured sorts, which until now have always turned out with small narrow bells. If we could obtain a hyacinth flower of a bright scarlet colour, like Queen of the Hyacinths or Garibaldi, with bells as large as La Grandesse or Cloche Magnifique, what a splendid improvement it would be; and probably in the course of time we may obtain this treasure.

Between the time when double hyacinths were most esteemed and the time when single varieties came into favour, a period of perhaps ten years, the always increasing demand was greater than the general stock could furnish, and consequently the prices of hyacinths grew higher every year, and it was at that time a rather profitable culture. This induced a great number of farmers in the neighbourhood of Haarlem to try growing hyacinths, which many have done with more or less success. At that time land was worth only half the price that it is at present, and the most easy-growing hyacinths were then artificially propagated to such a large extent that the stock overgrew the demand, and during the last three years forced the market price of such sorts down to such low prices, that during the last two years thousands of hyacinths have been exported abroad at prices below the actual cost of production, bringing great losses to the growers of this beautiful flower, while it overstocked the markets in several foreign countries where these bulbs were most used, to which poor circumstances the general depression in trade has of course contributed.

Respecting the use made of hyacinths, I must say that the greater portion of the bulbs are forced, and for this purpose the bulbs should be potted about the middle or end of September in 5-inch pots in rich light soil, and placed in a cold frame or under a wall, where they can be covered with wooden shutters or some similar contrivance to keep off heavy rains. In either case they should be covered a foot thick with newly-fallen leaves, and being once well watered after potting they may be left for months to form their roots, when the most forward should be brought out (some repot into somewhat larger pots according to the apparent strength), and the bulbs should be placed in a gentle heat as near the glass and light as possible, to prevent the flower stems rising to an unnatural height. Some care is necessary in the application of this, or the flowers will be abortive. It should not exceed 50 deg. for the first three weeks, but afterwards may be increased gradually to 60 deg.; and if the pots are plunged into bottom heat the same care should be observed, or the points of the roots will certainly be killed. One-third the depth of the pot is fully sufficient at first, and if the heat is brisk they should not be plunged more than a few inches at any time.

When the flower stems have risen to nearly their full height, and the lower bells of the spike are beginning to expand, the plants should be removed to a lower temperature usually afforded by the greenhouse, and when the bells are fairly expanded the plants can be taken to the sitting-room or wherever their presence is desired, observing to protect them from sudden changes or cold draughts of air, and the water given to them should be moderately warm.

Instead of the usual practice of drying hyacinths at once in the sun, I would rather recommend the method in this country—namely, to place them side by side on a sunny spot of ground, and cover them with about an inch of loose earth to thoroughly ripen the bulbs by the subdued heat imparted to the earth which surrounds them. Left in this position for a fortnight they will become dry and firm, and an hour or two's sunshine will finish them properly for storing.

The multiplication of hyacinths can artificially be done in two different ways:—(1) By the bulbs being cut crosswise and sprinkled with sand to absorb any superfluous moisture that may exude from the incisions. After a time they are planted in the earth in the usual way, when the mother bulb divides itself into small bulbs. (2) By scooping out the base of the large bulbs after they have been taken up in July. After this operation it requires great attention in watching carefully the process of properly drying the wounded bulbs, because by not properly attending to this the whole bulb may become mouldy and be lost completely. The bulbs thus treated are planted in October, at which time the small offsets at the base of the bulb are partly visible already, and are then planted in the usual way, only with a slight covering of earth, in a warm situation as much exposed to the heat of the sun as possible, where the small bulbs gradually develop in the warm sandy soil, with the proper degree of moisture, aided by the climate, which about Haarlem appears to be so very suitable to the growth and development of this flower. (3) In the most natural way, by offsets from the parent bulb—which is, however, rather slow to meet the present large demand.

The tulips used for forcing require about similar treatment as the hyacinths. When placed in heat they should be placed as near to the glass as possible, in order to prevent the flowers drawing up too high, and the flower stems should occasionally be assisted when by their quick growth they get entangled in the foliage. During the last few years tulips have become great favourites for planting out in beds, for which thousands are annually employed, making by their very brilliant colours a very showy effect indeed. I could dwell for a considerable time upon the history of the tulip and the very unusual speculation, or rather gambling, at some past period these have been made subject to; but in case my present paper should have met with your approbation, and might have given some little pleasure or hearing to some of the audience, it may induce me to try another paper on these and other sorts of flower roots at some future occasion.

I have no doubt that in several ways my present paper may be found wanting, but I may be allowed to remind you that as a foreigner I write in a language altogether strange to me. As an ardent admirer of horticulture in every branch, and stimulated by the earnest desire to do something to oblige the members of the club, who all may be considered also as lovers of horticulture, floriculture, and botany in every branch, I have ventured the writing this short paper.

Exhibitions and Meetings.

CRYSTAL PALACE SPRING FLOWER SHOW, March 26 and 27. The exhibition of spring flowers which was held at the Crystal Palace on the above dates was attended with a full measure of success, and must have afforded abundant gratification to the visitors. Hyacinths, tulips, and cyclamens were staged in very large numbers, the competitive collections being supplemented by several groups of great importance that were contributed to the miscellaneous class. Roses in pots were staged in sufficient numbers to form a beautiful bank and constitute one of the most important features of the exhibition. The plants were arranged on a series of stages erected in the central transept; and as the whole of the materials were, under Mr. Head's able direction, turned to the best possible account, the general effect was remarkably good.

Hyacinths and Tulips were admirably shown in the large classes, and produced a very attractive display of colour. There was a spirited contest in the great open class for thirty-six hyacinths; and in the result the premier award was made in favour of Mr. H. R. Wright, Turner Road, Lee, who had examples of exceptional excellence, the spikes being fairly developed, and the foliage stout and neat. The finest of the varieties represented in the collection were Lord Derby, Vuurbaak, King of the Blues, Cavaignac, La Grandesse, Princess Mary of Cambridge, Grandeur à Merveille, Charles Dickens, Lord Macaulay, Von Schiller, Koh-i-noor, Etna, and Marie. Messrs. H. Williams and Sons, Fortis Green, Finchley, made a good second, with well grown examples of Ida, Moreno, King of the Blues, Princess Amelia, a pleasing variety, with flowers of a delicate blush colour, King of the Blues, La Grandesse, Czar Peter, and other well known varieties. The competition was hardly so good as might have been expected in the amateurs' class for twelve, and it will suffice to say that the two prize-takers were Mr. Penfold, gardener to Canon Bridges, Beddington, and Mr. Horsley, South Kensington. Mr. H. R. Wright contributed a group of about one hundred hyacinths, and was deservedly awarded an extra prize.

In competition for the prizes for thirty-six pots of tulips Mr. Wright was first with capital examples, amongst which Rose Luisante, Keizerskroon, Joost van Vondel, White Joost van Vondel, one of the very best of the white tulips, and Ophir d'Or were well represented. Messrs. H. Williams and Sons were a good second, and staged, amongst other fine varieties, Proserpine, one of the best of the rose-coloured tulips. The premier award in the class for twelve was made in favour of Mr. Penfold, who presented yellow Pottebakker, Cloth of Gold, and Keizerskroon, in a high state of development.

Polyanthus Narcissi were presented in fine condition by Mr. H. R. Wright and Messrs. H. Williams and Sons, to whom the first and second prizes were awarded in the great class for thirty-six pots. The finest of the several varieties staged were Grand Monarque, Jaune Suprême, Her Majesty, Newton, Bazelman major, and White Perfection—the last-mentioned a beautiful variety, with pure white flowers, which are admirably adapted for decorative purposes in a cut state.

Lily of the Valley has seldom been so well shown as on this occasion. In the open class for twelve Messrs. H. Williams and Sons were first, with large specimens remarkable alike for their excellent flower spikes and foliage. Mr. H. R. Wright, who was second, also had examples evincing high-class cultural skill. Mr. Luff, gardener to H. R. Hyatt, Esq., Leigham Court, Streatham, and Mr. Penfold were first and second respectively in the class for six pots, both exhibitors staging good examples.

Cyclamens were so strongly represented, both in point of number and quality, as to produce a rich effect. Mr. H. B. Smith, St. George's Nursery, Hanwell, was well to the front in the open class for thirty-six, staging specimens large in size and densely flowered. Mr. J. Wiggins, gardener to W. Clay, Esq., Elm Villa, Grove Road, Kingston-on-Thames, was second with medium-sized and well-bloomed examples. Mr. Wiggins was also first in the class for twelve in which the competition was limited to private growers. Each of these exhibitors exhibited a large and excellent collection in the miscellaneous class, and was awarded an extra prize.

Groups of Stove and Greenhouse Plants were contributed by Messrs. J. Laing and Co., Forest Hill, and Mr. H. James, Norwood, to whom the first and second prizes were respectively awarded. The first prize collection included a considerable number of beautiful orchids, and was arranged with much taste.

Roses in Pots had no special provision made for them in the schedule, and the beautiful collection contributed by Messrs. Paul and Son, Cheshunt, therefore formed a very pleasant surprise. The plants, which were liberally furnished with flowers of good quality, comprised teas and hybrid perpetuals in about equal numbers. Chief amongst the varieties were Souvenir d'un Ami, Madame Lacharme, Céline Forestier, Maréchal Niel, Lord F. Cavendish, Catherine Soupert, Dr. Andry, Catherine Mermet, Ulrich Brunner, La France, Colonel Felix, Breton, and Souvenir d'Elise Vardon. An extra prize was awarded the firm.

Miscellaneous Contributions comprised daffodils exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, and Messrs. Barr and Son, 12,

King Street, Covent Garden, W.C. Mr. F. Bause, Morland Nursery, Portland Road, Norwood, exhibited a very beautiful group of ornamental-leaved plants. Extra prizes were awarded to the several exhibitors.

Novelties were few in number, and a small proportion only received recognition. Messrs. J. Laing and Co. were granted first-class certificates for *Imantophyllum robustum*, *Mrs. Laing*, and *Cattleya Lawrenciana*, both of which have been recently described, and for *Begonia Gloire de Sceaux*, a shrubby species, possessing considerable beauty; the leaves are of a rich bronzy purple and the flowers bright pink.

ROYAL AQUARIUM SPRING FLOWER SHOW, March 30 and 31.

The first of the series of horticultural exhibitions at the Royal Aquarium, under the direction of Mr. Richard Dean, was held on Tuesday and Wednesday, and proved so great a success as to surpass general expectations. The principal subjects represented were hyacinths, tulips, cyclamens, and daffodils, all of which were shown chiefly by trade growers.

Hyacinths and Tulips were plentiful and good, and contributed very materially to the effectiveness of the display. In the great class for one hundred hyacinths the competition was very close between Mr. H. R. Wright, Turner's Road, Lee, and Messrs. H. Williams and Sons, Fortis Green, Finchley; and in the result these exhibitors were placed first and second respectively. Mr. W. Brown, St. Mary's Nursery, Richmond, was awarded the third prize for an excellent collection. There was no competition in the amateur's class for twenty-four hyacinths. For fifty pots of tulips, Messrs H. Williams and Sons were first with splendidly flowered examples representing the finest varieties at present in cultivation. Mr. H. R. Wright was a good second.

Cinerarias and Cyclamens were presented in considerable numbers and in good condition, and contributed materially to the brightness of the show. At the head of the competitors in the great open class for fifty cinerarias were Messrs. J. Carter and Co., High Holborn, who staged large well flowered specimens of their fine strain of those flowers; Mr. A. D. Clark, gardener to W. B. Brand, Esq., Wanstead Park, Essex, was second with compact nicely flowered examples. Cyclamens were exceptionally good, and in the open class for fifty Mr. H. B. Smith, St. George's Nursery, Hanwell, was first with highly meritorious specimens. Mr. J. J. May, Gould's Green, Hillingdon, was a good second, with plants bearing the impress of skilful cultivation; Mr. J. Wiggins, gardener to W. Clay, Esq., Elm Villa, Kingston-on-Thames, was third with neat examples. Mr. Wiggins was first in the amateurs' class for twelve cyclamens.

Daffodils, which had three classes set apart for them, were very strongly represented and formed a large feature, which proved highly attractive to the general body of exhibitors. There was a very keen contest in the class for fifty pots of narcissi, and the first place was occupied by Mr. Wright, with excellent examples of polyanthus narcissi; Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was a close second; and Messrs. H. Williams and Son were third. Large and very beautiful collections of cut daffodils were shown by Mr. T. S. Ware, Messrs. Barr and Son, 12, King Street, Covent Garden, and Messrs. Collins Bros. and Gabriel, Waterloo Road, W.C., who were awarded the prizes in the class set apart for cut flowers.

Hardy Plants were represented by a large and thoroughly representative collection from Mr. T. S. Ware, and a smaller but exceedingly beautiful group from Mr. A. Dean, Seed Grounds, Bedfont. In the collection from Mr. Ware, who was awarded the first prize, Muscari botryoides alba, M. commutatum, hepaticas in variety, Anemone pulsatilla, Iris stylosa, I. reticulata, and Megasea Stracheyi were well represented. The group from Mr. Dean, who was awarded the second prize, consisted chiefly of primroses, of which several were remarkably beautiful.

Collections of Market Plants, for which there was a class with liberal prizes, formed a very attractive feature. The premier award in the class was made in favour of Messrs. H. Williams and Sons, who had an extensive and very beautiful group comprising well grown azaleas, pelargoniums, cytisus, and other seasonable subjects in the best possible condition. Mr. Wright was second with an admirable group consisting chiefly of ornamental-leaved plants.

Miscellaneous Contributions were sufficient to form an important feature. Messrs. H. Cannell and Sons, Swanley, exhibited two magnificent stands of zonal pelargoniums, comprising the very finest in cultivation. An extra prize was awarded the exhibitors. Mr. F. Perkins, Regent Street, Leamington, exhibited plants and cut flowers of Pelargonium Volonté Nationale alba, a white form of this well-known and excellent decorative pelargonium. An extra prize was awarded the exhibitor, and a first-class certificate conferred upon the pelargonium. Extra prizes were also awarded to Mr. H. B. Smith and Mr. J. Wiggins for cyclamens.

Obituary.

On the 11th ult., at Vienna, Franz Antoine, for many years director of the Emperor's garden at the Hofburg, Vienna, and a fellow worker with the late Professor Morren in bromeliaceous plants.

On the 25th ult., Mr. Thomas Danby, the eminent landscape painter and water-colourist.

On the 25th ult, at South Hackney, the Rev. C. W. Banks, a large-hearted and large-minded representative of a narrow sect, and author of a Life of John Calvin, aged 80 years.

On the 26th ult, at Sheffield, John Simonite, one of the brightest florists of the old school, aged 85 years. It is more than 60 years since he began to take prizes for auriculas.

On the 27th ult., at The Roost, Bournemouth, Sir Henry Taylor, formerly of the Naval service and the Colonial Office.—He gave much time to literary studies, and was the author of the noble drama "Philip van Artevelde."

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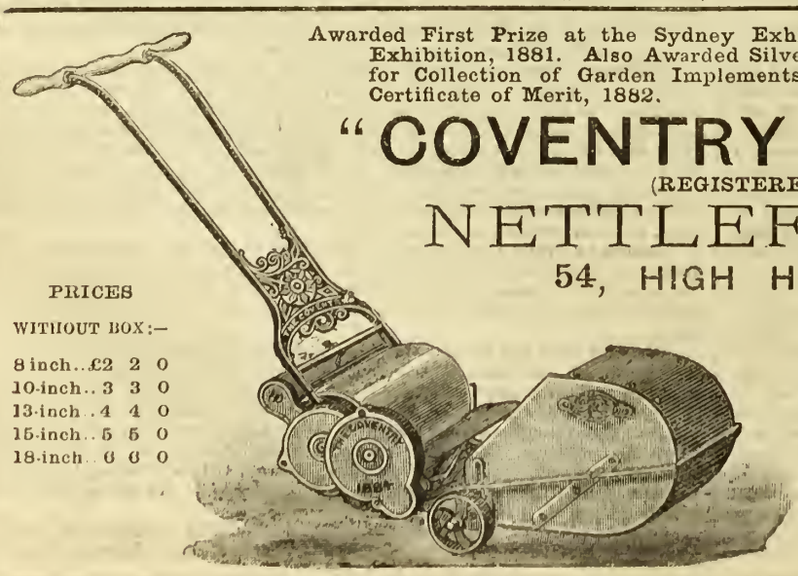

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D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. tmp. avrg. of 10 yrs. Chiswick.	Orchids in Flower.	Day of Yr.
1886		[8h. 44m. after.	H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.		1886
11	S	**5th Sunday in Lent.**) First Quarter,	5 15	1 2	6 46	10 15	1 2	6 10	6 35	3 10	3 35	47·6	Cattleya amethystoglossa..... Brazil.	101
12	M	Prince Frederick of Prussia born, 1860.	5 13	0 46	6 48	11 22	1 53	7 6	7 40	4 0	4 31	47·7	Cattleya citrina ..... Oaxaca.	102
13	Tu	Handel died, 1759.	5 11	0 30	6 50	After.	2 34	8 17	8 59	5 5	5 42	47·9	Cypripedium caudatum..... Panama.	103
14	W	Princess Beatrice born, 1857.	5 9	0 15	6 52	1 49	3 11	9 45	10 27	6 24	7 10	48·1	Cypripedium lævigatum ..... East India.	104
15	Th	Length of Night, 10h. 14m.	5 7	Bfr Sun	6 53	3 8	3 44	11 5	11 40	7 52	8 30	48·3	Dendrobium Loechianum..... Gar. hyb.	105
16	F	Victory of Culloden, 1746.	5 5	0 15	6 55	4 25	4 14	—	0 12	9 5	9 37	48·4	Epidendrum flammea ..... Gar. hyb.	106
17	S	Oxford Lent Term ends.	5 2	0 29	6 57	5 41	4 42	0 37	1 2	10 2	10 27	48·6	Vanda suavis..... Java.	107

ROYAL BOTANIC SOCIETY GARDENS, REGENT'S PARK.
WEDNESDAY, April 14, SECOND EXHIBITION OF SPRING FLOWERS.
Tickets and Schedules of Prizes can be obtained at the Gardens.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS: Fruit and Floral, at Eleven a.m., in the Conservatory; Scientific at One p.m., in the Lindley Library, on TUESDAY next, April 13.
MEETINGS of the NARCISSUS COMMITTEE at Half-past Eleven a.m., and Two p.m.
THIRD PROMENADE SHOW and Small Band of the Royal Horse Guards, from Half-past Three o'clock p.m. Admission 2s. 6d.
N.B.—Entrance for Fellows and the Public, North-east Orchard House, Exhibition Road; and Exhibitors' Entrance East side of Royal Albert Hall.

RICHMOND (Surrey) HORTICULTURAL SOCIETY, 1886.—The TWELFTH ANNUAL SUMMER EXHIBITION of PLANTS, FLOWERS, FRUITS, VEGETABLES, &c., will be held on WEDNESDAY, July 7, and the SIXTH AUTUMN EXHIBITION on November 11 and 12. Nearly the whole of the Classes are Open. Apply for Schedules to the Hon. Secretary, Mr. J. H. Ford, 22, George Street, Richmond.

Auction Sales for the Ensuing Week.

Tuesday, April 13.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
Tuesday, April 13.—Messrs. Protheroe and Morris, at Rose's Nursery, Surbiton; Nursery Stock and Greenhouse Plants.
Wednesday, April 14.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Roses, Plants, &c.
Wednesday, April 14.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids, 5,000 Lilium Auratum, &c.
Thursday, April 15.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids, 5,000 Lilium Auratum, &c.
Friday, April 16.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

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SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.
Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.
ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line of

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The Gardeners' Magazine.

SATURDAY, APRIL 10, 1886.

The Education of Gardeners obtains so little attention in this country that we may reasonably expect to see in operation in the English garden what is and long has been in operation in other fields of industry—the substitution of the foreign for the native worker; the first gaining his way by the simple and sufficient fact of his superiority. In every department of industry foreign competition is telling directly against home enterprise and the employment of our own people; Belgian girders, Swiss watches, Austrian chairs, being but examples of a thousand things the production of which appears to be passing out of our hands, the direct effect being national impoverishment and the cry of hunger in our streets. When port-wine supersedes English spirits, and claret takes the place of beer or cider, the fact is in no degree discreditable; for in respect of tastes and fancies freedom must prevail, and articles it is impossible for us to produce must be imported in proportion to the demand for them. But the case is altogether different with many other things. We see glass, iron, and other materials that we can produce as well as any, and better than most nations, largely used in works of construction; and, assuredly, if this is not actually discreditable, it is at the least suggestive of some serious considerations. The rough-and-ready way of dealing with it proposed by protectionists and fair-traders is, at the very best, no better than ostrich philosophy, which consists in shutting the eyes against danger in order to avert it. We want something more than protection on any plan can give us—we want a market for our goods; and the foreign competitor who beats us on our own ground can beat us on any other, and his coming here is in the nature of a warning as well as a challenge. The ostrich with its head in the sand will be satisfied if the hunter pass him by; but British industry would gain but little were the products that compete severely with it excluded from the home market, for there would still remain the markets of the world, to which we can obtain access only by some virtue of the quality and price of our goods. The protection of British industry would simply complete the ruin that desponding natures believe to be foreshadowed in the depression of trade and the calamities consequent thereon. The remedy is not to be found in legislative tinkering, but in commanding the markets on the safe plan of placing therein the best goods at the lowest prices; for the buyer must always be free; and being free, he will consider his own advantage in the transaction. The industries of the country are systematically injured by ignorance, prejudice, lawlessness, and profligacy. The British workman is certainly as good as any other workman, and better than most; but his narrow views of the obligations of life and the laws of political economy cause him often to cut the ground from beneath his feet; and when the ground is gone he groans aloud that he has no rest for the sole of his foot.

The subject is illustrated by the position of the gardener. In the majority of cases he has to blunder into the business, and he is left to his own resources. There is certainly much to be said in favour of leaving men to manage their own affairs without help or hindrance from the State; but there are lines to be drawn between them, and it is for the interest of the great body politic that the lines should be drawn fairly—that, so far as practical wisdom can secure such an end, every man should have the aid of opportunities, without limit to collective independence or check to the development of individual character. The advancement of Continental industries in recent years gave impetus to the educational movement that culminated in the Education Act. It was seen that the competitors whom a narrow sea scarcely separates from us have had better training for their work than was ever provided in this country. The story of the artificial flowers, told in the pages of *The Golden Gate*, gives the key to the entire subject. The taste and intelligence that give to flowers of French manufacture command of our market as regards the goods of highest quality, are at command for other purposes, and the fact more than suggests that when the foreigner takes the lead here it must be because he produces something we cannot produce, or does something better or cheaper than we can do it. We repeat that the subject is illustrated by the position of the gardener, because Continental States provide schools of horticulture; but the thing is unknown in this country, whether as a work of the State or the result of patriotic enterprise. During the past thirty years there has been heard a talk of the necessity for a school of forestry, yet at this hour there is no such thing existing; but it is still talked about, and a few hundred pounds have been scraped together for the establishment of such a school in Edinburgh. The Board School may be regarded as the "national" school; but it provides in but an infinitesimal degree for the training of youth in what the "practical" English nation is reputed to love, and that is *work*. The scheme of the school gives no encouragement to the observation of nature, and the study of human life: it is all book, book, as though the world itself had actually passed away, and all that could be learned of its complexion was entombed in the utterance of dead sages. A big building, a paved yard, and a book—these are the provisions made for feeding the young mind, while great nature with a million hands beckons the tender pupils to admire her beauties and learn something of her ways. The Board School Garden ranks as yet with the pleasaunce of Utopia; the managers cannot conceive of the derivation of knowledge from aught but printed books, and the fact compels the melancholy reflection that they know but little either of the books or of the great world of which they are the partial and personal reflections.

It is to the artificial barrier we have constructed and maintained to stand between the mind of man and the fountain of knowledge that we are chiefly indebted for the position of inferiority to which we appear to be sinking in the competition with foreign industries.

It is superior intelligence that is worsting us; and that superior intelligence is in great part due to the larger opportunities provided on the Continent for the observation of nature, and the study of the sciences that reveal her secrets. The horticultural school, to which we gladly send our young men, is not an isolated institution indicating a Continental passion for horticulture: it is part of a broad-minded system that has its roots in the conviction that books at best are but as sign-posts that silently indicate the road to be taken, while the goal to which the road leads is great nature herself. With us the books are the alpha and omega of the educational system which vainly supposes that all knowledge is there, and consequently discourages the use of the observing faculties—on which, in the end, we must depend for our power to swim or our fate to sink in the conflict to which in a crowded world we are inevitably destined.

It must be repeated that there are two sides to the question. The consideration reminds us that the greatness of this country is due, in some part at last, to the complete freedom allowed to every man to sink or swim as his fate or faith may determine. Where the State does little for individuals, and treats masses in a quite perfunctory way, there is great scope for the development of genius and character. The horticultural school is unknown here; but the merits of English and Scotch gardeners are known not only to ourselves but in the world at large. The King of the Belgians—who, more than any of the amateurs of horticulture, deserves special mention in this connexion—entrusts the care of his horticultural establishment to an Englishman who had become famous here for skill and enterprise ere the right royal gardener secured his services. The horticulturists of America may be described as directly British from first to last: not, indeed, because of the British origin of a considerable proportion of the American people, but because, as one may say, of importations for the purpose. If their own enterprise carried them there it is the same thing in the end: there they are—the useful products of the mother-country, where the mother took no particular notice of her children beyond keeping them in order and expecting them to earn their living. It may be that we could always do better for ourselves than any government or society or friends could do for us. As a matter of fact, however, we do not always or in all things discover in relf-reliance the potentiality that is doubtless there. Experience has taught that in a community of interests there must be a community of help; and if a national system of education is in any way justifiable, then it may be granted that it should be the best possible, and should have for one of its objects to be helpful to all in the battle of life, and should sometimes reach beyond the Three R's into the realities of the world around us.

Basingstoke Summer Show will be held August 19.

Havant Chrysanthemum Society will hold its annual exhibition November 3 and 4.

Mr. J. Powis has been engaged as gardener at The Firs, Worcester, the residence of S. Howitt, Esq.

East Gloucestershire Rose Show will be held at Moreton-in-Marsh, July 13.

Mr. Charles Green has succeeded Mr. J. Udale as gardener at Shirecliffe Hall, Sheffield.

Mr. Joseph Ellis has been engaged as gardener at Mostyn Hall, Holywell, Flintshire, the seat of Lord Mostyn.

Mr. George Judge has been engaged as gardener at Beechdale, Lee, the residence of J. C. Geiselbrecht, Esq.

Orchid Show in Birmingham will be held in the Botanic Gardens, May 12 and 13.

Mr. J. J. Quelch, of the British Museum, has been appointed curator of the British Guiana Museum at Demerara.

Shepperton and Thames Valley Horticultural Society.—The annual exhibition will be held on Thursday, July 1st.

Dresden is to be the scene of an International Horticultural Exhibition in the Month of May, 1887.

Cattleya exoniensis superba.—A healthy plant, with nine pseudo-bulbs, was included in the recent sale at Bridge of Allan, and realized £40.

Stevens's Rooms, at King Street, Covent Garden, will be very gay on Wednesday next, when there will be a special sale of orchids in flower.

Horticultural Club dinner and conversazione will take place at 1, Henrietta Street, Covent Garden, on Tuesday next, when the Rev. C. Wolley Dod will open a discussion on Daffodils.

Surrey Chrysanthemum Society, which has now attained to a high position amongst the metropolitan associations, will hold its annual exhibition in the Peckham Public Hall, November 8 and 9.

National Chrysanthemum Society.—A meeting of the general committee will be held at the Four Swans Hotel, Bishopsgate Street, E.C., on Monday next, at 7.30 p.m.

Mr. W. Montagu Kerr's remarkable experiences and observations in the interior of Africa are discoursed upon at length by him in a work entitled "The Far Interior," now in course of printing for Messrs. Sampson Low and Co.

Hereford Rose Show, announced for the 8th, will be held on the 9th of July.

"Carter's Practical Gardener" appears with the spring flowers, and will help many to enjoy them. The present is the 12th edition and contains a good index.

The First Flower Show in the Scilly Islands has made an impression strikingly confirmatory of the reports current of horticultural doings there. Scilly flower-growing has been much talked of; we shall now have to believe in it.

Fruit Culture in the Crimea is a subject of serious consideration with the Russian Government; M.M. Kaznetsov and Vesselovsky having been commissioned to explore and inquire with a view to the expansion of rural industries in the peninsula.

A List of Seeds of Hardy Herbaceous Plants grown at the Royal Gardens, Kew, 1885, has been published in a neat octavo form by Messrs. Spottiswoode; price 6d. The list of composites covers rather more than ten pages, and includes Chrysanthemum frutescens.

Mr. Tudgey's Specimen Plants are so well known as the bright battalions of the hero of more than a hundred fights, that there is peculiar interest in the announcement that on Thursday next a portion of them will be offered for sale under the hammer by Mr. Tydeman, at the Exotic Nurseries, Waltham Cross.

Daffodils from Cork received within the past few days comprise a wide petal and large trumpet form of Princeps and a form which Mr. Hartland calls the Tuscan bonnett. We have no corresponding flowers with which to compare them, and we can but say they are at once welcome and beautiful.

Pinus Fortunei is reported in *Belgique Horticole* to be in a remarkably fine state of growth in the gardens of MM. C. et Acb. Rovelli, at Pallanza, in Italy. This is the *Abies Fortunei* of Lindley. Fortune met with it at Foo-chow-Foo, where it resembles in habit of growth the cedar of Lebanon.

Sussex Agricultural Association publish an important report of work done in 1885. A leading subject is the laying down of permanent pasture. But grasses and manures in general are treated at length in connection with experiments and observations having definite ends in view.

Railway and Canal Traffic Bill meets with considerable support from traders, agriculturists, and corporations; but the railway and canal companies appear to be furious in opposition. Should no special crisis interfere with the regular course of business, it is probable the second reading will be carried by a substantial majority.

Quercus coccifera was a subject of discussion at a recent meeting of the Royal Botanic Society, when Mr. W. Sowerby placed on the table specimens grown in the gardens. He said it was the galls of this, the Kermes oak, that were used by Moses to dye the hangings of the tabernacle. This oak may easily be mistaken for a holly, by reason of its growth and leafage, but is of a lighter colour.

Primulas and Auriculas are, by the aid of kindly weather, preparing themselves for the approaching exhibition, and many fine collections, comprising varieties not often seen, will be presented. Kew promises to be strong, the plants in Mr. Dewar's charge having, at the present time, a fine expression of sincerity. Intending exhibitors may find in the letter of Mr. Douglas information of importance.

Lovatt Collection of Orchids.—On Wednesday and Thursday, April 28 and 29, Mr. Stevens will sell at King Street a portion of the collection of orchids formed by Mr. H. Lovatt, of Low Hill, Wolverhampton. The lots catalogued comprise particularly fine examples of Cattleya Mendeli, Cattleya Schilleriana; Lælia purpurata, Cælogyne Massangeana, Sobralia macrantha, Anguloa Clowesi, &c.

American Birds are in process of extermination at such a rate that the naturalists are alarmed. Politics appear not to have claimed any as yet; but as Fashion is insatiable and inexorable, the birds must go, as they have already gone in all the more populous parts of Europe. There will be nothing to live for soon but teapots, dados, and nocturnes.

Potatoes Certified at Chiswick by the Fruit and Vegetable Committee comprise *Chiswick Favourite* (Veitch), white round; *Bennett's Surprise* (Bennett), white kidney; *King of Russets* (Lye), red round These were reserved for consideration at this season, and have satisfied the committee as to their usefulness for *late* supplies. As regards cropping and table quality, they are all that can be desired.

New Market for Fruits and Vegetables in the City of London.—The Corporation have obtained the powers they sought for converting the Central Fish Market into a market for fruit, flowers, and vegetables, and to borrow for the purpose £50,000. We may therefore expect, what has been often promised, a mart for garden produce in the very centre of the City. But as the Corporation played fast and loose with the original proposal, we will defer full belief until we see the market in actual operation. Even the Corporation of London is not to be taken on trust.

Rating of Nursery Plant.—A local fruit grower has been summoned before the magistrates by the Worthing Local Board for the non-payment of £11 3s. 6d., alleged to be due from him in respect of the general district rate. Payment was resisted, on the ground that the board was entitled to assess the property in question—namely, greenhouses—at one-fourth of the net annual value. The Act provides that certain properties shall be so rated, and the question which arises is whether the words "market garden and nursery ground" cover the class of property in respect of which the demand is made. The case will be submitted to the superior courts, the preliminary proceedings having by mutual consent been suspended.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 10.

The astonishing number of glasshouses in Jersey and Guernsey—Amount of glass annually consumed in the construction of these houses—Grape growing a means of support to many private families—How the peasantry get their vinery—The cottagers sell much of their grapes in the island—Statistics of the grape trade—The first hothouse and greenhouse in Guernsey—Outdoor grapes—A company started to grow grapes—Extensive vineries—A vinery 1,000 feet long.

Taking a bird's-eye view of the island of Guernsey, it would appear as though the inhabitants were mindful of the verse—

Who loves a garden loves a greenhouse too.

There is no question that the islanders love their gardens, and take a real pride in them as being not merely the source of their wealth, but an actual and an inalienable part of their property also; and no doubt they put an equal affection in their greenhouses, if only for the very handsome profits which are realized by these buildings.

The number of glass structures of this description already erected and in course of erection on this one island is prodigious, no territory of the same extent in the world containing so many. Millions of superficial feet of glass have been already erected, and every year the breadth widens. One grower alone has already put up close on half a-million superficial feet of glass. Six hundred tons of glass were last year imported into this island, the great bulk of which was for use in the construction of these houses. The larger proportion of them are the property of private individuals, though several companies have of late years been formed to carry on the culture of the vine. Almost every cottager owns his glasshouse, which is stocked with Muscats or Hamburgs, the proceeds of which will go a long way towards the support of the family for the twelve months of the year; indeed, many respectable families, residing in pretty and substantial villas, derive their income wholly and solely from the lofty vine house or houses which they have reared in their gardens. A more genteel trade it would be difficult to imagine. Of course, they would not all care to tell you that this was how they contrived a living. They would very likely and most probably say that they grew them out of the mere love of the thing, and sold what they could not consume themselves.

The peasantry, the majority of whom own a cottage and a few *vergées* of land, will mortgage their property in order to possess themselves of a vine-house, and in the course of a few years will not only have cleared off the debt, but be reaping a splendid return on the investment.

Large quantities are consumed in both the islands. The owners of the small vineries dispose of the great proportion of their crops in this way: the fruit, contained in small baskets covered over with a snow-white napkin, is brought to town by the well-dressed women in the white hoods and scrupulously clean, and, gracefully respectful, timidly invite you to purchase the fruit which has been plucked fresh that morning from their own garden or greenhouse. The fruit is also temptingly displayed in the market-houses in Jersey and Guernsey. *

The magnitude of the grape trade will be perceived by the following figures (giving the weight of the annual export in tons), furnished to us by Mr. R. L. Spenser, the local agent of the London and South-Western Company:—

1881	200 tons at 9l. per lb. or £84 per ton,			£16,800
1882	270	,,	,,	,, 22,680
1883	380	,,	,,	,, 31,920
1884	480	,,	,,	,, 40,320
1885	600	,,	,,	,, 50,400

Mr. Peter Mourant, of Candie, who erected the first hot-houses in Guernsey about the year 1792, † would indeed marvel at the spectacle presented in the islands both of Jersey and Guernsey in this year of grace, 1886, when such buildings are counted by hundreds and by thousands. ‡ In 1775, according to Mr. F. B. Tupper, § Guernsey "possessed neither a newspaper nor a printing press, nor a single hot or green house." In 1830 we read that grapes were "sent to England both from the hot and green house chiefly as presents."

The vine, when properly managed, easily ripens its fruit against a wall; and formerly large quantities of very palatable grapes were grown for the home market in this manner, and sold at 6d. per pound. On the older cottages and farm-houses the plant is still found covering the walls and roofs, and even trailing over the chimneys. Since the cheapening of glass, however, its culture out-of-doors has been entirely neglected, and the building of graperies has been continually on the increase. So long as the demand remains in force, there can be practically no limit to the extension of this wonderful trade.

A few years ago a limited liability company was set on foot in Guernsey, issuing 100 shares at £20 each, making a capital of £2,000, for the purpose of establishing vineries of considerable magnitude. The produce, of course, was to be all exported to England. The shares were speedily taken up; ground was purchased on the sunny slope of Delancey Hill, in the parish of St. Sampson, and the vineries were built of 1,000 feet of glass, forming three sides of a square, and covering an acre and a-half of ground. The value of the vineries is calculated at £3,000, and, according to present prospects, they are expected to yield a profit to the shareholders of 15 to 20 per cent. Thus writes Mr. Tupper in 1876. The expectations of the shareholders have been, we are able to state, more than realized. The undertaking has turned out everything that the most sanguine could hope for. Considerable additions have been made to the original erections, and this present year will see further large additions. The culture of grapes does not, we should state, alone receive the attention of the company. Houses have been built for early peas, French beans, tomatoes, and potatoes; and nothing they put their hands to but seems to prosper.

The courteous manager conducted us through the several houses, readily answering the questions we put to him, and making no secret of any part of the business. All the houses were in admirable condition, and the thousands of ripening bunches of black and white grapes were indeed a beautiful sight to behold. The visitor who has not peeped in one of the great vineries in Jersey or Guernsey has omitted one of the most charming sights in the archipelago. We shall be astonished if some enterprising investor does not shortly establish in one or other of the islands a home for the grape cure, which is so popular just now. This agreeable form of medicine would nowhere better be dispensed, as it can be partaken of fresh from the vine, with the lovely bloom of the berry uninjured, making the fruit increasingly appetizing to the weak and invalided stomach.

Mr. Poat, of St. Sampson's, has the management of a large group of vineries; and Messrs. Smith and Son, of the Caledonia Nursery, have erected a number of houses, both span and lean-to, the longest being about 500 feet. The average length of the houses in Guernsey is from 300 to 400 feet, and the length of the rafters is usually 24 feet.

The largest grape-house in the Channel Islands, and probably in the world, as well as the largest assemblage of such houses, is in Jersey, situated in the parish of St. Saviour's, and the property of G. W. Bashford, Esq. With the houses already erected, and those in course of construction, something like half a-million superficial feet of glass have been put up. There are in all fifteen houses, the largest of which (a span roof) measures just on 1,000 feet in length, 18 feet in height, and 32 feet in width. It is a noble house; and the spectacle presented in the interior when the vines are weighted with their load of luscious ripening fruit is indeed magnificent.

* Speaking of the Jersey vegetable and fruit market, Mr. H. D. Inglis describes it as "the most varied and abundant. With the exception of the market of Thoulouse, which I take to be the very best for country produce in Europe, I do not remember to have seen a better than that of Jersey." Since that period a much handsomer and more extensive market-house of iron and glass has been erected in St. Heliers, and a handsome building of Guernsey granite now graces the town of St. Peter's Port. Both are furnished with a great profusion of choice flowers, vegetables, and fruits; and as it is customary for ladies of all ranks to personally do their own marketing, the scene in these places almost every day in the week is most picturesque and animated.

† J. Jacobs.

‡ Mr. De Moulpurd tells us that a return of the quantity of glass already raised on the island will probably be taken this year.

§ "History of Guernsey and its Bailwick."

NEGLECTED VEGETABLES.

By Joseph Macdonald.

Late Celery.

In a recent number of the Gardeners' Magazine I noticed a statement to the effect that vegetables had been unusually scarce in London; it will, therefore, be no news to many when I say that they have been just as scarce in the country since Christmas last. But I am bound to say that vegetables need not have been so scarce in many gardens in the country. If people would only make a point of growing some which are now in many cases neglected there would be no such difficulty; and even where they are not neglected altogether they are either not grown in sufficient quantity, or successional crops are not provided for with later sowings. The last remark applies particularly to celery. Many provide an abundant supply to last up to the end of January, but make no provision for a later supply. As an old practitioner, I learnt years ago that our English winters are very uncertain in character, and that more often than not wintry weather very often extended up to the end of March. Therefore it was necessary to provide a good stock of such vegetables as would be available up to that time. Celery I found to be adapted for that purpose if specially prepared, as it is much used as a vegetable in the family I serve; and perhaps there is nothing finer in its way than a dish of stewed celery.

To have celery of a suitable size to stand through the winter and that will not run to seed before the middle of April, the plants must be raised in the open. The seed for the late crop should be sown at the end of April on a warm border out of doors, and sufficient space must be allowed for the seed-bed to hold a good number of plants, for the seed must be sown thinly, that the plants may have sufficient room to grow without being crowded. I find if the plants are large enough to go out by the end of August, that is plenty soon enough, for if celery grows too large a severe frost will kill it. We allow our latest crops to grow on without doing anything to them until there are signs of severe frost. Last December ours had not had anything done to it before we registered 14 deg. of frost. I thought it was then time to attend to it. I had every plant tied with matting separately into a compact bunch, and then the earth was put round it so as to completely earth up the whole height of the plant. In this condition it was left; and now as I write at the beginning of April we are drawing from it daily supplies of perfectly sound and good flavoured celery. The individual sticks are not near so large as those of the main crop, but these smaller sticks are more valued because other vegetables have not been so plentiful as in milder winters.

Salsify and Scorzonera.

These two vegetables should be grown more largely than they are, for they do not require much space, and give but very little trouble. I do not mean to say they are valuable substitutes for good winter broccoli or Brussels sprouts; but they afford an agreeable change when these subjects are scarce, and when well grown and carefully stored in the autumn, they are ready for use at a moment's notice

when outdoor vegetables are knee-deep in snow or locked in the soil by severe frost.

Both of these subjects may be sown at the same time. An open position fully exposed to all the sun is the best, and a rather poor soil is better than a very rich one, as where the ground is highly manured the roots grow forked. A well-grown root of either of these plants should be quite straight; the part fit for use should be about ten inches long, and the size of a man's thumb. Many make a mistake by sowing the seed too early, and then the plants run to seed at the end of the summer, and when they do so they make but a very poor root. The second week in May is quite soon enough to sow the seed in southern counties. It should be sown in drills one inch deep and eighteen inches apart. As soon as the plants are large enough they must be thinned out so that they stand one foot apart. Except that they will want a Dutch hoe run between the rows occasionally, to destroy weeds, they will not require any further attention. Early in October they must be taken up, the tops cut off and the roots freed from dirt, when they may be stowed away in some cool place. If frost is just kept from them they will keep better than they do in a warmer place; as if they are stored in a warm place they commence to grow again after they have been out of the ground a few weeks. Before the roots are sent to the kitchen let them be well washed, as, like all other vegetables, they are more attractive when quite clean.

Chinese Yam.

It is many years since we have valued *Dioscorea batatas* so highly as during the past winter and spring. Although for many years it has been regularly cultivated by us, the scarcity of winter broccoli and other hardy subjects has brought this yam into almost daily use; and very glad I was that we had a good stock of its long white tubers to fall back upon. For the information of your readers I will describe the way we grow it. In the first place, it is grown for the sake of its tubers, which are formed during the summer. These, if taken up in November and stored in the same way as carrots, will keep sound and good until the following May. The plants are obtained from the tops of the tubers when they are taken up in the autumn. If then a length of six inches of the top end of the tuber is taken off, the crown which forms the plant for another year is secured. If these tops are placed together in a pot of dry soil, and kept in a cool place out of the reach of frost, they will be safe. In regard to soil, it is indispensable that it should be fairly light and deep; the ground must be dug up at least two feet deep, because, although the young plants are planted on the surface, the newly formed tuber grows downwards; therefore the deeper the fresh moved soil the more vigorously does the root strike down. Moreover, it is quite as necessary for the soil to be as rich all the way down as it is near the surface.

We specially prepare a piece of ground for them once in two years, as they like a change of soil; and our staple being rather heavy, we mix with it the old soil from the potting bench. But the ashes from refuse or rotten leaf soil will do as well. The beginning of April is soon enough to put in the plants. Where crowns are short in numbers the old tubers may be cut into lengths four inches long and planted. The pieces will all grow, but they do not produce such large tubers as the crowns. We put three rows of plants in a bed, the rows being 18 inches apart, and the plants the same distance in the rows. The top growth is wiry and twining in its character; therefore it is best to provide it with something that it can cling to. We use straight sticks about four feet out of the ground, but ordinary pea-sticks will do as well. Each plant should have a separate stick.

This plant does best in hot summers when the roots are well-supplied with water. What it likes best is a combination of heat and moisture. When there is an average rainfall and the heat not excessive they will not require any assistance from the watering pot. As the tubers do not increase in size after the earth cools down by the autumn rains, we make a point of taking up our stock about the second week in November. The getting them out of the ground without breaking them is a delicate job, as the tubers are about as brittle as glass. To get them out with as little injury as possible a wide trench must be opened at one end of the bed, and it must be at least two feet deep, so as to admit of the earth being taken away the whole length of the roots. After having found the crown, each tuber must be traced downward as far it is goes, as it must be exposed to view the whole length, and carefully lifted out of its bed. Any attempt to wrench it out will certainly end in breaking the root into several pieces. Before storing them take off the top part, where the crown is, and store in dry soil as before suggested. We send the tubers to the kitchen their whole length, washing them quite clean before doing so. No doubt some of the readers of the Magazine could furnish a note on the best way of dressing these yams for table. I am sure it would be useful if they could do so.

Agave Mexicana is reported on as the source of "ixtle" fibre, and is also reported on as an aloe. It may assist in the proper understanding of the matter to say that *Agave ixtliodes* of Lemaire is the reputed fibre plant, and that it is probably identical with *A. fourcroydes* of Jacoby, first described in "Illust. Hort." xi. 65, and figured in B. M. 5,893, from a plant that flowered at Kew in the year 1871. It is unfortunate when an agave is described as an aloe; but it may be necessary at times for commercial purposes, in which case the term should be qualified to prevent serious error. It is admissible to speak of an agave as an "American aloe," as there are no true aloes in America, and the term is sanctioned by custom. We have spoken of this agave as the "reputed" fibre plant, but we suspect the fibre is obtained from a yucca.

Notes of Observation.

CARNATIONS AND THE WINTER.

The past winter has had a most disastrous effect upon carnations that were not protected by glass, and more plants have probably been killed than in any one season for many years past. Some of my friends who have to grow these flowers without the aid of pits or frames have lost the whole of their stock, and are at present not in a frame of mind favourable to beginning again. I have lost a considerable number of plants, but not so many that it will be necessary to make large purchases to fill up the gaps that have been made. My selfs have suffered the most severely, because, owing to a press of work and the long continued rains in the autumn, I was only able to pot up two or three layers of each variety. The remaining layers were left undisturbed, the intention being to plant them in the beds this spring direct from the old stools. Alas for my intentions! Of about three hundred and fifty layers, not one is at the present time alive. The destruction has been most complete, for the whole of the layers of the show carnations and the picotees that were not required for potting up are all dead. The plants that were potted up and put in cold frames are quite safe. They are not so large as those forming the last year's stock were at the beginning of April, but they have a healthy appearance, and I am not troubled about their size. I endeavoured to winter about one hundred and fifty of the show carnations and picotees that were put in pots at the foot of a south wall. But although they were carefully protected with mats, fully two-thirds are either dead or in such a miserable condition as to be practically worthless. The lessons of the past winter show that to ensure a full measure of success in the cultivation of carnations and picotees the shelter of glass is absolutely necessary, and that it is better to pot them and protect with mats than to leave them in the beds during the winter. Autumn planting is occasionally recommended on the ground of the plants becoming well established by the spring, and I have therefore thought it advisable to place on record the fact that no dependence can be placed on plants that are fully exposed throughout the winter. I would add that my garden occupies a rather warm, sheltered situation at no great distance from the metropolis, and that the soil is rather light and well drained. Amateur Cultivator.

NEW ROSES.

Amongst the roses of comparatively recent introduction that we have flowered under glass this season there are two which well merit a few words of praise. These are Colonel Felix Breton and Lord Cavendish. Both have flowers of average size and a fine globular form, those of the first-mentioned being of a bright crimson-red, and the flowers of the second are of a bright dazzling scarlet. Each variety has an excellent habit, and is admirably adapted for pot culture.

W. Johnson.

CHRYSANTHEMUM MRS. C. CAREY.

At the meeting of the Royal Horticultural Society, held March 23, a rather large specimen of Mrs. C. Carey chrysanthemum well furnished with flowers was exhibited, and attracted some little attention. This variety belongs to the Japanese section and has large pure white blooms with long twisted florets, and is one of the best for furnishing flowers for decorative purposes generally. Its adaptability for late flowering has been known from within a short time of its introduction a few years since, but its value for that purpose has not been generally recognized. For example, it was wholly unrepresented at the January show of the National Chrysanthemum Society, at which so many varieties were staged. Chrysanthemums are not wanted at the end of March, for it is then possible to have so many beautiful flowers that are so peculiar to the season; but Mr. Collinson, of Muswell Hill, by whom the specimen was exhibited, did good service in showing that the variety can be had in full bloom so late if desired. For flowering through January and February Mrs. C. Carey is most useful, and it would be interesting to know how flowers of so good a quality can be had at the end of the month last mentioned as those with which the plant in question was furnished when shown in March. Visitor.

SINGLE DAHLIAS FROM SEED.

An amateur friend of mine has been so successful in raising a good number of single dahlias from seed every year, and has flowered them so successfully with a limited amount of glass room, that I thought it might be of some service if I sent you a short account of his practice. I ought first to say he has no heated structure in the way of a forcing-house, but he has a small greenhouse, heated only to keep out frost, and also a cold frame. Early in April he prepares a number of six-inch pots, by filling them with ordinary garden soil; in each pot he sows half-a-dozen seeds, and then the pots are placed on a shelf near the glass in the greenhouse. Here they get water as often as they require it. As soon as the plants have grown an inch high, all but three are pulled out; the others remain in the pots until they are planted in the open ground, but as they are kept in the greenhouse until the end of May they are quite strong and robust plants. I was quite surprised at the size of the plants he was planting one evening early in June last when I called upon him; and as my friend saw I was anxious to know how he had managed to secure such a number of strong healthy plants, he detailed the treatment to me, which I have correctly given above. I do not mean to say that his plants were so large, or that they would flower so early as plants raised from seed sown in February, and brought on in heat; but I do know that his stock was well in flower at the end of August, and that the plants had made good growth, and were in every other respect quite satisfactory. J. M.

ROSE SUNSET.

Your correspondent "R. H. B." differs widely in his views about the tea-scented roses with flowers of an apricot colour from the majority of rose growers. In the first place he tells us, at page 170, that it is impossible to distinguish Madame Falcot, Safrano, and William Allen Richardson, when arranged together; and in the second, that Sunset is not wanted. With reference to the first point, I should like to say that I have long thought the veriest tyro in rose culture could readily "tell the difference" between the three varieties mentioned, both in the bud state and when fully developed. I have certainly no difficulty in distinguishing them, and I do not pretend to possess a keener judgment than the general body of cultivators. I must take exception to the assertion that Sunset is not wanted, for it is thoroughly distinct, and so good that it is unquestionably the best tea-scented rose in its line of colour. It will produce, in proportion to the space occupied, at least twice as many flowers as either of the other apricot-coloured tea roses. The individual blooms, moreover, are much larger and fuller. I am not at all singular in my opinion of the merits of the rose, for Sunset is being grown very largely by cultivators for commercial purposes. It may be assumed that when a rose becomes popular with the market growers there must be something in it. The flowers must certainly be produced with some degree of freedom, and they must be sufficiently beautiful to ensure a ready demand from the general public; for no commercial grower can afford time and space for roses that will not bloom freely, or produce flowers that will not sell when taken to market. W.

FORCING GERMAN IRIS.

It does not appear to be a matter of general knowledge that the German iris can be forced into bloom early in the season in conjunction with the dielytias, lilies, and other hardy plants; and cultivators who have to provide an abundance of flowers early in the year will do well to take note of the fact. We forced a few dozen plants this year by way of an experiment, and the results have been so good as to far exceed expectations. Clumps of moderate size were lifted and potted in the autumn, and early in the year the plants were placed in the cool end of the forcing-house. The warmth of the house had a magical effect upon them, for they soon began to show signs of making new growth, and are now fully in bloom. Some of the plants are placed in the conservatory, where they produce a fine effect in conjunction with the many other good things in bloom; and others remain in the forcing-house to furnish flowers for cutting. I do not think it would be prudent to lift from the borders huge clumps that have occupied the same position ten or twelve years, and I would mention that a few large examples which were lifted have not proved so satisfactory as the small clumps that had been suitably prepared. When I decided early last year to try a few examples in the forcing-house I lifted some old stools, divided them into two or three portions, and then planted them in a sunny position in the kitchen garden, and I am now busily preparing a stock in a similar manner for forcing next season. G. H.

GOLDEN LACHENALIAS.

I have this year been able to subject to a careful trial the lachenalias bearing yellow flowers, which are now at the command of cultivators; and I should be glad if you would allow me to give publicity to the result. The kinds I have grown are L. aurea, L. Nelsoni, and L. luteola maculata, all of which possess considerable beauty, although differing materially in relative merit. L. aurea, which has long been in cultivation, produces large spikes of rich yellow flowers, and when at its best is very showy. But it has this great disadvantage—it is very shy in blooming, and it does not probably produce more than one spike to three spikes of L. pendula or L. luteola maculata. L. Nelsoni, which was introduced to cultivation a few years since, has flowers equally as large as those of L. aurea and rather brighter in colour, and the spikes are produced as freely as could be desired. L. luteola maculata is unsurpassed in freedom of flowering, and presents an effective appearance, but the bells are tinged with green and red and consequently are not so rich in colour as those of either of the other two. To state the results of the trial in a few words, L. Nelsoni is decidedly the best in every way; and next in value to it ranks L. luteola maculata, which has the great recommendation of being very cheap. L. aurea is much too shy to be recommended for decorative purposes. L.

BEETROOT FOR EXHIBITION.

As I know many of your readers are exhibitors, I send you this note, because, having been a successful exhibitor myself, I am in a position to give advice. In the first place it is necessary to select a good, handsome sort. According to my experience there is none equal to Pragnall's Exhibition Beet. This sort grows to a medium size, and has a very handsome tapering root, and the colour is all that can be desired. To have beetroot for exhibition in August and September the seed must be sown early in April on a fairly warm border where the soil is moderately light, but a rich staple is not desirable, and fresh manure is a positive injury. I have found that I cannot grow a nice handsome beet in a rich soil; but if sown on land that was well manured the year before, I do very well. Strong soil, I find, produces a good many forked roots. I sow my seed in drills one inch deep and two feet apart, and I thin out the plants as soon as they are large enough so that they stand 15 inches asunder in the rows. In dry weather I give them plenty of water, commencing early in June if it is required. I find a little weak manure-water does them good once a week. In selecting the roots choose those of a uniform size and length, but do not take them up an hour before it is absolutely necessary; for if they are long out of the soil before they are to be judged they acquire a bad colour and look withered. Exhibitor.

ODONTOGLOSSUM CREPIDATUM.

In visiting the exceedingly beautiful exhibition of orchids now being held by Mr. B. S. Williams in his well-known nurseries at Upper Holloway, I was not a little gratified to find in the richly-stocked odontoglossum house a fine specimen in bloom of the beautiful and extremely rare O. crepidatum. I have heard on more than one occasion of the beauty of this fine species; but although I have been engaged in the culture of orchids for upwards of twenty-five years, and have seen nearly all the trade and private collections in the country, I have not been fortunate enough to meet with it until the other day. The flowers are produced in rather tall gracefully arching spikes, and in size are about equal to those of O. triumphans. The sepals and petals are about two inches in length and half an inch in breadth, and are profusely blotched with bright chestnut-red on a rich greenish yellow ground, the combination of colouring being very pleasing.

Orchidist.

POINSETTIAS IN SPRING.

The natural season of this splendid plant fits it for special uses at a time when flowers are scarce and the demand for them is often excessive. To alter the season of the poinsettia is, therefore, not desirable; but within certain limits it is possible, and the fact may be worthy of especial attention by those who are pressed for supplies of flowers in spring. The change of season is effected by simply cutting off the flower heads as soon as they are fairly formed, and before any have expanded, and thus compelling the plant to produce a new crop from the buds lower down. It is essential to success to keep the plants going in a suitable temperature, and with sufficient sustenance to maintain their vigour. The result should be poinsettia heads of fine growth during the season, say from February to May; and, as a matter of course, there is something to be learned by practice in the proceeding. The thing has been well done at Kew, and takes its place amongst facts accomplished. W.

HARPALIUM RIGIDUM.

This showy herbaceous plant has been frequently recommended in the pages of the Magazine, and as very little has been said about the rapidity with which it spreads when planted in suitable soil it may be useful to point out the danger which exists of choice slow-growing subjects in its immediate vicinity being crowded out. A plant of a very moderate degree of strength will in the course of the season produce ten or twelve stolons ranging from two feet to thirty inches in length. At the extremities of these buds are produced, and very early in the spring they start into growth and produce plants. If, therefore, the whole of the plants are allowed to remain undisturbed the stolons very quickly form a complete network below the surface; and as these in their turn produce stock, the border becomes so crowded that no plants other than those of the most robust habit can successfully contend with the crop of harpaliums. They moreover partly starve each other when left to themselves and fail to produce the effect obtained from examples in a vigorous state of health. The proper course in growing the harpalium is to select two or three plants for each station as soon as they make their appearance above the surface, and then fork out all the others and convey them to the rubbish-heap. By this simple course of procedure the harpalium can be had in the highest degree of perfection without injury to the most delicate plant in the border.

William Bradbury.

ENGLISH CHRYSANTHEMUM SEED.

Amongst chrysanthemum growers it has long been a question whether chrysanthemum seed can be matured in England. Very much to my satisfaction, I have proved that good seed can be produced, as a plant that I left growing in the open at the seaside (protected in very severe weather) has matured splendid seed. Under the microscope they are as plump and good-looking as those produced abroad. The parent plant is Hartland's Marguerite, a seedling plant of mine, a single white flower exactly like Chrysanthemum frutescens. I shall grow the seed this season and shall be curious to see what it produces. If anything remarkable comes of it I will not fail to let you know.

7, Phillimore Gardens. W. H. Cullingford.

Agricultural Produce.—The gross produce in 1885 compared with that in 1884 shows for the cereal crops in Great Britain an estimated decrease in wheat of 2,628,211 bushels. For barley there is an increase of 5,338,519 bushels. In oats the total produce shown is less than that of the preceding year by 1,032,432 bushels; it may be observed, however (the report states), that the diminution for Great Britain here referred to is due to the large decrease of 3,306,194 bushels in Scotland, as in England and Wales taken together there is an increase of 2,273,771 bushels of oats as compared with the crop of 1884. For peas the falling of in the estimated total production in Great Britain as compared with 1884 amounts to 1,336,558 bushels, the decrease in beans being 2,610,783 bushels. In root crops, for which a similar comparison can be made, there is an estimated decrease in potatoes of 544,699 tons, while turnips and mangels have decreased by 6,562,497 tons and 87,869 tons respectively. For Ireland all the crops here given show an increased average rate of produce per acre in 1885 compared with the preceding year. The yield of wheat per acre increased by 1·57 bushels, barley by 0·18 of a bushel, oats by 0·62 of a bushel, peas by 1·37 bushels, beans by 5·14 bushels, potatoes by 0·2 of a ton, turnips by 0·4 of a ton, mangels by 0·7 of a ton, and hay by 0·1 of a ton. The gross produce in Ireland in 1885, as compared with 1884, shows in cereal crops an increase in wheat of 197,016 bushels, in barley of 465,998 bushels, and in oats of 69,581 bushels. Potatoes show an increase of 135,386 tons, turnips of 43,859 tons, and mangels of 60,253 tons. There is also an increase of 333,320 tons in hay.

CONGRESS PEARS.

Doyenné d'Alençon.

In the late districts this fine pear is scarcely yet out of season, but in the south it was out of condition at the end of February. It is one of the best for late use, being in some respects superior to Easter Beurré, which it closely resembles in general characters, though differing in growth as well as in the form and flavour of the fruit. It is known by many names, which is indirect testimony of good quality. When not catalogued under the name by which it here appears, it will usually be found as *Doyenné d'Hiver d'Alençon.* The fruit is of medium size, ovate or irregularly roundish, sometimes slightly snouted at the apex; the colour is greenish yellow, thickly dotted with grey dots.

The season of this pear is ordinarily from December to the end of February; but, in common with other late pears, it is variable as differing conditions may determine. The long-continued cold season delayed the ripening in many places this year, and hence we are enabled to record, as above, that it has been in use until quite recently.

The figures represent samples shown by Messrs. Veitch and Sons, of Exeter, and they will suggest to the cultivator that the variety is well adapted for the quince stock, and should, wherever moderate-sized trees are required, be grown on the quince. The tree is of good habit, and naturally forms a handsome pyramid without any special pruning.

DESSERT PEAR, "*Doyenné d'Alençon.*"

ORCHIDS IN FLOWER.

Dendrobiums are flowering gaily at the present time. *D. nobile* is in perfection, and the handsome *D. Wardianum* is making a great show with its large brightly coloured flowers. These, together with the gorgeous *D. fimbriatum, var. oculatum,* constitute the most showy of the Dendrobes now in bloom. Of species bearing flowers remarkable for their elegance and delicacy of colouring, we have a goodly number. One of the most noticeable is *D. crassinode,* which is well known to all lovers of the orchid family. A gem of the first water is *D. Devonianum,* introduced in 1837 from the Khasya Hills. This may be appropriately called the "King of Dendrobiums," and on its long whip-like stems are borne the small exquisitely beautiful flowers, with soft cream-coloured sepals and petals tinted with pale lilac and a broad lip of a similar hue to the other parts of the flower, but embellished with yellow blotches near the base, and fringed in a most distinctive manner. The flowers of *D. japonica* appear now, and although they cannot be accounted beautiful, they will be valued for their agreeable fragrance. A modest dendrobe is *D. Kingianum,* bearing small flowers of quiet colouring and with a strong almond-like scent. This is in bloom now in the orchid-house at Kew, and may be regarded as interesting, but nothing more. One of the finest of the deciduous members of this genus is *D. Pierardi,* which is enlivening the orchid-house with its chaste and beautiful flowers at the present season. The pendulous stems attain a considerable length, and when they are well furnished with the delicately coloured flowers they present a fine appearance. It should be grown in a basket, so that the stems may hang down, and their graceful character be shown off to the best advantage. This useful species is found most frequently growing upon mango trees. *D. crepidatum* claims attention at the present time, as it is now in flower; the white sepals and petals are tipped with pink and the lip is suffused with a deep yellow hue. *D. aureum,* which has been previously described, has made a fine display in the Kew collection this season, but it is now past its prime. An old-fashioned species is *D. primulinum,* and it is now commencing to bloom; the flowers are of delicate colouring, being of a soft white and pink.

Odontoglossums of many kinds are in full perfection. The old *O. Bictoniense,* formerly a great favourite with orchidists, is now seldom seen, but it should be made note of by the amateur, as it is of easy culture, and the greenish coloured flowers are produced with great freedom. *O. gloriosum,* appropriately named, is a very fine cool-house orchid, the flowers being of a light yellow hue, spotted with brown. They are produced in elegant racemes, and the plant is of easy culture. *O. Pescatorei* is too well known to need description, and it is sufficient to say that the flowers are now commencing to appear; and most welcome they are. Of course, *O. Alexandræ,* and several of its numerous varieties, are in bloom; and we must not pass by the popular *O. Rossi majus,* which seems always in flower. *O. pulchellum* is a sweet thing, and its waxy-white flowers are much appreciated. The magnificent *O. triumphans* is beginning to make a show, and a very few specimens of this species will suffice to brighten the orchid-house. The flowers are of large size, frequently over three inches in diameter, and blotched with deep brownish crimson on a golden yellow ground; the cordate lip is white at the front, and the basal part is also pure white. This was found by Linden in New Grenada flourishing 8,500 feet above the sea. *O. cariniferum* has its attractions; and the same may be said of *O. Sanderianum,* which bears, in an elegant panicle, medium size flowers blotched with light brown on a pale yellow ground; the lip is white. Amongst other odontoglots blooming now are the elegant *O. cirrhosum* and the pleasing *O. Cervantesi.*

Angræcums are now almost over, but the attractive *A. citratum* is blooming freely, and the stately *A. eburneum* has not yet run its course.

Cœlogynes are well represented at the present time; for not only is the popular *C. cristata* and its several forms in flower, but *C. flaccida* is in its prime. This deserves to be widely cultivated, for the flowers are borne in considerable profusion in long pendulous racemes; the sepals and petals are white, so also is the lip, except that it is parsely spotted with crimson and stained in front with bright yellow. *C. elata* is also blooming now.

Cattleya Trianæ is going out of flower, but the lovely *C. Mendelli* will fill its place. A very interesting species in flower now is the

Mexican tulip, *C. citrina*, which, as all orchidists know well, grows downwards. The large waxy flowers are of a bright yellow colour, and deliciously fragrant. We must not omit to mention the beautiful *C. amethystoglossa*, which resembles *C. guttata Leopoldi*. The erect scape bears numerous flowers, measuring about four inches in diameter; the sepals and petals are spotted and blotched with a warm purple colour on a rosy ground; the lip is of a uniform amethyst colour.

Phalænopsis Stuartiana is one of the most important of the "moth orchids" in bloom now. The flowers vary somewhat, in some instances being larger and more thickly spotted than in others; they are borne in great profusion, in elegant racemes.

Cypripediums in bloom now include several species and varieties of great worth. *C. concolor* is one of the most distinct. The flowers are of medium size, neat in form, and in colour pale yellow freckled lightly with dull crimson. The variegation of the leafage is very beautiful. *C. barbatum, var. biflorum*, also possesses attractive leafage, and the flowers are pleasing. Amongst other lady-slippers in bloom are *C. Haynaldianum, C. Schelimi, C. Roezli, C. porphyrum, C. villosum*, and *C. Bulleni*.

Fruit Growing in Canada progresses in a satisfactory manner. In a paper on Canada read before the Society of Arts by Mr. A. Begg, the subject was especially referred to. The author said: "The growth of fruit, as well for home consumption as for exportation, is now becoming an important industry in Canada. There are vineyards of fifty or sixty acres in extent, peach orchards of similar size; and apple orchards almost innumerable. Strawberries are raised as a field crop. Plums, pears, gooseberries, currants, and raspberries, are everywhere produced in the greatest abundance. The tomato ripens in the open air; and such is the profusion of this fruit that it is very often cheaper on the market than potatoes, selling at 2s., and sometimes less, per bushel. Melons ripen in the open air, as a field or market garden crop, and this delicious fruit is sold at very cheap prices in the markets. In the North-West wild fruits grow in great abundance, and include plums, grapes, strawberries, raspberries, cherries, cranberries, and other luscious berries of various kinds."

A NOBLE FLOWERING TREE.

It is by intention we head this note on *Sophora japonica* as a "noble flowering tree," because it is not in high repute as such, and demands some sort of vindication. The sole reason of its lack of fame as a flowering tree is that it produces its flowers when the baby British winter is showing its first teeth; when, in fact, the autumnal mornings are chilly, and occasional frost takes the shine out of the early-flowering chrysanthemums and brings the richly tinted ruddy leaves of the horse-chestnut to the ground. Hear what Mr. Hemsley says in his excellent edition of "Decaisne," a book which every lover of trees should possess. * At page 136 we read of Sophora japonica that the "flowers are comparatively small, dirty white." There happens to be a grand specimen, young and vigorous, spreading freely from the ground line on a lawn near the plant-houses in the Royal Gardens, Kew, that in the autumn of last year was perfectly sheeted with snow-white flowers, presenting a beauty at once unique and impressive. We secured for our readers a drawing of this noble flowering tree, and here it is. There are many sophoras in those gardens, a few of them aged and venerable. The one figured is in full vigour of health and youth.

A NOBLE FLOWERING TREE, *Sophora Japonica.*

Depression of Trade in the Colonies is talked of vaguely, and is possibly true of places that have had political troubles and the luxury of much fighting with savages that surround them. In Mr. G. A. Sala's letter in last week's *Illustrated London News* is a note on the subject. He says: "You will hear from time to time alarming rumours of extreme depression in this or that colony, great distress amongst the labouring classes, monster meetings of the unemployed, demands for relief works, and the like. Be not deceived. Australia is the most prosperous country under heaven. There is work there for everybody who can and will work; and the working man gets a larger amount of wages for a small amount of work than in any country I have travelled in."

* *Handbook of Hardy Trees, Shrubs, and Herbaceous Plants.* By W. B. Hemsley. (Longmans.)

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Azaleas.—To promote a strong growth shade the plants lightly whilst growing freely, and syringe frequently. Remove all seed-pods and the few remaining flowers that abstract vigour from the new wood.

Bedding Plants to be exposed as much as possible now night and day during warm weather. Pot off plants newly rooted, and let them taste a little bottom heat, to induce new roots to form. Remove zonal pelargoniums, verbenas, and other subjects to cold frames as soon as possible, to ensure their being well hardened by the time the season is sufficiently advanced to bed them out.

Conservatory.—The beds, if not covered with spar or similar material, should be stirred, and some fresh soil added, in order to maintain the plants in a vigorous condition. Shoots of climbing plants that are rambling and unsightly should be pinched back promptly. Plants placed in the house during their period of blooming should be carefully attended to, and should not have too much water.

Fuchsias to be frequently syringed, and grown steadily on in a warm moist atmosphere. Long-jointed shoots may be stopped to promote lateral growth and so produce bushy plants.

Heaths and other hard-wooded plants coming into bloom should have plenty of air.

Pelargoniums required for very late blooming should be stopped now, and in such a manner as to make well-shaped plants. Young stock should now have a good shift.

STOVE AND ORCHID HOUSE.

Stove.—Keep up a warm moist atmosphere, and allow no diminution of bottom heat, as most of the plants, and especially those which have been recently potted, are now making vigorous growths. All free-growing plants, such as gesneras and clerodendrons, should be shifted on as soon as they require it.

Orchid Houses to be shaded during bright weather with tiffany or some other suitable material, removing it early in the afternoon. Plants requiring repotting must be attended to as soon as they are fairly in a growing state. Keep up the moisture in the atmosphere by sprinkling the paths and stages, and shut up early in the afternoon. Cattleyas, dendrobiums, sobralias, gongoras, Brassias, and all similar orchids, must have abundance of atmospheric moisture, as they are now growing freely. The bloom of plants in flower may be prolonged by removing them to a cool house where the atmosphere is drier. Plants suspended in baskets or on blocks will require the frequent and plentiful use of the syringe to keep them in health.

FORCING AND ORCHARD HOUSES.

Figs must be frequently syringed until the fruit begins to change colour, and the roots must be aided with liquid manure. Stop the young shoots before they push too far; four joints are a good average.

Peaches and Nectarines are now coming on well in the early houses, and the trees must be assisted to swell the fruit to a good size. Give enough water, with liquid manure at least once a fortnight. Pinch off laterals, tie in good wood, syringe early on fine mornings, and when the house is shut up for the night, and always give air early.

Pines are growing freely and must have plenty of water. In the fruiting house a good temperature kept up—65 deg. to 70 deg. by night, 80 deg. to 90 deg. by day. Pines fruiting require more air than growing plants to ensure a high flavour.

Strawberries ripening to have less water and plenty of light; temperature not lower than 55 deg. by night, nor higher than 70 deg. by day. Remove runners on plants coming into fruit.

Vines in covered borders require the full power of the sun on their roots now, so remove the covering at once. Let there be no neglect in stopping and tying in, now that the vines are growing freely. Covered borders are usually very dry at this season, and a good soaking is necessary.

FRUIT GARDEN AND ORCHARD.

Trees lately planted on dry sandy soils had best be mulched at once with rotten dung. If this cannot be done, spread short litter or some other such material to arrest evaporation, or during dry weather they may suffer considerably. Should there be any pruning not yet done, let it be finished instanter.

Wall Trees must now have efficient protection, or the morning frosts will seriously injure the bloom and young fruits.

FLOWER GARDEN AND PLEASURE GROUNDS.

Grass Turf must have every necessary attention now, or the consequences will be a burnt-up lawn by July, and the predominance of coarse grasses. A sprinkling of guano or nitrate of soda where the turf is poor will be very beneficial now. Grass newly up from seed to be handled very carefully, and not to be rolled or beaten till after it has been once mown.

Hardy Herbaceous Plants turned out of pots into good borders now will take to their stations immediately. If delayed longer they will not do so well unless frequently supplied with water; and it is advisable to grow these plants with as few artificial aids as possible.

Hollyhocks planted now will bloom well this season, so there is still time for those who have not yet made up their selections. The soil for hollyhocks should be deep well-manured loam, and the plants should be strong and from cuttings of last autumn.

Polyanthus Seed may be sown on north borders on fine soil, and be very thinly covered. If the border is dry, water well before sowing. When the sowing is done, sprinkle a very thin coating of moss over the seed plot; this will preserve a sufficient degree of moisture till the plants appear. If polyanthus becomes dry after being once made moist in the ground it perishes.

KITCHEN GARDEN AND FRAME GROUND.

Broccoli of any and every kind may be sown now. Any plants coming forward in seed pans to be made as hardy as possible by full exposure to air and sunshine, preparatory to pricking out.

Cabbage to be sown in considerable breadths, if the main sowing is not yet done. The seed sown now will give supplies from August to April next, if the sorts are well chosen.

Cauliflowers that have stood the winter beneath handlights should have the soil loosened about them, and a little earth drawn to the stems. The glasses should now be removed, but be kept ready in case of keen north-east winds blowing, when they will be useful to put on at night, and, indeed, to leave on for a day or two, should the weather be really wintry, as is not unusual at this time of year.

Celery should be pricked out into boxes or on a slight hotbed, and at all favourable opportunities give air as soon as they have established themselves. If the main crop is not already sown, sow it at once in a gentle heat.

Lettuces may be sown in open beds for main summer crop. Those crowded in seed-pans may be much benefited by pricking out on a bed, under a frame, to be lifted shortly with good balls, and planted out finally. If this treatment is carried out with care, so as to cause as little check as possible, some grand samples may be grown, manure and water being of necessity aids thereto. But if the plants are roughly handled, and suffer much, the check will cause them to bolt as soon as warm weather sets in.

Potatoes making their appearance above ground should be protected by drawing earth over them. Continue planting for the main crop until the work is finished.

Sow without delay Turnip Radishes for succession, Scorzonera and Salsafy in drills one foot apart, Purslane on a warm sunny border; Chou de Milan, Savoys, and Scotch Kale for supplying the table in early winter, Carrots for main crop, Brussels Sprouts for early winter, Cabbage, Cauliflowers, and Lettuces.

Vegetables in Season.—Broccoli, Cabbages, Celery, Leeks, Rhubarb, Spinach, Turnips, Lettuce, Endive, Beet, Carrots, Onions, Salsafy, Asparagus, French Beans, Cucumbers, Potatoes, Radishes, Rhubarb, and Seakale.

A NEW INSECTICIDE.

At a recent meeting of the Scientific Committee of the Royal Horticultural Society Professor A. H. Church drew attention to a new insecticide, the outcome of a long series of experiments.

The preparation in question is essentially a complete and permanent emulsion, in which has been incorporated a large quantity of such oily liquids (including certain kinds of paraffin oil) as destroy the insect pests of plants. Hitherto the rough methods in use for preparing such emulsions have failed to effect the perfect distribution of the oily matter in the wash, and, in consequence, oily drops of sensible size have spotted and injured the leaves and tender shoots of the plants. The sample exhibited contained two-thirds of its bulk of the above-named oils, along with other useful ingredients. On dilution with water no separation of the oils takes place. For very tender and succulent plants half an ounce of the emulsion in a gallon of rain-water forms a syringing wash, which proves fatal to green fly, red spider, brown-scale, and even mealy-bug, without inflicting any injury to the flowers or foliage of the plants to which it is applied. The proportion may be increased in the case of more robust plants—even 4 oz. to 1 gallon may in some cases be used, though much weaker solutions are in the great majority of cases perfectly effective. The plants if at all delicate should be syringed with fresh water two hours after the insecticide has been applied. By appropriate chemical methods various substances may be introduced into the emulsion in order to meet special requirements of gardeners and hop-growers. For instance, sulphur in a free state, and yet in a perfectly soluble form, has been added to some of the preparations, and proves to be an efficient preventive and cure of mildew in roses. The farmer to whom we are indebted for perfecting this invention, and for devising an ingenious syringing stand or pot-holder for applying it, has entrusted its manufacture to Mr. G. Freeland, of Tunbridge, Kent, of whom further particulars may be obtained. Prof. Church added that he had not hesitated to bring this insecticide before the committee, since he had no interest save a scientific one in the invention.

Cuckoo Superstitions.—It is a common belief that the cuckoo is a transformed girl calling her brother. In Servia, the cuckoo, *Kukavitza*, was a girl who lamented her brother's death so long that she was turned into a cuckoo. This in itself is not very circumstantial, but Albania supplies a more complete story. There were two brothers and one sister; this latter accidentally killed one of them by getting up suddenly from her needlework, and piercing him in the heart with her scissors. She and the surviving brother mourned so much that they were turned into birds. He cries out to the lost brother by night "Gjon, gjon," and by day "Ku ku, ku ku," which means, "Where are you?" The cuckoo, says the Bohemian legend, once had a crown, till a wedding came off among the birds, at which the hoopoe was the bridegroom, when she lost it, and has never been able to get it back. She is always crying out "Kluku," which means, "You rascal," to which the other replies "Jdu, jdu," "I come, I come," but comes not. The Bohemians also take the cuckoo for an enchanted miller or baker. The latter is the more interesting story, as being either of post-Christian origin or else a pagan memory transformed, as so often happened, into a Christian dress. Christ one day passing a baker's shop, sent one of his disciples in to ask for some new bread; the baker refused to give him any, but his wife and six daughters, who were more compassionate, delivered some secretly to the disciple. In reward they were placed among the stars as the Pleiades, but the baker was turned into a cuckoo; and it confirms this story that his cry is heard so long as the seven stars are visible in the sky. In Poland, long ago, it was a capital offence to kill a cuckoo. The apparent reason was that Zywiec, who in old Sclavonian mythology was ruler of the universe, used to change himself (as Zeus once did, and Indra too) into a cuckoo, in order to announce to mortals the number of years they had to live; a belief so real that multitudes used to flock every May to Zywiec's temple on the mountain that was called after his name, to pray for long life and prosperous health. To this day it is a common article of folk-lore belief that so many years yet remain to a man of life as he hears the cuckoo's voice for the first time in spring. And a monkish historian has handed down for the benefit of posterity the story of the worldly-minded brother, who, tired of the monotony of convent life, resolved to ask the cuckoo the number of years yet allotted to him to live. The bird having said twenty-two, the monk resolved to devote himself for a season to the pleasures of this world, and yet have time to prepare for the next. But, alas! the bird was a heathenish and therefore a false oracle to listen to, and death surprised the recreant monk in the twentieth year, still absorbed in temporal enjoyments and vanities.—*Cornhill Magazine.*

CARNATIONS PLANTED OUT.

It cannot be too generally known amongst those who have a partiality for carnations that the choicest of the bizarre and flaked varieties can be cultivated as successfully in beds and borders as the most robust of the selfs. It is too much the practice at the present time to limit the selection for planting out wholly to the latter, owing to the prevalent belief that they alone can be had in good condition without the aid of pots and glass. The show flowers will not, perhaps, produce such a rich display of colour as the selfs; nor will the blooms be of so high a quality and finish as those which are carefully screened from the wind and rain. But when grown with even an ordinary degree of care they will not fail to produce a bright effect, and the blooms will be sufficiently meritorious to satisfy those who do not aspire to a high position on the exhibition stage. I mention this, not because I am desirous the show flowers should displace the selfs, but because I am anxious that each section of this exquisitely beautiful class of flowers should be duly represented in all gardens in which they have a place.

As I have not time to engage in the production of exhibition blooms, the whole of my collection, which is now rather extensive, is grown in the beds and borders; and the gratification afforded is more than sufficient to balance the comparatively small amount of time and care bestowed upon the plants. We have four beds in a secluded part of the garden, in which we grow two or three plants of each of the varieties in the section; and these are sheltered from the winds and rains by means of tiffany, supported by a light framework of wood. Under these conditions we obtain flowers of large size and true to character, if not so perfect in finish as the blooms developed under glass, and they afford plenty of interest during the time the plants are in bloom. We also put out several hundred plants in the mixed borders, where they produce a fine effect, and afford a practically unlimited supply of flowers for indoor decorations, for which purpose they are highly appreciated. The whole of the plants are wintered in pots under glass, because of the risk incurred in fully exposing them to the weather, and they are bedded out in April. In two consecutive years I planted a considerable portion of the layers in beds when they were taken from the old stools in the autumn. But in both the results were very unsatisfactory. In one winter the plants were hard hit by the frost; and in the other they had their roots seriously injured by an excess of moisture in the soil, and in the seasons following the growth was weak, and the flowers few in number and poor in quality.

Carnations and picotees are less particular as to the soil in which they are grown than is supposed to be the case; and there are very few gardens in which they cannot be grown in the most satisfactory manner without the soil undergoing any special preparation. The staple of our garden is a rather strong loam, and the beds specially set apart for them are dug over in the autumn when the layers have been taken off and potted. We make a point of digging the beds to a depth of twelve inches, and the surface is left rather rough to more fully expose the staple to the action of the weather. Early in March the beds receive a rather liberal dressing of half-rotten manure, which is at once forked in, care being taken to incorporate it with the soil to a depth of ten or twelve inches. In the mixed borders the carnations and picotees have to take their chance with the other things. But as we have long known that it is impossible to grow herbaceous plants in an exhausted soil, the borders are annually dressed with manure or well rotted vegetable refuse, the dressing being usually applied in the spring, when the various plants are pushing through the ground. A dry state of the surface is taken advantage of for putting out the plants, and in the beds they are arranged about twelve inches apart each way. When at this distance the whole of the surface is covered with the "grass," without any overcrowding of the plants or there being any difficulty in laying the shoots at the end of the summer. In the mixed border we put them in pairs or in triples, according to the number of plants we have of each variety, as they there produce a much better effect than when arranged singly.

In planting both carnations and picotees the soil must be made moderately firm, and when the soil is naturally light it is a very good practice to tread the surface of the bed a month or so after it has been planted. As a matter of course, the bed should be trodden when the surface is dry, as any treading when moist will do more harm than good. It will be necessary to assist the plants with supplies of water during periods of dry weather from the time they are planted until they are coming into bloom. Carnations are readily injured by an excess of moisture in the soil when grown in pots, but in the open beds they may be watered liberally during May and the two following months. The use of liquid stimulants is not necessary, but a moderate dressing of some good artificial fertilizer applied in the early part of June will be highly beneficial to the plants. I have tried several of the artificial fertilizers now in the market, and they have all proved so good that there is no occasion to specially mention any of them. A mulch of short manure would afford the plants material assistance; but mulchings cannot be recommended, because of their harbouring earwigs, which do much damage to the petals if allowed to go unchecked. A few of the buds are removed from the plants in the beds, but the disbudding is not so severe as when exhibition blooms are required, and the buds of those in the borders are not thinned at all, as a large head of bloom is of more importance than a small number of finely developed flowers. In all cases the flower stems are supported by neat stakes, which should be put to them as soon as they begin to rise.

W. B.

LEAGUES OF PRIMROSES.

Although nature has this year conformed to the lagging Easter, and has so delayed her own festivals that the "satin-shining palm" will be pat to a Palm Sunday past mid-April, the time of blossoms is coming at last. It will not be long before England is in flower. The yearly amends will soon be made for grey skies and dim horizons; the dull northern island will shine with the colour of colours—yellow, for two months at least. There will be hill-sides of gorse, cowslips by the rood, acres of daffodils, and primroses in—leagues. Depopulated England, which has the loneliest meadows and hills, the most solitary roads in Europe, will be making a show which there are not even Peter Bells to see. For in those days Peter Bell has mostly gone into town; he is a rough; his famous donkey pulls him in a cart; and he sees no yellow primroses except such as are piled in the basket of that Proserpina of the pavement who wears an unctuous fringe, and the quills of various fowls of the air in the velvet of her deplorable hat. Meanwhile, for the few millions of flowers that are gathered for the London streets, there are the many millions forming into bud and opening into star unseen. They border and fringe those silent acres where no labourers seem to live. All the chips and refuse of space, after the stately fields have been formed, belong to them—the ditches, the banks, the bands of green that lie on either side of the long high road (or used to lie there until Autolycus, whose meadows are near, rectified his frontier by imperceptible degrees and the unconsidered trifles were absorbed), and especially in the patches of copse. Those young woods, nurseries of the forest, are the very paradise of primroses. For there the flowers have a shelter from the March winds and hardly a shadow from the kindling and increasing March sun, and the copse is just what the children's room should be in a house—the fostering place, the place of tenderness and sweet temper. A very cloud of birds alights on the copse in spring, and lurks there, trolling and warbling the most rollicking songs in the year's concert. Thither, too, come the bees—too few, for not only should there be more cottages, but every cottage should have a hive; but such bees as there are, are the flowers' messengers, invited on their fertilizing visits by the scent which is, by another divine accident, so sweet to man. But even if the bees were "innumerable bees," the Milky Way of the primroses in April would be more, and would "waste their sweetness on the desert air," according to the exquisitely common commonplace of the poet of mediocrity. In antithesis, by the way, to this most popular passage, hear how the high mind sees the same incident:

> The summer's flower is to the summer sweet,
> Though to itself it only live and die.

Could there be lines more representative of gentle mental vulgarity on the one hand and of poetry on the other? And which has become the proverbial quotation—Gray's line or Shakespeare's?

But if we stray among the poets we shall not have to complain that the primrose has been ill-treated. Wordsworth has held up his already-mentioned hero to contempt because a yellow primrose was but a yellow primrose to those ignorant eyes. What the primrose was to Wordsworth and what it ought to have been to Peter Bell we are left to conjecture. To Perdita, the delicate æsthete, it was a maid who died unmarried. For the chill is never off the air—the east wind at least never blows warm—during the time of her waxing and waning. It must be owned that Milton, trying to improve on the idea, spoils it all by making the primrose die "forsaken:" "the rathe primrose that forsaken dies." He has confused two twilights, two doubts, two chills—the autumn's and the spring's. The primrose's solitude is virginal, not vidual. But indeed in all poetry there is no such posy as that with which Perdita plays her queenly comedy. The flowers, divinely distinguished by her, have been vulgarized in much verse—have been made into extravagant and heartless bouquets by the writers as well as by the florists. They have been massed together so that all loveliness of outline has disappeared, and the very seasons have been confused. Shelley's visionary flowers, gathered in a dream, when winter suddenly was changed to spring, to be presented—"oh, to whom?"—were ranged in his hand in the order in which they had grown near "the river's trembling edge." The reformed florist of to-day has taken a lesson from Shelley, and has begun to arrange his primroses, bud and opening and opened flower, like the lovely variety of age in that human plant, a family. To the primrose, too, he has at last learnt to give its leaf, to the daffodil its sheath and spear, and to each flower a certain surrounding of atmosphere. A multitude without atmosphere is a mob. Form, natural conspicuousness, outline, the boundary, are lost without air and separateness. We may make for ourselves a mob of poets by slovenly wholesale reading, and a mob of primroses by packing. There are no mobs in nature. The multitudinous sea is not a mob, nor is the innumerable garden of the country in April. Nor is there a mob of men in the whole populous North Italian plain, although it is a continent without a solitude. The mob is essential to the congested modern town. But let us rejoice if, in spite of the increasing numbers of everything, and as an antidote to that multiplication, that there should be a new respect growing among us for individual men and women—and primroses.

And, after all, may we ask—or is it inquiring too curiously—whether these first flowers do not owe something of their own beauty to their singular conspicuousness? Are they a little like the evening star, or Chaucer, or others of the fortunate first? Atmosphere is necessary to all beauty and dignity, and these fortunate first have so much! They are set in light and space and the wind of heaven. So be it; let us take them with their setting, which is God's grace to them. Chaucer sang in the unconscious solitude of an ancestor of poets; he was unstaled by his posterity, irresponsible for them, and all he touched was fresh, and remains as fresh as when he touched it. His slight tendernesses—how sweet they are, how infinitely sly his little ironies—because they are felicitously conspicuous. One might be tempted to think that Shakespeare had him in mind when he accounted for the nightingale's charm by the silence of the night. Would a later Chaucer have sung in the chorus of the wrens? Would primroses in June pass scarcely heeded in the long procession, whereas primroses in march shine in its van like stars? It matters little. The conditions of being are among its attributes. The orderly and organic world, whether it be the social, or the scientific, or the literary world, or the world of teeming and flowering nature, contains, not persons only, but places and times; persons, places, and times in hierarchic inequality. So the primrose shall have credit for all its beauty of form, colour, substance, fragrance, place, and time. Let it, moreover, have credit for all its beauty as a badge in the eyes of those to whom the badge is dear. The date of its flowering has turned a great statesman's death day into his festival. It is not the birthday of the Leader that the primrose marks, nor any anniversary of his acts of statesmanship, but the day when he passed away in his deplored and honoured

death. So far there is no violence done to the tenderest of flowers. If these little blossoms are to be made to bear any poor human meanings at all, they may well display their pageant over a great man's country grave. The Leader is under the flowers, the followers are still among them. And being various themselves, they wear their primrose with a difference. Knights and Dames are adorned with a badge of romance; the Conservative grocer puts on the sign of his prosperities. He is at least more imaginative than Peter Bell, for the yellow primrose is to him a good deal more than a yellow primrose—it is patronage, and *bourgeois* stability, and security against "ructions" on any large scale. And yet we must confess to a qualm when the primrose of the copses and poetry is trampled on the battle-field of politics. There are such things as artificial flowers—we are reluctantly aware of them. Now, as the Primrose League is perennial, it might make itself independent of the seasons by wearing its flower in muslin. The suggestion is perhaps a cruel one. But then at least we should be able to duly differentiate Primrose Leagues and leagues of primroses: pastoral primroses and Primrose Pastorals.—Alice Meynell, in *The Tablet*.

HARDY PLANTS IN FLOWER.

The awakening of vegetation is complete and general, but the movements of plants have been less rapid than the register of temperature since the 20th of March would suggest to anyone who could forget that the ground is cold and acquires warmth but slowly. At the present time several subjects that are not usually in flower together are competing side by side; those that should have flowered long since having been delayed to be overtaken by later subjects. The snowdrops showed their welcome flowers as early as February 14 near London, and the frost that continued for five weeks thereafter did not harm one of them. But many more snowdrops have appeared since, accompanied by winter aconites, and now they are plentiful, and are threatened with eclipse by the more showy spring snowflake which does not often show itself until the snowdrops are past and gone. Not many trees are in flower, and very few have as yet shown a leaf. But we can record that *Nuttalia cerasiforme* is very leafy, and full of flowers; and *Prunus divaricata* has plenty of flowers, and a promise of leaves. If we have to wait a little longer than usual for the trees, we shall probably be compensated by seeing them pursue their course unchecked, a state of things that commonly results in an abundant fruit crop.

Hellebores have had a bad time, and have certainly not paid their way this season. In many places they persisted in pushing their flowers into view while frost prevailed, and they suffered much damage even where carefully protected. The following are in flower now, and worth noting because of their distinctive beauty, most of them having delayed their flowers to the time of safety: *H. intermedia*, a great cluster of lurid purple; *H. odorus*, greenish yellow; *H. orientalis*, usually white, but occasionally yellowish; *H. purpurascens*, lurid purple or slaty blue, a fine thing; *H. abchasicus*, rosy purple; *H. guttatus*, noble and lively, richly spotted within.

Hepaticas include the grand *H. angulosa*, usually catalogued as *Anemone angulosa*, and the brilliant single and double varieties of *H. triloba*, now catalogued as *Anemone hepatica*. Where these are wanting there is no spring garden.

Narcissi are quite scarce as yet in gardens near London, but *N. pallida præcox* is fine, and *N. minor* is showing a few flowers preparatory to the general outbreak of the trumpet section.

Saxifragas are few, but no one can pass them without experiencing cheerful thoughts. *S. sancta* is brilliant with golden flowers: *S. juniperina* is less showy, but has yellow flowers; *S. oppositifolia* is a power in the land. The common or supposed typical form is delightful, and flowers very freely. A larger and handsomer form is called *maxima*. The colour is clear rosy pink, the flowers measure one inch across. We have just measured an average sample, and find it a shadow more than seven-eighth of an inch. Another lovely variety is *splendens*, the flowers of which are smallish, the colour deep full pink.

Crocuses have made a glorious show in gardens and in London. The date of the flowering this year may be put down as from March 22nd to April 3rd; but for a week to come we shall see fresh flowers in places. A few of the more interesting species and varieties flowered too early, and suffered damage. On the 30th of March we noted the following as fresh and lively: *C. Imperati*, purple, white, rose, &c., the purple at this date the best; *C. suaveolens*, bluish; *C. versicolor*, various, all the colours good, but the purple at this time the best; *C. corsicus*, purple; *C. Etruscus*, pale purple; *C. Banaticus*, rich indigo purple, grand; *C. vernus*, the parent of any number of purple, lilac, white, and striped varieties, two of the best being *C. Vernus obovatus*, a lovely purple-toned blush, and *C. Vernus Allioni*, full purple, smallish; *C. Sieberi versicolor*, white with purple stripe; *C. aureus*, rich full orange; *C. aureus sulphureus*, a good yellow; *C. Balansæ*, smallish, orange with deep brown stripe. If allowed only two of the foregoing, we should take Crocus aureus in its "unimproved" condition, and Crocus vernus obovatus. And if allowed only one it should be the last-named delicate but stately beauty.

Daphnes are not forward, and we can wait for them. But we must record that *Daphne Blagayana* is flowering finely, and is a little whiter than described in connection with the figure in G. M. 1878, p. 512. The flowers are in roundish heads, creamy white, and most abundantly produced. For a warm, dry rockery this is a first-rate plant.

Primulas are plentiful, but seem not to command attention—perhaps because only varieties of *P. vulgaris* are as yet in flower, comprising chiefly single yellow, red, and lilac primroses, variously coloured oxlips, and a few polyanthuses. It is a question if the choicest of the family will be ready in time for the conference; but it is a question of weather, and we must wait in hope.

Snowflakes have a fine leader now in *Leucojum vernum*, which is flowering finely, perhaps more finely than usual, or it may be the scarcity of flowers gives it a chance of showing itself. It is certainly one of the best things of the season, and it is unfortunate for snowdrops to be flowering at the same time. *L. carpaticum* and *L. æstivum* will not flower for over four or five weeks, but *L. hyemale* and *L. roseum* have lately flowered in a frame, and given delight to a few fanatics.

Glory of the Snow claims a paragraph, for it presented flowers very soon after the first of the snowdrops. It is now in full beauty, and there is nothing choicer in the rockery than *Chionodoxa Lucilæ*, with its delicate flowers, pale blue with white centre, unless it be *C. Sardensis*, which is brilliant azure with white centre. The best of the two none can find, because "both are best."

Squills present nothing novel, but the lovely colour of *Scilla sibirica* is almost without equal in the vegetable kingdom. *S. bifolia* is a most delicate beauty in its lovely blue dress, but the white variety is very poor this season, and is never of high character.

Miscellanies include *Pulmonaria officinalis*, *P. angustifolia*, and *P. azurea*; *Erythronium dens canis*, at present rather poor in flower, but fine in leafage, *Brodiæa Leichtlini*, *Hyacinthus azureus*, and *Bulbocodium vernum*—all good things, that will improve in their looks if favoured with good weather.

Calls at Nurseries.

MR. B. S. WILLIAMS'S VICTORIA AND PARADISE NURSERIES, UPPER HOLLOWAY.

The Victoria and Paradise Nurseries are at the present time especially rich in attractions, for the numerous and well-filled orchid-houses are particularly gay with colour. There is a large and extremely beautiful exhibition of hyacinths and tulips, and of amaryllis and imantophyllums.

The hyacinths and tulips are arranged in the spacious winter garden which forms the main entrance to the nurseries, and they produce, in association with the palms, tree-ferns, dracænas, and other plants remarkable for elegance of outline or nobility of aspect, a very striking effect. The hyacinths comprise all the finest varieties in the several shades of colour, and the magnificent spikes with which they are furnished afford a good indication of the high quality of the bulbs. Tulips are equally satisfactory, and include Proserpine, Joost van Vondel, White Joost van Vondel, one of the very finest of the white tulips at present in cultivation, White Pottebakker, also a fine white, Yellow Pottebakker, Keizerskroon, Vermilion Brilliant, and other first-class varieties.

All the orchid-houses are more or less attractive, and a mere enumeration of the whole of the species in bloom in the several structures would occupy much space. It must, therefore, suffice to mention a few of the most important in the several sections. There is still a considerable number of examples of the beautiful Cattleya Trianæ in bloom, and associated with them were several very distinct varieties of the comparatively new and richly coloured C. Lawrenceana. C. citrina was also represented by several specimens in bloom, the golden flowers of which presented a striking contrast to the rose and purple tints of the other kinds. The dendrobiums contribute liberally to the display; those in bloom comprising D. primulinum, D. Jamesianum, D. Wardianum, D. crassinode, and D. Devonianum. The last mentioned is grown by Mr. Williams on a raft, with a little sphagnum about the roots, and the plants succeed admirably upon them, the pseudo-bulbs being between two and three feet long and thickly studded throughout their length with flowers and buds. Oncidium sarcodes is flowering finely, and its large panicles of richly coloured flowers are singularly effective in contrast with those of the other species. Phaius Wallichi and P. grandifolius present a very pleasing appearance. Cœlogyne cristata major, which was represented by several examples, differs from the normal type in the greater breadth of the sepals and petals, and the finer form of the large waxy white flowers. Calanthes comprise C. Stevensi and C. Sanderi, the last mentioned a very handsome species, with bold foliage and fine spikes of large rose-coloured flowers. Phalænopsis, which are chiefly cultivated in cylinders of teak with moss, are growing with amazing vigour and flowering very profusely; those in bloom including P. amabilis, P. grandiflora, and P. Schilleriana. Especially noteworthy also were Cypripedium selligerum major, a superb form of this exquisitely beautiful species; Vanda tricolor; and Houlletia odoratissima, the last-mentioned being one of the most beautiful of the species forming the genus.

In the cool-houses there is an extremely beautiful display of Odontoglossums and Masdevallias, there being many hundreds of spikes of the first-mentioned. The highly popular Odontoglossum Alexandræ is very strongly represented, and comprises a considerable number of very distinct and remarkably fine varieties. O. Pescatorei is also conspicuous by reason of the number of plants in bloom, and the high-class quality of the flowers. Other odontoglots in bloom that deserve special mention are—O. triumphans, one of the most richly coloured of the several kinds, O. odoratum, O. cuspidatum, a rare species of great beauty, O. Halli leucoglossum, and O. sceptrum. O. vexillarium is not yet in bloom; but, from the freedom with which the plants are producing their flower spikes, there will be a bright display of this showy species in due course. Chief amongst the Masdevallias were M. Lindeni and M. Veitchiana, both of which are too well known to need comment.

The imantophyllums and amaryllis form two very important features, as both are grown in large numbers and with singular success. The flowering examples of the imantophyllums have a large span-roof house devoted to them, and as they are in a robust state of health, and furnished with several hundred umbels of noble proportions, the effect produced is remarkably good. The display is, in fact, the finest that has yet been produced in this country. All the older forms are in strong force, and there are several new varieties which will eventually attain a high degree of popularity. One of the most noteworthy of the novelties is Ambroise Verschaffelt, which Mr. Williams will distribute in the coming season; the flowers are of immense size, and are of a bright orange red with rich golden yellow centre. Meteor and General Gordon are two fine seedlings, with flowers of a very deep shade of scarlet. Cruenta, sent out by Mr. Williams last year, is a magnificent variety, the flowers of a brilliant orange scarlet and of fine form. Other highly meritorious varieties are Madame Van Houtte, Marie Keimers, and Aurantiaca. On the side tables of the imantophyllum house there is a fine collection of cyclamens, which admirably represent the high-class quality of the strain with which Mr. Williams's name has been so long identified. The amaryllis, which have a house wholly devoted to them, are now in perfection, there being some hundreds of scapes in various stages of development. Amongst other varieties in bloom were—Harry Williams, a large finely formed flower of a deep vinous crimson, Masterpiece, brilliant crimson; Mrs. Masters, white, striped with crimson; Harlequin, crimson blotched with white; Prince of Teck, glowing crimson with white bands extending half-way up the segments; Marshalli, crimson scarlet, a nice and exceptionally fine flower; Joseph Broome, bright claret; and Mrs. Findlay, scarlet with pure white, very bright and pleasing.

In the rhododendron house we noticed, amongst others in bloom, fine specimens of MacNabiana, a beautiful form with large pure white flowers; Countess of Haddington, a handsome hybrid with blush coloured flowers; and R. Veitchi, a superb species with large handsome flowers of the purest white.

ABUTILONS FOR WINTER FLOWERS.

By William Cole, The Grove Vineyard, Feltham.

Cultivators have on several occasions been reminded in the pages of the Magazine of the usefulness of the comparatively new race of abutilons for decorative purposes generally, but sufficient stress does not appear to have been laid upon their great value for furnishing supplies of cut flowers during the winter. The flowers can be employed to advantage both for filling épergnes and the making of bouquets; and they are produced so profusely that a very few plants will suffice to provide an abundant supply from the end of the autumn until the spring following. We have not a very large stock of plants, but there has been hardly a day since October last that we could not have cut from one to two hundred flowers.

The plants from which we obtain the most abundant supply of flowers during the winter season are those which in the spring previous are well established in five or six inch pots and furnished with one or more strong shoots each. Those who have plants of this description should within the next two or three weeks reduce the water supply considerably, to promote the ripening of the wood, and, after keeping them rather dry at the roots for a short time, cut them rather hard back. The shoots should, as a rule, be cut back to within about six inches of the surface of the soil, to obtain new growth from near the base. Very soon after the pruning they should receive more liberal supplies of water and be syringed overhead to encourage them to start into growth. They will soon begin to break freely, and when the young shoots are about an inch in length it will be advisable to repot them.

It is not advisable to give the abutilons too much root space, and the practice that can be the most strongly recommended consists in putting the plants when they receive their first shift in pots of the same size as those previously occupied, and in the course of the summer shifting them into pots one or two sizes larger, according to the vigour of each individual. To be able to put them in pots of the same size as those from which they are taken it will be necessary to reduce the ball of soil by about one-half, and when this is done the long roots should be shortened to promote the production of fibrils. A compost consisting of mellow fibrous loam, well-rotted manure, leaf-mould, and silver sand is the best; the most suitable proportions being one part each of manure, leaf-mould, and sand, to five parts of the loam. When well rooted they should be shifted into the pots in which they are to bloom, a compost to be used of the same description as that advised for the first shift. The drainage must be sufficient to carry off the superfluous moisture; for abutilons, in common with a host of other things, suffer considerably during the winter season, when the moisture in the soil is much in excess of the requirements of the plants. They require rather liberal supplies of water at the roots throughout the summer months, and when the plants are well established an occasional supply of rather weak liquid manure will be beneficial. The shoots should be stopped once in the course of the summer if desired; and this should be done by nipping out their points when six or seven inches in length.

The most suitable position for abutilons from the time they have recovered from the check received at their first repotting until the end of September is a light and airy greenhouse, or a spacious pit, as may be the most convenient. Whether in greenhouse or pit it will be an advantage to place them where they will be near the glass and enjoy a free circulation of air. From the end of September till the following spring a warm greenhouse or other structure in which they will enjoy a temperature ranging between 55 deg. and 60 deg. will afford them the most suitable quarters. They ought also during this period to be carefully watered, the supplies to be just sufficient to maintain the soil in a moist state and no more.

There is no objection to the private grower having a collection of ten or twelve varieties. But where the space is limited, and a large supply of flowers is required, I would suggest that the varieties be limited to Boule de Neige, Firefly, and Golden Gem—which have white, scarlet, and yellow flowers respectively—because of the high quality of the flowers and the profuse manner in which they are produced.

Spring advances slowly, and the critical time is near at hand for the crops that are of greatest interest in the garden. During the last few days cold winds have given a check to vegetation, which perhaps was hurrying in a way to justify the adage "the greater haste the less speed"; but we have no disasters and no disappointments to record. The lateness of the season certainly lessens the chances of a breakdown; but as we are never safe, there is no diminution of anxiety. In the western suburbs of London all the early-leafing trees are green, wall trees are in flower, and spring-sown seeds are showing a good plant. Seeds sown since March 20 have made better progress than those sown previous to that date. The country wants rain, of which the arrears are now considerable.

The Nightingale is reported to have been heard at Tarberry Hill, on the border line between Sussex and Hampshire, on the 25th of March, by the Rev. H. D. Gordon, Harting Vicarage, Petersfield. There is no parallel to this record, unless it be that of the late Mr. Mortimer Collins, that we commented on to his discomfiture in the issues of the Magazine for April 3 and 17, 1875. On that occasion Mr. Collins reported having heard two young nightingales in the trees in his own garden on the 24th of March. The only comment we shall make on the statement of the Rev. H. D. Gordon is that we object to his augury of "mild weather" from the early arrival of the nightingale. When shall we have done with the ridiculous belief in prognostications of this class, of which the most familiar examples is the expectation of a hard winter because of a store of red berries?

WATERING PEACH TREES.

Being directly interested in fruit-growing, I should like to briefly refer to the note in the Gardeners' Magazine of March 13 on the watering of peach trees and to say that the advice is thoroughly sound. I have, like other cultivators, experienced the disappointment which the grower naturally feels when he sees the buds falling off instead of expanding.

If you can afford the space, I will give in detail the way in which I have managed some pot trees during a period of three years, and the results obtained. I started with them according to my knowledge of the outdoor culture of the peach, which, I would observe, was obtained in Kent. The outdoor trees had a good watering, and a mulching when the fruit was swelling, and the mulching remained during the ripening of the wood in the autumn. The crops were very satisfactory, both as regards the number and the quality of the fruit. Now the pot trees are taken out of doors each year to ripen their fruit and wood, and they remain each year until the second week in February. During the winter they are placed close together, with some rough straw packed about the pots to protect the roots from the action of the frost.

They are removed about the first week of March to a vinery, in which they remain until the weather is sufficiently advanced for them to be again taken outside, and they are pruned immediately they are taken indoors. The first year they had a good mulching and plenty of water, and were not allowed to become dry. As growth commenced, the buds began to fall off, and so many fell that the crop was very thin. The second year the management was the same as before, until they were removed to the vinery. I then decided to try what keeping them dry at the roots would do towards the preservation of the buds. The buds did not fall so freely as in the previous season, and we had a rather better crop. But the trees started weakly, and were much infested with green fly, which is very troublesome to peach trees when they are not in so vigorous a condition as could be wished. The results being again unsatisfactory, I determined to take another course in the third year. During the winter I gave the trees at intervals supplies of good liquid manure, and removed them indoors and pruned them at the usual time. They have also been kept moist at the roots. The buds are falling off very freely, and a thin crop will be the result. They are, however, breaking much stronger, and are quite free from green fly at present.

If anyone can throw any light upon the matter I am quite sure that it would be very acceptable to many readers of the Magazine. It is a very common occurrence to hear of the buds of peach trees falling prematurely. I am rather disposed to think that the trees are subject to the loss of their buds.

Wycombe Court, Bucks. D. W.

HISTORY OF THE BAROMETER.

In connection with the exhibition of barometers recently in Westminster the president of the Meteorological Society, W. Ellis, Esq., gave a historical sketch of the barometer, After remarking on the accidental nature of the discovery of the instrument, in the year 1643, in its best form, in ignorance for some time of its value for purposes of meteorological inquiry, he gave a brief account of many early kinds of barometers, the first endeavour being, in consequence of difficulties experienced with the ordinary mercurial form, to enlarge the scale of variation. The desire to experiment on elevated positions induced the construction of an early form of portable barometer, one such with cistern completely closed, leaving the air to communicate through the pores of the wood, having been made above two hundred years ago. The president further described various points in the arrangement of the Ramsden, Gay Lussac, and other barometers, including also mention of some modern patterns of long-range barometers, standard barometers, and such barometers as are more commonly used. The practice of driving out air from the mercury by heating or boiling appears to have been in use early in the last century. Engraved plates indicating the weather to be expected with different heights of the mercury were used at least as early as 1688. As regards correction for temperature, De Luc in the last century adopted a temperature corresponding to 54·5 deg. Fahr. as that to which to make reduction, because corresponding nearly to the average of observations, such reduction being now made to the natural zero, 32 deg. Fahr. Reference was made to the employment of water (as in the well-known Royal Society barometer) and other liquids instead of mercury. The president concluded his account with a sketch of the history of recording barometers or barographs, and noticed the application of photography and electricity to recording purpos es.

Cases of Suspended Vitality in Trees have been occasionally reported, but probably there is not on record an instance to parallel that to which our attention is directed in a communication from Messrs. J. C. Schmidt, at Erfurt, reported on by Dr. Wittmarck, in *Deutsche Garten-Zeitung*. Two trunks of Cycas media having a height of 13 and 16 feet respectively, were on their arrival, in the year 1878, considered to be quite dead; "but, for the sake of curiosity, they were nevertheless planted in the ground. Imagine the astonishment of everybody concerned at finding these mummies had suddenly returned to life, their crowns ornamented with wreaths of thick foliage, which is now completely grown, and affords a most imposing sight!" In a strict sense of the term "vitality" is never "suspended," but when vigorous growth is seen in trees that have been to all appearance dead for eight years, the expression is at least partially justified.

Exhibitions and Meetings.

PRIMULA CONFERENCE AND NATIONAL AURICULA SOCIETY (Southern Section).

Since the weather improved there is renewed promise of a great exhibition of primulas, as well as of the interesting people who grow them. Amateur as well as professional, growers are anxious to make it a great success. This I have no doubt it will be if all persons interested in the subject will do what they can. It is not given to everyone to make an exhibition of scores of distinct species; but many persons could exhibit, one, two, or half a-dozen, and any interesting or curious forms of the common primrose might be both interesting and instructive. Notice of intention to exhibit, and also the nature of the exhibit, should be sent to Mr. Barron, Royal Horticultural Society, South Kensington, S.W., at least a week before the exhibition. The dates are April 20 and 21. The National Auricula Exhibition is to be held at the same time, but on the 20th only; and the Primula Conference Committee would be glad if exhibitors would kindly leave their plants for the two days. It may remove some misunderstanding if I may be permitted to say that the prizes offered for auriculas are freely open to any who will come forward and win them. The society is supported by the voluntary contributions of admirers of the auricula, and the subscribers think it best to leave the classes open, except so far that there are classes for large and small growers, so that exhibitors must choose whether they will engage in a general or a restricted competition. Entries must be sent to Mr. Barron, as above. I will be pleased to send schedules to intending exhibitors, and may further be allowed to add that the treasurer, Mr. H. A. Bolt, 170, Hartfield Road, New Wimbledon, informs me that the subscription list for this year is not yet complete. He will be greatly obliged if members will kindly forward their subscriptions before the 20th. Jas. Douglas, Hon. Secretary.

The Gardens, Great Gearies, Ilford.

FLOWER SHOW IN THE SCILLY ISLES.

The first flower show in the Scilly Islands was opened on Tuesday, the 30th ult., in the Infant School, St. Mary's, Scilly, under the auspices of the Scilly Islands Bulb and Flower Association, of which T. Algernon Dorrien-Smith, Esq., is the president, and Mr. Clement Mumford is the secretary.

The exhibition to the islanders was of unusual interest, the exhibits consisting mainly of well-grown daffodils, of which the three groups were well represented. The competition for the numerous prizes was very keen, and the inhabitants of the little town of St. Mary's took a lively interest in the show. The prizes, which were distinguished by ribbons—1st blue, 2nd pink, 3rd yellow—were readily distinguished, and gave occasion for many friendly congratulations, not only by the visitors, but the exhibitors amongst themselves. The weather being somewhat stormy, the off islanders could not put in an appearance on the first and second days; but on Thursday the storm abated, and some few additional exhibits came in and were awarded prizes according to merit. The exhibition of 1887, it is expected, will be more than double the size of this, and speculation is rife as to where accommodation can be had. Each exhibitor, it is anticipated, will want more space, and there will probably be many additional competitors.

One end of the room was occupied by Mr. T. A. Dorrien-Smith with an important collection, consisting of upwards of 160 species and varieties of Narcissi, tastefully arranged on a groundwork of green moss. As the exhibitors generally may adopt this mode of staging their flowers in 1887, it is not unreasonable to expect that even our metropolitan daffodil shows will be put in the shade, as enterprise is one of the characteristics of the natives of Scilly. It is very likely that some of the growers from these islands will come up to one of the April daffodil shows to take notes; under the circumstances, the London exhibitors will do well to make good preparations for 1887, so as to maintain their honours. The principal prize was one of £5, offered by the Earl of Mount Edgcumbe, for the best collection of marketable flowers; and this was carried off by Mr. W. P. Mumford, with an assortment of fifty varieties of daffodils. The same prize will be offered in 1887, with possibly others of a special character.

The prizes offered by the association were awarded as under:—

Spurius, first, Mr. W. P. Mumford. Maximus, first, Mr. W. P. Mumford. Emperor, first, Mr. W. P. Mumford; second, Mr. F. Woodcock; third, Mr. Hugh Watts. Empress, first, Mr. W. P. Mumford; second, Mr. G. Woodcock; third, Mr. F. Woodcock. Rugilobus, first, Mr. J. C. Tonkin; second, Mr. W. M. Gluyas; third, Mr. F. W. Banfield and Mr. W. P. Mumford, equal. Princeps, first, Mr. W. P. Mumford; second, Mr. J. E. Hooper; third, Mr. J. C. Tonkin. Obvallaris, first, Mr. W. Barnes; second, Mr. E. W. Banfield; third, Mr. W. Trevellick. Pallidus præcox, Mr. J. E. Hooper, only prize. Odorus, first, Mr. Hugh Watts; second, Mr. E. W. Banfield; third, Mr. W. M. Gluyas and Mr. W. P. Mumford, equal.

Telamonius plenus (large double yellow daffodil), first, Mr. W. P. Mumford; second, Mr. W. Barnes; third, Mr. W. M. Gluyas.

Incomparabilis var. first, Mr. J. C. Tonkin; second, Mr. W. P. Mumford; third, Mr. Hugh Watts. Sir Watkin, first, Mr. W. P. Mumford; second, Mr. W. M. Gluyas; third, Mr. Hugh Watts. Stella, first, Mr. R. Mumford; second, Mr. J. E. Hooper; third, Mr. W. P. Mumford. Cynosure, first, Mr. Hugh Watts; second, Mr. F. Woodcock; third, Mr. W. Trevellick. Double, first, Mr. R. Mumford; second, Mr. E. W. Banfield; third, Mr. F. Woodcock. Orange Phœnix, first, Mr. W. P. Mumford; second, Mr. R. Mumford and Mr. W. Trevellick, equal; third, Mr. E. W. Banfield and Mr. W. M. Gluyas, equal. Sulphur Queen, first, Mr. R. Mumford; second, Mr. W. P. Mumford; third, Mr. F. Watts and Mr. W. Trevellick, equal.

Polyanthus varieties: Grand Soleil d'Or, first, Mr. W. Trevellick; second, Mr. R. Mumford; third, Mr. W. P. Mumford. Scilly White (Ochroleuca), first, Mr. W. Trevellick; second, Mr. W. P. Mumford; third, Mr. R. Mumford. Gloriosus, first, Mr. F. Watts; second, Mr. M. Watts; third, Mr. W. P. Mumford. Grand Monarque, first, Mr. W. Barnes; second, Mr. W. Gluyas; third, Mr. J. C. Tonkin; commended, Mr. W. Trevellick, Mr. H. Watts, Mr. J. E. Hooper, and Mr. F. Woodcock. Jaune Supreme, first, Mr. W. M. Gluyas; second, Mr. E. W. Banfield; third, Mr. M. Watts. Staten General, first, Mr. F. Woodcock; second, Mr. S. Mumford; third, Mr. W. M. Gluyas. Bazelman major, second, Mr. W. P. Mumford. Paper White, first, Mr. R. Mumford; second, Mr. W. P. Mumford; third, Mr. W. Barnes. Poeticus ornatus, first, Mr. W. M. Gluyas; second, Mr. E. W. Banfield; third, Mr. R. Mumford. Polyanthus (any variety), first, Mr. J. Mumford; second, Mr. H. Watts; third, Mr. W. Trevellick. Trumpet (any variety), first, Mr. W. Trevellick; second, Mr. H. Watts; third, Mr. W. P. Mumford. N. Burbidgei, first, Mr. J. E. Hooper; second, Mr. W. P. Mumford.

The best three bunches of marketable flowers, prize offered by Mr. Jacobs, salesman, Covent Garden: first, Mr. R. Mumford; second, Mr. W. Trevellick; third, Mr. W. H. George. The best three bunches of marketable flowers, prize by Mr. Peter Barr: first, Mr. R. Mumford; second and third, Mr. E. W. Banfield. The best three bunches of marketable flowers, prize by the association: first, wallflowers, Mr. W. P. Mumford; second, primroses, Mr. Thomas Mumford; third, snowdrops, Mr. J. C. Tonkin.

In August there will be an exhibition of dry narcissus bulbs, grown on the Scilly Islands, of the most marketable sorts, when prizes by T. Algernon Dorrien-Smith, Esq., of the value of £10, will be offered. In 1887 the prizes will be increased to £25.

The judges were Mr. Vallance, Tresco Abbey Gardens, and Mr. P. Barr, London.

LONDON FRUIT AND VEGETABLE MARKETS.

The warm genial weather which has been experienced during the past three weeks has had a sufficiently stimulative effect on vegetation to materially augment the supplies of green vegetables and avert the famine which at one time appeared to be within a measurable distance. But, although the markets within the metropolis, as in other large centres, are now more liberally supplied than they were a fortnight or so since, it is many years since they presented at the beginning of April such an unsatisfactory appearance as at the present time. Of asparagus, seakale, and other forced vegetables, there are in Covent Garden and elsewhere sufficient to meet the demand; but nearly all descriptions of vegetables that have had to bear the exposure to the biting frosts and keen winds of the past winter are limited in quantity, indifferent in quality, and high in price. In most years there has been at the present season an abundance of spinach of the finest quality, plenty of excellent broccolis, and a liberal instalment of spring cabbages. But now the spinach is so small that a very large area must be cleared for every bushel brought to market, broccolis are rather poor, and cabbages have not yet made their appearance. The outlook is hardly more pleasant than the present survey; for cabbages, which form such an important part of the market supplies during May and June, will be especially late, and probably very scarce. The destruction of the plants has been very great throughout the country, and in some districts the crops have been almost annihilated. As indicating the damage that has been done, it may be mentioned that a large grower within the metropolitan district who has seventy acres of cabbages has lost over sixty per cent. of the plants; or, in other words, his seventy acres have practically been reduced to about twenty.

The bulk of the green vegetables now coming to the markets is formed by the purple sprouting broccoli, turnip and swede tops, the side shoots of Scotch kale and Brussels sprouts, and spinach. There are, comparatively speaking, a few broccolis, chiefly from Cornwall; but they are mostly small and otherwise poor. There are also a few savoys, which are being received in fairly good condition from the northern counties. There has been a considerable fall in the prices of all the common green vegetables, but even now they are so high as to prevent the tables of the poorer classes being supplied with them otherwise than in the most limited quantities. The tops of turnips and swedes range at the present time from eighteenpence to half-a-crown per bag, containing about twenty pounds each. The side shoots of Brussels sprouts and Scotch kale are worth about sixpence per bag more. Three weeks ago greenstuff of all descriptions readily realized five shillings per bag, and as at least one-half of the contents of each bag was waste, the vegetables must have proved very costly to the consumers. Sprouting broccoli, which is rapidly improving in quality under the influence of the genial weather, is now realizing from three shillings to three shillings and sixpence per sieve, extra good samples being worth four shillings per sieve. Spinach has fallen considerably in price, and is now about equal in value to the best samples of sprouting broccoli. The savoys are mostly of medium size, and range in price from seven shillings and sixpence to ten shillings per tally, which consists of five dozen. Broccolis, which are below the average in size, are much discoloured, and command from two to three shillings per dozen. Rhubarb has made a very rapid growth during the past fortnight, and it is now being sent to market in large quantities, the price ranging from two to three shillings per dozen bundles.

Forced vegetables are about equal to the demand, and they are, on the whole, rather higher in price than they have been at this season for several years past. Seakale ranges from eighteenpence to three shillings and sixpence per basket, but under two shillings it is very poor, and the general price for ordinary samples is half a crown. Asparagus, of which a large proportion is of French growth, realizes from three shillings and sixpence to seven shillings and sixpence per bundle. French beans, of which the supply is rather limited, are worth from one to two shillings per hundred. Salading is fairly plentiful, and the French lettuces are mostly of excellent quality. The cabbage lettuces, which range in price from one to two shillings per dozen, are very good; but the examples of the cos are especially noteworthy, many of them being fully six inches in diameter and perfectly solid. The average price of these is six shillings per dozen. Endive, of which the greater proportion is being received from France, realizes an average price of eighteenpence per dozen. Cucumbers are plentiful and good, and command from six to nine shillings per dozen, the samples having to be especially good to command the higher price.

The markets are not very bountifully supplied with fruit. There is a fair supply of black grapes and a few muscats in Covent Garden, the prices ranging between three shillings and seven shillings per pound. Dessert apples and pears are practically over, but there are moderate quantities of culinary apples. As indicating the value of the latter, it may be mentioned that good fruit of Dumelow's Seedling is worth from four shillings and sixpence to five shillings per bushel.

Seed of Chrysanthemum frutescens has been produced by Mr. W. H. Cullingford, and he has favoured us with a note on the subject. The general question of the production of "chrysanthemum seed" concerns rather the more important *Chrysanthemum Indicum*; but the case put is interesting, and it will be gratifying if the English-sown seed should produce any interesting varieties.

The Allotments and Small Holdings Bill has come to an ignominious end, for almost simultaneously with its being talked out of the House Mr. Jesse Collings was unseated on the Ipswich petition. But the continual stir of land questions must lead to substantial results, and England must share with other parts of the United Kingdom in reforms that will open new fields for industry.

Replies to Queries.

W. S.—It is not unusual for the plant in question to flower when, as in your case, it has attained to specimen size.

Names of Fruits.—R. Baxter.—1, Cornish Gilliflower; 2, Golden Harvey; 3, Northern Spy. Apple in tin box, Cox's Orange Pippin.

Gloxinias.—E. H.—The tubers appear to have been kept too damp and cold during the winter.

Carnations.—Snozoo inquires for the whereabouts of a good strain of carnations. Our answer is that good carnations may be obtained in any good nursery; but they are not plentiful, as the winter has reduced the stocks.

S. G. R.—If not too damp, the spot would suit hardy cyclamens, trilliums, megaseas, the smaller anemones, Myosotis rupicola, alpine phloxes, and primulas; ivies and ferns for the main features.

Altona has made the mistake of giving heat by night and none by day. That sort of thing will always end in grief. Ventilate with prudence, and give no heat at all, and take care the trees do not suffer by dryness at the root.

Coleus.—C. P., Bournemouth.—The colours of the leaves received are not sufficiently developed to enable us to identify the varieties. But if you will send again when the plants are more in character we will endeavour to name them for you.

Rose Maréchal Niel.—A. F.—It is better to provide an inside border when practicable, but the rose can be successfully grown when planted in a border outside the house, as in your case. As the plant loses its leaves and fails to produce flowers, the roots must be in a very unsatisfactory condition, and we would suggest a careful examination of the border. It is very probable that the soil has become sour in consequence of an insufficiency of drainage.

Unhealthy Fowls.—E. V. P.—The birds appear from the symptoms described in your letter to have had a rather severe attack of paralysis, for which there is no known remedy. Paralysis is chiefly caused by the too liberal use of a very stimulating food, and the birds seldom recover. It may be a case of cramp or rheumatism, and it will therefore be advisable to place the birds in a rather warm position, and administer a rather brisk aperient. The birds should have an aperient every other day until they show signs of recovery, be kept quiet, and be fed principally on soft food.

Names of Plants.—Plumstead.—1, a leguminous plant that cannot be named from the seed only; 2, seed of a canna; 3, a malvaceous plant allied to hibiscus.—Nemo. The orange flower is Clivia nobilis; the other is Selaginella Wildenovi.—C. D. Your coleus are reported to be: 1, Mr. G. Simpson; 2, Mrs. Knatchbull Hugessen; 3, Lord Rosebery.—G. Peloria is a term applied to a natural modification of the flower of a scrophulacaceous plant, one character of which is a regular corolla. Your plant is Dacrydium excelsum. It is not hardy.—J. H. Fraser. Drynaria coriacea.

Cinerarias.—Messrs. W. Gordon and Son, of the Haymarket, Edinburgh, have forwarded blooms of a seedling cineraria that presents entirely new, and, in our opinion, beautiful characters. The flowers are of about average size, and the disc, which is small, is almost concealed by the ray florets. These are in the nature of miniature spathes, remotely and curiously resembling the spathes of a calla, each tiny spathe terminating suddenly in a kind of stem. The colour is a rich deep self-crimson. For decorative purposes this novelty will probably prove acceptable to many. Not having seen the plants, we cannot express any opinion as to them, but we shall hope to see specimens at South Kensington.

Wanted, a White Potato.—R. H. writes: "I want a thoroughly profitable potato for present planting. It is an important point that the flesh be very white when cooked. The demand on me is a heavy one; therefore a heavy cropper is called for, and of course I want one of fairly good quality. The very highest quality I do not ask for, because I know some of the choicest in respect of flavour are not white enough for me." We have recently had cooked a sample of White-skinned Beauty of Hebron as grown by Mr. Laxton, of Bedford, and its exceeding whiteness on the table was a matter of observation. We have noted in trial cultures that Beauty of Hebron, whether pink or white skinned, is one of the most productive varieties, and of excellent quality.

Varnished Hot-water Pipes.—G. D. writes: Will any of your readers advise me under the following circumstances? I have two vineries under my charge, and having had the woodwork painted and the walls lime-washed, I very unwisely had the pipes painted over with Johnson's Tar Varnish. I did not think the varnish would prove injurious to anything, as the painter had applied it to the pipes some years before, and both he and the men in the garden agree in saying that no harm was done either to the vines or the plants growing underneath them. But now, as soon as I set the hot-water apparatus to work to start the vines, the fumes rising from the pipes turned the leaves of all the plants in the vinery yellow, and they are now falling off. I am afraid the vines are also injured, as the buds are just pushing, and they are made browner than they ought to be. I should like to know whether washing the pipes over with lime would be beneficial in neutralizing the injurious fumes. I shall be very thankful for any advice that will help me out of the difficulty.

[We are afraid that very little, if anything, can be done to mitigate the injury to the occupants of the house, beyond ventilating as freely at all times as the circumstances of the case will admit. The ventilators at the apex of the roof should be left open an inch or so at night as well as during the day to allow the fumes to escape.—Ed. *G.M.*]

Pansies.—J. H. A. Dromore.—The following thirty-six comprise the best in cultivation: *Dark Selfs.*—Rev. J. Morrison (Taylor), D. Malcolm (Cuthbertson), Peter Lyle (Paul), Mauve Queen (Paul), Andrew Miller (Paul), Crosshill Gem, Harry Paul (Paul), Alexander Watt (Paul). *White Selfs.*—Mrs. Galloway (Paul), Mrs. Dobbie (Dobbie), Mrs. Cadzow (Dobbie), Mrs. Turnbull (Dobbie), Mrs. Goodall (Paul). *Yellow Selfs.*—Gomar (Ross), G. McMillan (Dobbie), William Crockart (Dobbie), Lizzie Stewart (Dickson and Co.), Golden Bee (Paul). *White Grounds.*—Mrs. J. G. Paul (Paul), Mrs. James Millar (Paul), Jessie Foote (Downie and Laird), Miss Ritchie (Dobbie), Miss Barr (Robertson), Jeanie Grieve (Dickson and Co.), Miss Meikle (Paul), Mrs. Stewart (Stewart), Miss Baird (Paul). *Yellow Grounds.*—D. Dalglish (Robertson), William Robin (Paul), J. B. Robertson (Robertson), Robert Pollock (Paul), Lizzie Bulloch (Sutherland), Lord F. Cavendish (Robertson), Thomas Ritchie (Robertson), Bailie Cochrane (Dickson), G. S. Veitch (White).

Eradicating Cockroaches.—Can any of the readers of the Gardeners' Magazine suggest a remedy by which cockroaches can be effectually eradicated. Our peach-houses are infected with an immense number of them, and they are doing considerable damage by gnawing the young nectarines. We have tried various remedies; in fact, all that we have seen advertised or that have been recommended by friends. But all have failed to effect the desired object; we shall, therefore, be very much obliged by any assistance that either you or your many readers could give me in ridding our houses of those destructive pests.

Cheshire. W. M.

[Mixtures of arsenic and honey and arsenic and oatmeal are said to be useful in destroying cockroaches. When honey is used the arsenic should be added to it, and the mixture be then placed in small portions on scraps of paper and laid about the house. In using oatmeal, lay small quantities about the houses on scraps of paper or pieces of slate for several nights, until it is seen that the cockroaches come in large numbers to feed upon it. Then mix a little arsenic with the meal for one or two nights, and the desired destruction will follow. Many measures that are effectual for the destruction of vermin fail because employed without skill. It is as easy to poison rats as flies when you know how to do it; and the first step to success is to educate the intended victims by feeding them regularly in the same places on wholesome and tempting food. Do the same with cockroaches and crickets, and the game is in your hands; but if you will not first establish a board school you must not expect to slaughter the innocents.]

Grapes.—G. S. G.—The adventitious or air roots with which your vines are so liberally furnished are probably the result of rather too much atmospheric moisture. It is a quite common occurrence for these roots to be produced by vines started early in the season. They should not be cut off until they shrivel and die as the wood attains maturity. The Muscat of Alexandria and Black Hamburgh cannot be satisfactorily grown in the same house; because the Muscat requires a temperature about ten degrees higher than the black variety, and when the two are grown under the same conditions it is a fortnight or three weeks later at each stage. For a vinery in which the crop is required to be ripe in June, six rows of four-inch pipes will be required, and they should be so arranged as to ensure an equal distribution of the heat throughout the house. If the house has a lean-to roof, the best course will be to arrange two flow and return pipes along the front, and one flow and return down the centre.

Literature.

Gardening for Amateurs may be described as a kind of "surprise packet," for it bears the names of the Rev. F. D. Horner, M.A., of Burton-in-Lonsdale, and Mr. George Kidson, of Lansdowne School, Hull. When two such earnest horticulturalists co-operate in the interest of the amateur gardener something good may be expected, and those who go to the little book for useful guidance will not be disappointed. It begins with chrysanthemums and ends with mushrooms; between these are sandwiched all the good things an amateur can desire in the way of proper gardening.

Old Jonathan for April contains a very welcome picture of St. Michael's Mount, Cornwall. As a budget of light reading, freely adorned with beautiful engravings, this pretty monthly has especial claims on the sympathies of every "district and parish helper."

Ladies' Gazette of Fashion for April contains papers on tile painting, carving, and the state of trade in textile matters, in addition to the delectable essays on the latest fashions.

Ladies' Treasury for April contains useful designs for mosaicon work, and a delightful lot of miscellaneous reading, in addition to the Paris letters on the fashions.

Illustrations, edited by Mr. Francis George Heath, improves in every way. The style of picturing adapted is effective, though cheap, and gives us sketches with the artist's touch more conspicuously than the engravers' finish.

TRADE CATALOGUES.

Sander and Co., St. Albans.—*Rare Orchidaceous Plants.*

Lucombe, Pince and Co., Exeter.—*Wholesale Catalogue of Nursery Stock.*

Ellwanger and Barry, Mount Hope Nurseries, Rochester, N.Y.—*Ornamental Trees—Hardy Fruits.*

V. Lemoine, Nancy, France.—*Price Current for Spring*, 1886.

Viccars Collyer and Co., Leicester.—*General Catalogue, Second Edition.*

Charles Turner, Royal Nurseries, Slough.—*General Spring Catalogue.*

M. Cuthbertson, Rothesay, Scotland.—*Garden and Flower Seeds.*

Rawlings Brothers, Old Church, Romford.—*Dahlias.*

Messrs. Paul and Son, Waltham Cross, Herts.—*Roses.—New Roses, Geraniums, &c.*

Smail and Co., 23, Lime Street, London.—*Vegetable and Flower Seeds.*

G. Neighbour and Sons, 127, High Holborn.—*Improved Bee Hives, &c.*

R. B. Laird and Sons, 17, South Frederick Street, Edinburgh.—*Florists' Flowers and Greenhouse Plants.*

Obituary.

Recently, at Wakehouse Place, Hayward's Heath, Mr. W. T. Dowden, gardener to Lady Downshire, in his 34th year.

On the 5th inst., Mr. William Edward Forster, M.P., aged 67 years. The deceased statesman was the author of the Education Act, the Ballot Act, and during a time of peculiar difficulty, Chief Secretary for Ireland. As a clear-sighted and plain-spoken Liberal, of a somewhat Conservative order, his loss at the present political juncture will be deeply felt by all parties.

On the 2nd inst., at Camden House, Sutton, Mr. Edward Solly, F.R.S., F.S.A., aged 66 years. His "Rural Chemistry," published in 1843, contributed in a marked degree to the advancement of agricultural science.

No Juice in a Flint.—This trite saying has a parallel; *there is no getting juice out of cheap tea.* The Chinese are yearly increasing the supply to English tea-drinkers of redried and worthless leaves, utterly destitute of *theine*, which is the one active principle most to be desired in the beverage; consequently cheap tea becomes dear tea *at any price.* The true policy of supplying wholesome Pure Tea is alone to be commended; hence the enormous and increasing sale of *Horniman's Tea, guaranteed absolutely pure*, by Chemists and others who are Agents in all parts of the kingdom, and supply the public at London fixed prices.—See advertisements in all Newspapers and at Railway Stations for list of Local Agents.—[Advt.]

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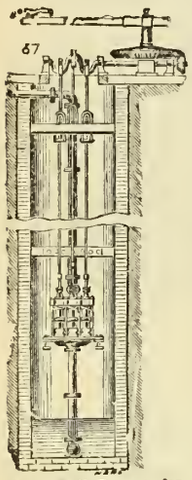

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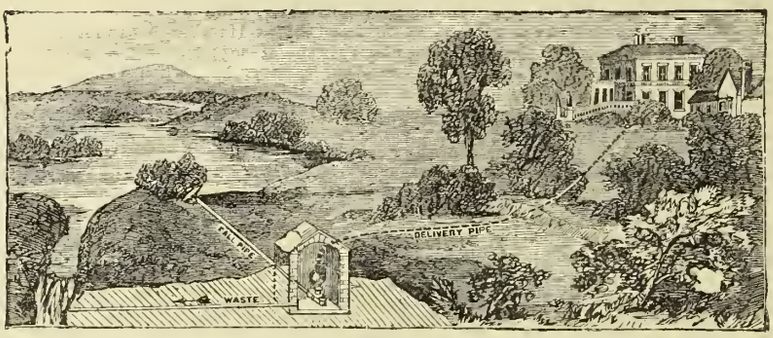

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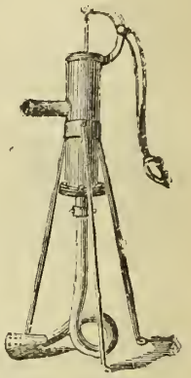

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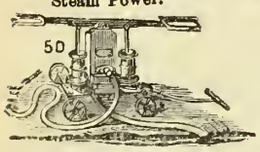

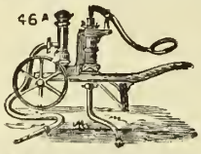

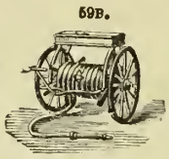

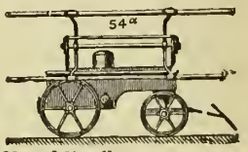

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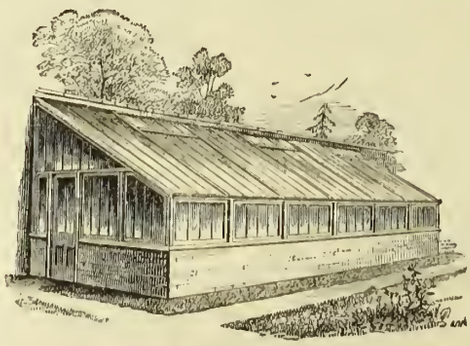

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1886		[after.	H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
18	S	**Palm Sunday.** ○ Full Moon, 2h. 59m.	5 0	0 43	6 59	6 58	5 11	1 26	1 49	10 51	11 14	48·6	Cypripodium grande	Gar. hyb.	108
19	M	*St. Alphege.*	4 58	0 57	7 0	8 12	5 42	2 10	2 30	11 35	11 55	48·7	Cypripodium Lowi	Borneo.	109
20	Tu	Napoleon III. born, 1808.	4 56	1 10	7 2	9 21	6 13	2 51	3 10	—	0 16	48·8	Dendrobium luteolum	Moulmein.	110
21	W	Hilary Law Sittings end.	4 55	1 23	7 4	10 26	6 49	3 32	3 51	0 35	0 57	49·0	Masdevallia Veitchiana.....	Peru.	111
22	Th	Jupiter due south at 9h. 50m. p.m.	4 53	1 35	7 6	11 22	7 31	4 11	4 30	1 16	1 36	49·2	Odontoglossum cirrhosum ...	Ecuador.	112
23	F	Good Friday. *St. George.*	4 51	1 47	7 8	Morn.	8 17	4 49	5 6	1 55	2 14	49·3	Phalaenopsis grandifolius.....	Hong Kong.	113
24	S	Brazil discovered, 1500.	4 49	1 58	7 10	0 14	9 8	5 25	5 47	2 31	2 50	49·5	Phalaenopsis amabilis.....	Sunda Islands.	114

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NATIONAL AURICULA SOCIETY'S SHOW, in the Conservatory on TUESDAY next, April 20. Open to Fellows and their orders at Twelve o'clock, and the Public at One o'clock. Small Band of the Royal Horse Guards, by permission of Colonel D. Milne Home, from Half-past Three. Admission 2s. 6d.

N.B.—Entrances North-east Orchard House; and Exhibitors' Entrance East side of Royal Albert Hall.

A PRIMULA CONFERENCE for the reading of papers and discussion will be held on WEDNESDAY, April 21, and Programmes and all particulars can be had on application to the Secretary, South Kensington.

ROYAL AQUARIUM, WESTMINSTER. Owing to the extension of the time for holding the Exhibition of the Kennel Club in June next, the ROSE SHOW announced for June 25 and 26 is unavoidably withdrawn; and the Strawberry Show and Fête is postponed from July 2 and 3 to July 9 and 10.

Ealing, W. RICHARD DEAN, Superintendent of Exhibitions.

BOROUGH OF HANLEY CHRYSANTHEMUM SOCIETY FOURTH ANNUAL EXHIBITION will be held on NOVEMBER 23, 1886, in the Skating Rink. Over £100 in prizes.—Schedules to be obtained from the Secretary, Jos. S. Moss, 76, Charles Street, Hanley.

Exhibitions and Meetings for the Ensuing Week.

Tuesday, April 20.—National Auricula Society (Southern Section).—Annual Exhibition.

Tuesday, April 20, and Wednesday, April 21.—Royal Horticultural Society.—Primula Conference.

Auction Sales for the Ensuing Week.

Monday, April 19.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

Tuesday, April 20.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

Wednesday, April 21.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Roses, Bulbs and Plants.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C., to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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SPECIAL NOTICE TO ADVERTISERS.

In consequence of Good Friday falling next week, the next issue of the "Gardeners' Magazine" *will be published on Thursday, and all advertisements intended for it must be received by five o'clock on Wednesday evening.*

The Gardeners' Magazine.

SATURDAY, APRIL 17, 1886.

Young Gardeners are not specially provided for by any organization whatever: the State knows nothing of them, and even the R.H.S., the appointed guardian of all horticultural interests, cares for them in a very slender and perfunctory sort of way. There is, indeed, a kind of horticultural school in the Royal Gardens, Kew; and another of less importance in the R.H.S. Gardens at Chiswick. But the influence of those two agencies amounts to so little, that young gardeners must take care of themselves, and there, for the present, is an end of the matter. We are not going to speak disparagingly of the two institutions named above; nor should we forget the provincial botanic gardens, wherein some amount of training may be acquired in connexion with special opportunities. But if we do not disparage, we must not overlook the imperfection of the machinery and its infinitesimal character as compared with the magnitude of the body ostensibly benefited. The examinations instituted by the Society of Arts were of brief duration, and there is nothing of the kind now that can be said in any way to take their place. It follows that young gardeners anxious to learn their business and to obtain a variety of good practice must depend in a great measure on their own resources and exertions.

It would gratify us much were we now enabled to announce that a comprehensive system of education for gardeners had been organized and would be carried into effect; but as no such privilege is at command, we shall take occasion to say that it is not an unmixed disadvantage to be left to one's own resources and devices. The "self-reliance" that at present may be called the school for gardeners has turned out a fine lot of men; and it is really a question of some interest if the horticultural schools of the Continent have done any better for their pupils than the only "school" that we can boast of has done for our gardeners. In days gone by the need for special training was, in one respect at least, greater than it is now. But when that is passed by it will be found that the need continues, and there is ever an advantage in the discipline and methodical study that a school enforces and that the self-taught man does necessarily fail of obtaining. The gardeners of the generation now passing away were often wanting in literary and scientific knowledge to enable them to put to the best use their practical skill and accumulated experiences. The rising generation have a thousand advantages they knew not of: books are cheap, horticultural papers abound—and it may be said that only the fools and dolts neglect to read them—while there are means of intellectual culture everywhere obtainable, and for the most part associated with recreative features. It is impossible to compel men to be either clever or good; but life is advantaged by so many aids, that the man who is either bad or stupid must be regarded as either singularly unfortunate or unmistakably blameable.

Being left to their own resources, the young men are wisely co-operating for mutual advantage, and we see a growth of better things in horticultural societies than those hitherto prevailing. The annual show, and the few meetings necessary for its organization, were in days gone by enough for all requirements. But the case is altered; the members meet for exchange of experiences, for the discussion of principles and practices, and for the reading of papers on subjects pertaining to their business, or on larger themes that are worthy the attention of thoughtful and observant men. If these papers do not always come within the category of "original articles," the preparation of them is a salutory discipline, and all parties are benefited when the thing is fairly well done, even though there may be no new discoveries and no special literary talent displayed in the performance. The field clubs that thrive in a few places only at present suggest a feature of operations that horticultural societies might adopt; for, although their members have not the opportunities for midday outings that constitute much of the delight of the so-called naturalists' holidays, they are not without opportunities, and not a few of the good old gardeners have been masters of British botany and well established in the knowledge of the world that is acquired by observation.

A gardener enjoys many advantages that should never be lost sight of when comparisons are instituted. We will say nothing of the advantages of being brought near to nature, and of living an outdoor life. But we will point to callings that fluctuate—that may be said to perish annually, and to be as bad as dead for months; while the gardener's employment is as constant as any, the fluctuations being few, and in a quite restricted degree influenced by the changes of years and seasons. One especial disadvantage of the gardener's lot is his isolation; and to this we attribute the slowness of the body to apprehend the merits of movements in which it might be expected they would hasten to be interested. They have their local attachments, like other men; and the possible union of all for any kind of federation is much more the dream of a few than the need of the many. But this isolation has been much modified by events in recent years; and we hope to see it greatly diminish, for gardeners are for the most part of a sociable character, and their occupation teaches them the value of intellectual co-operation.

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For the young gardener, then, it may be said that he carries his fortunes in his hands, as it used to be said that certain soldiers carried the bâtons of field-marshals in their knapsacks. Our friends the young gardeners are voluntary pupils in the school of Self-Reliance, or they belong to another school that must not be named. If they will explore their biographical dictionaries they will find that a large proportion of the best men in all ages, the men who have moulded society to its present form and inscribed their names in bright letters on the ages, have had no better school than that, and have generously paid for their schooling in public benefactions. It may be repeated that books are plentiful and cheap and good (*cum grano*); and although outdoor sports may be manly, and social converse improving, and even tobacco not of necessity objectionable, the reading of good books is, all things considered, one of the best possible recreations for a gardener. Of outdoor life it may be said he has plenty, even if he does not have enough; and a book affords the utmost possible contrast to the customary demands on his faculties, and promotes the rest of the frame, while it encourages new activities of the mind. A great advantage of a book is that it kindles anew the love of nature, and this justifies the saying that "book openeth book;" for the reader of books is directly advantaged and encouraged in the reading of the Book of Nature, the bright leaves of which are turned daily without help or hindrance from us. The observer of nature who is also a reader has the aid of the experiences and the thoughts of the wisest and best of men, for they have imprinted on their pages the highest lessons they have derived from the sources of all true knowledge. Books that treat of the aspects of nature are of necessity books for gardeners; but a young man who would be an enlightened citizen will not allow his business to control his reading: his mind will rightly range beyond it, and his chief care will be to secure books that are good of their kind, whatever the purport or the subject. The earnest man will take care of himself as regards the books that will help him in his business; and he will soon learn that society values in men those moral qualities that fit them to be trusted in affairs beyond their own, aided by the knowledge that is the proper armour of the man of the world. A young man of spirit does not usually settle suddenly into any one particular groove, but endeavours to prove all things and hold fast to that which is good. But a young man blessed with reasonable tenacity of purpose does not waver and change without substantial reason; he knows that he must make his choice if it is not inevitably made for him, and that steadfastness therein is one of the first conditions of success. The formation of a habit of life is consistent with the formation of a character that will command respect, and of a capacity that will be crowned with competence.

A Rose Show will be held at the Brighton Aquarium, July 9 and 10.

Aylesbury Floral Society's Show will be held July 8.

Mackaya bella is now in flower in the greenhouse at Kew.

Doryanthes excelsa is now in flower in the succulent house at Kew.

Trowbridge Horticultural Society's Show will be held August 18.

Bedfordshire Horticultural Society.—The annual exhibition will be held held July 14.

Oxford Carnation and Picotee Union.—The exhibition is fixed for Tuesday, August 3.

Ealing and Hanwell Chrysanthemum Show will be held November 2 and 3.

Mr. J. A. Johnson has been engaged as gardener at Ingress Abbey, Greenhithe, the residence of S. C. Umfreville, Esq.

Mr. A. B. Wadds has been engaged as gardener to the Earl of Jersey, Osterley Park, Southall, Middlesex.

Mr. Hayter has left St. Giles, Cranbourne, to take charge of the gardens of Somerset Priory, Reigate.

Painters in Water Colours will open the sixty-eighth exhibition on Wednesday next, at the new hall in Piccadilly.

Tobacco Cultivation in the United Kingdom is to be the subject of experiments under the direction of the Royal Agricultural Society, and the Government will grant the needful licences.

A Blue Primrose named *Alice Wilson* was presented at the R.H.S. meeting on Tuesday by the chairman of the Floral Committee, G. F. Wilson, Esq., and was certified by acclamation.

Tuesday was a great day at South Kensington, the promenade show being enriched by many first-class novelties and by great collections of daffodils, anemones, &c. A few superb orchids were presented.

Royal Aquarium Rose Show, arranged for June 25 and 26, is abandoned. The Strawberry Fête announced for July 2 and 3 is postponed to July 9 and 10.

Primula Conference on Wednesday will commence at noon in the Albert Hall, the entrance to which will be from the exhibition in the conservatory. Members of Conference will probably muster strong at the Auricula Exhibition on Tuesday, but much of that day will be occupied in judging and general arrangements.

An Undeveloped Fruit Region is reported on in the *Times* of Wednesday in a letter from San Francisco, where oranges and grapes have become leading objects of agricultural enterprise.

The Supposed Hybrid Orchid, shown on Tuesday as "Knox's variety of Odontoglossum Pescatorei," was sold at Stevens's rooms on Wednesday for 165 guineas to Baron Schroder.

Messrs. Protheroe and Morris will sell, at their rooms in Cheapside, orchids in flower on Tuesday next. The announcement is of importance, because the sale is fixed for a week earlier than usual on account of the Easter holidays.

Mr. John Smith, Curator of the Royal Gardens, Kew, for the past twenty-two years, has resigned in consequence of continued ill-health. Great regret will be felt on account of this removal from an office of high importance of one who in the discharge of its onerous duties, has won universal esteem and much personal regard.

The Yield of Wheat in South Australia last year amounted to only 2½ bushels per acre on the whole area sown. This compares very unfavourably with the general produce of the world's wheatfields. A considerable portion of the land sown was not reaped at all, because there was nothing to reap. From the area actually stripped the produce was at the rate of 3 bushels 10 lb. to the acre.

Channel Islands Vineries Company will have interest for many of our readers in connection with the papers we are now publishing on Channel Islands Horticulture, The company is started with a capital of £15,000, for the purpose of turning to profitable account the peculiar facilities for the production of grapes, tomatoes, &c., that exist in the Channel Islands. The London offices are at 21, John Street, Adelphi, W.C.

Royal Gardens, Kew, offer new attractions with the advance of spring, and chief amongst them must be named the Wild Garden, on the Mount, near the Cumberland Gate. This is now delightfully overspread with daffodils in diffused masses, the various shades of yellow of the several varieties making delicately beautiful colour effects on the slopes. The scillas in the foreground give striking contrasts that are agreeably harmonized by the breadths of green between them. The Rock ravine is becoming gay with flowers.

Workmen's Clubs are being organized in connection with the Colonial and Indian Exhibition. The members will subscribe small sums to a fund to defray their expenses when visiting London, and the railway companies will co-operate by taking members of clubs at a lower than the average rate of fares. As a general rule, it is suggested that persons of every class of life, who may be in receipt of weekly or monthly wages, shall be deemed eligible for membership. Communications on the subject may be addressed to Mr. Somers Vine, at the Colonial Exhibition, South Kensington.

National Rose Society's Medals are creditable works of art. Two that are now before us combine good taste with appropriateness in a most happy manner. The larger medal—the obverse is a wreath of roses showing distinctive characters, enclosing a central space for the name of the winner. The reverse is a shield in high relief with the letters N.R.S., supported by roses of many kinds boldly delineated and very slightly conventionalized; the motto on a scroll being "Flore Regina Florum." The medal bears the name of Pinches, London, as producer.

Forget-me-not of New Zealand (*Myosotidium nobile*) was superbly shown by E. G. Loder, Esq., at South Kensington on Tuesday. The leaves were of great size, smooth and glossy, the heads of flowers justifying the specific designation, and with a grand forget-me-not complexion. It is almost alone amongst borageworts in respect of the smoothness of its leaves. The figure in B.M. (5,137) is admirable for accuracy. When Mr. Standish introduced this plant it obtained but little attention, and in all the long interval has until now but rarely been well cultivated.

Boxwood for Engravers is likely to be supplied from Nilgherry Hills, the directors of the Government Gardens having reported that at an elevation of 5,000 to 7,500 feet, the tree "grows more vigorously than I have ever seen it do in Europe." An experimental plantation has been made on the Dodabetta estate, but many years must elapse ere the question can be determined of its profitable cultivation. Royle (*Bot. Him.* I, 327) reports a true Buxus, producing "wood as compact and good as the common box," as plentiful at Mugra, Khalsee, and Kemaon." Though some 1,500 miles distant from the Nilgherry range, the Himalayas are inexhaustible as regards both climates and productions, and India ought to keep us going in boxwood.

National Dahlia Show.—It is highly gratifying to be able to state that the National Dahlia Show, which of late years has done so much to promote the cultivation of the dahlia, will be again held this year, and growers of the flower afforded another opportunity of meeting in friendly rivalry. The exhibition, as in previous years, will be held at the Crystal Palace, in conjunction with the great autumn fruit show, on September 3 and 4, and it will be on much the same lines as those of former seasons. The most material difference in the schedule is the augmentation of the classes for amateurs, whom it is especially desired to encourage. The committee, in undertaking the responsibility of so important an undertaking, well deserve the most substantial support from lovers of the dahlia, and it is hoped that all who take an interest in the flower will not fail in their duty, but will contribute liberally to the prize fund, and enable the executive to bring the labours of the year to a conclusion satisfactory to all concerned. The honorary secretary, Mr. Thomas Moore, Chelsea Botanic Gardens, S.W., will furnish any particulars that may be desired with reference to the exhibition.

GARDEN PRIMULAS.

The classification and nomenclature of primulas will receive attention in due time from the men who feel most competent to handle the intricate subject. For present purposes the primulas may be classified in a variety of ways. Two bold classes present themselves—as primulas everybody can grow, and primulas nobody can grow. Between these two extremes we may sandwich a lot that any careful man accustomed to alpine plants will soon learn to conquer, but will always find troublesome. At this very moment the alpine men are aware of many losses in their collections, owing to the protraction of the dreary winter. The frost alone has not killed their pets; the fog alone has not killed their pets; but frost, fog, damp, and continued check on the impulse of growth. This is the combination or conspiracy that has made the havoc. There are not many primulas for the universal garden; but for the restriction as to species there is compensation in the abundance and beauty of the manageable varieties. Your experienced alpine man has learned long since to keep the word "impossible" out of his dictionary; but the men of that order are few, and are better adapted, generally speaking, to make books than to learn from them. On the other side of the way are thousands of amateurs who yearn for primulas, and would gladly apprentice themselves in any promising workshop to learn how to grow them fairly well and appreciate their several beauties.

It should be understood at the outset that there is not much to be done with primulas without the help of glass; but, generally speaking, a good roomy frame on a dry foundation will be sufficient. A brick or turf-pit is to be preferred to a wood frame, but the workman is in this case of more importance than the tools, and a capable cultivator will accomplish wonderful results with but few and slender aids thereto. For the open border there are many candidates; but even for these the frame is needful, as in nursing young stock, protecting duplicate plants, and forwarding the bloom of a few of the more showy kinds that are wanted a little in advance of the natural season. It may be predicated of the exhibition that will surprise London at South Kensington on Tuesday and Wednesday next, that fully nine tenths of all the specimens shown will have been advantaged with the aid of glass.

A second point of importance is that all primulas love shade and moisture, and are in danger when the summer sun beats fiercely upon them for any length of time—more especially where the ground happens to be poor and dry and shallow. On a deep moist soil they may tide over a time of great heat and drought, but the primary point in good gardening is to provide every plant with the best possible conditions according to its nature and requirements; and rockeries and woodland walks suit primulas better than open beds, because of the shelter, partial shade, and root moisture secured to them. Even the common primrose, that may be said to grow "anywhere," and is annually planted in gardens in thousands and tens of thousands, has often a hard time, and shrinks proportionately, so that after a hot dry summer it will be found that a very large proportion of all the more exposed plants have utterly perished. It is the great mortality of the primrose in gardens that accounts for the annual demands for roots, much more than any political sentiment or special love of the flower. An opportunity was afforded the writer of this of observing a very large collection of primulas that were planted in a beautiful London garden in the autumn of the year 1878. In the year following they flowered well and made a good growth. In the year 1880 the fog and frost of February appeared not to affect them in the least, and again they flowered well, but a poor growth followed. The summer of 1881 was bright and hot, and a very large proportion were killed, so that in the spring of 1882 there were very few remaining. The sorts that first disappeared were common primroses, polyanthuses, and oxlips, and the several varieties of Primula Sieboldi and P. amœna. Strange to say Primula auricula perched on a dry sunny bank braved the battle, and in the autumn of 1882 the clumps were fresh and strong, though the growth of the season was not satisfactory.

Yet another point of great importance must be mentioned. A considerable proportion of the alpine species require a calcareous soil. This is a point that obtains less than its due share of attention even with experts. In many places sedums, saxifragas, primulas, and other alpine plants, die out mysteriously; for it may be seen that it is not frost or even drought that kills them. In any such cases the quality of the soil should have attention, for if it is deficient of calcareous matter these limestone plants will not thrive for any length of time.

The Primrose section includes *Primula vulgaris* and the several forms of polyanthuses and oxlips—all lovers of shelter, partial shade, a loamy soil, and constant root moisture. It is simply destructive to starve any of these; but they are quite hardy, and when happily situated take such good care of themselves that they may with perfect safety be forgotten except during long continued hot dry weather, when they should be aided with water and a little shade from the burning sun. As frame plants they may be said to be "perfect." For a large proportion of observant and painstaking amateurs these lovely plants constitute a most proper and remunerative fancy. Often they are grown with named auriculas, and the conditions suggested for one group will suit the other. The double primulas, the laced polyanthuses, and the edged auriculas are the "superior beings" of the family, and worthy of any amount of care, but when the cultivator is "used to them" the difficulties vanish, and constancy of attention will be the secret of success.

In pot culture all these require a light rich and very sweet loamy soil and the most perfect drainage; for winter damp is their chief enemy. But when planted out any good loam will suit them, and it may be improved for the purpose by the addition of leaf mould or rotted turves, or any other form of humus to afford nourishment in preference to animal manures. Not that a generous soil from an old melon bed is likely to injure them; they will, in fact, make a fine growth in a rich deep border, but rank manures and any such excess as might suit cauliflowers is to be carefully avoided.

For open border culture the single primroses and oxlips, and the coloured polyanthuses are the most useful, and in any case the double primroses, which are extremely beautiful, should not be planted in quantity until it is known by observation that the soil and situation will suit them. It is not at all uncommon for these fine varieties to perish in the second or third year from planting, the result usually of too great exposure to sunshine and drought. When used as bedders, these plants may be lifted as soon as the freshness of the bloom is past and be transferred to reserve beds. This is a business requiring care, but is a perfectly safe proceeding if precautions are taken to guard the plants against distress, shade and moisture being their best defenders. In an alley between asparagus beds is a capital place for a reserve lot of bedding primulas when the clumps are strong. But if divided into small pieces they should be planted in a frame and kept rather close until making new growth, when the lights may be removed, and they will for the remainder of the season pretty well take care of themselves provided they obtain a sufficiency of water. The best time to plant out primulas in beds is during soft weather in the month of September, for if put out later they may not become sufficiently established before winter.

The Auricula section comprises two important groups of plants: the *show* and the *alpine* auriculas. Now, it should be clearly understood that these are all hardy plants, and may be grown with safety on a well drained border of deep loamy soil that is not deficient of calcareous matter. To prepare a border for the purpose the addition of old plaster or lime rubbish with leaf-mould and sand would be preferable to the addition of any strong manure; moreover, an east or north aspect would be in most cases the best, for with good drainage the losses would be few and the flowers would attain to a higher degree of beauty than in a more sunny exposure. The reasons for the employment of glass in the cultivation of edged auriculas are chiefly to protect the mealy foliage and the flowers from unkind weather. It may suit supercilious people, who have no reputation to keep or lose, to carp and quibble about growing these hardy alpines under glass; but those who appreciate their exquisite beauty will not, because of such criticism, expose their pets to the defilement of rain that may be loaded with soot, or to the clouds of dust and "blacks" that are for ever present in a town atmosphere. For all mountain plants glass is a protection from dirt, which is often more injurious than cold; but even cold may kill when it occurs after a long season of soft growing weather, as when a mild winter winds up with killing east winds and bitter frosts in the month of March, and even the young grass in the hayfields is nipped by it. For all general purposes the alpine auriculas are the most useful for the open border and the rockery; and most beautiful they are, with their rich shades of purple and marone and their large yellow or creamy centres.

The Sieboldi section comprises *Primula Sieboldi*, *P. amœna*, and *P. cortusoides*. They are a grand lot, admirably adapted for frame culture, but useful in the border, provided they have shade, shelter, and moisture. I am satisfied they need these essential conditions in a greater degree than any others of the primula family, but when provided for in these respects they are thrifty, free in growth, and flower profusely. A rich loamy soil is of the first importance. It is of scarcely less importance that they should be made safe against winter damp; for any defect of the drainage is likely to be fatal to them. On the other hand they are the first to perish when left unaided in a time of summer drought.

The Alpine section may be held to comprise such as *P. denticulata*, *P. capitata*, *P. farinosa*, *P. marginata*, *P. villosa*, and their allies. These should be divided between the open rockery and the frame, for deaths will occur occasionally, however good the management may be. When planted on the rockery sheltered nooks should be found for them, where they may freely display their beauties while enjoying protection from cutting winds and strong sunshine. To be perfectly drained is of the first importance, but a deep gritty soil is also of importance, for these plants soon suffer if dry at the root. An admixture of turfy peat with loam and sand, and with the addition of lime rubbish if the loam is deficient of calcareous matter, will suit them well; but strong manures are to be avoided as poison, although sweet well-rotted hotbed manure may be used in moderation in making up a compost for them when the loam that should be the basis is considered poor.

The Japonica section comprises *P. Japonica* and its varieties. It is a fine border and bedding plant, thriving in a rich deep loam, loving shade and moisture, and easy of propagation from seeds. This like P. vulgaris, readily submits to the disturbances incidental to its employment as a bedding plant, provided care is taken to prevent distress by exposure to drying winds or strong sunshine.

Seeds of Primulas should, whenever it is possible, be sown as soon as ripe in pans and have the shelter of a frame. The seed is fickle in its ways; some portion will perhaps grow at once, and another portion remain dormant for a long time, even for a year. It is the rule with cultivators to lift out the little plants carefully when large enough to be pricked into separate pans or pots and leave the soil in the seed pans otherwise undisturbed. By this procedure the dormant seed is retained as sown, and in due time will supply a further batch of plants. The longer the seed is kept the more likely are such vagaries; but old seed will not germinate at all, and it is waste of time to sow it.

W.

THE AMARYLLIS.

By James Douglas.

We are now quite in the midst of the blooming season of this gorgeous spring flower, and no better time could be chosen than the present to make a few cultural remarks upon it. At such a time it is a great pleasure to those who have kindred tastes to visit each other's collections, and if, as they ought to be, they are liberal minded, to exchange views upon the new seedlings in flower, and to instruct each other as to the cultural requirements of the plants. There ought to be no secrets between brother cultivators; for my part I never had any, and every detail of the culture which our plants receive is open to anybody. In order to ensure complete success, it is not so much this or that system of culture being followed in itself, as constant loving attention to the plant—the watching by night and day, giving attention to every minute detail, until it becomes a labour of love. Anything short of this will not ensure success.

Notwithstanding the unpropitious weather during the whole of the growing period, our plants have been stronger and have flowered more freely this year than they ever did before; the strongest bulbs have produced three flower scapes, and some of the scapes had six flowers open at one time. A few years ago some of the best varieties had but two flowers on a scape, a characteristic borrowed from such fine varieties or species as *A. Leopoldi* and *A. Acramanni pulcherrima*. These, though very distinct and beautiful, make a poor effect in collections in comparison with such grand varieties as the *Empress of India*, towering aloft with three scapes from one bulb, and as many as six flowers on a scape. This handsome and richly coloured variety is not only one of the most beautiful, but also the most prolific variety known to me. I saved seven seed pods from one bulb, and from those seven pods we raised 700 plants, or an average of 100 plants from each pod. This variety being crossed with those species having well-formed flowers, but only two on a scape, has increased their numbers and improved their form—in fact, quite revolutionized this beautiful group of plants.

Empress of India, as well as many other vigorous and handsome seminal varieties, were introduced by Messrs. Veitch, of Chelsea, from the Continent. To these introductions, as to *A. pardina*, *A. Leopoldi*, and their own seedling forms, we owe the very numerous fine varieties now in cultivation. Mr. B. S. Williams, of Upper Holloway, has also raised many distinct and beautiful seedlings, especially of the autumn-flowering type. *Dr. Masters*, a seedling variety raised in the Holloway nurseries, is very distinct and beautiful.

The plants will soon be going out of bloom; and perhaps that is a critical season for amaryllis, although it need not be, if cultivators would bear in mind that the plant has to make its growth, and that on its perfect development depends the success or failure of the bloom for the next year. I advise the grower to examine a bulb as soon as the flowering period is over, and it will be found to have shrunk up to less than half the size it was when potted in January. It has developed leaf and flower scape, and during the process seems to have very considerably exhausted itself in the space of two months. But examine it again at the end of two months, and it will be found to have increased to more than double its size, and be quite hard and plump. It was empty in March; in June it is again full of the incipient leaf and scape.

As soon as the flowering period is over we plunge the pots containing the plants over the rims in tan; new roots are rapidly formed, which push over the rims into the tan, and grow with the greatest vigour in a stove temperature, a bottom heat of 80 deg., and with a moderate supply of water at the roots. We never give any manure water. If any seeds are being saved, they will be ripe in July. The right state of ripeness is reached when the pods burst and the black scaly seeds can be seen inside.

It is advisable to sow the seeds in sandy soil as soon as they are ripe. The plants will be up, and ready to be pricked out, before the end of August. We prick a dozen of them out into a five or six inch pot, and if the pots are plunged in a tan bed, the little plants will grow to a considerable size by the end of the season. Meanwhile, we have not been neglecting the old plants, and by the end of August their growth will very nearly be completed. Less water will then be required, and about the end of September it will be prudent to withhold it altogether. All the spring-flowering varieties lose their leaves, and when water is withheld the leaves gradually decay, and, of course, must be removed; then the plants enter into their season of what seems to be complete rest. But there is no such thing in their history as complete rest, for through the winter the flower scapes are in a course of regular development; and by the time for repotting, about the middle of January, many of the scapes will be protruding from the sides of the bulbs.

Some time in December we mix our potting soil, consisting of three parts good loam, one part peat, one part leaf-mould, one part rotted manure, and some coarse white sand. This compost is laid up in a heap out of doors, but sheltered from heavy rains. At potting time, in January, the bulbs are shaken quite out of the old compost and are repotted. We do not pot them very deep into the compost; half the bulb or more is left out of it; but we press the potting soil firmly round the bulbs. For the very large bulbs, from a foot to fifteen inches in circumference, we use seven and eight inch pots. On the other hand, good flowering bulbs are potted in five and six-inch pots.

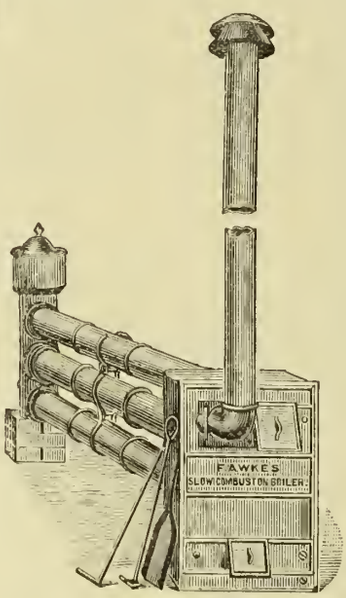
In reference to the seedlings the treatment they require is as follows. At potting time in January the small plants, a dozen in a pot, will be quite green; not having lost a leaf. Let them be repotted, three bulbs in a five-inch pot, and plunge them again in bottom heat. They will grow freely during the season, producing bulbs as large as a pigeon's egg, some of them perhaps larger. Withhold water during winter, but not yet will the leaves die down. They will keep green in winter until the plants grow to the flowering size. The bulbs are now large enough to be repotted one in a five-inch pot; a few of them will flower, but most of them will do nothing more than produce flowering bulbs for the following season, which will be the third from the time of sowing the seeds.

The culture of the amaryllis is very simple—a season of growth and a season of rest. During the growing period it is a stove plant, requiring a warm, moist atmosphere; and if the temperature and atmospheric moisture are right, insect pests will not be troublesome. When kept too warm or too dry, red spider and thrips will attack the leaves. We destroy the red spider by syringing, and the thrips by fumigating with tobacco smoke. This will kill both yellow and black thrips; the latter are, however, not so easily settled, for they drop off as soon as they smell the smoke, and get up quite lively the next morning, unless the smoke is almost dense enough to injure the plants.

Many good varieties are lost by the decay of the bulbs. This is very annoying, and is often caused by their being watered too soon after repotting. They ought not to have any water until fresh roots are formed, and that will not be until three or four weeks after they have been repotted. It is important also to avoid syringing or watering them overhead in the early stages of their growth. When water has to be applied to the roots, I am careful not to wet the bulbs. Of course, when the pots are full of roots, and the plants in free growth, the time of danger is past, and water may be applied to the bulbs freely. Some varieties suffer much more from decay of the bulbs than others. Seedlings after A. pardina are the most liable. The Empress of India type are of the hardiest constitution.

SLOW COMBUSTION HOT-WATER APPARATUS.

In the Architectural and Buildings Trades Exhibition at the Agricultural Hall, Islington, Messrs. Crompton and Fawkes, of Chelmsford, have shown (stand 244 F and 299 G) a hot-water heating apparatus on the slow combustion principle, adapted for the use of greenhouses, or other buildings in which hot water can advantageously be used for heating purposes. The apparatus exhibited indicates how three rows of pipes can be applied to the boiler, although two rows can be used as well as three. The boiler is simply let into the wall of the building to be heated, and the radiating pipes directly attached to it, thus obviating the complicated mains usually employed. A syphon cistern at the opposite extremity of the pipes to the boiler serves as a vent for the air, and as a means of renewing the small amount of water which evaporates. The amount of pipe uniting the boiler with the syphon cistern may be small or great, according to the exigencies of the building to be heated.



Combustion is under perfect control, and the makers inform us that gardeners and others using the smallest sized boiler (for heating up to 55 ft. of 4 in. pipe) can keep the fire in upwards of 16 hours without attention; and as house cinders form the best fuel, the expense in this item is almost *nil*. To these advantages the makers add the facts that it does not require a hot-water fitter to fix it; that there is no risk from fire, even if wood is placed next it; that it can be stoked by a domestic servant; that no stokehole is required; that no brickwork whatever is employed in connection with it; that it is perfectly portable, and a tenant's fixture; and that it is the only boiler on the slow combustion principle.

NAKED-FLOWERED JESSAMINE.

(*Jasminum nudiflorum.*)

The elegant and well-known Jasminum nudiflorum has hardly an equal amongst hardy shrubs flowering in winter. Vigorous in growth and hardy in constitution, it is planted everywhere, and, generally speaking, it is neglected and allowed the same freedom as a bramble, as if pruning were absolutely unnecessary. Yet few plants will so well repay a little care and annual attention to the regulation of the growth.

The present season is the most suitable time for pruning this jasminum, which, by the way, is a very simple matter when properly understood. The growth is somewhat similar to that of the Morello cherry, and the shoots should be cut back after flowering in the same way. Each shoot produced in the course of the previous season has two wood buds at the base; then a length of flowering wood, which terminates in a wood bud. If the terminal wood bud is not removed, the buds at the base seldom start, with the result that a new flowering shoot is produced from the top instead of from the base of the old growth. As the latter are usually of considerable length, and invariably leafless, the plants soon become straggling and unsightly when they are not cut back. The method of pruning can be briefly

described. When the leaves fall in the autumn, take off the tips of the flowering shoots, but not those of strong shoots that rise from the base and seldom produce flowers. The latter should be laid in where required to fill blanks or replace old and worn-out leaders. In April, or as soon as the buds swell, cut every flowering shoot back to the buds at the base, and generally two new growths will be produced from each. The pruning will, in fact, practically double flowering power without any increase in the space occupied; and of course there are no blank spaces or unsightly wood.

Under this system of pruning the plants trained to walls present an unbroken surface of the richest green in summer and the brightest golden yellow in the winter. The wood does not require to be laid in and secured to the wall by nails and shreds, excepting when new leaders are required. When pruned in spring the plants present as neat an appearance as a well-trained peach tree. I have several pillars eight feet high, to which are trained the coppery-green ivy and the naked-flowered jasmine. The leafage of the ivy is very pleasing during the summer; and in the winter the contrast of the golden flowers of the jasmine with the dark foliage of the ivy is very effective. The pillars are in winter clothed with the flowers from base to summit, and present a very bright and cheerful appearance.

Ormesby House, Sutton. W. T.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 11.

The history of the grape trade from 1847—Mr. W. A. Crousaz relates the early difficulties experienced by the growers—Five hundredweight of grapes declared to be too much for the market—Opposition of the South-Western Company—The strategy resorted to by the growers—Many of the growers abandon the trade—The quantity of grapes grown steadily increases—Statistics—Prices fluctuate—Other markets are sought—Great success in recent years.

We have already in the previous article shown that up to within 1830 very few grapes had been exported from the Channel Islands. For twenty years later little improvement took place in the condition of the trade. In fact, its birth in Guernsey (Jersey was later in the field) may be said to have taken place about the year 1847. The difficulties at first encountered by the growers in their efforts to dispose of their crops were sufficiently trying to have driven them, one would think, to abandon the enterprise; but they were plucky, and as persevering as plucky, and fought bravely and consistently in what must have appeared to many a hopeless undertaking.

A few years since Mr. W. A. Crousaz published, in pamphlet form, for readers in the island, his recollections of the struggles and disappointments of the early pioneers of the grape trade, and we have permission to make a few brief extracts. "In the year 1847," he says, "a range of houses was erected as a speculation, and hot water apparatus and pipes introduced, for the production of early grapes. The third season after planting the vines produced a crop of about five hundredweight, and when fit for table the fruit was offered to the principal exporter, who declined purchasing, as the quantity was too large, and declared such a crop could not be disposed of at any price. (!) The only alternative was to sell the fruit in our market or risk sending it to London.

"The former course proved a failure; to attempt the latter was considered an absurdity, as the agent of the South-Western Company refused to enter the parcels on his manifest. It should be here mentioned that at this period the mail boats seldom carried cargo, and grapes being considered as such, were not allowed to be shipped.

"This being the position of affairs, the agent at Southampton was applied to; but the company declined offering any facilities to the would-be exporter of fruit, who then determined that the grapes should be sent whatever the consequenses might be, and the following course was adopted.

"A boat was hired, under the seats of which the fruit was stowed. She was then rowed to the packet, and the parcels of grapes quietly handed over the side of the ship and placed out of sight, whilst the crew were busily engaged with the passengers' luggage and delivery and receipt of the mail-bags. Each returning packet brought strict orders that fruit should not be shipped unless cleared through the Customs. These conditions appeared feasible; and in order to comply with this demand, and, if possible, secure an outlet for our produce, the following routine was carried out. In the first place a printed form was obtained at the States Office, which, when filled up and signed by the Lieutenant-Governor and one of the jurats of the Royal Court (at a cost of 2s. 6d.), was taken to the Customs House. These forms having been observed, and the instructions carried out, placing the parcels on board would have been considered an easy and simple matter. But not so; they were again refused, and had the exporter not known some of the passengers, and had they not volunteered to clear the shipments at Southampton, the trade must have been (at least for a time) abandoned, as there seemed to be no possibility of exporting any of the island produce."

The various and ingenious forms of strategy resorted to in order to accomplish the end in view would of themselves fill several columns, but one circumstance which occurred about this time will sufficiently illustrate the hampered state of the trade which then existed.

"Having what was considered a large shipment to send away," writes Mr. Crousaz, "the boatman's services were secured, and the process of loading had commenced, when an officer from the Customs made his appearance and stopped the proceedings. Seeing there was no time to be lost, and that argument was useless, the shipper suggested accompanying the consignment to Southampton. This arrangement was consented to, and the grapes were allowed to be taken to the packet. The fruit once stowed away as usual, and the steamer about to start, the boatman returned to the pier—not forgetting to bring the shipper with him."

Mr. Crousaz says this may appear a doubtful story, but he vouches for the truth of it.

He proceeds to relate how—"On the arrival of the fruit at Southampton, each parcel was strictly examined in order to prevent any smuggling taking place. Arrived at Covent Garden, the fruit realized very little money, and that little was a long time coming. The season ended with a bad debt. The result of that sent to our market was anything but satisfactory."

"Such," he adds, "was the state of the trade that many vineries were not considered worth keeping in repair, and were allowed to go to decay." In the face of so much that was aggravating and disappointing it would have been nothing more than could have been expected if the growers had yielded to circumstances, and given up any further attempt in this direction. But this course did not recommend itself to the indomitable islanders. Certainly they must have had remarkable faith in themselves and in their produce to hope ever to overcome such a concatenation of difficulties—difficulty in getting their goods to the market, owing to the unreasonable opposition of the shipping authorities; difficulty when the goods were landed in the market for selling them, or, at any rate, realizing a profitable price; and frequent difficulty in getting paid for what they had succeeded in selling. Dishonesty also had to be contended with, both with the merchants at Covent Garden and with those who visited the island and leaving again "forgetting," as the chronicler delicately says, "to pay for the crops they had removed."

The Guernsey men knew well the superior quality of the grapes raised by them, and felt instinctively that there must be a demand for them, or would be a demand for them, once their existence and their fine qualities became known. How else can we explain the persistency with which they continued to prosecute the trade, despite numerous and oft-recurring failures?

Nothwithstanding that Mr. Crousaz tells us that the vineries were permitted to go to decay, the very next year (1851) the crop of grapes was larger than ever, two statements that appear somewhat contradictory.

The consignments for the next few years were as follows:

1855	3 tons	1863	less was grown.
1856	4 ,,	1864	12 tons.
1857	4 ,,	1865	12 ,,
1858	4¼ ,,	1866	16 ,,
1859	6 ,,	1867	a falling-off.
1860	7 ,,	1868	14½ tons.
1861	9 ,,	1869	15 ,,
1862	12 ,,	1870	15½ ,,

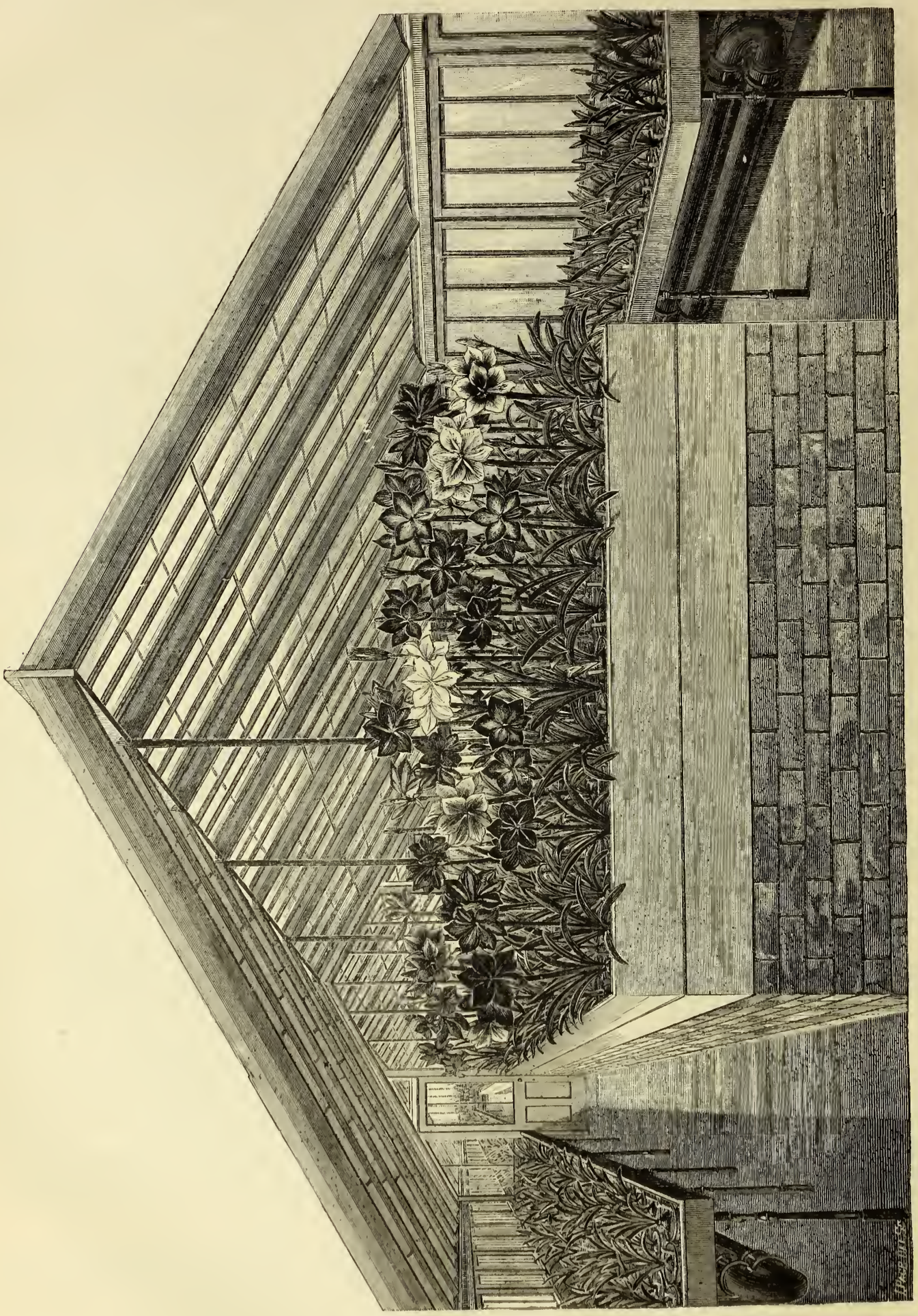
Since 1870 the yearly increase on the quantity exported has been unprecedently rapid.

Since 1850 the size of the crops raised in Guernsey steadily rose, but for many years there was little profit attached to the business; and a vast deal more trouble and anxiety than seemed to warrant any further endeavour to make it a success. But the growers were dogged and not to be easily daunted. Now and again they must have felt confident that at length the coveted reward of patience and perseverance was within their grasp—when, for instance, in 1862 prices were rising, and again in 1866 when the outlook seemed most promising and 16 tons of grapes were sold at a profitable figure. But this glimpse of hope was the very next year to give place to a dark shadow of depression, when prices could not be maintained, and the growers were obliged to be content with sixpence per pound for the best of the crop: which was not highly remunerative, after deducting for the cost of growing, freight, commission, &c,

At one time, owing to the continued and unjust opposition of the South-Western Company, the growers endeavoured to send their produce *viâ* Plymouth, but the experiment proved a failure. Ten years later, the Covent Garden Market being glutted, the original exporter visited Paris with the view of opening up a trade with that city, but again there was disappointment. The local press, reviewing the situation at this critical period of the trade, remarked that there could "be no doubt, from the number of houses recently built and in course of construction, that the quantity of grapes will in a few years be considerably increased, and the probability is that prices will be reduced. It should also be borne in mind that the English (particularly North-country and Scotch) are increasing this branch of commerce to a large extent; so much so that we may reasonably expect many towns will cease drawing their supplies from Covent Garden."

The outlook was certainly not reassuring; but, happily, these prognostications were not realized. As we have seen, the trade survived, and soon entered upon a period of prosperity such as the most sanguine could scarcely have anticipated.

Paris Exhibition, 1889.—The scheme submitted to the Chamber estimates the expense at 43,000,000f., towards which the State contributes 17,000,000f. and Paris 8,000,000f., while a company of guarantors undertake the responsibility for the remaining 18,000,000f. The management will be in the hands of the State, but 18 guarantors and eight Municipal Councillors will form, together with 17 Deputies, Senators, and functionaries, a consultative commission. In 1878 the expense was 55,000,000f., but 13,000,000f. were absorbed by the permanent Trocadéro building, which will be this time available without fresh outlay.



AMARYLLIS HOUSE IN MESSRS. VEITCH AND SONS' NURSERIES, KING'S ROAD, CHELSEA.

MESSRS. VEITCH AND SONS' AMARYLLIS.

Lovers of amaryllis who have not seen Messrs. Veitch and Sons' collection may, from the figure accompanying this note, glean some useful information. We will not dwell on the splendour of the spectacle presented by the great mass of resplendent flowers varying in colour through all degrees of rose, crimson, vermilion, and thence to creamy white, the flowers variously striped or powerfully self-coloured. But we might remark, at length, on the general arrangements which ensure to the plants abundant light and air, while all the several points in the collection are at command for review as to characters and for management as to their several requirements. In a roomy house, effectively heated, they have the comfort of what may be termed an intermediate temperature, for full stove heat they do not require; while but a slight amount of shading is employed, and perhaps even a little less than what may be considered an average of atmospheric humidity. No better illustration of Mr. Douglas's admirable paper on the culture of these plants could be given than this view of the best house of amaryllis known to cultivation, for our friends at Ghent who have cultivated these noble flowers for many years have not quite attained to such mechanical perfections. It is sometimes lamented that these gorgeous flowers are destitute of fragrance. A few days since, when enjoying the splendour, we were bound to indulge the thought that were they fragrant in proportion to their size and vigour the atmosphere of such a house would be unendurable. We are not, therefore, in a mood to pray for sweet-scented amaryllis.

CALLICARPA PURPUREA.

Although known to cultivation for sixty years at least, this exceedingly beautiful stove shrub is still comparatively unknown, and may with propriety be presented by the aid of a faithful figure to the notice of our readers. It is a member of an interesting genus of verbenaceous plants, and there are at least a dozen species known to the books, whereof the most important are C. rubella, C. longifolia, C. cana, and C. purpurea, which is now before us. In all these plants the fruits are more attractive than the flowers, and in this respect C. purpurea is especially to be valued, for the berries are abundantly produced, and continue a considerable length of time attracting attention by their rich violet colour.

CALLICARPA PURPUREA (Berries violet purple).

The plant requires no special culture, being adapted for the greenhouse during the summer and the stove in winter. It is best propagated from cuttings in a moist heat of about 80 deg., but when rooted the cuttings should be placed in a somewhat lower temperature, say about 70 deg. The usual treatment of stove plants will suffice in all stages of growth, good turfy loam being a suitable soil, and when large specimens are well established weak manure-water may be used in the growing season to ensure vigorous growth. The plant loves shade and moisture, but it also loves light and air; therefore, if kept too close a liberal crop of berries must not be expected. Wherever a mixed collection of stove plants is grown this callicarpa can be easily accommodated, and will scarcely fail to give satisfaction.

IVY-LEAVED PELARGONIUMS.

By W. Bradbury.

So many beautiful varieties have been added to the list of ivy-leaved pelargoniums during the past three or four years that they now form a most attractive group, equally serviceable in the amateur's greenhouse and the dueal conservatory. The double varieties have undergone the most material improvement, and the more recent introductions not only surpass the older varieties in habit and freedom of flowering, but they afford colours quite new and attractive. Whether grown in pots or baskets, both the single and double varieties can be employed to great advantage in the embellishment of the conservatory during the summer months; their elegant glossy green leafage and softly coloured flowers presenting a very pleasing contrast to the more brilliant hues of the zonals and the tuberous begonias, which are then in perfection. They are also well adapted for culture in window-boxes, and some of the most robust and free-blooming varieties form highly effective beds in the flower garden.

To ensure a full measure of success in the production of a stock of plants for the decoration of the conservatory during June and the two following months, a beginning should be made before the end of April to give them sufficient time to become well established in the pots in which they are to bloom before they are required in the conservatory. In commencing their culture at the present time strong plants nicely established in large or small sixties should be selected, and if with two or three shoots it will be an advantage. The course to be taken must be determined by individual requirements, and if large specimens are wanted the plants should be put in five-inch pots and shifted to others eight inches in diameter at a later stage. But if comparatively small examples will suffice they should be transferred direct to six-inch pots, and remain in them throughout the season. Large specimens for the conservatory may be produced very quickly by putting the plants direct from the sixties into pots eight inches in diameter, three in each. But, of course, this practice must not be adopted when they are required for exhibition purposes, as disqualification would assuredly follow. The ivy-leaved pelargoniums will suffer severely if the soil becomes sour in consequence of its being in a constantly saturated state; therefore the pots must be provided with efficient drainage. A moderately open and rather rich compost is the most conducive to their welfare, and of the various mixtures that I have tried in my experience, one consisting of turfy loam, leaf-mould and sand, has proved the most satisfactory. After the plants have been potted they should be placed in an airy pit or greenhouse, and be very lightly shaded during periods of bright sunny weather only. The examples that are required for conservatory baskets and for window-boxes should remain undisturbed until they can be put in the receptacles in which they are to remain during the summer, unless they are in small sixties and are becoming pot-bound, in which case they should be shifted into three-inch pots. This will not give them any very great increase in the root space, but it will be sufficient to enable them to continue to make a steady growth until they are transferred to the baskets or boxes, as the case may be. When it can be conveniently done, both baskets and boxes should be filled with a compost similar to that advised for those to be grown in pots, as it will suit all the plants likely to be associated with them. Those required for bedding will not require to be shifted.

The way in which the plants in pots are to be trained ought to be determined at an early stage, and preparations be made accordingly. In some gardens the ivy-leaved pelargoniums are trained to a wire trellis, but they are ill suited for a formal trellis, and when the growth is secured to one they fail to present that light and elegant appearance which constitutes one of their chief charms. They produce much the best effect when trained to stakes ranging from fifteen to eighteen inches in height and just stout enough to support the growth. When the leading shoots are trained to these until they reach the top, and the side shoots allowed to grow more or less naturally, they present a most charming appearance. Those in baskets and window-boxes should have the growth regulated at first if necessary to ensure its equal distribution, but afterwards the flexible shoots should be allowed to grow naturally. The water supply, it may be useful to add, should be rather liberal throughout the spring and summer; for although stagnant moisture is decidedly injurious to the roots, they cannot, in common with the other sections of the great family to which they belong, be grown successfully without rather liberal supplies of water.

A large collection is not necessary for the full enjoyment of the ivy-leaved pelargoniums; and for the general body of cultivators the following varieties are the most suitable: Double—Madame Thibaut, bright pink; Lang-Son, rich scarlet; Abel Carrière, magenta, veined marone; Alice Crousse, deep magenta; Emilie Lemoine, rich scarlet; Hanoi, deep salmon; and Jeanne d'Arc, white, tinted rose. Single—Beauté de Lyon, rosy red; Colonel Roudaire, light scarlet; Multiflore, pink; Masterpiece, magenta crimson; Mrs. H. Cannell, rose-mauve; Plutus, crimson; and Innocence, white, veined purple. It may be added that the whole of the varieties enumerated have an excellent habit, and are very free in flowering.

Parcel Post will be subject to new arrangements on and after the 1st of May. The maximum weight of parcels sent by post will be raised from 7 lb. to 11 lb., the last corresponding with five kilogrammes. The charge for the first 1 lb. will be 3d., but the rate will be 1½d. for every pound after the first. It is also arranged that compensation shall be given for loss or damage to parcels, and the Postmaster-General will be sole arbiter in respect of compensations.

NEW VARIETIES OF AMARYLLIS.

Since the appearance of our notes (at page 177) on the new varieties in Messrs. J. Veitch and Sons' collection of amaryllis several hundred seedlings have flowered, amongst them being a goodly number possessing special interest because of the distinct and beautiful shades of colour they afford. The majority of seedlings that have recently bloomed have flowers remarkable for their large size and fine form; those of two or three being so closely approaching perfection as to suggest considerable difficulty in proceeding much farther in the work of improving the shape of the flowers. The undermentioned comprise the best of the varieties, now flowering for the first time, that have had distinctive names conferred upon them.

Clandon.—One of the finest of the varieties that has yet bloomed in the collection; the flowers are extra large, with broad well-rounded segments; the colour reddish lake, with white centre.

Lorna Doone.—An effectively coloured flower of high quality; colour deep rich marone crimson. In the way of Lord of the Isles, but far superior to that fine variety both in shape and colour.

Endymion.—A distinct and pleasing variety, bearing medium sized flowers; colour bright red, the segments suffused with purple in the centre, and margined with white.

Orb.—An exceptionally fine variety; the flowers above the medium size, with broad well-rounded segments. Colour deep crimson, with greenish white base. The most perfectly formed amaryllis that has yet been raised.

Portenia.—A very pleasing variety, with large well-formed flowers, attractively painted with rose on a white ground.

Fortunatus.—A brightly coloured variety. The flowers large and of good form; the colour vermilion, with white base.

Janet.—A superb variety; the flowers large, of fine form and richly veined, and suffused with rose on a white ground. A most valuable addition to the light amaryllis.

Diomedes.—A large well-expanded flower of a rich sanguineous crimson colour.

Marcia.—Very distinct and pleasing, the flowers of medium size and feathered with bright red on a white ground.

Hedila.—A charming blush-coloured flower painted with rose.

Letitia.—One of the most distinctly coloured of the several varieties; the flowers of medium size, and a rich purplish crimson hue.

Tita.—White, reticulated with orange; the flowers of medium size, and the segments much recurved.

Bewick.—An attractively coloured variety; the flowers of average size, and a glowing crimson-scarlet colour.

Adeia.—A finely formed white flower veined deep rose.

Orion.—Brilliant soft scarlet, with white base. A very effective flower of high-class quality.

Emilia.—One of the most distinctly coloured varieties in the collection; the flowers are of medium size, and have a white ground, which is suffused and veined with rose-lilac.

Topaz.—A pleasing flower, of a pale claret colour.

Roscrea.—Large and showy, but hardly of so fine a form as some others; colour brilliant marone crimson.

Peveril.—Very distinct and of high quality; the flowers are of average size and superb form; colour deep scarlet, with light centre tinted rose.

Cato.—An attractively coloured variety; the flowers of good form; the colour rich orange red, mottled white.

Jupiter.—A claret-coloured flower of full size and good form.

Rev. J. T. Boscawen.—A very distinct and effective variety, of high quality; the flowers are large and of exceptionally fine form, the colour orange scarlet, with white band along each segment.

Barnaby Rudge.—Flowers not first-class in form, but large in size and very attractive, the colour purplish claret, the segments tipped with white.

Opal.—A noble flower, of superb form; the colour rosy scarlet, the segments marked with a white band.

Guiding Star.—A medium-sized flower, of good form, and a bright orange scarlet colour, with white base.

CANADIAN CLIMATE AND SCENERY.

In a paper on Canada communicated to the Society of Arts, by Mr. Alexander Begg, occur the following passages:—

A great deal has been written about the climate of Canada. Until very recently it was looked upon as the Siberia of the British Empire. Recent investigations as to its climatic relations to European countries show that Canada has the latitudes of Italy, France, Germany, Austria, the British Islands, Russia, Sweden, and Norway; and has as many varieties of climates as have those countries. The most southern part of Canada is on the same parallel as Rome in Italy, Corsica in the Mediterranean, and the northern part of Spain—farther south than France, Lombardy, Venice, or Genoa. The northern shores of Lake Huron are in the latitude of Central France, and vast territories not yet surveyed are favourable for all the great staples of the temperate zones. I have seen it stated in the British press that Canada, especially the North-West, experiences eight months of winter and four of summer; while in reality the spring, summer, and autumn months are April, May, June, July, August, September, October, and part of November (frequently the greater part), and the winter months are December, January, February, and March. Fact in this case thus completely reverses fiction. The climate of the North-West is of course sometimes severe during mid-winter; but, as experiences of residents undoubtedly show, so dry is the atmosphere the cold is not as much felt as the readings of the thermometer would seem to threaten.

Coming now to speak briefly of the physical features and beauties of Canada. A country so vast in extent can hardly fail to present a great variety of surface, as well as every description of climate, soil, and produce. Mountain and woodland characterize to a large extent the eastern and western portions of Canada, while the central is principally level prairie. The area covered by the inland waters of the Dominion embraces 700,000 square miles, and constitutes probably the largest lake and river system in the world. Among the lakes bordering on Canada may be mentioned Ontario, Huron, Michigan, Erie, and Superior; and among those in the interior, Winnipeg, Manitoba, Great Slave, Great Bear, Athabasca, Lake of the Woods, and other minor bodies of fresh water. Among the principal rivers, the Great Saskatchewan, Mackenzie, Columbia, Fraser, and St. Lawrence, may be enumerated; and so vast are these inland waters that a vessel leading at Port Arthur, the head of Lake Superior, may pass through the various lakes, canals, and

rivers to the Atlantic, a distance of about 2,381 miles, and from thence continue her voyage across the ocean.

To the tourist and sportsman Canada presents many features of interest, at which, however, I regret to say, we can only cast a passing glance. Landing at Halifax, which is an Imperial station, where is kept the only garrison of British troops in Canada, a day or two can be well spent in visiting the fortifications, dockyards, and other points of interest in and around the city. The harbour of Halifax is one of the best, perhaps the very best, in the world. It is six miles long, by, on an average, a mile wide, and capable of floating alongside the wharves vessels of the largest size. There is excellent anchorage in every part of it, with room for all the navies of the world. The city and harbour of Halifax are protected by eleven different fortifications. The province of Nova Scotia, of which Halifax is the capital, is renowned for its beautiful lakes and streams, and there is excellent hunting, shooting, and fishing in almost every county. Trout abounds in nearly every stream; moose, deer, hares, and foxes, afford good sport at certain seasons, and in shooting, woodcock, snipe, plover, and duck are plentiful. The scenery in the Annapolis Valley and many other parts are well worthy of a visit. Taking the intercolonial railway, one passes from Nova Scotia through the province of New Brunswick, also famed for its fishing and for its game; of the latter the cariboo being especially plentiful. St. John, its principal city, is a great seaport, and has not inaptly been called the Liverpool of British America. Indeed, the sea coast of New Brunswick is everywhere indented with commodious bays, harbours, and inlets. Its bays are well renowned for the value of their shore fisheries. Passing on, we enter the province of Quebec, and soon reach the ancient city of the same name, now the present eastern terminus of the Canadian Pacific Railway. Quebec is probably the most interesting city in Canada, from a historic and scenic point of view, and well repays a visit. In the neighbourhood the Falls of Montmorency are eight miles distant, and nine miles below the city are the Chaudière Falls. We now come to Montreal, the commercial capital of Canada, and probably the most beautiful city in the Dominion. Here is to be seen the Victoria tubular bridge, two miles in length, the work of Robert Stephenson, the great English engineer. Above are the Lachine rapids, with their wealth of wild scenery, and one of the chief attractions to excursionists visiting Montreal is to shoot the rapids in one of the river steamers, a feat which certainly possesses some considerable degree of excitement for those participating in it. Above the Lachine rapids the Canadian Pacific Railway Company are constructing a bridge to span the St. Lawrence, in order to afford the railway independent access to a seaboard connection. The bridge, which is to be of iron, substantially built on stone piers, will be 3,550 feet in length, and will cost over a million dollars. Montreal is beautifully situated on an incline, Mount Royal being in the background; and so far as its splendid wharves and piers are concerned, is in reality, as St. John hopes one day to be, the veritable Liverpool of the Dominion. It possesses many handsome public buildings, and the great Cathedral of Notre Dame is specially worthy of a visit.

We may now take the Canadian Pacific Railway to Ottawa, the seat of the federal Government in Canada, and the great timber and lumber centre of the Dominion. The Parliament buildings, consisting of three of the finest edifices on the continent of America, constitute the chief attraction of the city. The surrounding country is most picturesque, possessing many features of interest to the tourist. The water power of the Chaudière falls at Ottawa is probably the greatest and most valuable in America. From Montreal by the Ontario and Quebec section of the Canadian Pacific Railway you reach Toronto, the chief city of Ontario. Thence a pleasant sail across the Lake Ontario brings the tourist to Niagara Falls, the splendours of which are of world-wide reputation. Toronto is built on a level plateau on the shore of Lake Ontario,, and is noted for the width and beauty of its streets, and its many handsome public and private buildings. The province of Ontario, as a whole, is essentially devoted to agriculture—though, as I have already shown, its natural facilities for manufacture have been largely utilized. Yet the tourist and sportsman will find many parts worthy of front rank in his estimation. Of these may be mentioned the districts of Parry Sound, Muskoka, and Nipissing, where both game and fish are plentiful.

Returning to Ottawa, we proceed by the Canadian Pacific Railway along the north of Lake Superior, through a country abounding in fine scenery and rich in minerals and timber, until we reach Winnipeg, the doorway, as it were, to the prairies of the North-West. The growth of Winnipeg has been, as I have already shown, wonderful; and from its position it is certainly destined to become a large and important city. The Canadian and Pacific Railway runs from this point for a distance of nearly 900 miles across the great prairies of the North-West to Calgary at the base of the Rocky Mountains, a great plain of fertile land destined to become, ere long, the home of thousands, aye millions, of prosperous and contented settlers.

Successive Cropping Without Manure.—In the paper on "Landlord's Fertility," by Sir J. B. Lawes, he lays stress on the fact that on experimental plots at Rothampstead wheat has been grown on unmanured land annually for 46 years consecutively, and the produce now "is equal to, if it does not exceed, the average produce of wheat in the world." With root crops, he says, this could not be done. Last year the unmanured plot gave at the rate of 29 bushels to the acre. His argument is that the landlord commands an almost inexhaustible source of fertility.

The Death-rate of Gardeners is very nearly the lowest in the table of the death-rates of 31 various occupations prepared from the Registrar-General's returns by Dr. Ogle. The death-rate of males of all occupations, at 20 years of age and upwards, is near 23; and at 25 to 65 years of age, 15½. The highest death-rate is that of earthenware manufacture: at 20 years, nearly 36; at 25 to 65 years, nearly 27. The lowest rates are those of clergymen and gardeners, the last-named having a death-rate, at 20 years, of 15·08; and at 25 to 65 years, of 9·24. In the case of the clergy the rate is nearly the same.

No Juice in a Flint.—This trite saying has a parallel; *there is no getting juice out of cheap tea.* The Chinese are yearly increasing the supply to English tea-drinkers of redried and worthless leaves, utterly destitute of *theine*, which is the one active principle most to be desired in the beverage; consequently cheap tea becomes dear tea *at any price.* The true policy of supplying wholesome Pure Tea is alone to be commended; hence the enormous and increasing sale of *Horniman's Tea, guaranteed absolutely pure,* by Chemists and others who are Agents in all parts of the kingdom, and supply the public at London fixed prices.—See advertisements in all Newspapers and at Railway Stations for list of Local Agents.—[Advr.]

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Annuals intended for the decoration of the conservatory that have been raised from seed sown some time since must be pricked off into pots or boxes before they become so large as to suffer from overcrowding. In some cases the seedlings may be potted singly, but generally speaking, the best results are obtained by pricking them off in pans or boxes, and when they are growing freely, and just beginning to touch each other, to put them into pots, one or more in each, according to the character of the growth.

Rhodanthes, which are of special value for the decoration of the conservatory, ought not to be disturbed, the best course being to sow the seed in five or six inch pots and then thin the young plants to about twelve in each pot.

Camellias not yet started into growth must have assistance now, if no more than keeping rather closer and more moist than usual. But much better to raise the temperature and syringe frequently, The earlier kinds that flowered before Christmas, and have now completed their growth, must have less water, more light, more air, but must not be hardened too suddenly, as the weather is cold yet for them while forming their blossom buds.

Cinerarias require abundance of water now; if allowed to be dry for any length of time the lower leaves will turn yellow and fall. Give plenty of air when weather allows, and shade only when the sun is very powerful.

Fuchsias require shifting on; keep them warm; give plenty of water at the root, and overhead; let the soil be rich and light, the position rather shady.

Pelargoniums showing their trusses will be greatly benefited by occasional supplies of weak liquid manure. Tie out carefully as required, never neglecting this operation, as if the shoots become hard before tying the operation is apt to snap them. Shade as little as can be helped; the sunshine acting now on the plants will ensure brilliantly-coloured flowers, which will not be the case with plants that are much shaded during the formation and growth of the buds.

Primulas.—Where plants are required for flowering early in the autumn the seed must be sown at once, and placed in a brisk temperature to induce it to germinate with as little delay as possible. As soon as the young plants are of a suitable size pot them off separately, and place them in a structure where they can be kept rather warm and close until nicely established, then remove to a pit or frame, and throughout the summer keep near the glass, ventilate freely, and screen from brilliant sunshine. They must be shifted on as more root space is requisite, and receive rather liberal supplies of water.

FORCING AND ORCHARD HOUSES.

Cucumber Pit.—Cucumbers in bearing to be kept as nearly as possible at a uniform temperature—a difficult matter with such variable weather as we have now. Air-giving must be regulated by circumstances; the really careful cultivator will shift his lights half a-dozen times a day as bursts of sunshine, driving showers, or cold whistling winds succeed each other.

Cherry House.—Cherries changing colour to have as much light and air as possible and less water at the roots. Search wherever the leaves appear curled, and deal promptly with the cause of curling.

Melon House.—Melons must have all the sunshine possible, and to prevent scorching give plenty of air during mid-day hours on very fine days. Plant successions, taking care to make good beds for them, as with plenty of heat at command a little air may be given night and day in mild weather, and a free strong growth secured without any forcing.

Peach House.—Peaches and nectarines in the early houses are swelling fast, and the final thinning must be accomplished without delay. Give a good soaking of water at the roots, and from this time till the fruit begins to show colour use liquid manure freely. Syringe regularly twice a day, and if possible with water that has stood in the house some time. Keep a good heat now, and give air freely—50 deg. at night, 75 deg. to 90 deg. by day with sun heat.

Strawberry House.—Strawberries must have abundance of light and air, and a decidedly cool temperature by night as compared with the day temperature—say, 65 deg. day, 50 deg. to 55 deg. night. Be attentive to thinning the fruit, if quality is a matter of the least importance.

FLOWER GARDEN AND PLEASURE GROUNDS.

Asters sown immediately will grow freely from the first, and make as fine plants as the earliest sown, though a week or so later to bloom. But this is the latest period to do anything like justice to these superb annuals.

Auriculas require the most airy position possible now, with shade and shelter and covering, as wind, frost, rain, sunshine, and heat are all alike injurious to them. There is no simpler method to deal with them than to stand the pots on a hard pavement of stone, tile, or coal ashes, and place over them, at some height from the plants, old lights resting on pots, or rough frames made on purpose.

Carnations and Picotees to have as much air as the state of the weather will allow, and not on any account to suffer through lack of water. As soon as possible place them in their blooming quarters, fully exposed to all weathers.

Hardy Herbaceous Plants which may be raised from seed may be sown from this time to the middle of June. Usually there is at this season so much excitement about bedding plants that these things are forgotten. It is, however, the best season in the whole year to make up lists and order seeds, and, in fact, to begin with their cultivation.

Stocks sown now will give less trouble than those sown early, and the annual kinds will flower well this season, and the biennials will acquire strength to stand the winter.

FRUIT GARDEN AND ORCHARD.

Apricots.—Wall trees showing good crops must be moderately thinned. At the same time every curled leaf must be examined, and the grub that causes it to curl must be destroyed.

Strawberries in the open ground are growing freely. If they have not been manured, it is yet time to benefit them by spreading a thick coat of good manure between the rows, and treading it down firm.

KITCHEN GARDEN AND FRAME GROUND.

Beet must be sown now if not done already. Choose soil that has been deeply dug, and is in a thoroughly pulverized state, the object being to obtain roots of moderate size and regular shape.

Cauliflowers may now be planted out, and will take care of themselves. Let the ground be abundantly manured; plant firm.

Celery.—Any late sowings now coming on in seed pans must be pricked out as soon as they are as large as the head of a young radish—say, having four or five leaves each.

Lettuces of all kinds may now be sown on open borders, the Cos and quick-growing large kinds of cabbage being most useful.

Onions may be greatly benefited by a sprinkling of soot, which will both quicken the growth and drive away the vermin that usually destroy them. Onions for pickling to be sown at once on poor ground. Sow thick, and if possible cover the seed with a sprinkling of fine siftings of charred rubbish.

Spinach to be sown again, but not in great quantity, as the later sown breadths will be liable to become seedy before they are all used. The variety known as the Longstander is the best to sow now, because of the time it will remain on the ground without running to seed.

DEATH RATES OF VARIOUS VOCATIONS.

At a recent meeting of the Royal Medical and Chirurgical Society, Mr. William Ogle, M.D., F.R.C.P., superintendant of statistics in the Registrar General's Office, read a paper on the rates of mortality as influenced by employments and other circumstances, with a view more particularly to establish averages of the death-rates of medical men. For purposes of comparison, he set forth the following important table of "death-rates of various professions and callings":—

Profession, Trade, or Industry.	Annual Death-rate per 1,000.	
	Males 20 years of age and upwards.	Males 25 to 65 years of age.
All occupations	22·83	15·42
Medical profession	25 53	17·30
Clerical profession	15·93	8·57
Legal profession	20·23	12·97
Schoolmaster	19·90	11·09
Clerk (commercial and law)	21·10	15 61
Commercial traveller	20·06	14·61
Farmer	17·49	9·73
Agricultural labourer	18·28	10·80
Gardener	15 08	9·24
Innkeeper, publican	29·02	23·47
Brewer	29·23	20 99
Chemist	22·52	15·66
Shopkeeper	19·43	13·52
Butcher	25·89	18·05
Baker	21·87	14·77
Tailor	22·45	16·21
Shoemaker	20·66	14·20
Watch, clock, philosophical instrument maker, jeweller	21·20	14·36
Printer	23·75	16·51
Bookbinder	25 36	18·00
Earthenware manufacturer	35·98	26·83
Cotton manufacturer	27·19	16·76
Woollen, worsted manufacturer	26·47	15·91
Mason, bricklayer, builder	22·29	14·94
Carpenter, joiner	19·30	12 64
Painter, plumber, glazier	25·95	18·53
Cutler	28·52	20·18
Blacksmith	23·14	14·99
Quarryman	26·42	17·29
Coal-miner	23·97	13·72

FLORAL DISESTABLISHMENT.

Mr. Shirley Hibberd complains that "horticultural and political purposes" are bringing many of our wild plants, especially the primrose, within measurable distance of extinction. No doubt his complaint is to a certain extent justified. Botanical students and collectors play terrible havoc, in the name of science, with the rarer members of the British flora. But the primrose! We do not believe that a hundred leagues, if suddenly converted to a policy of radical destruction, would do much to abolish that most persistent of flowers. Of all creatures, the primrose knows best how to hold its own. Wherever there is a ray of daylight—its one vital need—there it will flourish and multiply. It thrives even upon the banks of the railway cutting. And, were it less obstinately vigorous, horticulture is, like everything else in the world, subject to the law of demand and supply. Granted the existence of a league that demands primroses, the supply of primroses is ensured. Mr. Shirley Hibberd is scarcely quite so simple, we presume, as to imagine that either primroses or ferns, or any other gifts of our British Flora that chance to be in demand, come from the woods and fields, any more than that all antiquities come from ancient times, or all pictures from the hands of their reputed painters. Even the scientific collector owes less to the abused "huckster's basket" than to the systematic cultivator. Still, as we have already said, there is no question but that rare plants—by which we do not mean primroses and cowslips, or buttercups, or those inexterminable nuisances, the daisies—are in some danger of ceasing to be wild. In the interests of plants in real peril, botanists ought to hold their hands. Unhappily, however, botanists are seldom lovers of flowers, any more than commentators of Shakespeare are lovers of poetry. Science must have its way, unless any local authorities can obtain or usurp such powers as are exercised in Switzerland for the protection of the *Edelweiss*. Short of this, wild flowers are like most things—the best use to which they can be put is to leave them alone.—*Globe.*

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 6d. and 1s.—[Advt.]

Replies to Queries.

Cockroaches.—Perplexed.—Directions for destroying cockroaches were given at page 205.

Strelitzia regina.—G. T., Barnet.—Your specimen is very probably grown in too low a temperature; for when this strelitzia has a place in an ordinary stove and receives careful attention it blooms rather freely.

Rose Maréchal Niel.—Peeping Tom.—The plant is evidently in an unsatisfactory state at the roots, but it is impossible for us to say from the information before us what has been the cause of the mischief. It is very probable that the soil has been kept too moist.

Orange Trees.—G. T.—The trees requiring more root space should be repotted at once. The compost most suitable is one consisting of four parts fibrous loam, and one part each of coarse silver sand and leaf-mould or well rotted manure. The manure is preferable to the leaf-mould, and should be invariably used when it can be readily obtained.

Hepaticas.—B. C., Melksham.—The single hepaticas produce plenty of seed, but we are unable to advise you as to where to obtain supplies. Propagation of the single forms is usually effected by the division of the roots in the autumn, when the new growth is completed. The double varieties are invariably increased by division. We do not know of any rose under the name mentioned in your letter.

Clerodendrons and Dipladenias.—M.A.—Unless you require the clerodendrons and dipladenias for exhibition, the shoots should be trained to wires or strings suspended from the roof of the stove. They make a much more vigorous growth than when trained to a trellis fixed in the pot, and present a far more attractive appearance. The growths must be so regulated that the plants on the stages are not deprived of their fair share of light.

Seed Potatoes.—K.—It is unquestionably an advantage to spread out the seed potatoes thinly on the shelves and floor of a shed to promote the production of hard sprouts not likely to be injured when they are being planted. When the seed potatoes remain in large heaps in the store until they are wanted for planting, they produce long white shoots, that are invariably injured, however carefully the tubers are handled.

Tea Roses.—Constant Reader.—Your best course will be to procure at once the tea roses you require for your house, and plant them with as little delay as possible. They can now be sent without any risk of injury, and if the planting is not long delayed they will have plenty of time to become established and make a strong growth before the end of the summer. Roses in pots may, of course, be planted under glass at any time with very satisfactory results, but there is no season so suitable as the present.

Drummond's Phlox.—G.S.—The best forms of Phlox Drummondi for the mixed border are the Grandiflora varieties, of which there are upwards of twelve. These differ from the older type in having a better habit, and producing much larger flowers. The most effective of the several varieties are Alba, white; Black Warrior, deep crimson; Chamois Rose, bright rose; Coccinea, scarlet; Splendens, bright crimson; and Violacea alba oculata, dark purple with white eye.

Achimenes.—Novice.—It is much the best practice to shake the roots out of the soil whilst dormant, and start them into growth in seed-pans. These should be filled to within about three-quarters of an inch of the rim with a mixture consisting of loam, peat, leaf-mould, and sand, and the roots be laid rather close together on the surface. Cover them with a little of the prepared compost, and place in the propagating pit or plant stove. When the plants are rather more than one inch in height carefully transfer them to the pots in which you propose to flower them.

Imported Cattleyas.—S. M.—The plants may be started either in pans filled with crocks or on rafts, but the best results are, as a rule, obtained by the use of rafts, which are best formed with teak rods. You must first carefully remove all the dead and decaying roots, and also cut away the pseudo-bulbs that show signs of decay, but all that are sound must be allowed to remain. The plants must be simply fastened to the raft, without any peat or other material, and be placed where they can occasionally have a light skiff from the syringe without injury to other plants.

Ixoras.—B. H. G.—Ixoras suffer less from pruning than the majority of hard-wooded stove plants, and you need not hesitate to cut the plants back that have become leggy. After they have been pruned, place them where they can have the assistance of a brisk bottom heat, to induce them to start as quickly as possible. As soon as they have produced new growths, an inch or so in length, repot and return to the hotbed again. It will probably be better to reduce the balls of soil by about one and a-half inches all round, and return to pots of the same size as those now occupied than transfer them to others a size larger. But this point we must leave to your discretion.

Hotbeds in open Ground.—R. H. says: "I have at the present time command of almost any quantity of stable manure, but I have no glass. Can I do anything with hotbeds in the open ground without the aid of frames, &c.?" R. H. may hurry on a lot of things by the aid of the stuff referred to. The shortest and surest way will be to open trenches twelve to eighteen inches wide, and the same depth, laying up the earth on one or both sides. If he can command labour as well as material, the measure should be eighteen inches or more wide and deep. The trenches are to be filled with the manure, and about six inches of soil to be put on the manure for a seed-bed. In this bed sow peas, spinach, radishes, in fact, all kinds of seeds proper to the season, and of things required, save and except such as parsnips and carrots, which are not suitable. A few of the rows may be planted with early potatoes, which are to be very slightly covered, but are to be earthed up frequently from the time they appear above ground. The warmth resulting from the fermentation of the manure will push on the vegetation advantageously, and will not be sufficient to hurry anything unduly. A nice lot of horn carrots could be grown on such trenches by putting on a good twelve inches of soil. With the aid of a few hand-glasses vegetable marrows might be sown now, and in due time the glasses would be removed, and the plants left to fruit without any need for transplanting. Even large empty flower-pots might be used as substitutes for glasses for some useful things, provided daily careful attention can be given to the management.

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, April 13.

Promenade Show.

Visitors to the promenade show of the Royal Horticultural Society on Tuesday who take a special interest in daffodils or orchids found plenty to engage their attention, for the first mentioned were staged in immense numbers and the orchids were represented in a manner quite unusual for so early in the year. The display of daffodils was perhaps the best that has yet been held, for not only were the greater proportion of the varieties staged in excellent condition, but the collections were arranged in a more tasteful and effective manner than on any previous occasion. In addition to these two important and highly attractive classes of flowers, there was a large collection of rhododendrons and a considerable gathering of subjects of a miscellaneous character, which enhanced in no small degree the interest of the show.

Daffodils were staged in sufficient numbers to fill a broad stage extending the whole length of the conservatory on one side, and one half the length on the other. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, staged a representative collection comprising several thousand flowers, and was awarded the silver Banksian medal. Chief amongst the large number of varieties represented were Bicolor Dean Herbert, a large and finely formed flower of a rich golden yellow colour; Incomparabilis Mary Anderson, an effectively coloured variety of great beauty; Bicolor Horsfieldi, Emperor, Spurius, Poeticus ornatus, Albicans, Bulbocodium, and Calathinus. Messrs. Barr and Son, King-street, Covent Garden, who also were awarded the silver Banksian medal, contributed a collection equally remarkable for its extent and comprehensiveness. Especially noteworthy were the flowers of C. J. Backhouse, Sir Watkin; Barri conspicuus, a fine variety which received the distinction of a first-class certificate; Henry Irving, Mrs. H. J. Elwes, Golden Spur, in the way of Emperor, Bicolor Horsfieldi, Bicolor Empress, James Walker, Colleen Bawn, Lincolnshire Yellow, Moschatus, Cernuus pulcher, and Emperor. Collections large in extent and highly meritorious were also exhibited by Messrs. Collins Bros. and Gabriel, 39, Waterloo Road, S.E.; the New Plant and Bulb Company, Lion Walk, Colchester; and Mr. J. Walker, Whitton, Hounslow, all of whom were awarded the bronze Banksian medal. The Rev. C. W. Dod, Malpas, exhibited a small but interesting collection, and was accorded a vote of thanks. The most noteworthy varieties in the several collections were chiefly the same as those of which the names are given above.

Orchids were very strongly represented, and included a magnificent group of specimens from Sir Trevor Lawrence, Burford Lodge, Dorking, to whom the award of the silver gilt Banksian medal was made. The specimens comprised Epidendrum Wallisi, an elegant species of tall growth, and bearing rather large and very beautiful flowers, the labellum bright golden yellow, spotted with brown; Oncidium Marshallianum, with five splendidly developed panicles; Odontoglossum vexillarium, a nicely-flowered example of a very highly coloured form; Dendrobium crystallinum, one of the most exquisitely coloured of the many beautiful species; D. Hookeri, a yellow flowered species, remarkable for its deeply fringed labellum; D. Harveyanum, a very distinct species with small yellow flowers, of which the petals are elegantly fringed; Cattleya Trianæ, Trichopila lepida, Maxillaria Turneri, exceptionally well flowered Cattleya Lawrenciana, C. citrina, and Saccolabium curvifolium album, a beautiful variety of this small-growing species, with flowers of the purest white. Sir Trevor Lawrence exhibited also large specimens of Ward's, Henderson's, and Palmer's varieties of Anthurium Scherzerianum, all of which were liberally furnished with their large and brilliantly coloured spathes; small examples of A. Scherzerianum Rothschildianum and A. Scherzerianum Devansayanum, two distinct hybrids, which have large spathes freely spotted and blotched with vermilion on a pure white ground; and several seedlings evidently raised from Ward's variety.

W. Lee, Esq., Downside, Leatherhead, contributed a good specimen of the very handsome Cypripedium Wallisi, and cut flowers of C. Godefroyæ, representing a richly marked variety, and of the lovely Cattleya speciosissima. The compliment of a vote of thanks was paid to Mr. Lee for his contributions. One of the most noteworthy of the orchids staged was the specimen of Lycaste Skinneri from W. C. Pickersgill, Esq., Blenden Hall, Bexley, which was furnished with about twenty-five finely developed flowers. The specimen was one of the finest that has yet been exhibited at the meetings of the society, and although the variety was a very good one, Mr. Pickersgill should have been awarded a medal for the cultural skill evinced rather than a first-class certificate for the distinctness of the variety. Mr. Pickersgill exhibited cut flowers of this useful orchid, amongst them being a good bloom of the white form. From Mr. Bond, gardener to C. L. Ingram, Esq., Elstead House, Godalming, came nicely flowered examples of Phalænopsis Sanderiana and several odontoglossums, and a vote of thanks was accorded. Mr. H. M. Pollett, Fernside, Bickley, was awarded the bronze Banksian medal for an attractive group of odontoglossums, comprising good examples of O. mulus, O. Wilckeanum, O. Ruckerianum, and O. Polletteanum.

Rhododendrons comprised a group of about thirty densely-flowered specimens from Messrs. H. Lane and Son, Great Berkhampstead, and produced a brilliant effect. The award of the silver Banksian medal was made in favour of the firm.

Floral Committee.

Present: G. F. Wilson, Esq., in the chair; the Rev. W. Wilks, Major Lendy, and Messrs. R. Dean, J. Dominy, Shirley Hibberd, H. M. Pollett, J. O'Brien, W. B. Kellock, E. Hill, G. Paul, H. Cannell, J. Douglas, W. Bealby, A. Perry, B. S. Williams, H. Herbst, J. Hudson, G. Duffield, and H. Ballantine.

Messrs. J. Veitch and Son exhibited the now well-known Daphne Blagayana, a fine blooming species bearing a profusion of cream-coloured flowers; Helionopsis umbellata, a very distinct Japanese plant of dwarf growth and blooming freely; the flowers, which are borne on stems about six inches above the foliage, are slightly drooping and of a pleasing pink hue. Korolkowia Sewerzowi, an interesting plant from Central Asia, closely allied to the fritillarias, and bearing greenish flowers; and Phalænopsis intermedia, the example last mentioned possessing special interest as being the first artificially raised hybrid phalænopsis that has yet flowered. The plant shown was raised from a cross effected in 1882 between P. amabilis and P. rosea, which was then being discussed. It was thought by some of the authorities that P. intermedia was a natural hybrid between the two species above mentioned, and the flowering of the hybrid raised in the nurseries of Messrs. Veitch shows that they were right in their conjectures, for it is identical in every way with P. intermedia. The firm also exhibited several amaryllis, for two of which they were awarded first-class certificates. Messrs. J. R. Pearson and Sons, Chilwell Nurseries, submitted several forms of Dendrobium crassinode, D. Wardianum, and D. nobile, the varieties of the last mentioned comprising one with flowers remarkable for their depth of colour. A vote of thanks was accorded the firm.

From Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, came a good specimen of Odontoglossum cuspidatum and Imantophyllum Ambroise Verschaffelt, both of which have been recently described in these pages, and Masdevallia Harryana lilacina, a very beautiful light form of this popular orchid. Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, exhibited cut flowers of a good form of Cattleya Lawrenciana; and from Mr. T. Osborn, gardener to H. J. Buchan, Esq., Milton House, Southampton, came a good example of the bold-growing Odontoglossum lilliflorum which produces tall spikes of rose coloured flowers. Mr. H. Adams, Beckenham, sent an example of Oncidium tetracopsis, a handsome species with large brown and yellow flowers; and from Messrs. H. Cannell and Sons, Swanley, came bouquets of Pride of Penshurst carnation, the finest of all the yellow varieties, and blooms of A. Alegatiere, a well known and justly appreciated carnation.

Fruit Committee.

Present, Mr. T. F. Rivers, in the chair; and Messrs. H. J. Veitch, W. Denning, J. Burnett, F. Rutland, N. F. Paul, John E. Lane, J. Smith, J. Ellam, J. Woodbridge, W. Warren, T. J. Saltmarsh, G. Goldsmith, C. Silverlock, T. B. Haywood, and R. D. Blackmore.

The subjects submitted to the committee were comparatively few in number, but by no means wanting in interest. Mr. G. W. Cummings, gardener to A. H. Smee, Esq., The Grange, Wallington, exhibited a collection of fifty dishes of apples and six dishes of pears, and was awarded the Silver Banksian medal. The apples included good samples of Alfriston, Dumelow's Seedling, Pennington's Seedling, Golden Drop, Scarlet Pearmain, Lord Burghley, Old Nonpareil, Herefordshire Pearmain, Reinette Van Mons, and Fall Pippin. Mr. Stephen Castle, West Lynn Vineyard, King's Lynn, exhibited a fine basket of Gros Colmar grape, and was recorded a vote of thanks.

Novelties.

First-class certificates were granted as under:—

To G. F. Wilson, Esq., Weybridge, for

Primrose Alice Wilson.—A very handsome variety, of the most distinct character and colour; the flowers are of large size and good form, and of a very rich shade of purple blue.

To W. C. Pickersgill, Esq., for

Lycaste Skinneri gloriosa.—A beautiful variety, the flowers above the average in size, and the petals of a rich rose hue.

To W. Lee, Esq.,

Cypripedium Wallisi.—One of the most distinct of the lady-slippers; the flowers are of full size, the petals are eight or nine inches in length, greenish marked with brown, the sepals bright green, the labellum pale green outside, and white within spotted with purple.

To S. Courtald, Esq., Bocking Place, Braintree, for

Odontoglossum Mulus Courtaldianum.—One of the finest of the very beautiful forms of this odontoglossum. The flowers are considerably above the average in size; and effectively coloured yellow and brown.

To Messrs. J. Veitch and Sons for the undermentioned Amaryllis:—

Princess of Wales.—A beautiful variety; the flowers about eight inches in diameter, of fine form and of a delicate pink hue suffused with vinous crimson.

Crown Princess of Germany.—An attractive flower of medium size, and a brilliant scarlet colour with white margin and base.

To Messrs. Barr and Son for

Narcissus Barri conspicuus.—A finely formed and attractively coloured flower; the segments pale yellow, the crown bright orange suffused with scarlet.

To Mr. G. Goldsmith, gardener to E. G. Loder, Esq., Foore, Weedon, for

Myositidium nobile.—A remarkably distinct and handsome herbaceous plant introduced many years since from New Zealand. The plant attains a height of about eighteen inches, has large glossy green leaves, and produces clusters of flowers which are about three-quarters of an inch in diameter and of a brilliant blue colour shading to light lavender blue at the margin.

To Sir Trevor Lawrence, Bart., M.P., for

Masdevallia racemosa Crossi.—A handsome form of this distinct species. The growth is neat, and the flowers, which are produced in racemes, are about the size of those of M. Harryana and of a brilliant scarlet hue.

Anthurium Scherzerianum Devansayanum.—A very distinct and highly attractive hybrid in the way of A. Scherzerianum Rothschildianum, but superior to that hybrid, the colouring being much brighter. In general character it closely resembles the type, and the spathes, which are nearly equal in size to those of Ward's variety, are copiously spotted with scarlet on a pure white ground.

To B. D. Knox, Esq., Caversham, Reading, for

Odontoglossum Pescatorei (Knox's variety).—An exceedingly fine form which was very generally regarded as one of the most important contributions to the meeting. It is supposed to be a natural hybrid, and to have been raised from seed of O. Pescatorei. The flowers are about two and a-half inches in diameter, with broad overlapping sepals, and petals which are of a rich yellow colour, white at the base and blotched with bright chestnut red, the labellum sulphur, marked with blotches of the same colour as those of the sepals and petals, and suffused with yellow at the base.

ROYAL BOTANIC SOCIETY, SECOND SPRING SHOW, April 14.

The second spring show of the Royal Botanic Society was held on Wednesday, and although not quite so extensive as the March exhibition, it contained all the usual features, and was remarkable both for its interest and attractiveness. The most important contributions were the azaleas, pot roses, daffodils, and hardy flowers, all of which were contributed in great plenty, and in a manner that reflected much credit upon the cultural skill of the respective exhibitors.

Alpine and Herbaceous Plants had on this occasion special provision made for them, and it is highly gratifying to be able to state that the competition for the prizes was very spirited, and that the collections possessed exceptional merit. In the class for a collection of hardy alpine plants Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was first with a large and thoroughly representative collection, in which the primulas were especially

well represented. Amongst other good things that had a place in the collection were Primula spectabilis, P. marginata, P. denticulata, P. viscosa, P. viscosa nivalis, one of the most beautiful of the hardy primroses; P. verticillata, P. viscosa major a distinct variety with flowers of comparatively large size and a rich purple hue; Anemone stellata fulgens, Trillium grandiflorum, Cyclamen repandum, Orchis Robertiana, a handsome species with dense spikes of rose and green flowers; O. panciflora, a charming species with light yellow flowers; Soldanella Clusi, one of the most elegant of alpines; Saxifraga retusa, S. diapensoides, Cypripedium macranthum, a very handsome species which had a botanical certificate conferred upon it; and Anemone apennina alba, a pure white variety of this elegant windflower. Messrs. Paul and Son, Cheshunt, were a good second, with a very tastefully arranged collection in which the saxifrages were especially well represented. It contained amongst other subjects an example of Aubrietia græca superba, a very fine variety bearing flowers of larger size and a much deeper colour than those of the specific form; Sanguinaria canadensis, and Primula pubescens, a very handsome species with large rose-purple flowers. In competition for the prizes for twelve hardy herbaceous plants, Messrs. Paul and Son were first, with a collection containing large well-flowered specimens of Doronicum Austriacum; Anemone nemorosa plena, Megasea Stracheyi; Anemone pulsatilla patens, a form bearing flowers of large size and very rich in colour; Dentaria polyphylla, which received the distinction of a certificate; Muscari botryoides pallida, Anemone fulgens, and Primula acaulis Crousii fl. pl., one of the very finest of the double primroses. Mr. T. S. Ware contributed a good collection, in which there was a fine specimen of the beautiful Trillium grandiflorum.

Orchids comprised a fine group of Lycaste Skinneri and a collection of odontoglossums from Mr. Hill, gardener to H. Little, Esq., Hillingdon Place, near Uxbridge, who was awarded the silver medal. The lycastes comprised about twenty examples, which were well bloomed, and comprised several varieties of exceptional excellence. Amongst the odontoglossums were good forms of O. cirrhosum, O. Alexandræ, O. gloriosum, O. phalænopsis, and O. Rossi majus. Mr. Hill exhibited also a large mass of Cattleya Trianæ, which was liberally furnished with flowers.

Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, exhibited in his miscellaneous collection a large number of orchids, comprising odontoglossums, dendrobiums, cattleyas, oncidiums, and masdevallias. The award of the large silver medal was made to Mr. Williams.

Azaleas and Rhododendrons produced a surprisingly rich display of colour. At the head of the competitors in the trade class for six azaleas was Mr. C. Turner, Slough, whose specimens were of medium size, densely bloomed, and perfect in finish. The varieties were Roi de Hollande, Madeleine, Mons. Thibaut, Baron de Vriere, Duc de Nassau, and Jean Vervaen, all of which are of the highest excellence in their several shades of colour. Mr. H. James, Norwood, was second, and Messrs. W. Cutbush and Son, Highgate, were third, with good collections, differing but little in relative merit. Mr. Wheeler, St. John's Lodge, Regent's Park, Mr. Wesker, Tooting, and Mr. Eason were the prizetakers in the class set apart for amateurs. The first prize in the class for hardy azaleas was awarded to Messrs. H. Lane and Son, Great Berkhampstead, who presented densely flowered bushes of varieties of Azalea mollis. The firm was first also in the class for twelve rhododendrons, and in addition contributed a collection of these shrubs to the miscellaneous class, for which the award of the silver medal was made.

Roses and Amaryllis were shown in capital style by Messrs. Paul and Son, who were awarded the first prize in each of the classes provided for these flowers. In that for nine roses, Messrs. Paul and Son staged large copiously flowered specimens of Innocente Pirola, one of the best of the tea-scented varieties for specimen culture; Beauty of Waltham, Souvenir d'un Ami, Alba rosea, Marie Van Houtte, and White Baroness. The amaryllis, which were admirably grown, consisted exclusively of seedlings raised by the firm.

Auriculas were represented by two collections from Mr. C. Turner, who was first for twelve show varieties and for twelve alpines. The plants of which the collections consisted were presented in the style for which the Slough Nurseries have long been famous.

Cinerarias and Pelargoniums were considerably above the average in point of numbers, and in the matter of condition did credit to the skill of the exhibitors. The premier award in the class for nine cinerarias was made in favour of Mr. Hill, whose specimens were very large, and quite solid with bloom. Mr. Phillips, gardener to R. Mann, Esq., Langley, Slough, was second, and Messrs. H. Williams and Son, Fortis Green, Finchley, third. In the class for nine pelargoniums, Mr. Phillips and Messrs. H. Williams and Son were first and second respectively with meritorious specimens.

Daffodils made a great display, and proved immensely attractive. The exhibitors were Messrs. Barr and Son, Mr. T. S. Ware, and Messrs. Collins Bros. and Gabriel, whose collections were chiefly the same as those exhibited at South Kensington on the day previous. Messrs. Barr and Son were awarded the silver medal, and Mr. Ware and Messrs. Collins Bros. and Gabriel the small silver medal.

Novelties were not quite so numerous as on some previous occasions, and the certificates were not so freely distributed. Botanical certificates were granted as under:—

To Messrs. E. G. Henderson and Son, Maida Vale, W., for

Adiantum fragrantissimum.—An extremely elegant maidenhair, similar in general character to A. cuneatum; the fronds of medium size, and the pinnules wedge-shaped and very deeply cut.

To Mr. T. S. Ware, for

Cypripedium macranthum.—A dwarf-growing species, quite hardy, and bearing large bright rose-coloured flowers.

To Messrs. Paul and Son for

Dentaria polyphylla.—A distinct and attractive hardy herbaceous plant with bright green pinnate leaves, and bearing small clusters of cream-coloured flowers.

Floricultural certificates were granted as under:

To Mr. B. S. Williams for

Amaryllis Joseph Broome.—A finely built flower of a brilliant crimson hue.

A. Marshalli.—A superb variety; the flowers of average size and grand form, the colour deep crimson and extending to the base.

To Messrs. J. Veitch and Sons for

Amaryllis Hedila.—A finely formed flower of a rich crimson scarlet hue with white star in the centre.

A. Crown Princess of Germany.—An attractively coloured variety previously described in these pages.

A. Pioneer.—A distinct variety; the flowers of medium size and fine form, the colour rich crimson distinctly shaded with purple.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY, April 7 and 8.

The spring exhibition of this society, which was, as usual, held in the Waverley Market, Edinburgh, was not perhaps quite so extensive as some of the corresponding in previous years; but the productions staged were more than sufficient to form a large and highly interesting display. The trade cultivators in the city and its vicinity contributed liberally to the show, and the private growers mustered in great force, and staged collections remarkable for high-class cultural skill.

Chief amongst the nurserymen were Messrs. R. P. Laird and Sons, who presented a magnificent group selected from the collection for which the Pink Hill Nursery has long been famous. The firm staged also a very beautiful table of plants, comprising cyclamens, azaleas, mignonette, hyacinths, and other subjects which may be had in bloom during the spring months. Messrs. Ireland and Thomas contributed a very beautiful group in which Odontoglossum Alexandræ and other orchids were conspicuous. Very attractive also were the collections shown by Messrs. Methven and Sons, Messrs. Dickson and Co., and Messrs. Cunningham, Fraser, and Co. Messrs. W. Thomson and Sons, Clovenford, Galashiels, sent an exceedingly beautiful group of orchids, which included the interesting Dendrobium Leechianum, for which the firm received a first-class certificate from the Royal Horticultural Society a short time since. A similar distinction was granted the firm on this occasion; and deservedly so, for this fine hybrid not only has flowers of exquisite beauty but is robust in growth and most profuse in blooming. The premier award in the class for a table of hardy plants was made in favour of Mr. R. Munro, Abercorn Nursery, Edinburgh, who had a very attractive collection for so early in the season.

Turning to the contributions of private growers, we note that there were only two competitors in the class for a table of plants, and that the arrangements of both exhibitors were decidedly good. The first prize was awarded to Mr. Grossart, gardener to J. Buchanan, Esq., Oswald Road, Edinburgh, who had a table on which flowering and fine foliage plants were very tastefully blended. Mr. Grossart had several fine orchids, which were employed with good effect. The same exhibitor was first also in the class for six orchids, staging nicely flowered examples of Cœlogyne cristata, Ada aurantiaca, Dendrobium Wardianum, Cymbidium eburneum, C. Lowianum, and Vanda suavis. For three orchids Mr. J. Curror, gardener to G. Douglas, Esq., Eskbank, was first, with good specimens which included the beautiful Dendrobium Ainsworthi. Mr. J. Paterson, gardener to J. Syme, Esq., Milbank, was first in the class for six stove and greenhouse plants, the collection comprising finely flowered plants of Acacia armata, Erica Bothwelliana, E. profusa, Epacris Kinghorni, Tremandra ericoides, and Rhododendron Princess Alice. Mr. Paterson was first also for four azaleas. Hyacinths, as in previous years, were very strongly represented, and proved to the general body of exhibitors one of the most attractive of the several features of the exhibition. Mr. McKenzie, Glasgow, was first in the trade class for twenty-four; and the post of honour in the amateurs' class for twelve was occupied by Mr. A. Kerr, Sunlaws, Kelso. Both these exhibitors staged specimens of exceptional excellence.

The competition in the classes set apart for fruit and vegetables was not very spirited, but the several productions were decidedly good. The principal prizetakers were—Mr. W. McIntyre, The Glen, Inverleithen; Mr. McIndoe, Hutton Hall, Guisborough; Mr. Dow, Newbyth; and Mr. Potter, North Berwick.

NATIONAL CHRYSANTHEMUM SOCIETY.

A meeting of the general committee of this society took place on Monday evening, at the Old Four Swans, Bishopsgate Street, E.C.; E. Sanderson, Esq., president, in the chair.

The Dartford (Kent) and (Henfield) Sussex Chrysanthemum Societies applied for affiliation, and were admitted accordingly. This makes twenty-one societies that have become affiliated this season. Mr. C. Harman-Payne, the hon. secretary of the Catalogue Revision Committee, reported that nearly five-sixths of the work of revision was completed, and that the remainder would be got through in a very short time. The question as to what constitutes a "large-flowering" chrysanthemum came up for discussion on the letter of a correspondent, and who wished to have an opinion from the committee. A resolution was passed to the effect that it was the practice of the society to regard as large-flowering chrysanthemums all but the varieties of the Pompon section, this principle being embodied in their own schedule of prizes. In the schedule of prizes at some country shows classes are set apart for the large-flowered chrysanthemums, and, according to their practice, incurved, Japanese, reflexed, and large-flowered anemones are all included under this heading. Years ago, before the Japanese varieties were introduced, chrysanthemums were divided into two main divisions: large-flowered, including incurved and reflexed, and pompons, and it was natural that the Japanese varieties should also come to be included under the former heading. A proper classification for show purposes may be necessary; but it is scarcely the business of the National Chrysanthemum Society to set up arbitrary distinctions that may lead to embarrassment.

PRIMULA CONFERENCE.

The following is the programme as settled by the committee. The conference will meet in the Albert Hall at noon, on Wednesday, April 21, when J. D. Llewelyn, Esq., will preside. Papers will be read and discussed in the following order:—

1. Mr. Shirley Hibberd, on The Origin and History of the Florist's Auricula.
2. Mr. S. Barlow, In what direction should efforts be made with the view of Improving the Florist's flowers of the genus Primula?
3. Mr. J. G. Baker, of the Royal Herbarium, Kew, on the Nomenclature of the Alpine Primulas.
4. Dr. M. T. Masters, F.R.S., on Root Structure and Mode of Growth as affording indications of the probable best Culture of Primulas.

Jensen and Company (Limited) have directed attention to an important matter in connection with the advertisements of their fish potash manure. The company supplies cod-liver oil for cattle, and report that in the past winter lambs and sheep have been greatly benefitted by having it regularly supplied to them. Thirty years ago the value of cod-liver oil in aid of the fattening of sheep was established by experiment.

MARECHAL NIEL ROSE.

By J. C. Clarke.

Looking back over an experience of twenty years in the cultivation of Maréchal Niel rose, both under glass and in the open, I have come to the conclusion that it is one of the most uncertain roses grown. I have no hesitation in saying in reference to it that success has not been in every case achieved. I have met with failure when I least expected it, and I have had the most satisfactory results from the most commonplace management. I have tried to cultivate this rose as standards and dwarfs in the open borders, and have also endeavoured to grow it on open walls in a good aspect, but have signally failed. Yet within a few miles of where I write this rose covers the front walls of a large residence, and flowers every year in the most profuse manner. The only satisfaction I have regarding the cultivation of Maréchal Niel in the open is that although many of my nearer neighbours have tried it in various forms and positions they do not meet with any more success than myself. I must, therefore, leave it for some one else to explain the great difference of the results obtained in outdoor culture. But I cannot leave the subject of outdoor culture of this rose without referring to the question of roots. Although I have not met with the success I should wish, I must say that better results have been obtained when the plants have been budded on the brier than when growing on their own roots.

With reference to the successful cases in other gardens I am quite satisfied that this rose requires a warm position for the roots, as well as for its branches. In other words, a rich border for the roots is not of so much consequence as a fairly dry and warm one. This statement is borne out by the fact that the variety may be seen thriving in the most satisfactory manner with its roots growing under the paving stones of a yard, and also under a gravel walk; and this was just my experience, and that of many others, thirty-five years ago in growing Cloth of Gold. This in every case thrived best in a naturally well-drained soil, and the roots quite revelled in the material provided for the drainage for a gravel walk. In one instance, I remember finding a network of roots beneath a walk paved with flagstones. This clearly shows that such delicate roses as Maréchal Niel and Cloth of Gold require a warmer medium for their roots than the majority of roses. With reference to the cultivation of Maréchal Niel under glass, it must be first said that it would occupy a large space to describe all the peculiarities in its behaviour that have been observed during the past twenty years. But I will refer to a few cases of failure, as well as to instances of success. To properly understand the case it is necessary to say that we have two large houses, both of which are partly devoted to roses. One is heated, and a temperature equal to that of a warm greenhouse is maintained; and the other is not heated. There is no difference in the behaviour of the plants in these two houses. We have in the unheated structure a plant occupying a snug, warm corner, where the soil was thoroughly well prepared, which has taken five years to attain a height of as many feet. Yet I have coaxed this plant all I could, and have every summer supplied it repeatedly with liquid manure. One season it had three surface dressings of Clay's Fertilizer, but the shoots did not extend more than a few inches beyond the growth made the first year. It produced plenty of leaves and a few flowers of ordinary size. A few weeks since I cut it down to within nine inches of the ground, the stem at this point being nearly two inches in circumference. To-day I noticed that it is breaking rather strong; but whether it will grow any higher after such rough treatment time alone will show. In the same house we have another plant of the same age, and also, like the first-mentioned, on its own roots. This has produced a shoot about thirty feet in length; while another plant, which occupied the same position for about three years previously, made shoots which in the aggregate amounted to more than two hundred feet in length. The last-mentioned started away at first with five branches, whereas the other has not had more than one leading shoot.

The difference in the behaviour of the two examples which now occupy positions in this house clearly settles a point that was much debated a few years ago. The question discussed was, Are there two varieties of Maréchal Niel in cultivation—one a dwarf grower and the other a rambler? I was amongst those who held that there must be two varieties, as I then had plants that could not be made to grow more than four or five feet high. The two examples of which I am now writing were obtained from cuttings from a plant that had, at the time I took the cuttings, an aggregate length of branches of one hundred and sixty feet. One of them, as I have just remarked, has only grown five feet high in as many years, while the other has grown more than thirty feet. This proves that we who founded our argument on the dwarf stature of some of the plants were in error. But how it is that two plants obtained at the same time, and treated in the same way, under exactly the same conditions, should behave in such a different manner, I must leave others to explain. I am very glad to have cleared up the point, for I certainly no longer believe in there being two varieties.

Referring now to the examples grown in the heated division, I am as unable to explain the difference in the behaviour of some of those which I have dealt with as in the other case. Some have been as slow to grow as others have been vigorous. There is a plant now carrying at least four hundred flowers and unexpanded buds. It was planted eight years ago; and to provide a place for its roots I had to take up three square paving tiles, and after removing about a bushel of earth and filling up the space with a good compost, I put in a young plant on its own roots and relaid the tiles. During the first six years it made several shoots, varying from ten feet to twenty feet in length, and then the old branches became very weak. To my surprise, last summer it suddenly started into life again. Long fat shoots were produced, about two feet from the ground; and they grew at such a rate that I had to clear out all the old wood to make room for the new branches. These shoots were trained under the roof in the usual way. This is my first experience of this rose renewing itself in this way; and, what is more remarkable, the plant is more vigorous than it was before. Where it obtains its food from I cannot tell; for, except the small quantity of soil it had at first, there is only a poor sandy soil for its roots to work in. Moreover, every foot of the floor is paved with red tiles; and if we lift one of the tiles there is a network of roots immediately below it and on the surface of the soil. Is not this plain that the roots like the warmth the tiles conduct to them? I cannot explain the extraordinary growth of this plant in any other way.

A young example planted last spring in a well prepared border in the same house produced two shoots, each about fifteen feet long. The first plant I put in this house, which lived about six years, made two shoots, each about ten feet in length. Consequently, if one puts out a plant there does not appear to be any certainty as to how it will grow. However, such is my experience of this popular rose.

It is quite proper to state here that I have tried this rose in both houses on its own roots, as well as on the Brier and the Mannetti. Its behaviour on the Brier is about the same as on its own roots; but with me on the Mannetti it has not been at all satisfactory. With regard to the border, I advise all to give this rose the best turfy loam at command. A border of one foot made with such soil will be of sufficient depth; and if it is three feet wide it will afford the roots plenty of room as long as the rose generally lives. When grown out-of-doors a warm position for the border is advisable.

SUMMER MANAGEMENT OF CHRYSANTHEMUMS.

By J. Mardlin, Finsbury Park, N.

The general stock of chrysanthemums grown for the decoration of the conservatory and the production of cut blooms for exhibition will be sufficiently advanced to be shifted into the pots in which they are to flower in the course of June. The exact date for the final repotting will depend upon the time they were struck and the progress made since receiving the previous shift. It is none too early to consider the matter, because compost and pots will be required for the purpose immediately the usual bedding out is completed, and the compost should be prepared at once and laid up ready for use when required.

In the first place, I would direct the special attention of inexperienced cultivators to the importance of having the pots perfectly clean both inside and outside when used. When the pots in which chrysanthemums were grown the previous year are used, it is a good plan to put them in a tank of water for a few hours, as they can then be washed more quickly and thoroughly than is otherwise possible. They can, in fact, be washed in at least half the time that is necessary when they are not soaked, and can moreover be made equal to new, provided, of course, they are sound. The drainage must be efficient, or it will be impossible to keep the plants in a healthy condition; and in arranging the crocks in the pot, place a large piece over the hole, concave side downwards, and smaller pieces round and over it. Cover the drainage with a layer of the roughest part of the compost. As the varieties vary in their requirements as to the size of pot in which they should be grown, two or three different sizes should be used; and it is a good plan to prepare the greater proportion of the pots required before commencing to shift the plants, and then the pots can be selected according to the requirements of the variety as the work proceeds. There is then no risk of delay in the shifting of any of the varieties being deferred until they have suffered from an insufficiency of root space. The best compost for the final shift is one consisting of turfy loam three parts, manure one part, a small portion of bone-dust; and if the loam is not friable, it will be advisable to add a little sifted ballast. This will help to keep the soil open, and thus facilitate the escape of the superfluous moisture, and enable the roots to run freely in it. It is necessary that the water applied to the plants should pass away quickly, as when it remains for any length of time on the surface it is a sign that the soil is not so open as it should be. The effects of this will be seen when the plants come into bloom, especially in the manner in which the flowers expand.

In shifting the plants put sufficient of the prepared compost in the bottom of the pot to prevent the ball of soil being so low that any considerable portion of the stem is buried. It will be necessary to turn the plants carefully out of the pots and to remove the crocks from the bottom and a small portion of the old soil from the surface, avoiding as far as possible any injury to the roots. The new soil must be pressed firmly all round the ball, and it is essential that it should be of the same degree of firmness all round, or the water will pass away more quickly on one side than the other. For pressing the soil a stout lath or a stake that has been slightly flattened will answer very well. The pots must not be filled too full, as space should be left for a liberal top-dressing of manure to be applied later on. This top dressing will serve a double purpose, for it will help to maintain a vigorous growth and prevent the surface drying quickly in hot weather.

It is not a good practice to plunge the pots during the summer, and none of the immense number of plants grown here are plunged. The plants should have stakes immediately they are potted, or as soon after as possible, and the pots ought to be placed on pieces of slate, as it can then be readily seen whether the water does not drain away so readily as it should do. To prevent injury to the plants from strong winds place them in rows, fix a stout post at each end, and then stretch a strong wire between them. If the row is of great length, one or two stakes should be inserted between the posts to keep the wire steady. The stakes to which the plants are trained must then be secured to the

wire, which will effectually prevent their being blown over or otherwise injured by the wind. It is advisable to arrange the rows to run north and south, as the plants then have a fair share of light on each side, and shade each other during the hottest part of the day. When the rows run east and west, one or two rows are well nigh burnt up, and the others do not receive sufficient sunlight. The plants should be about eighteen inches apart in the rows, and where there are several rows they should be three feet apart. This space will allow the air to circulate freely amongst them, and prevent any portion of the stock suffering from insufficiency of light. It will also enable those in charge to pass freely between the rows, and give the plants whatever attention they may require. This is the distance at which our plants are placed, and we find it answer very well. Where the collection is small the best course will be to arrange the plants in a single row, in a position convenient for tying and watering them. They may, for example, be placed alongside of a broad walk, or near the edge of a border, as they can then be attended to without going off the walk.

Correspondence.

LARGE *V.* SMALL VEGETABLES.

It has given me much pleasure to read the remarks of Mr. J. Cocker at page 188, and I must heartily congratulate him on his able defence of large vegetables. I have read the whole of the correspondence in the Magazine with interest, and I cannot help feeling that it is absurd for both "R. H. B." and "W." to claim a great superiority for small Brussels sprouts. The last mentioned of the two correspondents tells us that he planted the Brussels sprouts on a piece of poor dry ground, and that they produced small buttons which were of much finer flavour than large ones. This I consider very misleading; for if gardeners were to grow vegetables on poor dry ground they would probably not have any at all in unfavourable seasons. To advise the experienced cultivator is not necessary; but I would suggest to those who have had much experience in vegetable culture to grow the kinds which attain the largest size, provided they are of good quality. The vegetables to which I allude are cabbages, cauliflowers, beans, peas, carrots, onions, turnips, and parsnips. Those who do not want large examples of the several kinds can sow or plant closer together than is usually considered advisable; and if they do this there will be no danger of their vegetables being too large. Potatoes may also be planted comparatively close together when medium sized tubers are required. I hope the judges of vegetables who have read the several letters that have appeared will not be influenced by the views of those who see no merit in vegetables that have attained to their highest state of development, but will, in the discharge of their duties, proceed on much the same lines as in previous years.

Berners Gardens, Heafield. G. S.

THE NATIONAL AURICULA SOCIETY'S (SOUTHERN SECTION) SHOW ON APRIL 20th.

I fear that owing to the prolonged wintry weather that reached far on into March, added to the retarding weather now that spring has come, there will of necessity be but a small display of auriculas on the above date. In the north the flowers are all greatly in arrear in regard to opening; and the Rev. F. D. Horner, writing nearly a month ago, said that unless the weather should become highly favourable, he should scarcely have an auricula in flower by the 20th of April. It is marvellous what rapid progress the flowers will make when the weather is favourable, but during the last fortnight the weather has by no means been of a character that hastened the development of the flowers, and even with the aid of artificial heat they expand very slowly. At the Royal Nursery, Slough, Mr. Turner has this season kept his plants all the autumn and winter under glass, but instead of in pits as heretofore, in a long and rather low span-roofed house, with a level stage on both sides, and a passage down the middle. On one side are the show varieties; on the other the alpines. This house is warmed by means of a flow and return hot-water pipe, and for some time past during dull cold weather a little fire heat has been applied day and night. Here, under what appears to be the most favourable circumstances, the flowers are in respect of expansiveness much behind what they were last year; and, taking those most advanced, it could be seen that they have a great deal of lee way to make up in order to be up to show form by the 20th.

Every auricula grower prefers an early to a late bloom; the flowers are invariably in much better character, while a late bloom is often unsatisfactory. Early flowers are often more durable than late ones. After the end of April the weather sometimes becomes very warm, and the colours run and become clouded, and the blossoms fade quickly.

It was noticeable that among the more forward of the Slough flowers were such late varieties as George Lightbody and Lancashire Hero. There are a few plants of the former carrying grand trusses of nine or ten pips each, and should the pips come out fully, these will entirely vindicate the right on the 20th to term George Lightbody one of the finest auriculas in cultivation; and it did also seem noticeable that while some reputed late sorts were in the foremost rank as early flowerers, some hitherto regarded as early are unusually tardy in blooming.

The following varieties were among the forwardest. Selfs: Clipper, a good stock flower, with a well-formed stout pip, in handsome trusses; Sims' Eliza, C. J. Perry, Lord of Lerne, well advanced in bloom; Lord Clyde, Mrs. Sturrock; Pizarro, one of the best stock varieties; Topsy, Mrs. Smith, Vulcan, Spalding's Bessy Bell, and Sarah. Grey Edges: George Lightbody, Lancashire Hero, Duke of Cambridge, John Waterson, Peveril of the Peak, Dr. Horner, Atlas; Confidence, a good useful grey, but inclined to coarseness when strongly grown; Alexander Meiklejohn, Colonel Champneys, and old Conqueror of Europe, still a good useful sort. White Edges: Traill's Beauty, Ne plus ultra (Smith), Acme (some very fine trusses of this charming variety are opening), and Duke of Albany, a Slough seedling not yet sent out. Not a single Green Edge showed signs of being up to time on the 20th.

The Alpine varieties are a little later than the show varieties, but there will be a very fine display a fortnight hence, including many highly promising seedlings. But the following are already in good character: Evening Star; Mariner, with very large and striking pips; Mrs. Thomson, a very fine bright crimson variety, with rich golden paste; Garnet, a very fine new variety not yet distributed; Mrs. Llewelyn, a beautiful violet shaded flower; Queen Victoria, George Lightbody, and Neatness, three varieties, with creamy or sulphur centres; and Mungo McGeorge, another splendid new variety, exquisitely shaded, and one of the best exhibition flowers in cultivation.

Alas, for my own collection! I am afraid I shall not have a single truss sufficiently advanced to exhibit on the 20th. From Christmas up to the middle of March my plants (being wintered in a north house) were many times frozen hard in the interval. A few alpines will be in shape, but not more than five or six. I had hoped to be able to show a collection of double auriculas at the Primula Conference, but they will not be in flower until the first week in May. I am sorry for this, as they would have proved an interesting feature in the occasion of such a representation of the hardy primulas.

R. Dean.

Literature.

Library of English Literature.—By Henry Morley, LL.D. (Cassell).—Part 39 of this valuable work completes the second volume and opens the third. We are now invited to the study of a number of important "longer works in verse and prose," and the new volume leads off with a history and analysis of the most ancient English poem of Beowulf to which attention has been in various ways directed of late years. Professor Morley treats this great subject in a masterly manner, as one who can not only master it for himself, but clearly expound it for others:

Cassell's Popular Gardening is now completed, in 24 parts, forming four handsome volumes. The part just published contains general index, title page, &c., &c.

Familiar Garden Flowers for April contains the hyacinth, and that excellent greenhouse and window plant, Cytisus racemosus.

The Heart of Midlothian being now completed in Ward and Lock's superb "selected edition" of the Waverley novels, it is announced that *Quentin Durward* will follow. It is possible this fine work will have new interest in connection with social scenes and political movements characteristic of the present time.

From Messrs. Ward and Lock we have received continuing parts of *Plutarch's Lives*, *Beeton's Garden Management*, *Universal Instructor*, *Works of Josephus*, *Popular Histories*, *Library of National Information*, *Amateur Work*, and *Sylvia's Home Journal*.

The Fireside, a light but wholesome monthly, adapted for young people; *Home Words* and *Day of Days*, which are in a proper sense of the term children's books, are published at 7, Paternoster Square. They are all under the management of the Rev. Charles Bullock.

Landlords and Allotments. By the Earl of Onslow. (Longmans.)—In this neat brochure the Earl of Onslow, assisted by Mr. T. Hall Hall, M.A., of Lincoln's Inn, places before the public a body of facts illustrative of current questions and practical proposals. In the preface he says: "The result arrived at from a careful consideration of the facts is that on every well-managed estate allotments exist, at rents that are only higher than adjoining farm land by reason of the outgoings having to be borne by the landowner, or because, if devoted to other than agricultural purposes, they would command a higher rent." The people in the cities, who are immensely powerful at the polls, are greatly in need of trustworthy information on the subject; and this is an honest, though necessarily partial contribution of facts.

TRADE CATALOGUES.

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D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. tmp avrg. of 40 yrs. Chiswick.	Orchids in Flower.	Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.		1886
25	S	**Easter Sunday.**	4 47	2 9	7 11	0 57	10 2	6 9	6 33	3 12	3 34	49·6	Calanthe veratrifolia ..... East Indies.	115
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27	Tu	Cambridge Easter Term begins.	4 43	2 29	7 14	2 5	After.	7 58	8 34	5 52	5 23	49·8	Cypripedium superbiens ..... Java.	117
28	W	Oxford Easter Term begins.	4 41	2 38	7 16	2 33	1 4	9 13	9 54	5 59	6 38	50·1	Dendrobium Jamesianum ..... Moulmein.	118
29	Th	Alexander II. born, 1818.	4 39	2 47	7 17	2 58	2 7	10 32	11 4	7 19	7 57	50·4	Epidendrum cinnabarinum ... South America.	119
30	F	London University founded, 1827.	4 37	2 55	7 19	3 21	3 11	11 33	—	8 29	8 58	50·7	Odontoglossum triumphans... Ocaña.	120
		MAY.												
1	S	Prince Arthur born, 1850.	4 35	3 3	7 21	3 46	4 19	Midnt.	0 23	9 25	9 43	50·1	Phalænopsis Schilleriana ..... Manilla.	121

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS; Fruit and Floral, at Eleven a.m., in the Conservatory; Scientific at One p.m., in the Lindley Library, on TUESDAY next, APRIL 27.
FOURTH PROMENADE SHOW and Small Band of the Royal Horse Guards, from Half-past Three o'clock p.m. Admission 2s. 6d.
N.B.—Entrance for Fellows and the Public, North-east Orchard House, Exhibition Road; and Exhibitors' Entrance East side of Royal Albert Hall.

ROYAL AQUARIUM, WESTMINSTER.
Owing to the extension of the time for holding the Exhibition of the Kennel Club in June next, the ROSE SHOW announced for June 25 and 26 is unavoidably withdrawn; and the Strawberry Show and Fête is postponed from July 2 and 3 to July 9 and 10.
Ealing, W. RICHARD DEAN, Superintendent of Exhibitions.

NATIONAL CHRYSANTHEMUM SOCIETY.
ROYAL AQUARIUM, WESTMINSTER.
EXHIBITIONS: SEPT. 9 and 10, NOV. 10 and 11, and JAN. 12 and 13.
Schedules now ready, and may be had on application to Mr. WILLIAM HOLMES, Hon. Sec., Framptou Park Nurseries, Hackney.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, APRIL 27.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.
TUESDAY, APRIL 27.—MANCHESTER ROYAL BOTANICAL AND HORTICULTURAL SOCIETY.—Spring Exhibition.

Auction Sales for the Ensuing Week.

WEDNESDAY, APRIL 28.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Carnations, Roses, Greenhouse Plants, &c.
WEDNESDAY AND THURSDAY, APRIL 28 AND 29.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.
FRIDAY, APRIL 30.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C., to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.
Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.
ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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The Gardeners' Magazine.

SATURDAY, APRIL 24, 1886.

PRIMULAS have been variously displayed and discoursed upon in the past week; but we feel bound to say they have received no more attention than they are fully entitled to for their beauty, or because of the biological problems they suggest and illustrate. We will leave Peter Bell and his view of the subject, to contemplate the larger pleasure of the lover of a garden who grows many kinds of primulas and speculates on their origin and their mutual relationships. To live in the midst of such plants and cease from curiosity would be to join hands with the luckless hero above named; for when the group of genuine mountain primroses is presented their endless and indefinable gradations take us captive, and we may be allowed to forget their exquisite beauty in the endeavour to picture the looks they bore immediately after the Third Day of Creation. But their beauty is the matter of first importance; for we should never have had such a heap of primulaceous literature as perplexes many of us unless their flowers had first secured our admiration and then sent us spinning in the misty region where all the talk is about the beginnings of things. It is the beauty of the primulas that attracts attention; that stimulates the botanist to attempt a classification; impels the gardener to attempt improvement; inspires the poet to sing their praises; furnishes the leader writer with a happy and perhaps an easy subject; and, above all things, gives life to a Primula Conference! There may be unattractive flowers equally and even more worthy of the attention of scientists; but if those troublesome people who are always asking "why?" "when?" and "where?" desire the world at large to recognize their endeavours, they must bestow their serious labours on joyous subjects, and this time they have had the good luck to be dallying with primroses. If, as Lord Bacon said, "the true end of science is to enrich human life with useful arts and inventions," something to the general advantge should result from the meeting of the non-political Primrose League at South Kensington. There is, indeed, something gained in the demonstration of the florists—who really lead the way, compelling the botanists to follow, and having always the best appeal to the sympathies of the world at large. Had the florists but left the auricula alone, as not a few respectable persons wish they had, there would have been wanting what we may call the corner-stone of the temple reared on Tuesday and Wednesday last, and a very tame affair the Conference would have been. Did we say "would have been"? If the florists had not "improved" primroses, polyanthuses, auriculas, and the rest, we may safely say the Conference would not have been; for there would have been nothing to discuss: it is the meddling of man that kindles in us an abiding interest in the ways of nature. But of all the throng that shared in the delights of the æsthetic part of the entertainment, we suspect the enjoyment of the scientific men was far more keen and complete than that of the mere admirers of floral beauty. To them the variations of a flower that has but one petal, and a narrow range of colours, and a certain fixity of self-colouring until touched by the hand of man, with all the mysteries of the "thrum" and the "pin" that are in the very core of a florist's religion, had attractions altogether special, peculiar, and by no means limited in time to the few hours of the demonstration. There was food for the meditation of years in the matters of purely scientific interest; and it needs not be said that the beauty of the display made on many deep and lasting impressions.

"We have seen all this before," some shallow folks will say. And others will say that the botanists are quite familiar with the flowers of the florists, and the affair was not of much account to them. As regards the display, it was certainly such as we have no record of, and we will venture to say is altogether without precedent or parallel. As regards the botanists, it is no secret that they are comparatively unfamiliar with florists' flowers, and that, in part, accounts for their profession of dislike for them. It is not given to any man to know everything; nor is it possible for one school to do its own work well and at the same time take full cognizance of the operations of another. The botanists, generally speaking, and the cultivators of natural types, as of interest apart from florists' varieties, are by common consent and by the force of tradition wedded to the heresy that the florists necessarily spoil every flower they touch; for they do certainly persuade their pets to alter their complexions and characters from such as they had in their native wilds. No man in our time, probably, has either felt more deeply or expressed more forcibly a horror of florists' flowers than the late Dr. Lindley. Another, and a greater man, who has displayed a singular mastery of the relationships of organic forms, the late Charles Darwin, cherished a certain affection for these same flowers because of the aid they afford in the study of heredity and hybridity; and he wisely took the florists into his confidence and put them to kindly question on the lessons their art had taught them as to the range and sequence of variation. It is admitted—occasionally, perhaps, on very slender grounds—that many of the alpine primroses that rank as species are natural hybrids; but no one has ventured to make a guess of the time that has elapsed since the vagrant pollen went on its marrying expedition to an alien tribe: no one knows how long the supposed natural hybrids have been in existence. On the other hand, we behold an auricula that differs more from the wild flower from which it is believed it originated by greater degrees than any natural hybrids differ from their parent species; and the element of time comes into the reckoning, not as a speculation, but the certainty of an authentic record. It cannot be proved that the edged auricula dates from 1730, but it may be said that a mountain of evidence tends that way; while as to the actual origin of a large proportion

of the florists' flowers, the whole story is known; and as regards the element of time, there is no ambiguity. But up to a certain point the chronology of the wild flowers is also definitely known; for their names and histories, however incomplete, prove them to be older than the florists' flowers, and it is scarcely a stretch of fancy to say that some of the reputed natural hybrids have been in existence thousands of years.

Now at this point we encounter a fact that may be regarded as the very soul and centre of the Primula Conference. We see that, as regards the promotion of variation, the power of man is apparently immensely superior to the powers of nature. We say "apparently," for we can but judge by what we see; and as man's work is of yesterday as compared with the illimitable ages through which nature has carried on her operations, what we know is equally limited with what we see. Say that the edged auriculas date from 1730, and that the race is now but 150 years of age, what then? Well, in the first instance it appears that, as it were in a moment, in the twinkling of an eye, man has completely transformed this flower: he has obtained a wide range of colours from the primary yellow; he has augmented the quantity of the protective meal; he has disposed the several colours in severe geometrical order; and he has arranged for a display of the green hue which is generally regarded as a blemish to a flower in such a way as to make it in this particular case the final touch of perfect beauty.

It must be acknowledged that the results are wonderful, even if we take no note of the time. But if we look upon these flowers as the collective product of only a century and a-half, it becomes difficult to believe the demonstrated facts. And yet it remains to be said that the whole of this story of transformation belongs to the region of the commonplace; for since men learned to modify vegetable forms by direct appeals to the visible agencies of change, they have wrought with various and often extensive success, our gardens testifying therein to the happy applicability of Bacon's apophthegm. So far-reaching is this work that we can scarcely eat a meal without being indebted to it. But in a comparison of effects, the most surprising instances certainly do not come within the category of things regarded as useful. The meal of an auricula, however dense, is not much use to a hungry man; but the work of the hybridist cannot be judged by any general standard—it is only when we enter into particulars that its wide range and rapidity can be in some degree apprehended. It is a happy circumstance that the botanists and men of science generally are disposed to come out of the dry shells they have so vainly regarded as temples of truth and altars of beauty to see what the cultivator of plants is doing—how far his operations may tend to the explanation of the problems they are themselves most deeply interested in. The pre-Darwinites cursed the florists for spoiling the types; the post-Darwinites bless them for so doing. The first would have preferred to ignore possibilities; the last have learned to embrace them. The botanists and the florists appear to have effected a happy alliance and interchange of sympathies at the Primula Conference, and probably both parties are by this time satisfied that whatever engages the earnest thoughts and labours of men must be worthy the attention of true philosophers. The flowers that man has fashioned so speedily and so wonderfully to suit his own taste may be of no value in the general scheme of nature, and probably would soon pass out of existence if for any length of time neglected by man. But the fact that he has produced them is of profound importance, if only as suggesting the method of nature's work through longer time for different ends, and with a view to results self-sustaining and enduring.

Scottish Pansy Society.—Annual exhibition in the Odd Fellows' Hall, Edinburgh, June 18.

York Chrysanthemum Show will be held November 17, 18, and 19.

Pudsey Chrysanthemum Society.—Annual exhibition, November 20.

Tadcaster Chrysanthemum Society.—Annual exhibition, December 1.

A great consignment of fruit from South Australia has arrived in London for the Indian and Colonial exhibition. It consists of apples, pears, grapes, quinces, oranges, lemons, melons, pomegranates, filberts, almonds, currants, and raisins.

Progress of British Possessions in the last quarter of a century is a seasonable subject for literary treatment. Mr. P. L. Simmonds contributes a paper on the commercial view of the case in *Journal of the Society of Arts*, April 16.

Orchid Market.—The sale of orchids in flower at Stevens's rooms on the 14th included several lots of great importance, those of special interest being as follows: Mr. Knox's variety of Odontoglossum Pescatorei, 165 guineas; O. Alexandræ, a pure white variety with large circular flowers, 14 guineas; O. Alexandræ, a superb variety, with large pure white flowers, the petals blotched with crimson, 17½ guineas; Cymbidium Lowianum, with nine growths, 41 guineas; and Lycaste Skinneri alba, with thirteen pseudo bulbs and three growths, 29 guineas.

"Flowers, Fruits, and Vegetables" is the title of a delightful series of essays by Sir John Lubbock, Bart., F.R.S., lately added to Macmillan and Co.'s "Nature Series."

Watering Dairy Stock.—Experiments made at the French Agricultural School at St. Rémy (Haute-Saone), and also at the Parc Tête d'Or, at Lyons, during the past winter are stated to have proved that the supply of milk can be increased in volume to the extent of one-third by supplying the cows with water of a temperature of 45 degs. Cent. (113 degs. Fahr.) instead of allowing them to depend on ice-cold water. This may, or may not, illustrate the subject of the temperature of water for plants. In any case it agrees with the common sense view of the horticultural question.

Red Apples Best Liked.—The *American Bookmaker* thus discourses on headings of articles in newspapers: "A few days ago a paragraph appeared in five morning dailies about the exportation of apples to England, red ones having the preference, was headed substantially alike. The importation was not alluded to by the editors, but they said—'Rosy-Cheeked Apples liked by Englishmen'; 'Red Apples Best Liked'; 'Rosy-Cheeked Apples given the Preference,' and so on. The novelty in the paragraph is what the head contains, but not its information. . . . So great is the importance attached to heads of this kind that the Chicago *Times* keeps a man for no other purpose than to enrich them and make them astonishing."

Land Allotments.—A circular has been addressed to the overseers of the poor throughout England and Wales by the Board of Inland Revenue, at the request of the Lords of the Committee of Council for Agriculture, with the object of ascertaining the extent to which the practice of letting land in small allotments prevails in England and Wales, and to satisfy the wishes of those interested in the question. Returns are called for showing the number of agricultural holdings both of arable and pasture land not exceeding four acres, occupied as allotments or field gardens, also of all garden allotments of and exceeding one-eighth of an acre attached to cottages held by working men, irrespective of railway servants, concerning whom the railway companies have consented to furnish full particulars. The heads of information in the form of return are: Number of labourers having ground for potatoes; labourers having cow runs from farmers, distinguishing those having a general run for a cow and those having a definite quantity of land, showing in the latter case the total acreage; also all allotments detached from cottages, specifying area, from one-eighth of an acre to four acres, whether arable or pasture or both, the rent and tenure, and distance from cottage; and finally, the garden allotments attached to cottages held by labourers and working men, with the rent and tenure. A hope is expressed that the return may be prepared without delay and with the care and attention demanded by such an important addition to the national statistics.

Royal Gardens, Kew, will probably be visited by many holiday-making folks, weather permitting, and they will find that care has been taken to ensure for them the best delights of gardens that belong more properly to science than to popular recreation. The old rule as to smoking has been generously modified, and the only restriction that remains is as regards museums and plant houses, wherein, of course, smoking would be highly objectionable. Otherwise, from gate to gate, at this end or that, smoking is permitted, and the worthy director himself may be seen occasionally setting an example in the way of perfuming the breeze. The Greenhouses are now very gay with colour; the queen of the lilies may be described as enjoying her tub, for *Victoria regia* has made half-a-dozen leaves, and looks as though it meant to flower a little earlier than usual. In the Succulent House the noble *Doryanthes Palmeri* is in flower, and near by the splendid scarlet flowers of *Bomarea palococensis* appear depending from the rafter. The flowering ivy, too, in the same house shows its yellow flowers, and thus declares itself not a hedera but a senecio. The Palm House is in a sort of everyday condition; it presents no special feature of attraction, unless it be a few cherries on the coffee trees in the centre of the house, and the great cones on the cycads at the southern end, where there is a magnificent group of those noble plants. The Temperate House is gay with camellias, rhododendrons, and acacias; but the glory of this house is seen more particularly in the giant aurucarias that frown upon the central walk through, and by their free growth and natural character acquire a scenic power of the greatest value. There are not many flowers in the open ground; the herbaceous garden is decidedly dull; the hyacinths in the dressed grounds are pretty well past, and few of the outdoor rhododendrons are in colour. But the rich variety of tree leafage is at the present time peculiarly pleasing, for against the deep green of the conifers we see the tender green of newly expanding leaves of the deciduous trees; and every lover of good things who visits Kew may be advised to look for *Prunus triloba* on the old wall near the Laboratory, for it is showing a few of its delicious flowers, and a few days of genial weather will cause it to glow with colour.

HARDINESS OF CARNATIONS.

With reference to the communication of a correspondent in a recent issue, in which it is stated that the past winter had been most destructive to carnations, I would like to say that all my layers of these flowers left in the ground have perished. Having sown some carnation seed too late for last season's flowering, the young plants, which filled three large pans, were left under a wall with a north aspect. They have not received any attention whatever, and have been subject to the injurious effects of perpendicular drip. They have also been frequently deep in the snow, and are now vigorous and healthy. In clever hands they would, I believe, bloom in July. Sussex.

HOME-GROWN TOBACCO.

By W. Bradbury.

At the present time, when the cultivation of tobacco in the United Kingdom is engaging the attention of those who are directly interested in rural industries a few particulars of the way in which it can be carried out with a fair measure of success will probably be useful to some of your readers. I shall not engage in any speculation as to whether the tobacco crop will prove a profitable one or not to the agriculturist; because that is a matter which can alone be satisfactorily determined by actual experiment on a rather large scale. But I am not inclined to think that tobacco culture will contribute much to the restoration of the prosperity of those engaged in agricultural pursuits.

It is a most exhausting crop, necessitating a heavy outlay in maintaining the fertility of the soil in which it is grown; and our seasons are not particularly favourable to the harvesting of the leaves in a condition suitable for the manufacture of really good cigars and tobacco. The summers are not, perhaps, hot enough; but there is no difficulty whatever in obtaining a robust growth and the full development of the leaves. But they are, perhaps, hardly long enough for the leaves to attain a proper age. In seasons when the weather becomes wet and cold at the end of the summer, as was the case last year, the leaves become so soft and highly charged with sap as to render it a rather difficult matter to dry them in a satisfactory manner, even when they are not required for any higher purpose than the destruction of aphides and other pests that prey on plants grown under glass. I am able to speak with some degree of confidence on this point, for I have grown an annual crop for upwards of twenty years past, and have achieved a degree of success; if not in every instance so satisfactory as could be desired, it has been considerably higher than that of which my neighbours can boast. We do not, of course, grow tobacco for the manufacture of either cigars or tobacco; but for the fumigating of plant and fruit houses, of which we have a large number, and for this purpose find it is very useful. When we exclusively employed manufactured tobacco and tobacco paper for fumigating purposes, the cost of the materials formed a rather large item in the garden expenditure each year. But by using a rather liberal proportion of home-grown tobacco in conjunction with the manufactured articles a considerable saving is annually effected. In expressing my doubts as to tobacco culture proving profitable in this country I must not be understood to be desirous of discouraging it. On the contrary, I consider it a very proper subject for experiment; and no one not actually engaged in the work would rejoice more heartily than myself at its proving thoroughly successful.

One of the first points to be considered in commencing the cultivation of tobacco, whether for the purpose of experiment to determine its profitableness or otherwise as a field crop, or for the supply of materials for fumigating, is the selection of kinds. There are at the present time about six kinds of tobacco obtainable in this country from the general body of seedsmen, and of these the two best for economic purposes are the Virginian and the Havana. These both attain a height ranging from six to eight feet, according to the character of the soil, and have leaves of medium size. For two or three years we grew a few plants of the stately Nicotiana macrophylla gigantea, which is the best of all the ornamental kinds; but the leaves, which were very difficult to dry satisfactorily, were not of so good a quality as those of the other kinds. We have accordingly discontinued its cultivation. To grow tobacco with success a rather rich soil is necessary, and the quarter to be devoted to the crop should receive a liberal dressing of farmyard manure or some other suitable fertilizer a short time before the plants are put out. It is a very good practice to trench the soil to a depth of two feet in the autumn, and leave it rough on the surface throughout the winter; then in the spring to apply a liberal dressing of manure, and fork it in to the depth of about twelve inches. In all cases where the preparations are wholly deferred until within a short time of the quarter being planted, the ground should be simply manured, and then be dug over to the usual depth, as trenching in spring would do more harm than good.

To raise a stock of tobacco plants is a very easy matter if they are treated as half-hardy annuals. The seed should be sown in pans or boxes, some time during March or early in April, and be placed in a vinery, forcing-pit, or other structure, in which a temperature of about 70 deg. is maintained. When the seedlings are of a convenient size for handling, and before they suffer from overcrowding, they should be put singly in large sixties. Moderately strong plants can be obtained by pricking them off into deep pans, at a distance of three inches apart, but there is very little gain in the matter of labour, and the plants in pots are invariably the best. It is essential to have them in a thrifty condition when they are put out at the end of May, and to avoid them receiving any severe check, as the summer is none too long for the completion of the growth. Both these conditions can be the most readily complied with by growing the plants singly, and using a rich soil. They very quickly become established in the pots or pans, if they are screened from bright sunlight, and sprinkled with water once or twice a-day; and when it is seen that they are beginning to grow freely remove to cooler quarters, and in due course gradully harden off. Planting out should be done at the end of May, and the plants be put about three feet apart, in rows with a four or five feet space between them. They will probably require one or two waterings after they are put out. But when they are nicely established the only attention necessary will be to put a moderately stout stake to each, to prevent the wind blowing them about.

The harvesting of the leaves is commenced early in September, and completed before frosty weather is experienced, as a light frost is sufficient to cut the plants down. As the leaves are stripped from the stems they are spread out on the floor and shelves of sheds and fruit houses from which the crops have been gathered, and remain until they are rather dry. It is necessary to handle the leaves rather carefully, because if they are much bruised they rot, and are rendered of but little value, if not quite worthless. They require to be turned over two or three times to ensure their being equally dried on both sides. After they have become moderately dry, they are gathered up and laid on the shelves three or four leaves in thickness, and remain for about a fortnight, turning them once during the time. At the end of this period we put them into open baskets such as are used for packing nursery stock, and form a layer from twelve to fifteen inches in thickness. The leaves must be carefully examined when they have been in the basket a week, to see whether they are so dry that they can remain without any danger of their rotting. If it is found that they are rather too moist for safe keeping it will be advisable to spread them out again for a short time. Drying the leaves is not a difficult matter after a little practice. Those engaged in the work will do well to bear in mind that if the leaves remain spread out until they are quite dry they will become so brittle that they will crumble to pieces when handled, and be of very little value for fumigating purposes. On the other hand, if stored before they are sufficiently dry they will decay, and be thus rendered worthless. To state the case in a few words, the drying process must be proceeded with slowly and the leaves be quite dry when stored for the winter. We pack them in old boxes or casks for the winter and keep in a dry shed.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 12.

Sorts grown now and in the past—The Prince Albert grape—The bulk of the crop Black Hamburghs—Vine Borders—Vines are thirsty subjects—Heated and Unheated Vineries.

Since the introduction of vineries into the Channel Islands, many sorts of grapes have been tried, and with varying success. At first the list included *Black Hamburgh, West's St. Peter's, Gibraltar, Frontignan*, &c.; and of white varieties, *Chasselas, Sweet Water*, and *Royal Muscadine*. The *Muscat of Alexandria* and *White Syrian* are also mentioned; this latter grape producing, it is stated, bunches measuring two feet in length and six inches across the shoulders. The *Black Prince* was brought in later on, and produced good crops last season.

For a few years following the *Black Damascus* gave much satisfaction. But prior to this "*Prune d'Hiver*" had become a great favourite. This grape, which came from the South of France, was brought into bearing as an experiment by a Guernsey gentleman, and at the end of eight or nine years produced a crop of noble bunches, the berries being so large that they measured four and a-half inches in circumference, besides being of a good black colour. "From this circumstance," says Mr. Crowaz, "it was naturally considered a prolific bearer, and the young vines were readily sold at twenty shillings each."* Ultimately, however, it proved a very shy bearer, and was soon little heard of.

The more recent introductions have been *Josling's St. Albans*, which was at one time in great demand; *Golden Hamburgh, Muscat Hamburgh, Lady Downe's Seedling, Mrs. Pince's Muscat, Meredith's Royal, Black Alicante*, and the *Barbarossa*, another much extolled and much grown variety that was subsequently discarded, but which is said to be again making its appearance in some of the Guernsey vineries.

The varieties which have stood the test of time or have proved the most suitable sorts for the islanders, and are now generally grown, are *Black Hamburgh, Black Alicante, Gros Colmar*, and *Muscat of Alexandria*. The *Black Muscat Hamburgh* is a good marketable sort of an exquisite Muscat flavour, that is grown by some as requiring less heat than the *Muscat of Alexandria*. The Black Hamburgh is largely grown in both islands, and greatly preponderates over other sorts. The first cuttings of this sort that were brought into Guernsey were procured from the vine at Hampton Court, and planted in the island about the commencement of the present century. This sort produces firm fruit, with fairly thick skins, and is well suited for export. Of the Black Alicante, an informant, who is a skilful grower, remarked that it will hang in prime condition much longer, and can consequently be sent to London or other markets at more remunerative prices, than the average of Black Hamburghs. He was inclined to believe that it would in time become an important rival of the Black Hamburgh, if it has not indeed already become so. Exporters tell us that the markets are sometimes glutted with the former variety, and as innumerable greenhouses are springing up in all directions, the cultivation of the Black Alicante is worthy of great consideration.

We do not intend, in this place, to enter on the much-discussed subject of vine borders. A diversity of opinions is held as to the proper and most suitable preparation of the soil for vine culture, but it does not appear that in the multitude of experiments any one admittedly superior mode of culture has been discovered. The wonderful vine at Hampton Court, and the still more remarkable vine which once astonished visitors to the Cumberland Lodge, near Windsor, may be cited as instances where vines have displayed a marvellously vigorous growth without receiving any assistance from those compounds of substances such as many writers insist are so essential to the successful treatment of this subject. Several grape growers with whom we spoke in Jersey and Guernsey enlarged on the necessity of a special and elaborate preparation of the vine border and of the regular application of particular manures during the subsequent stages of the

*Six bunches of this crop, weighing together 24 lb., were forwarded to Windsor Castle for Queen Victoria's acceptance on Prince Albert's birthday, and in acknowledging the receipt of the same her Majesty expressed a wish that the vine should be named the Royal Albert.

growth of the vine; but other growers, who looked upon these peculiar methods as "mere fads," had certainly succeeded in producing equally good results.

It is undoubtedly the safest plan, and the plan usually adopted by careful growers, to make a thorough examination of the subsoil of the vine border, and to make good any radical deficiency in the nature of the soil. If the subsoil is of a very stiff, clayey character, sand and ashes are added; if gravelly, nothing is done beyond adding a portion of lime rubbish, as there is no lime in the soil of Guernsey. For establishing young vines there is no compost superior to the rich virgin loam with which the islands abound; and for the after treatment a plentiful mulching with good stable manure or seaweed and an abundant supply of water in dry, hot weather. The vine is, indeed, a thirsty subject, each vine requiring something like twenty gallons of water a week. In Mr. Bashford's vineries, during summer, a number of men, assisted by a large horizontal steam engine, are constantly occupied assuaging this deep thirst, Over 100 tons of water a day are consumed in this manner by this one grower.

Mr. Bashford has, so far, laid down about ten miles of hot water piping for the purpose of heating his graperies, and other growers in both islands are actively extending their heating arrangements. Many of the small farmers and cottagers, too, are indulging in the luxury of a heated vine house. Probably the number of hothouses is now equal to the houses not heated. In artificially heated houses the vines remain in bearing generally for twenty years; in unheated houses they will last for fully twice that number of years. The grapes in the former houses come into bearing about the early part of May and are over by the end of August; the unforced grapes are ready in July and finish by the end of September.

house are some very fine forms of Phalænopsis grandiflora in flower, the variety aurea, and others; also P. amabilis Dayana, which is certainly the best form of the species. Of course, the collection contains P. Sanderiana, P. Stuartiana, P. Schilleriana, and other species and varieties. The next, also a low span-roof, contains a healthy group of orchids, and amongst others are some fine Bolleas, notably B. Lalindei. This is a very interesting and beautiful genus of orchids, which many cultivators have not yet succeeded in growing to a high state of perfection. Cypripedium selligerum was also doing well here; it is a distinct, handsome, and easily grown hybrid. There is a Major variety, which is much more beautiful than the ordinary form. Cœlogyne Massangeana appears to revel in the temperature of this house, for the young growths were being produced with great freedom. This is a truly handsome basket orchid, the long pendulous racemes, with their distinct and showy flowers, have a striking effect.

The next two houses, which are of similar size and construction, contain Masdevallias, which seem to receive the right treatment, as they are growing with great freedom. Besides the masdevallias, there are also doing well Oncidium macranthum and Odontoglossum Edwardi. These two last succeed well together; they require a moist, cool atmosphere; and, as regards watering, we never think they are right unless the sphagnum moss is in full growth on the surface of the pots. The other houses are in course of construction, and an old lean-to of considerable size is crowded with orchids, and they are doing well, as they generally do in old tumble-down places, where plenty of air can filter between the laps of the glass. Some of the orchids are as yet unknown; others, such as Cypripedium Wallisi, are worth ten times their weight in gold. For my part, I thought this not only the best cypripedium, but the best and most striking orchid exhibited at the Orchid Conference in May last. At present it is scarce, but if it is not to be found in its native habitat in plenty the purchase of plants of it will be a good investment, even at their present high price. J. D.

PRIMULA PUBESCENS.

Calls at Nurseries.

MESSRS. F. SANDER AND CO.'S ORCHIDS.

If you can conveniently afford the space, I should like to supplement my previous notes on Messrs. F. Sander and Co.'s nurseries at St. Albans with a few particulars of the orchids in the structures contiguous to the business premises of the firm in the town. In the first place I would state that several compact and suitably arranged span-roof houses are being erected at the rear of the seed-shop and the residence of Mr. Sander, and that four are completed and already stocked.

One house contained at the time of my visit many seedling cypripediums raised in the establishment, but not yet large enough to flower. The best English-raised hybrids are also amongst them, a few large, healthy specimens of Cypripedium grande, one of the best of all the hybrids, except perhaps the magnificent hybrid C. Morganiæ, which is also here. This is certainly the most distinct and beautiful of all the Veitchian lady-slippers. In the same

New Plants, Flowers, and Fruits.

Echium candicans (*Bot. Mag.*, 6,868).—A noble species of shrubby habit; native of Madeira and the Canary Islands. The flowers blue.

Iris Bartoni (*B. M.*, 6,869).—A fine plant, allied to the German iris; native of Afghanistan; the flowers creamy white and greenish yellow.

Caccinia glauca (*B. M.*, 6,870).—A singular boragewort of robust habit; native of Persia; the leaves large, entire, pale green; the flowers striped blue and pink.

Eomecon chionantha (*B. M.*, 6,871).—An extremely beautiful papaveraceous plant, with the habit of an anemone; the flowers white, with a yellow centre, formed of crowded stamens.

Vaccinium mortinia (*B. M.*, 6,872).—A pretty half-hardy shrub from the Andes of Ecuador; the leaves small, the flowers bright pink.

Odontoglossum cordatum Kienastianum (*Gard. Chron.* 1886, 456).—Remarkable for the few broad blotches on the sepals and petals.

Lissochilus dilectus (*G. C.* 1886, 456).—An interesting orchid; native of Angola and the Valley of the Congo.

Oncidium Lanceanum (*Garden*, 539).—An effective and truthful portrait.

ORIGIN AND HISTORY OF THE FLORISTS' AURICULA.

By Shirley Hibberd. Read at the Primula Conference, April 21, 1886.

In treating the origin and history of the Florists' auricula, in the interest of the Primula Congress, it is a matter of plain propriety to remark that I discoursed on the same subject in this place on the 25th of April, 1882, and the text of my thesis was published in the horticultural papers. With the present important task before me, I have again reviewed the history of the flower that takes highest floral rank amongst the primulas, and shall endeavour to submit to your consideration matters that are possibly of importance, and that, I hope, will at least prove interesting. It will be convenient to dispose of established truths in the first instance, in order to obtain a proper basis for speculations on things unknown. The origin of the auricula we will, for the present, assume to be unknown, but we have at command much of a trustworthy character in relation to its history during the past 300 years, and it

CARNIOLIAN PRIMULA, *Primula Carniolica* (Flowers purple or violet).

will be a safe, even if a dull procedure, to rummage the books and set forth a few of the more promising facts and figures before tackling the portentous question of the origin of the flower.

A direct hint as to what to avoid as well as what to attempt may be derived from the reference to the auricula in Beckmann's History of Inventions. He quotes from Weismantel's Des Blumisten to the effect that Ovid, Pliny, and Columella knew the flower. Well, those writers were also acquainted with garlic, barley, and figs; but we pay no attention to them until they offer some special information illustrative of the arts, customs, or necessities of the times in which they lived. It is somewhat to the purpose, perhaps, that Pluche, in Spectacle de la Nature (ii. 49), states that the auricula was carried from Switzerland to Brussels by Walloon merchants. The second volume of this work was published in 1733, and it gives no clue to the date of the carrying. But the statement is of importance in connection with the general belief that the auricula was cultivated in the Netherlands long before it was introduced into this country; and that the garden varieties of the flower were introduced by refugees from the low countries about the year 1570. We find mention of the flower in the works of Fuchsius, Matthiola, Clusius, Turner, and Dodoens. But the sixteenth century botanists were but little better informed on the subject than the writers of the later Roman period; and it would be waste of time to attempt to formulate their scraps of information. Matthiola figures the true auricula admirably at page 706 of De Plantis Epitome (1586). In the superb edition of Dodoens printed at Antwerp by Plantin it is very badly figured at page 148. By both it is described as Auricula ursi, and by this name of bear's ears it was generally known amongst the sixteenth-century botanists and gardeners.

In the year 1570 many artisans, driven out from the Netherlands, settled in this country, and they brought their favourite flowers with them, including the best of their auriculas. We begin business at the old shop, for Gerarde, who published his Herbal in 1597, described and figured half a-dozen varieties. On page 640 the contrast between the yellow and the purple beares ears, although shown in drawings that are truly execrable, is full of instruction in respect of the question before us. The other figures are of little consequence, but the two that lead the way speak emphatically of the distinction between the true auricula and the flower known to us as the alpine auricula. In plain truth they were as distinct then as they are now, and John Gerarde's bad drawings hit the truth admirably. It is important also to note the remark of Johnson in his edition of Gerarde, published 1633, to the effect that there are divers varieties, differing in the leaves, which are green or hoary, and in the flowers, which are white, yellow, red, and purple; the gardens of Mr. Tradescant and Mr. Tuggie being well furnished with such.

These things prepare us for what the immortal John Parkinson has to say. In his Theater of Plants (1640) he copies the bad figure from the Antwerp Dodoens, and describes twenty-six kinds of auriculas. It is of the highest interest to note that amongst them occur a "stript purple," which he describes as singularly changeable; also a parti-coloured red and white, "heard of but not seen." The Collie, that he describes as "somewhat sad but very lively," and the "Purplish Blew," appear both to have been of the class known to us as selfs, while "Heavens Blew," "Paler Blew," and "Bright Crimson," were of the class now known as alpines. Of yellows he says there were many, but so mixed "I cannot expresse them." This is just what might be expected, and it may be fair to add that, as a matter of course, they were the least valued, because not far enough removed from the wild flower of the mountains, for the opinion appears to have prevailed that there was only one kind of wild auricula.

In the Paradisus there are twenty varieties described, a few of which are admirably figured. Of these nine had green leaves without meal, and the remainder were more or less mealy. The flowers are presented as varying in colour, and some have a centre of the kind we call "paste," while others are without it. The colours are just such as we find in border auriculas of the present day, comprising shades of red, purple, violet, marone, yellow, and white. We are certainly in the midst of auriculas, not only of the mountain, but also of the garden. It appears that we have in the Paradisus—inexhaustible treasure as it is—the fountain of diversity as revealed to the penetrating eye of "Thine in what he may," the author of what he himself in his dedication designates "this speaking Garden."

This paper should be something like a catalogue of evidences, and I invite your attention to the description of "the great straw-coloured Beares eare," at page 238 of the book last mentioned. "This hath almost as mealy leaves as the last, but nothing so large; the flowers are of a faire strawe colour, with a white circle at the bottom of them." These three last (that is the great yellow, greater yellow, and great straw) "haue no shew or shadow of any other colour in any part of the edge, as some others that follow haue."

The "blush Beares eare," the "Haire-coloured Beares eare," and the "yellow variable Beares eare" are described as edged flowers. For example, the Blush has a ground colour of a dark or dunne-yellow, shadowed ouer a little with a shew of light purple, which, therefore, we call a blush colour, the edges of the flower being tipt with a little deeper shew of that purple colour, the bottome of the flower abiding wholly yellow, without any circle, and is of very great beauty." The Hair coloured is of a brownish yellow, edged with a show or shadow of a light purple colour. The Yellow variable is of a fair yellow, "dasht about the edges onely with purple, being more yellow in the bottome of the flower then in any other part." I seem to hear our friends the florists say that these were flowers with shaded edges, of which we have many at the present day. Yes, the history of the flower is before us, and the Paradisus appears to provide us with the very first record of that kind of edging. Parkinson reserved a *bonne bouche* for a wind-up of his feast of auriculas. It is the "Variable green Beares eare." This hath green leaves snipt about the edges; the flowers are yellowish green, having purple edges; these have no circles at all in them. This variable green with a purple edge might, for present purposes, be assigned the position of a pole star in the floral firmament; at all events, I, for one, feel attracted to it, and expect it to afford assistance in tracing out the order of the stars in the two constellations of

AURICULA URSI, after Matthioli, Epitome 706.

Ursa major and Ursa minor that "in earth's firmament do shine;" for these stars seem to be now coming home to us.

There is no special interest for the present occasion in the progress of the auricula in what appears to have been its early conditions as regards range of colour and variation of leafage. It is only when it assumes what, for convenience sake, may be termed its exhibition character, that it becomes more than ordinarily attractive, not only for the delight of the eye, but as a subject for scientific study. Let us then consider the position of the edged flowers in the history. The one presented us by Parkinson is very different

to the florists' auricula of the present day; but it is probably a true auricula, for the leaves "do turne and fold themselves a little backwards," the flowers are less expanded than some others, but alas! they have no circles in them, and the variety is not figured. This, we will say, is the most remarkable of all cultivated flowers, a small wonder, but a true one; a great achievement of art or a most extravagant freak of nature. When did the first properly-edged flowers appear? That question is now forced upon us, and is full of significance, even if judged by this first record of a green flower with a purple edge. A very trifling change would give us a purple flower with a green edge, and changes of that kind are common enough.

Strange to say, edged flowers were not received with open arms by the faculty. They had to win their way slowly to the favour of the florists, and on the principle that the world knows not its greatest men, the gardening world in general was for a long time ignorant of this unique production; this most precious of all the jewels in the diadem of Queen Flora. The proof of this will furnish matter for a paragraph.

In Miller's Dictionary, first published 1731, the edged flowers obtained no recognition, but Miller provided a good code of judging auriculus, *minus*, of course, certain points that are of peculiar importance now. The fact proves that the flower had acquired extensive popularity, and inspired some kind of corporation that for present purposes may be designated the Auricula Fancy. Even in 1676, fifty years after Parkinson had so nearly witnessed the making of the florists' auricula, John Rea, in his Florilege, described striped flowers, and advised the selection of flowers "with white eyes that will not wash."

The subject obtains scientific treatment in Hill's "British Herbal" (1756), and the author, John Hill, M.D., boldly declares that many of the so-called species of authors "are no other than varieties of this plant rising from culture." At page 98 he speaks of the yellow auricula as standing alone, and apart from those that produce red and purple flowers. Of these last he says there are three species not directly related to the yellow auricula, and these he describes as narrow-leaved, round-leaved, and long-leaved. To one of the descriptions he adds the remark that "there is no judging by what one sees in gardens, where the accidents occasioning varieties are endless; but in those collected wild there is no error.'

In Hill's Eden, by the same John Hill, published 1757, auriculas are fairly treated of, but edged flowers are not mentioned. Hanbury's Body of Gardening, 1770, gives a hint in the way of our search in speaking of variegated auriculas. It is a question of some importance whether the variegated flower of Hanbury was the striped flower of Parkinson, or a modification of that edged flower that had been noted as a curiosity a hundred and fifty years before. There is clear evidence in the "Florist" of 1849 that in the year 1732 the edged flowers were not generally recognized; but in a code of rules for judging auriculas, "flakes" and "stripes" are mentioned as important adornments of the flowers that were in favour in 1732. Mr. Slater, in his Amateur Florists' Guide, gives a list of proper edged flowers that were in cultivation in 1776, and in my paper, read here in 1882, I assumed—I still think properly—that some of these were in existence in 1750, or earlier. The varieties known as Potts's Eclipse, Rule Arbiter, and Hortaine were in cultivation in 1757. About 1785 the edged varieties were plentiful, and amongst them were Grimes's Privateer, Popplewell's Conqueror, Gorton's Champion, and Wrigley's Northern Hero, which are still in cultivation, not as archæological curiosities, but because they are good and have retained their initial vigour as cultivated plants for upwards of a hundred years.

In fixing a date for the earliest record of an undoubted edged flower, I am indebted for valuable aid to my friend Mr. Harrison Weir, who, in a communication to the *Gardeners' Chronicle* of May 6, 1882, refers to Sir Thomas Moore's "Flower Garden Displayed," published 1734. In this work many auriculas are described, some of them introduced from Holland, and others raised in this country. It is important to note that the Dutch and the English varieties appear to differ as alpines and true auriculas, both classes finding favour here, but the English raisers having an especial affection for auriculas proper, as apart from the alpine section. Now, it is of the highest importance to observe that amongst many flowers of a class known as "painted ladies," because delicately improved, as the ladies of that day were, with a dusting of white powder, several are described as striped, and one as distinctly edged. The edged flower is called Honour and Glory; it is said to have "a good white eye and the flower striped with a dark reddish purple on a white ground, so as to leave the edge of the flower white." I repeat that this contribution to the history is important, because it not only places before us an undoubted edged flower, but it shows that the difference between stripes and edges was recognized. More than this, it shows that striped flowers were much valued, for one called the Royal Widow was sold for ten guineas, but the value of the edged flower is not suggested. It would be delightful could we find in the winning stands of the present season an example of the edged flower of 1734, which was very different to Parkinson's green with purple edge. As we cannot find the flower, we will look for Honour and Glory of a larger kind. Perhaps in the soundness of our work, and the sweetness of our tempers, and the earnestness of our hopes, we may be promoting a higher and wider appreciation of the auricula, in which case honour and glory are secured, and we may safely proceed in the good old way, according to the sacred precept, "Whatsoever thy hand findeth to do, do it with all thy might."

Let us now ask the question, Whence came the Florists' Auricula? Charles

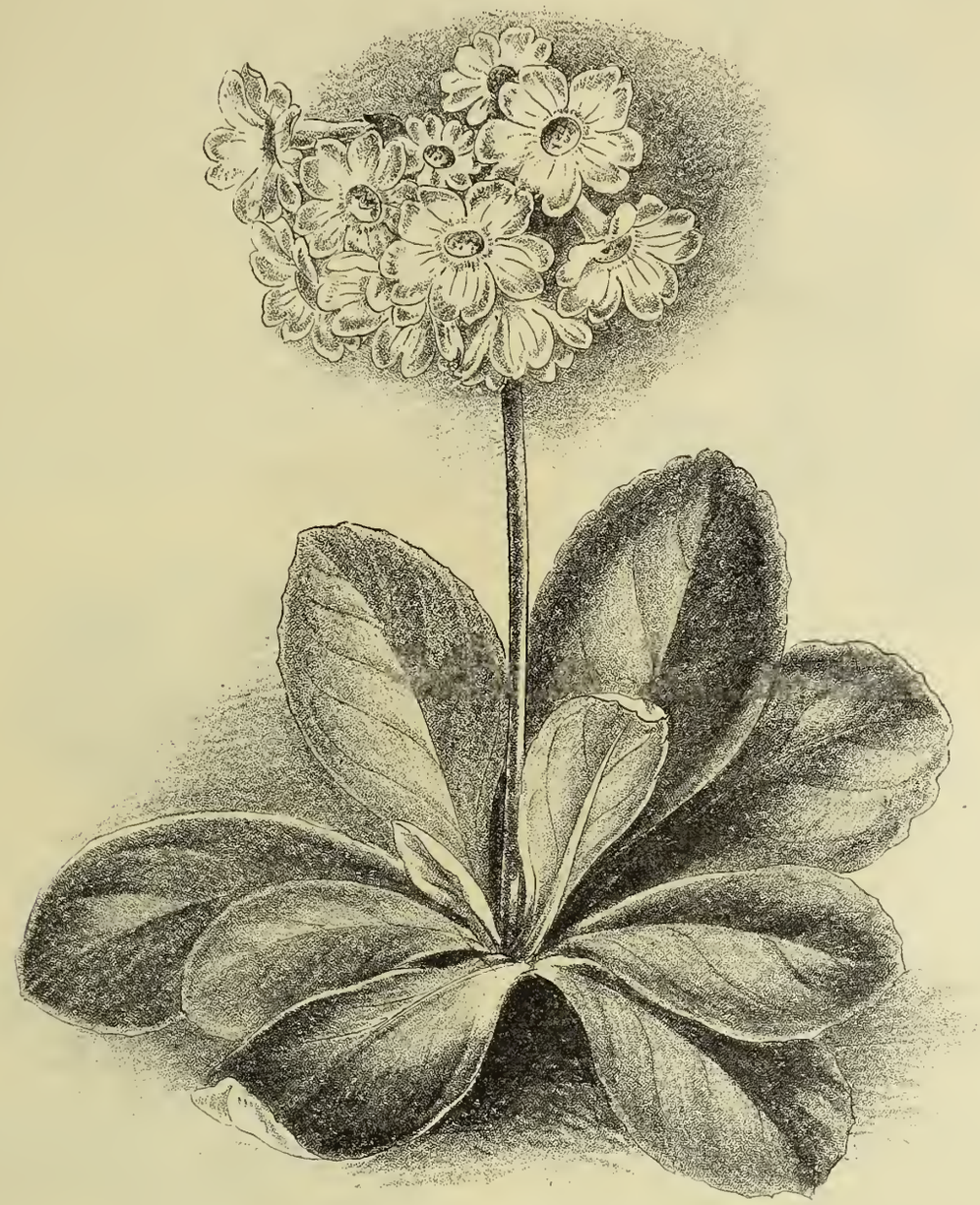
PIEDMONT PRIMROSE, *Primula Pedemontana* (Flowers rosy purple).

Darwin, in Forms of Flowers, page 43, derives it from Primula pubescens, which is represented as a hybrid between P. auricula and P. hirsuta. Herbert, in Horticultural Transactions, vol. iv., page 19, considers P. auricula, P. helvetica, P. nivalis, and P. viscosa to have been concerned in the parentage. Indeed, Mr. Herbert considered he had raised a powdered auricula from P. nivalis, which may be regarded as a white-flowered variety of villosa of Jacquin. As he gives no description, it is impossible to say whether his plant would pass for an auricula if brought up for judgment here to-day; but he was not the kind of man to make any glaring mistake, and his plant must have differed from nivalis to entitle it to such special mention. Mr. Herbert, at the same reference, suggested that P. auricula, P. helvetica, P. nivalis, and P. viscosa are but varieties of one and the same species. To the list may be added hirsuta, pubescens, minima, and nivea; for in truth we are now trading in names, and we shall have to be careful that we do not mistake shadows for substances. In his "Die Geschicte der Aurikel" Professor Kerner avows his belief that Primula auricula is not subject to variations, and that it probably did not keep a place in gardens for any length of time beyond the middle of the seventeenth century. But then he obtains for the making of the garden flower the blood of P. auricula and P. hirsuta, which he regards as the parents of P. pubescens; and from this last, a reputed hybrid, he derives both the edged and the alpine varieties. This proposal will not be accepted by many of the raisers of seedlings, whose experiences have rendered them familiar with the peculiarities of both classes. It affords but poor promise of an explanation of the persistency of the yellow colour and the farinose decoration of the show flowers. Nor does it satisfactorily explain the shaded margin and the persistently naked leaf of the alpine section. As regards the yellow of the show flower, it does not appear in its true proportions to the casual eye; but if you will carefully wash away the paste, you will find that it is laid upon a yellow ground. It seems to be the function of paste to play a game of deception. Kerner's views have been partially approved by Mr. J. G. Baker, of Kew; but he appears to lean to Primula Balbisi as a prominent progenitor, and he associates the edged flowers and the alpines as at least not specifically distinct. The Rev. F. D. Horner, who combines experience as a raiser with knowledge of species and a fine faculty of observation, reckons Primula farinosa, P. scotica, P. marginata, P. intermedia, and P. viscosa as concerned in the parentage; and probably he would separate the edged flowers from the alpines as of different origin.

Finally, I propose to you that we may with advantage regard the edged or show auricula and the alpine auricula as, for present purposes, specifically distinct. The general agreement of the alpines is with P. commutata and P. Pedemontana, the last named being emphatically reflected in it. On the other hand, P. ciliata of Moretti may be associated with P. auricula as concerned in the formation of the florists' flower.

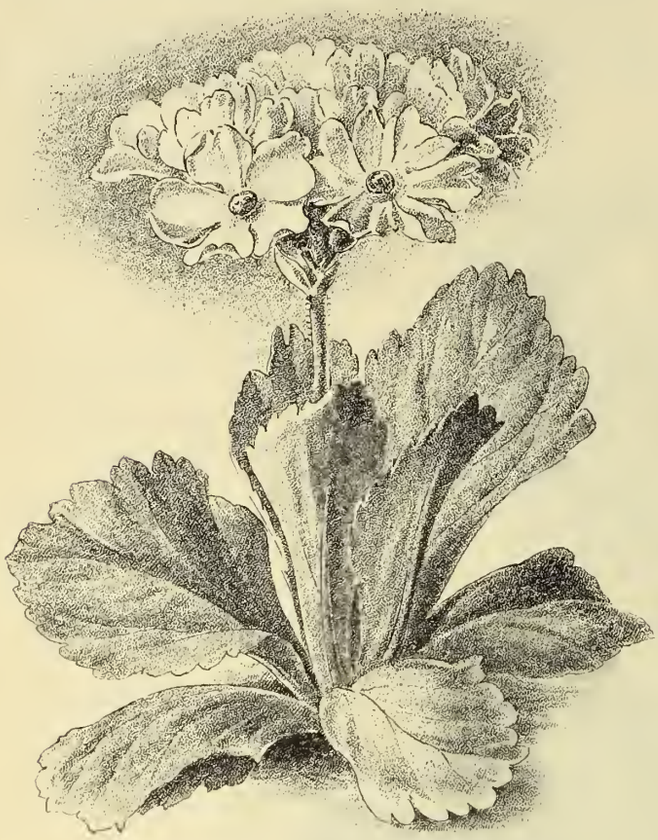
But, after all, this is like arguing in a circle. The two that I have selected as begetters of each group are specifically one or two at the discretion of the botanists, as they may take broad or narrow views. We are in the same plight as regards the primulas as we were in regard to the daffodils before the Congress operated, when, as you will remember, a great reduction of the species was carried into effect. I will venture now to say that the employment of names in the expression of our ideas as to the origin of the auricula must be subject to the possible reduction of names by the revising committee. I can find a dozen or more so-called species that are possible parents of the auricula, but as I question their specific independence I do not feel that making a catalogue is, in this case, the solution of a problem in biology. As for Palinuri, I cut short the connexion by dismissing it as a possible progenitor of auriculas.

Let us now make a brief study of an auricula with reference to the facts that are before us. In certain characters it is constant. The leaves are stout in texture, often leathery, sometimes slightly cartilaginous. The flowers are always in a many-flowered visible umbel, never, like those of the primrose, appearing singly from a concealed umbel. The floral bracts are short, never like those of P. calycina, longer than the flower stalks. The corolla is distinctly contracted below into a tube and expanded above into a salver; it is never contracted



WILD AURICULA, *Primula auricula* (Flowers yellow).

into a cup or goblet, as in P. sikkimensis. The dusting with protective meal is not a distinguishing feature; but its abundant appearance as a decorative character of the exhibition flower is strikingly characteristic, and though it may be said that by long-continued crossing and selecting its appearance there may be regarded as the work of the artist called Man; yet his work is limited, not only by the capabilities but by the disposition of nature. The powder belongs to the face of the flower, although its quantity and arrangement may be an exaggeration of nature's intentions. The show of yellow in the colouring of the flower is a constant character. This is a colour wanting in many of the supposed parents. It should be borne in mind that the flowers of highest quality represent long-continued and severe selection; and therefore in an exhibition, or even in the general stock of the cultivator, we do not see the entire character and possibilities of the flower. The seed-bed offers



CILIATED AURICULA, *Primula ciliata* (Flowers yellow).

the raiser many that he will simply destroy, because of their nonconformity to rules, and amongst the condemned will be many of the so-called fancy flowers, that have no body colour, and approximate to the species. It should be remembered, too, that all the edged flowers have green edges; for although classed as green, grey, and white, it is only the relative density of the meal that makes the difference. It has been boldly declared that this green colour is a monstrosity, indicative of a return of the flower to the status of a leaf, but we will defer the serious consideration of that proposal until we see the flower take the form of the leaf in addition to a touch of colour, which, from the florists' point of view, is one of its distinguishing beauties. It would be more reasonable, perhaps, to regard the green colour as a remainder of the original colour of the flower, for, according to the doctrine that has found general acceptance, the flower should be first green and then yellow, with the potentiality of changing to red and ultimately to blue.

Considering Professor Kerner's proposal in connection with these facts, it may not be irreverent to say that it leads us nowhere. We are to derive two groups of plants that differ by larger degrees than many that are recognized as distinct species, from a parent plant that is a reputed hybrid, and that possesses only a few of the characters required. We are assured that the purple and marone colours that are so prominent in the edged auriculas cannot be derived from a species known as affording only shades of yellow. Those who make the declaration evidently forget the wide range of colouring of the common primrose, wherein we have almost every colour except true blue. Linnæus grouped primroses, oxlips, and polyanthuses as forms of one species; and that view, though for long repudiated, is now generally accepted, and the point is especially insisted on by Bentham in his Handbook of the British Flora. Between yellow and blue there may be somewhat of a gulf fixed, especially in the variations of a species; but from yellow to shades of red and purple is a transition far from uncommon. We have examples not only in the primrose, but also in the chrysanthemum, hyacinth, tulip, pansy, carnation, hollyhock, and antirrhinum. If you wander about in search of a source of the red and purple tones in show auriculas, you will never find means to account for the brilliant violet blue body colour of the variety known as Colonel Champneys, while others may be found that are apparently equally far removed from the possibilities of the botanical colourist. The truth appears to be that the colours we cannot by direct descent account for are in reality self-evolved, and belong to the category of changes that accompany and follow cultivation. In other words, those colours, with other characters that might, with equal reason, perplex us, are, in a certain sense, laid on by the hand of the cultivator. It is the fear of the botanist, who cannot recognize any merit in his brother the florist, that prompts him to find in this or that flower that the hand of man has left untouched, the sources of properties that the florist has developed by long continued cultivation in view of an ideal model, towards the realization of which he is ever striving, but never attaining, though happy in the endeavour, and justly though quietly proud of what so far has been actually accomplished. To obtain the two great classes of auriculas from Primula pubescens is a greater extravagance on the part of Professor Kerner than any florist has ventured on as yet; but the florists have discovered long since that seeds derived from show flowers do not produce alpine varieties; and, on the other hand, it is all in vain to hope for edged varieties from the seeds of the alpine section. The general acceptance by the botanists of the proposal of Professor Kerner shows how much they need in their researches the aid of men who have acquired experience in the raising of new varieties of garden flowers, and in the management of garden plants generally.

Parkinson, 250 years ago, had a green flower with a purple edge. That must have been in existence long anterior to the writing of the Paradisus. It is not extravagant to entertain the supposition that it had been in existence hundreds or thousands of years before. In the same collection were striped flowers, and these appear to have increased until in the early part of the eighteenth century they abounded. Then, again, we hear of an edged flower called Honour and Glory in the year 1732, when Sir Thomas Moore described it. Since then the edged flowers have increased in number, and now constitute a race that has all the needful characteristics of a species. The green has proceeded outwards to the margin and settled there; the stripes have moved in the same direction and formed a ring within the margin; and the farina has accumulated around the centre to form what is termed the paste; while a rich tone of yellow marks the centre, and gives accent to the green of the primal flower, the result being an arrangement of colours in four orderly masses, three of them in circles of definite geometrical proportions. The carnation offers a nearly parallel example, for here we see the flakes of the flower moving outward to the edge to fashion the picotee. It is like the action of centrifugal force, the colours appearing desirous of moving off into space. What is termed the thrum does not appear to demand special notice in connection with the origin of the flower, but I shall not seriously interrupt the study of the subject by remarking that Charles Darwin found the short styled flowers the most productive of seed, and thus the taste of the florist in this respect is in strict accord with the frugal notions of nature. The rich yellow of the thrum is another feature favourable to the flower, which is as hardy and vigorous as any of its kindred, although commonly represented by the traducers of the florists as a debilitated thing that requires a man and a boy to hold it up.

The auriculas naturally divide into two groups, the alpines leaning to Primula villosa, the auriculas to Primula auricula. There does not appear to be any necessity for the admixture of primulas that has been hypothecated for the formation of these flowers. The facts of history suggest that in all their more distinctive forms these two sections represent only two species, and that each in its essential characters is self-contained and self-containing. We have no proof at any time of distinct hybridity, but it must be acknowledged as a fact favouring the view of a considerable range of parentage that the allied species breed freely together. The primulas that most often come into contact with man are like him, of a sportive nature. The laced polyanthus might perplex us with its golden edge, and there are many edged oxlips in the

VARIABLE PRIMULA, *Primula commutata* (Flowers rosy red).

present exhibition, and some that display stripes and incipient edgings, and that are probably in a condition of change corresponding with the auriculas of Gerarde and Parkinson.

[The figure of Piedmont Primrose is from B.M. 5,794; that of Wild Auricula from B.M. 6,837. The others are from Sebeth's "Alpine Plants."]

No Juice in a Flint.—This trite saying has a parallel; *there is no getting juice out of cheap tea.* The Chinese are yearly increasing the supply to English tea-drinkers of redried and worthless leaves, utterly destitute of *theine*, which is the one active principle most to be desired in the beverage; consequently cheap tea becomes dear tea *at any price.* The true policy of supplying wholesome Pure Tea is alone to be commended; hence the enormous and increasing sale of *Horniman's Tea, guaranteed absolutely pure*, by Chemists and others who are Agents in all parts of the kingdom, and supply the public at London fixed prices.—See advertisements in all Newspapers and at Railway Stations for list of Local Agents.—[Advt.

IMPROVEMENT OF THE GENUS PRIMULA.

By the Rev. Francis D. Horner, Lowfields, Burton-in-Lonsdale.

Read at the Primula Congress.

"In what Directions should Efforts be made with the View of Improving the Florists' Flowers belonging to the Genus Primula?"

I only take up this question at the direct request of my brother florist, Mr. Samuel Barlow, of Stakehill. The subject could not have been in better hands than his, nor associated with a name more known and honoured among florists. There is, however, this one thing to temper my regret that I must take his place, and to add value to my paper, that the question I am to introduce is a very old and interesting one between Mr. Barlow and myself. Through all the years of our intimate friendship have we stood together over the auricula in bloom, and taken careful thought as to the yet richer development of this highly cultured flower, a favourite with us both from boyhood.

Mr. Shirley Hibberd in his introductory paper, historical and descriptive, will have given some definite idea of what the florists' auricula is; so that I shall not here be using technical terms altogether strange to those not conversant with the properties of the flower, some of which had not been acquired in the dawn of its culture, some 300 years ago, nor are even dimly visible in the simplicity of its supposed wild ancestry. If any of the points for improvement should seem minute—perhaps fanciful—I can only say that the highest qualities have, as a rule, been gained only by such gentle gradients and slight curves as these. It is often some delicate touch, small in itself, but great in its effect, that raises a flower at once above the inferior or commonplace. To the accustomed eye the auricula has an intense individuality, and very slight variations of feature alter an expression, and enhance or detract from a type of beauty.

In a breadth of its brilliant bloom there is the effect as of many eyes turned steadfastly upon their admirers; and there are faces in the flowery crowd on which one may read many expressions of a life and character superfloral. Like as in a bed of pansies there are many comical casts of countenance, expressive of astonishment, anxious inquiry, perplexity, and brown study; so here, in an exhibition of the auricula, as representative of its beauty as can possibly be made, the flowers look all gentleness, candour, honesty, simplicity, and refinement.

Glaring faults that impart a low and evil look are all absent here; and hence I am not able to submit to you how impudent and barefaced is the "pin-eyed" flower, wherein the stigma, protruding from the hollow throat, is like a tongue thrust out. Neither, how loose and vacant is the expression of the inordinately large tube; and how cunning and cold that of one too small. Nor how lack of breadth in the eye or "paste" of the flower is like that in other eyes which cannot look you in the face; and how narrow ground colours betoken indecision and want of thoroughness. "Edges" have their own expressions, too—something like meanness when too narrow, and akin to bounce in over-breadth; for excess of edge is often concurrent with excess of size, and coarseness, almost inseparable from immensity in the auricula, is one of its gravest faults.

Had it been practical, a representative collection of failures in desired qualities would have formed a very clear illustration of mistakes. Yet I would not say it would be convincing; for invariably the uninitiated friend who comes to tell you which of all you have be likes the best, settles his admiration upon something that has set at nought all proper principle, and he does violence to your feelings by approving of it. But the greatest ordeal of praise I ever had was the remark, transparently innocent, of an old country parishioner—"They almost come up to artificials, sir!"

The question in what direction efforts should be made for improving the florist flowers of the genus Primula resolves itself descriptively into the statement of the shortcomings, more or less prominent and obstinate, prospectively into what the possibilities are of which hopeful shadows in faint shape are cast before; and practically, in what system of experiments we should seek to overcome the faults and win into reality the promise of fresh beauties that a flower, inexhaustible in its powers of variation, naturally affords us.

As an experimentalist I will adhere to the practical; use bare description as little as I may, and bring young hopes downstairs from the nursery realms of imagination as considerately as I can.

Properties.

Form.—The first property to be worked for in the auricula is, I submit, the perfection of that form upon which the colour attributes of the flower will be the most effectively displayed. Colour can always be worked up to, and the florist may tarry patiently for this until he has the form of grace whereon to call it into play. I always choose as the maternal parent of auricula seed the best flowers I have in breadth, circularity, flatness, substance, and smoothness of petal; while for male parentage I do not depart further than must be from form. Petals cannot be too broad, so long as they will expand equally and kindly. If they do not meet through narrowness or roughness, the beautiful design of the colour zones is interrupted by vacant spaces signifying nothing.

The edged classes and the selfs have each their own type of error in respect of form. In the "edges" it is generally a pointedness of petal; in the selfs a central notch or heart-shaped depression. In the edged flowers the fault has long been noticed and regretted, and has now been brilliantly overcome, especially from the appearing of Lancashire's Lancashire Hero in 1846 onwards; but among the selfs until recent times there was hardly an exception to the rule of notch. The indented petal of the self seemed silently allowed to pass as the typical petal of the class.

Selfs.—For improvement of the self auricula, my experience convinces me that the best results are to be obtained through entirely self parentage. I would not say that a correct self flower has never come from edged parents; for Mr. Campbell believed that his brown self Pizarro, the best flower in the class at the time, was raised from a green-edged parent, and Mr. Simonite that a good blue self of his was obtained from a white-edged seedling. Certainly, however, my own best selfs have sprung from purely self parents, and latterly from a self descent comparatively ancestral. Selfs have generally a shorter duration of bloom than the edged flowers which possess greater stoutness of petal, and in which the green, whether pure or mealed, is a colour of greater and more leaf-like vitality.

It might be theoretical to suppose that if selfs were crossed with these, a greater substance of petals would be transmitted. In practice, however, it is found that all seed from purely edged parents produces a majority of self varieties, and vast numbers of these are notched, and frilled, and flimsy flowers. I have never had wilder flights of seedling selfs than from that grand grey-edge, George Lightbody. It would almost seem that an "edge" did not know what a good self ought to be.

I think that for selfs we should work patiently among themselves, advancing in substance, as we certainly are by sure if slow degrees, and not weakening the newly acquired and most supreme point of the "rose-leaved" or perfectly rounded petal.

Another point to aim at in the development of selfs is the addition of some that would be constitutionally later in blooming than most of those we have. Campbell's Duke of Argyll (rich crimson, but deeply notched) might transmit this habit, and be overruled in this fault.

The auricula bloom in a collection loses much of its power and beauty when the quiet yet emphatic selfs are gone. It is like the beginning of the end, as when in the fading summer the swallows take their flight.

Edged Flowers.—With reference to improvement in form in the green, grey, and white edges, I would remark that in these, good form beyond its intrinsic value has an influence inductive of other good properties. Rounded petals are associated with roundness of the white mealed circle termed the "paste"; while with the pointed petal the paste is often, as by a kind of sympathy, drawn into corresponding irregularities, which only intensify the serious fault of an angular appearance.

For form's sake, naturally, such flowers as have the roundest, broadest petals will be selected; and such a variety as George Lightbody, among those well known and distributed at present, will serve as a type.

If good form in both parents should justify it, my conclusions are that edged flowers should be crossed with their class fellows; for one line of improvement in the auricula certainly lies in doing all we can to intensify and magnify the class distinctions, gaining green edges as deeply green as possible, and white edges as densely mealed. The "undecided edge," too green for grey, and too grey for a pure green, is not desirable. Still, the auricula is so very sportive, that some decisive edges will be obtained from parents dissimilar in class; and the experiment is justified, of course, if there be no alternative, and if some marked improvement in form may be hoped for from it.

Petals.—Connected with form, in addition to the roundness and level disposition of the petals, may be mentioned their number. This is variable, even in different flowers on the same plant. Five is probably the normal number; for beyond this the auricula will take a playful liberty with the proprieties of its Linnæan order, Pentandria, always producing just as many stamens as there may be petals; and if one be of inordinate breadth it is accounted as two, and decorated accordingly with two stamens. This may be a botanical misdemeanour, but is not an offence under florist by-laws. The same is noticeable also in the florist tulip, which is required to have petals neither less nor more than six, but is occasionally misformed with four or five, and seven or eight, when there is always one attendant anther for each. In the auricula five or six petals are sufficient for a broad round flower, and more than eight begin to look narrow and laboured.

Colour.—When we turn from improvement in form to views of improvement in colours, both in richness and variety, a very wide field of development lies before the florist. Possibilities peep out but half-concealed or only in the rough, revealing themselves in the rarer combinations of colours that a few seedlings crudely show; and these beckonings need but to be followed to obtain in time some new and beautiful combinations.

The auricula is a most richly endowed flower, possessing already, singly or combined, all colours of the rainbow, violet, indigo, blue, green, yellow, orange, and red; and further still and rarer, that negation of all colours, black. In edges we do not look for a gift of other than the green, grey, and white, now so well-known and fixed—while the colours of the paste and the tube are constant and common to all. There remains but one more colour zone upon the flower, to give variety and play, and that is the ring or belt of velvety surface known as the "ground" or "body" colour.

Disposed between the green or powdered edge and the white mealed "paste," it is a solid band along its inner edge; while on the outer it flashes in lively pencilings, bold and blunt in some varieties, sharp and delicate in others, towards but not dashing through to the petal edge. It is this lively characteristic of the body colour that entirely takes away any tameness or monotony, hardness or fixity that a series of strict concentric circles might be supposed to have. The body colour should most certanly have a good solid foundation before it begins to feather off, because a few slight pencilings only have a very feeble and scratchy effect, while a bold and rugged style of its outer edge is massive and handsome in the extreme. But by an expressionless ring of black, dreary as a black hatband round a white hat, I would not advocate taming the auricula down to the miniature similitude of an archery target. Such a picture of utter and unbending primness (for which the botanical equivalent is not Primula) as a series of severe circles may indeed have been in old time perpetrated in hard diagram; but this was only as the bare skeleton which Nature in real life shall clothe with all fulness, softness, and grace and vivacity.

The body colour is the "iris" of the flower's eye, and black is at present the most settled colour. A good black is very safe and true, lasting well upon the flower, a most important point; and hence it has been a favourite colour, especially with florists in the north, and the more encouraged, pursued, and developed. Indeed, other body colours were regarded with marked disfavour by old Lancashire florists, though if other colours had been worked up to the truth and stedfastness of the black, there is nothing but local fancy or prejudice to make them less valuable and less beautiful. Little encouraged in such variety, the Auricula has shown a capability, if only initial yet, of giving both blue and crimson as the ground colour in edged flowers. These will, of course, require cultivating up to intensity and steadiness, and I submit this as a very interesting new path of improvement.

One marked difficulty so far has been that of transmitting to any flower, whether self or edged, the all-important feature of a rich gold tube, if that flower has tints of violet or blue. Their tubes are pale or greenish yellow, always a colour of low vitality and weak endurance. Some seedling blue selfs, however, by pollen from gold-tubed varieties, are better in this respect than the old blues.

Memories come back to me here of some old flowers that might have been helpful towards new combinations of colours that are faint and timid, and wavering yet.

Such were Moore's Violet, a green-edged flower, with violet body colour, and a green edge of Traill's (Rev. George Jeans), in which the ground colour was of a lilac tint. In white edges were Ashton's Bonny Lass, with beautiful violet, and Maria, richer in colour. These, however, and others of like colour, all were weakened by a pale and watery tube; and further, the ground colour was not of one uniform stedfast shade, which it decidedly ought to be in both edged and self Auriculas. Red or crimson as a ground colour of edged flowers has not yet been obtained of any intensity. Lightbody's Fairy Queen and

Star of Bethlehem, and also Smith's Waterloo, were green edges, in which the body tints were a shade of red-plum, and a white edge of McDonald's was lighted up with a brighter red. Chocolate-brown is another possible change in ground colours worthy of being followed up. It occurred in Lightbody's white edge Countess of Dunmore, and in Smith's Ne Plus Ultra. These red and brown ground colours are, happily, not associated with the weak tube colours of the blues.

Mr. Simonite, in his Heather Bell and Aurora, has better blue-grounded white edges than the old ones, and the tubes, though of a strong yellow, have more stability. An offer of a red-grounded green edge occurs in a rather erratic seedling of Mr. Rolt's. The edge is pure but insufficient, and the red ground colour brightens with age but is too broad, and runs wildly out at the petal edges. Such a flower would be worth crossing with some green-edge seedling of fine form, in which existed the fault of a ground colour much too slight and narrow.

In new types of colour in selfs the last great acquisition came through Mr. Campbell's success in his efforts to produce a true crimson self. Some fifteen years ago he sent out, as the result of many years' work abounding in failures, two intensely crimson flowers—the one better than the other, both in its colour and its rich gold tube, but both of them notched in petal. These flowers have transmitted their colour well to seedlings of better petal.

Within the last two or three years another new and very beautiful break in self colours has occurred among both Mr. Simonite's seedlings and my own, showing yet another direction in which we may seek to enrich and improve the auricula. This new colour is a very lovely and decided pink. The flowers have happily been nearly always gold tubed, and the petal is a fully rounded type. This young colour, however, is not easy as yet to obtain solid—*i.e.*, unshaded and stedfast. Some have failed by growing slightly paler with age, or in losing with age the surface of the petal; so that what is velvet at first is calico at last.

There is no doubt, however, that the true pink self is a coming flower, and I name it as one illustration more of the direction in which the auricula may be improved.

I have spoken of the failures of this newly-won colour—the successes must speak for themselves when they can.

Adolescence.—There is something very curious in the blooming character of the first three years' life of an upgrown seedling which it is important to mark and allow for, because it certainly is connected with the practical part of our question.

It is not an invariable rule, but it is a frequent occurrence, for a seedling that blooms with brilliant properties in its maiden year, to flower the second year in much inferior if not loose character. This is oftener the case with the complex edged flowers than with the simpler selfs. At the third year the flower may either return to its early promise, or go again astray. I do not know how to account for it, but it is a noticeable feature in a long experience.

It would seem as though the plant were affected by some unseen change or turning point in passing from its seedlinghood to becoming an established variety. Certainly some seedlings that show brilliant properties the first year never afterwards display them; and occasionally others that one has gladly given away to friends with garden borders have, like the "ugly duckling" of the story, developed into very swans of excellence.

I mention this not only that joy over some sudden acquisition may be tempered with gravity, but also that doubt may be not unlighted with hope.

I do not cease to feel some anxiety for a brilliant seedling, and some hope over a rather disappointing one, till I have seen them at their third bloom. Some faults are decisive, such as the pin-eye, the pale tube, the angular paste, the notched or pointed petal. Of such there is no hope. But if properties of tube and paste and petal are fine, I do not discard the seedling because, at its maiden bloom, the proportions and other qualities of the ground colour and edge may not be correct. There may be a good flower in disguise.

Alpine Auriculas.

I pass on now to a brief notice of that other division of the auricula as a florist flower which is technically known as the alpine. These very beautiful flowers possess, as features of distinction from the edged classes and selfs, a perfectly unmealed centre or eye, and petals richly shaded from the deepest to the lightest tints of that one colour which the flower has adopted. That shading cannot be in tints too numerous or too softly blended.

The tube of the alpine so closely follows in colour the centre of the flower that it should have an expression in form all the more marked, because there is the less power of contrast with the centre by colour. It is a great point of beauty in all auriculas that the mouth of the tube should be well defined, and rise fully to the level of the flower's face; otherwise there is the appearance of a weak and sunken eye.

The alpine auricula is divided into two sections, distinguished by the golden, and the paler, almost primrose-coloured centre. The golden centre is the higher type. In the alpine, as in the edged flowers, it is again the flowers possessing violet or bluish colours that exhibit the palest yellows in the tube and eye. Flowers would no doubt be very highly valued in this class of violet shades if they could be obtained with the rich golden eye of those with crimson.

The Polyanthus.

I must not close this paper without including the florist Polyanthus, a lovely sister of the auricula, and in sore need of reinforcement in sterling varieties. Some of the very best Polyanthuses, like Kingfisher in the red ground flowers, are lost to cultivation; and among black grounds of high merit, Lord Lincoln seems all but gone. Many garden strains of Polyanthus are termed "gold laced," but they are a far remove from the florist flower with its cultured properties. The resemblance in most of them looks nearest when seen at the greatest distance. The decision, purity, and refinement of our Polyanthus are not in them.

Mr. Barlow's success in raising both black and red ground flowers of very high character, perhaps in red more especially, is a proof that though the flower may not be more ready than its radiant sister the auricula to give the properties we would have, still it will repay all good care bestowed in judicious crossing.

I do not think that any foreign blood of strains outside the florist pale, however proudly spoken of, should be introduced under the plea of giving vigour, which the standard old sorts have, alas! too often lived to lack. From such extraneous source of robustness will come much unruliness. A more safe return to soundness of constitution will be naturally obtained through seedlings, because seedlings naturally possess it, and, happily, young blue blood is no exception to the rule.

For suggestions of improvement in the polyanthus I can but briefly state the properties that require to be exemplified in as many living representations of their beauty as we can obtain. The two brilliant extremes of class colour will be a black ground, or a scarlet ground within the lacing of bright yellow. Whatever the body colour be, it must consist of one rich uniform shade; and the yellow, which is best when a clear lemon-gold, must be free at the eye or centre from any other shade of yellow. The gold of the lacing must exactly match that of the eye, and the lacing itself must be of exquisitely smooth edge and even width. It must both completely edge the petal and strike down through the centre of it to meet the golden eye. The central line of lacing is frequently broader down the middle of the petal than round the edge, but the nearer it is of the same width the better.

It is characteristic of the polyanthus petal to be deeply notched in the centre, so that the circular edge of the auricula petal is not looked for here.

The centre or eye of the polyanthus should occupy a wide circular space upon the flower. It can hardly be too wide, and is often not wide and circular enough.

The mouth of the tube should be extremely well defined, and even slightly raised above the level of the centre. As in the auricula, the tube should be filled with bold anthers up to the surface, with the stigma almost sessile below; and all flowers should expand equally and well.

These are the points to be attained and strengthened in the improvement of the florist polyanthus; and it will readily be seen how far these lines of beauty, which give such brilliance, purity, and refinement, lie beyond the comprehension of the common garden border strains, and how far too few are the beautiful florist polyanthuses we have that fulfil this standard.

Notes of Observation.

TWO USEFUL PRIMULAS.

It would be difficult to find two more serviceable primulas for growing in pots than P. obconica and P. floribunda. The first-named has white flowers, lightly diffused with lilac pink. The colour of the flowers of the other is deep primrose-yellow. These two primroses are nearly always in flower, and they do as well to cut from as many similar grown plants. They are also eminently suitable, when grown in five-inch pots, for vases and for conservatory decoration. In an ordinary greenhouse they begin to flower with us in March, and continue in bloom more or less throughout the summer. We have now plants raised from seed last year which are growing in three-inch pots and furnished with several trusses of flowers. The seed was sown thinly in deep pans of soil, and the pans kept during the summer in a cold frame placed in the shade of a wall. I did not even prick out the plants, but at the end of November they were potted in ordinary garden soil, and are now giving the greatest satisfaction. I may mention that if these primulas are grown under glass during the summer they must be well shaded. R. H. B.

A CARPET OF BLUE.

The heading to this note is not of my own choosing; but it is an expression of a lady friend who was walking with me in my garden to-day. It is, in fact, the exclamation she made when we came all at once on a large breadth of grape hyacinths, which, having been left undisturbed for many years, cover a large space. As soon as my friend saw the flowers she exclaimed, "What a lovely carpet of blue!" and then she said, "You must certainly send a note of these to the Gardeners' Magazine, and you cannot better describe the mass of colour than to call it 'A Carpet of Blue.'" After duly admiring the effect produced, she observed, "If I had not seen it I could not have believed that any hardy plant could present such a beautiful appearance after the cold weather we have had." I therefore obey the injunction of my friend, and send you this note. For my own part, I must say the grape hyacinth, when cultivated, as I have it, in an irregular space, is very attractive. But seeing hundreds of spikes, as I have done for many years, I do not go into ecstacies about them, as my friend did. Nevertheless, I should be very sorry to lose my large breadths of this early spring flower. Laura L——.

BUDS OF PEACH TREES.

In a general way, peach trees do not lose their buds unless the roots are allowed to suffer from dryness during the winter. But such sorts as Hale's Early, Noblesse, and Crawford's Early always lose more buds than the other sorts. This I attribute to a constitutional defect which no care in management will correct. It seems to me that your correspondent would do better if he were to plunge his trees to the rim of the pot in the ground or a bed of ashes, and that even then they should be examined occasionally to see that the soil in the pots is not dry. I think the treatment might be further improved by pruning the trees earlier—say at the end of the year. With reference to the cause of the buds dropping in the case referred to, I would say that the change early in March from the open to the temperature of a vinery is, in my opinion, quite sufficient to account for it. Unless the vinery is specially managed to adapt the temperature to the requirements of the peach trees, by having all the ventilators thrown open for a week, excepting when the weather is frosty, the change would be too violent for the peach trees. I have been a peach grower all my life, both in pots and in borders, but I have not known pot trees drop their buds more than the others when they have had enough water, and have otherwise been well managed. J. C. Clarke.

Treatment of Sewage meets with quite new treatment by Dr. Tidy in a recent issue of *Journal of the Society of Arts*. The chief aim of Dr. Tidy is to dissipate the notion that any one system of sewage treatment will suffice for the diverse conditions that prevail.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Azaleas out of bloom must be set growing freely in a warm, moist air. Give weak liquid manure to old plants that have filled their pots with roots, and shade during mid-day. Any pruning needed should be done at once, to bring the plants into shape for next year. When they are about to break into new growth the Indian azaleas may be very hard pruned if required to give them any desirable form. At the same time it will be well to turn them out, reduce the ball, and repot in smaller pots with peat and turfy loam as firmly as possible. Shut them up with a moderate bottom heat and syringe frequently, but give very little water at the root till they start away; then give plenty of water, and keep growing till the points show the formation of bloom buds; then harden off, and in due time put them out of doors to ripen the wood.

Calceolarias for exhibition must now have abundance of water, and be shaded during mid-day; as the trusses rise give very weak liquid manure twice a week. Keep the plants cool and airy, and tie in time to keep them from getting out of shape.

Fuchsias in full growth that are not yet repotted must be attended to quickly. Large shifts will suit these admirably. Those advancing to bloom must be frequently looked over to keep down vermin, and have plenty of moisture.

Ferns in pots require either a shift into larger pots or a renewal of the soil. In either case turn them out and break away some of the old stuff from the outside of the ball, and repot either in the same or larger pots, using good turfy loam for all strong-growing kinds, and those that must have peat to have the best peat in rough lumps. Ferns are too often starved, owing to the common but erroneous notion that a poor sandy peat is sufficient for them, which is a mistake.

STOVE AND ORCHID HOUSE.

Orchid House.—While we have fierce sunshine with east wind great care is requisite in regard to shading and air-giving in the orchid house. Remove the shading as early in the afternoon as circumstances will allow, so that, in fact, there will be some amount of actual sunshine on the house at the time of shutting up. Damping of walls, floors, and stages must be assiduously attended to, and plants growing freely must have water enough.

Stove Plants recently potted to be kept on a good bottom heat. Shift Gesneras, Gloxinias, Clerodendrons, and other such fast-growing plants. Justicias out of bloom to be repotted in peat, well decayed manure and loamy turf, equal parts. As fast as plants come into bloom remove them to a cooler atmosphere. There must be no crowding in the stove now. Whatever can be propagated now will be better done than in autumn, as the young plants will have a long growing season before them to fill their pots with roots.

FORCING AND ORCHARD HOUSE.

Pines showing fruit to have clear liquid manure given warm and weak. Syringe to be used before shutting up. After they have been shut up for an hour at 85 deg. give a little air before night, but cautiously, for fear of a chill. As soon as the fruit shows colour discontinue the syringing, and give very little water at the root. Succession plants to be kept liberally ventilated to induce a robust growth.

Orchard House.—Trees in pots must have plenty of water and plenty of air. A good breeze through the house will do them good, and it will be a help to shut up with a little sun heat. If this house is now crowded with all sorts of odds and ends that have been brought in through the overcrowded state of other houses it must be cleared at once, or it is possible that the crop will be materially injured, for the trees must have air and light. The crowding of fruit houses with plants that have no right to a place in them is most objectionable.

FLOWER GARDEN AND PLEASURE GROUNDS.

Annuals in beds and borders will require thinning out, and the straggling kinds will be the better for topping. There are very few who know all that may be done with annuals by giving them a rich soil, plenty of room, and occasionally pinching out the points of the leading shoots.

Flower Beds that are unoccupied are supposed to be turned once or twice during winter, and to be manured if necessary in spring. Supposing them to have had such proper attention, now is the time to turn the soil once more and break the clods and make all tidy. But beware of making the ground over fine.

KITCHEN GARDEN AND FRAME GROUND.

Cucumbers in frames may be kept going now by linings of grass mowings mixed with dry straw and other such waste.

Melons to be kept regular in growth, and the vines some distance apart, to ensure a healthy leaf development. Plenty of sun and moderate watering are essentials of success. As soon as the crop is set soak the bed with tepid liquid manure, and continue syringing until the fruit is fully formed, then discontinue it.

Parsley.—Sow thinly on a rich border, and cover the drills with tiles or stones for about ten days; then remove the covering, and the parsley will be found peeping through. This plan hastens the germination of the seed, which is generally very slow.

Kidney Beans may be sown in the open ground now; sow also a few in pots, to make good any that miss in the rows. Sow also in pots or pans sufficient seeds of scarlet runners, for a first planting, to give an early supply. They will be a fortnight earlier in fruit than those sown in the open ground next week.

Vegetables in season comprise purple and white Broccolis, Cabbages, Celery, Leeks, Lettuce, Rhubarb, Spinach, Turnips, Beet, Carrots, Onions, Salsify, Scorzonera, Asparagus, French Beans, Cucumbers, Mushrooms, Potatoes, Radishes, and Seakale.

Primrose Day witnessed an enormous consumption of primroses, many of which were supplied from places very far from the great towns that consumed them. In the *Times* of Wednesday Mr. Robson, of Cheltenham, proposes the adoption of an artificial badge in place of the real flowers.

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, April 20 and 21.

Exhibition of Auriculas and Primulas.

Owing to the lateness of the season, but few of the northern growers were able to take part in the exhibition of the southern section of the National Auricula Society on Tuesday; and, in consequence, the number of plants staged in competition for the prizes was somewhat below the average. The Rev. F. D. Horner, who has occupied such a prominent position at previous shows, was unrepresented; and Mr. Pohlman, who has also been very successful, was unable to compete, the show thus losing the collections of two of the leading cultivators in the northern counties. The collections staged were, on the whole, remarkably good; and as regards the quality of the flowers the exhibition will bear a most favourable comparison with those previously held in the metropolis. The collections of primulas contributed to the Primula Conference, which was held on Tuesday and Wednesday, were very numerous, and with the auriculas and a few miscellaneous subjects sufficed to fill the whole of the available space within the conservatory.

Auriculas and Polyanthuses.

Show Auriculas were on the whole highly meritorious, and as usual proved immensely attractive to the general body of visitors. The competition in the great class for twelve was limited to Mr. J. Douglas, gardener to F. Whitbourn, Esq., Great Gearies, Ilford, and Mr. C. Turner, Slough, both of whom, it is hardly necessary to say, contributed collections in the best possible condition. Mr. Douglas was first with finely developed specimens of Dr. Horner, Colonel Taylor (Leigh), Mabel (Douglas), Rev. F. D. Horner (Simonite), Verdure (Douglas), Duke of Albany (Douglas), Prince of Green Edges (Traill), Pizarro (Campbell), Conservative (Douglas), George Lightbody (Headly), which was selected for the premier award, C. J. Perry (Turner), and Smiling Beauty (Heap). Mr. C. Turner, who was awarded the second prize, contributed highly finished examples of John Waterston (Cunningham), George Lightbody (Traill), Meteor Flag, Beauty (Traill), Lord of Lorne (Campbell), Lady S. Dumaresque (Lighthody), Dr. Kidd, C. J. Perry (Turner), and C. E. Brown, Lord Clyde, Prince Henry (Turner), and Robert Traill (Lightbody). In the class for six, as in that for twelve, the post of honour was occupied by Mr. J. Douglas, who presented in fine condition Smiling Beauty (Heap), Abbé Liszt (Douglas), George Lightbody (Headly), Duke of Albany (Douglas), and Mabel (Douglas). Mr. C. Turner was a very close second with Lord Lorne, C. E. Brown, George Lightbody (Headly), Beauty (Traill), Lord Clyde, and Dr. Kidd. J. T. D. Llewelyn, Esq., Penllgare, Swansea, was third, with good examples of Duke of Argyll, Ellen Lancaster (Pohlman), Grey Friar, Acme (Read), Alderman Wishey (Headly), and Pizarro (Campbell); Mr. Hardwidge, Highbury Hill, was fourth.

There was a strong competition in the class for four, and the premier award was made in favour of T. E. Henwood, Esq., Earley, Reading, who contributed excellent specimens of George Lightbody (Headly), Conservative (Douglas), Lancashire Hero (Lancashire), and Sapphire (Horner). a violet blue self of exquisite beauty. Mr. C. Phillips, Earley, Reading, was a good second with George Lighthody, Conservative (Douglas), and Ellen Lancaster (Pohlman). A. Potts, Esq., Hoole Hall, Chester, was third, with well bloomed plants of Regular (Ashworth), Ellen Lancaster (Pohlman), George Lighthody (Headly), and Imperator (Litton). Mr. W. L. Walker was fourth, and Mr. A. J. Sanders, gardener to Viscountess Chewton, Cobham, was fifth. Mr. C. Orchard, gardener to J. Galsworthy, Esq., Coombe Leigh, Kingston-on-Thames, also exhibited excellent examples in the class. In competition for the prizes for two, A. Potts, Esq., was first with Acme (Read) and New Green (Headly); Mr. C. Phillips second with Acme (Read) and C. J. Perry (Turner); Mr. H. A. Rolt, Wimbledon, third with George Lighthody (Headly) and Lancashire Hero (Lancashire); Mr. C. Orchard fourth with Complete (Sykes) and George Lightbody (Headly); and Mr. Walker fifth.

Single Specimens were sufficiently numerous to contribute considerably to the interest and attraction of the exhibition. The following were the awards:—Green edge: Mr. C. Turner, first with George Lightbody (Headly) and second with Lancashire Hero (Lancashire); Mr. Douglas third and fourth with Prince of Green Edges (Traill); and Mr. T. E. Henwood fifth with Colonel Taylor (Leigh). Grey edge: Mr C. Turner first with George Lightbody (Headly), and fourth with Richard Headly (Lighthody); Mr. Douglas second and fourth with George Lightbody (Headly); Mr. Walker fifth with Richard Headly (Lightbody). White edge: Mr. A. Potts first with John Simonite, and fifth with Beauty (Traill); Mr. J. Douglas second with Acme (Read), and third with Conservative (Douglas); Mr. C. Turner fourth with Acme (Read), and sixth with True Briton. Selfs: Mr. W. Bolton first with Black Bess, and fifth with a seedling; Mr. Henwood second with Pizarro; Mr. C. Turner third with C. J. Perry (Turner), fourth with Topsy (Kay), and sixth with Lord of Lorne.

Seedlings were few in number, and not remarkable for high quality. For a white-edge seedling Mr. J. Douglas was awarded the first prize for *Snowdon's Knight*, a beautiful flower in the way of Catherina, but larger and of finer form. In the class for a green-edge seedling J. T. D. Llewelyn, Esq., was awarded the second prize for *C. Warmington*, a large and very stout flower, much cupped and very starry. Mr. W. Bolton was first in the class for seedling selfs with *Mrs. W. H. Rawson*, a large and well-finished flower of a rich purple marone colour; and second with *Mrs. Wilson*, a large and showy flower of a bright violet purple hue.

Premier Auricula was the fine specimen of George Lightbody (Headly), forming part of Mr. Douglas's first prize twelve.

Alpine Auriculas were plentiful and produced a very bright display of colour. Mr. C. Turner occupied the post of honour in the class for twelve with one of the finest collections that has yet been placed on the exhibition stage, the varieties being Athlete, J. J. Colman, Sensation, Unique, Edith, J. T. Poe, Mrs. Thomson, Charles Turner, a very distinct and beautiful variety, Hotspur, Princess of Wales, Sir H. Dowell, and Sceptre. Mr. J. Douglas was second, with fine specimens of Sensation, Queen Victoria, Rosamond Fellowes, Lady H. De Walden, Diadem, Mrs. Llewelyn, Princess of Waldeck, and seedlings. Mr. Turner was first also for six Alpines—staging Paragon, Mrs. Ball, Progress, Mrs. Thomson, Edith, and J. T. Poe. Mr. J. Douglas was second with Diadem, Lady H. De Walden, Princess of Waldeck, and Rosamond Fellowes. Mr. R. Dean, Ealing, was a close second, with finely-developed specimens; Mr. C. Orchard was fourth; and Mr. A. Sparling, The Nest, Blackheath, fifth.

Single Specimen Alpines had two classes set apart for them, and both were well filled. For varieties with gold centres Mr. C. Turner was first with

Pantaloon and second with John Ball; Mr. Douglas second and third with Rosamond Fellowes, and sixth with Princess of Waldeck; Mr. R. Dean fourth, staging Mrs. Thomson. White or cream coloured centres: Mr. Turner first with Columbine and third with Mrs. Taplin; Mr. R. Dean second with Tenniel; Mr. Douglas fourth and fifth with Lady H. De Walden.

Seedling Alpines were well shown by Mr. C. Turner, who was first in the class for flowers having white or cream-coloured centres with *Marguerite*, a large finely-formed flower, of a rich purple marone shading to bright purple. In the class for flowers with gold centres Mr. Turner was first with *Sunrise*, an effective variety, the flowers of average size, and deep crimson shading to bright crimson, and second with *Athlete*, a beautiful flower of a rich claret colour, shading to bright rose.

Collections of Auriculas, to consist of fifty plants each, were contributed by Mr. Douglas and Mr. C. Turner, to whom the first and second prizes were respectively awarded.

Fancy Auriculas were shown by Mr. Douglas and Mr. W. Bolton, who had collections of great excellence, and were awarded the first and second prizes in the class for these flowers.

Laced Polyanthuses were somewhat below the average, both in numbers and the quality of the specimens staged. For six Mr. J. Douglas was first with excellent examples of John Bright, Lancashire Hero, Henry I., William IV., Prince Regent, and George fourth. For three Mr. Walkden, Sale was first, staging good examples of Cheshire Favourite, Exile, and a seedling; Mr. Douglas second, staging George IV., Prince Regent, and John Bright; Mr. Dean a close third; and J. T. D. Llewelyn, Esq., fourth. In competition for the prizes for a single specimen Mr. Walkden was first and second with Cheshire Favourite; Mr. R. Dean third with George IV.; Mr. J. Douglas fourth with Prince Regent, fifth with Lancer, and sixth with Formosa.

Fancy Polyanthuses and Primroses were splendidly shown by Mr. R. Dean, who was first in both the classes provided for these attractively coloured flowers. In the class for twelve polyanthuses, Mr. Dean presented large densely flowered examples of Sulphur Gem, The Bride, Chancellor, Conqueror, and other beautiful flowers raised by himself. The most conspicuous of the varieties forming Mr. Dean's collection of single and double primroses were Fairy Queen, Ethel, Salvator, Clarissa, White Queen, Ellen Terry, and The Mikado. Messrs. Paul and Son, Cheshunt, were second in the two classes with excellent collections.

Hardy Primulas, in collections of twelve, were admirably shown. J. T. D. Llewelyn, Esq., was first and second, and staged exceptionally fine specimens of Primula erosa, P. cortusoides, P. japonica, P. denticulata, P. Sieboldi, P. viscosa, P. viscosa nivea, P. rosea, a splendid example, the best in the exhibition, P. verticillata, and P. obconica, a large specimen, bearing about twenty-five umbels. Mr. J. Douglas third. Messrs. Paul and Son exhibited a good collection.

Miscellaneous Contributions comprised a magnificent collection of standard and bush roses from Messrs. Paul and Son; a group of stove and greenhouse plants from Mr. B. S. Williams, Upper Holloway; a collection of hardy flowers from Mr. T. S. Ware; a collection of daffodils from Messrs. Barr and Son; and six large and densely flowered specimens of double cinerarias from Messrs. H. Cannell and Sons, Swanley.

The judges were Mr. W. Bolton, Mr. Shirley Hibberd, Mr. Pohlman, and Mr. John Laing.

Primulas.

The response to the invitation of the committee of the Primula Conference was exceedingly liberal, and the numerous collections formed an exhibition equally remarkable for its attractiveness and interest. The contributions included collections from Kew, and the Botanic Gardens of Edinburgh and Glasnevin, from the principal nurserymen who devote special attention to alpine plants, and from numerous private growers in various parts of the country.

The collection from the Royal Gardens, Kew, comprised one hundred and eighteen species and varieties, and from its thoroughly representative character was especially interesting. Conspicuous in the collection were Primula minima, P. Muretiana, P. venusta, P. Fachini, P. rosea grandiflora, P. carniolica, P. denticulata, P. viscosa, P. spectabilis, P. spectabilis Wulfeniana, P. marginata, P. involucrata, and P. denticulata erosoides. The drawings of a considerable number of the species were also exhibited. The collection exhibited by the authorities of the Edinburgh Botanic Gardens comprised examples of the leading types, and as the whole of the plants were fully in bloom, it was especially attractive. It included P. obconica, with about twenty umbels; P. Clusiana, P. viscosa, in variety, including several distinct and beautiful varieties raised in the garden; P. similis, a distinct form with mealy foliage and bright yellow flowers; P. marginata, P. integrifolia, P. decora, and P. minima, the last-mentioned being a very dwarf grower, forming a carpet of deep green foliage on the ground, and producing large bright rose-coloured foliage. With this was exhibited a water-colour drawing of a plant in Mrs. Muirhead's garden at Paxton, which measures seven inches across and blooms most profusely. In the excellent collection from Mr. F. W. Moore, Royal Botanic Gardens, Dublin, were P. rosea, P. integrifolia, and P. viscosa nivea, in fine condition, and a very dark form of P. Casbmeriana.

The contributions of nurserymen included large representative collections from Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, and Messrs. Backhouse and Son, York, in which the greater number of the species and varieties mentioned above were included. In Mr. Ware's collection were several dark forms of P. denticulata and an example of P. Boveana in the way of P. verticillata. In the York collection were P. carpathica, which has large umbels of sulphur-coloured flowers; P. Balbisi, a very handsome species with bright yellow flowers; and P. Allioni, a very dwarf species, bearing large pale rose-coloured flowers. Messrs. G. Bunyard and Co., Maidstone, exhibited a collection of duplex or hose-in-hose polyanthuses, representing a good strain of the flowers; and Mr. R. Dean sent a small but interesting collection of primulas and auriculas, in which occurred a remarkable seedling auricula bearing flowers fully two inches in diameter, and of a bright rose colour shading to pale rose. Messrs. J. Veitch and Sons, Chelsea, exhibited an attractive group of polyanthuses and several alpine primulas.

Chief amongst the amateur cultivators was Mr. J. T. D. Llewelyn, who exhibited a very beautiful collection, in which P. viscosa, P. rosea, P. auricula, P. floribunda, and P. obconica, were especially well represented. P. Rusbyi, a recently introduced species from America, with deep purple flowers, was also included in the collection. G. F. Wilson, Esq., Weybridge, contributed two fine specimens of Primula denticulata lifted from the open borders, and several beautiful primroses with blue flowers, amongst them being Alice Wilson, which was certificated the week previous by the Floral Committee. Dr. Hogg exhibited examples of the Bardfield and the common English Oxlips, to show their distinctive characters and seedlings from the Bardfield type with rose-coloured flowers. Miss Jeykel, Munstead, exhibited a beautiful group of polyanthuses and primroses, tastefully arranged on a bank of moss. From the Hon. and Rev. J. T. Boscawen, Lamorran, Cornwall, came a liberal contribution of wild primroses, comprising white, red, and yellow forms. Mr. G. Goldsmith, gardener to E. G. Loder, Esq., Floore, Weedon, exhibited a collection consisting of about sixty examples of primulas, and other alpine plants. Mr. Toby, Mr. Wordsley, Mr. Walkden, Mr. Davis, and Mr. Douglas also contributed to the gathering—the last-mentioned having a large and attractive collection, in which auriculas predominated.

The undermentioned had the distinction of a first-class certificate conferred upon them:—

Primula mistassinica.—A diminutive species, with deep green leaves and very small flowers of a delicate blush pink hue. Exhibited by Messrs. J. Veitch and Sons.

P. sp?—A handsome form in the way of P. denticulata, and bearing small umbels of bright purple-blue flowers with white centre. Introduced from the Himalayas, where it is found growing at an altitude of 14,000 feet, and exhibited by Mr. Lindsay of the Edinburgh Botanic Garden.

P. viscosa, var. No. 1.—A beautiful variety, bearing large finely formed flowers of a brilliant crimson hue, with white centre. Raised in the Edinburgh Botanic Garden.

P. viscosa, var. No. 4.—A handsome variety, the flowers large, finely formed, and of a rich violet purple hue. Raised in the Edinburgh Botanic Garden.

P. denticulata erosoides.—A distinct variety, producing large umbels of deep blue flowers. From Kew.

P rosea, var.—A very fine form of this now well-known species, remarkable for the large size and brilliant colouring of the flowers. From J. T. D. Llewelyn, Esq.

P. hybrid?—A very fine hybrid, obtained by a cross effected between P. auricula and P. petronella. The flowers are rather larger and of finer form than those of the first-mentioned species, and of a rich yellow colour with white centre. Exhibited by J. T. D. Llewelyn, Esq.

PRIMULA CONFERENCE.

It is agreed all round that the Royal Horticultural Society has added to the number of its highest triumphs in the Primula Congress held at South Kensington last week. Being arranged in conjunction with the beautiful exhibition of the National Auricula Society, there was ensured a great and comprehensive display of primulas, the great conservatory being completely filled with the several collections. As a record of the event will be of some interest in years to come, and is of especial interest now, we present here the official list of officers and of distinguished botanists who were invited to assist:

President of the conference, John T. D. Llewelyn, F.L.S.; chairman of committee, Dr. Michael Foster, F.R.S.; corresponding foreign secretary, Maxwell T. Masters, M.D., F.R.S.; secretary to the committee, James Douglas, Great Gearies, Ilford.

Committee.—Samuel Barlow, W. H. Baxter, J. G. Baker, F.R.S., Jas. Backhouse, jun., Colonel Beddome, F.L.S., Jas. Boyd, jun., William Brockbank, F.L.S., F. W. Burbidge, Henry Cannell, Colonel R. Trevor Clarke, L. Clark, G. C. Churchill, F.L.S., R. Dean, Rev. C. Woolley Dod, Rev. H. Ewbank, H. J. Elwes, F.L.S., T. M. Franklen, John Fraser, Patrick Neill Fraser, F. Du Cane Godman, F.R.S., Andrew Henderson, J. Shirley Hibberd, Robert Hogg, LL.D., F.L.S., Rev. F. D. Horner, E. Hill, Miss G. Jekyl, Edmund Giles Loder, W. B. Latham, John Laing, Mrs. Lawrenson, Robert Lindsay, R. Irwin Lynch, Sir George Macleay, George Maw, James McIntosh, Thomas Moore, F.L.S., F. W. Moore, Miss C. M. Owen, George Paul, J. T. Peé, H. A. Rolt, C. H. Sharman, Arthur Sutton, Harry Turner, J. Tyerman, Rev. F. Tymons, Harry J. Veitch, F.L.S., A. O. Walker, F.L.S., T. S. Ware, Anthony Waterer, Philip Worsley, B. S. Williams, F.L.S., and Geo. F. Wilson, F.R.S.

Foreign Members of the Committee.—Prof. Dr. Eichler, Berlin; Prof. Dr. Wittmack, Berlin; Prof. Dr. Engler, Breslau; Herr Inspector Stein, Breslau; Herr Max Kolb. Munich; Herr Max Leichtlin, Baden-Baden; Prof. Dr. Kerner, Vienna; Herr F. Maly, Vienna; Prof. Dr. Willkomm, Prague; Prof. Dr. Peyritsch, Innsbruck; Herr Dr. V. Bobá, Buda; Prof. Dr. Kanitz, Kolozsvar; M. Crèpin, Brussels; Dr. Lange, Copenhagen; M. Max Cornu, Paris; M. Naudin, Antibes; M. H. Vilmorin, Paris; M. Planchon, Montpellier: M. Correvon, Geneva; M. Otto Forster, Scheibl, Austria; M. Frobel, Zurich; Prof. Caruel, Florence; M. Groves, Florence; M. Witte, Leiden; M. Krelage, Haarlem; Prof. Dr. Henriquez, Coimbra; Dr. E. de Regel, St. Petersburg; Prof. Dr. Lindberg, Helsingfors; M. Boissier, Valleyres; M. A. de Candolle, Geneva; Dr. Asa Gray, Harvard, Mass; Dr. Lawson, Halifax, N.S.; Dr. Thurber, New York; Prof. Meehan, Philadelphia; Dr. George Watt, Calcutta; Dr. King, Calcutta; Dr. H. Trimen, Peradenyia; and Dr. Treub, Buitenzorg.

The programme published by us last week was varied on Wednesday owing to the inability of Mr. Samuel Barlow, in consequence of ill-health, to contribute as promised. In his place the Rev. F. D. Horner contributed a paper on the improvement of Florists' Primulas, the text of which appears in the present sheet. With this exception the programme was carried out, and the persons present were advantaged by the substitution of brief addresses setting forth the points of special interest, instead of the formal reading of the lengthy essays.

At noon on Wednesday there was a large muster of lovers of primulas in the Albert Hall. The president, J. T. D. Llewelyn, Esq., having taken the chair, opened the proceedings with a few remarks on the great advantages which had been derived from the holding of the previous conferences under the auspices of the Royal Horticultural Society, and he expressed a hope that the Primula Conference would be not less successful.

Dr. Masters then briefly referred to the contributions from Professor Regel, Professor Asa Gray, and other foreign botanists, and proposed that the thanks of the Conference be conveyed to them. The vote of thanks was seconded by Dr. Michael Foster, and duly carried.

Mr. Shirley Hibberd was then, in accordance with the programme, called upon by the Chairman to read his paper on "The Origin and History of the Florists' Auricula," but he said that, to economize the time of the Conference, he should, instead of reading the whole of the paper, content himself with pointing out a few of the more important facts bearing on the subject with which it dealt. At the conclusion of Mr. Hibberd's address Sir Joseph Hooker said that he had listened to it with much pleasure, for it was full of interest and rich in information, and he thought that Mr. Hibberd's selection

of Primula auricula as the parent of the florists' auricula was quite right. He believed that the conferences were exceedingly useful, and, whilst reminding him of the meetings held in Regent Street fifty years since, he believed them to be most favourable auguries of the future of the Royal Horticultural Society. He had great pleasure in proposing a vote of thanks to Mr. Hibberd.

Mr. J. G. Baker said he could fully endorse Sir Joseph Hooker as to the great interest of the paper, which dealt with the question admirably from a florist's point of view. But he must take exception to the fear expressed that the botanist did not appreciate the work of the florist. He also considered that justice had not been done to the botanists of the sixteenth century, and referred to the "Rariorum Plantarum" of Clusius, and other books published in the second half of the century, in proof of the admirable work that had been done, especially with the primulas. With reference to the parentage of the auricula, his theory was that P. auricula was the parent of the show auriculas and P. pubescens the parent of the varieties forming the alpine section. Dr. M. Foster, Mr. Lynch, Mr. W. Bolton, and Mr. Fraser also took part in the discussion.

Mr. W. Bolton then read the Rev. F. D. Horner's paper on the improvement of the "Florists' Primulas." At the conclsion of the reading of the paper, Mr. Llewelyn said that it was important raisers should in the selection of seedlings pay special attention to the proportions of the flowers, for unless the colours were well balanced the flowers would in the eye of the florist possess but little beauty. He thought also it was essential to select flowers with good colours, and to reject those in which the colours are undecided. Mr. Burbidge, Mr. Bolton, and Mr. R. Dean also made a few observations on the paper.

Mr. Baker next pointed out the salient features of his paper on the "Nomenclature of the Alpine Primulas," and referred to the great value of the list of primulas prepared by Mr. D. Dewar.

Dr. Masters suggested that in consequence of the length of time the Conference had been sitting, his paper on the "Root Structure of Primulas" should be taken as read, and this suggestion was ultimately adopted. A rather lengthy discussion then ensued on the cultural requirements of the Himalayan primroses, in which the Chairman, Mr. G. F. Wilson, Mr. G. Paul, and the Rev. C. W. Dod took part. There was a remarkable concurrence of opinion that the majority of the species required an abundance of water at the roots, more especially during the early part of the summer, and an open position. Mr. Wilson stated that he found P. capitata to thrive in a damp soil and in a shady position; and the Rev. C. W. Dod pointed out the great importance of shelter during the winter to P. purpurea (Royle).

The proceedings, which extended over three hours, were brought to a close with the votes of thanks to the contributors of the papers and to the chairman.

ROYAL PAINTERS IN WATER COLOURS.

The sixty-eighth exhibition of the Royal Institute of Painters in Water Colours was opened on Monday last in the admirably lighted new galleries in Piccadilly. The collection comprises 1,066 original drawings, and a few examples of sculpture, filling the three spacious galleries with a delightful miscellany of ideas. Considering the number of contributions, the average of merit is certainly high, and amongst the more important works on view are a few of the very best productions of famous masters.

In the West Gallery, the place of honour is assigned to Mr. W. L. Thomas's "Boulogne Sands" (100), a picture conceived in the vein of Frith's "Derby Day," but less dramatic, and somewhat tame, though full of interest. The want of force distresses one, but the picture will be much admired. Near by is one of the gems of the exhibition in Mr. Arthur Severn's "Sunset over Coniston" (99), a glorious delineation of the effects of vapour in giving colour. The dark mountain and the coppery sky acquire dramatic intensity in their relationships in this splendid effort. A pretty bit of work is Mr. W. S. Stacey's "Cat's Cradle" (7), which might be taken as a design for the illustration of the paper on the subject in the *Golden Gate*, for there is a good suggestion of the educational uses of the simple game. It is a great transition from this homely picture to Mr. Fred Slocombe's "Reflections" (124), a delicate damsel in a green dress, who appears for the present to be seeking an object in life. "What's Up?" (139), by Mr. T. W. Couldery, is a capital bit of character painting, a row of heads, mostly juvenile, with a policeman as a supplement, all looking over a wall at something immensely interesting. "Arguing the Point" (161), by Mr. J. H. Barnes, shows an inn-yard, with groups of rustics, and one energetic table-thumper in argumentative action. "Sunset at Sea" (191), by Mr. Arthur Severn, surpasses in glory the fine work named above, and is, perhaps, the best thing hitherto exhibited by this master of the art. An ambitious work is M. L. Da Rios's "La Tombola" (221), in which the game is played by a party of lasses whose dresses afford scope for colour, but have not tempted the artist beyond the limits of discretion; he has, in fact, produced a lively and most interesting picture, while exercising commendable self-restraint. Mr. E. M. Wimperis has "Wild Wales" (171) and "Flint Castle" (217), both in his best style; and Mr. Keeley Halswelle, in "The Pass of Brander" (266), gives us a masterly study of rocks, clouds, and a rainbow. The best of the flower pieces in this gallery is the one entitled "Checkmate" (228), by Marian Chase, a very lively and truthful rendering of chrysanthemums. Cabbages are not flowers, but the curious colouring of "Surrey Cabbages" (58), by Mr. E. F. J. Clarke, will interest the students of such things.

In the Central Gallery we are agreeably arrested by the delightful rendering of a most familiar scene, "The Lledr Bridge" (321), by Mr. J. W. Whimper. Although so often sketched, painted, photo'd, and even modelled, this delightful picture gives newness to the scene; and, strange to say, it is the newness of truth, a delightful rendering of hard lines and dry stones. Mr. Wimperis has here "A Rough Road by the Sea" (383), grand in its breadth of moorland herbage and rolling clouds. We are much taken with Mr. J. Falleylove's "Hampton Court Palace" (574), which, for its historical value and sound merit as a work of art, ought to be secured for a public gallery or museum; for it will be almost a misfortune should it be hidden from the public in a private collection. Two amusing works here are Mr. E. A. Abbey's "March Past" (593), and Mr. F. Dadd's "Food for Powder" (614); a lot of human nature in both pictures. A beautiful bit of clear illumination, in a quite winning scene, is Mr. H. Hine's "Sunlight at St. Albans" (628). Mr. C E. Holloway has missed the mark in his chalky view of St. Ives (673), which may be shown with the glamour of a Greek city on a promontory of the Ægean with only a moderate effort of imagination; and the same may be said of Mr. A. W. Weedon's "Mist in the Glen" (679). We cannot profess admiration of Sir J. D. Linton's "Romeo and Juliet" (608), for the foreshortening of the hero's face distresses one, but in technique the work is superb. Amongst the flower subjects here we must mention the "Hollyhocks" (552) of Mary Butler, as displaying admirably the beauties of the single flowers; while another group of the same flowers (594), by Mr. G. S. Elgood, presents them in a different but very pleasing aspect. A "Study of Pæonies" (535), by Minnie Ayre, suggests the splendour of these flowers, though somewhat opaque in colouring.

In the East Gallery a fine bit of breezy moor, with grey clouds, attracts us. It is Mr. A. W. Weedon's "Stacking Peat" (739). Mr. J. Falleylove in his "Christchurch" (787) tries one's patience, for he shows us a lovely bit of the old Hampshire town, in very hard modelling and heavy colour, but the solidity of the work does not detract from its faithfulness; it is a beautiful drawing. Mr. Charles Potter contributes a notable work in "First Blush of Morn" (797). This should establish for the summit of Carnedd Llewellyn the title of Jungfrau, or its equivalent, the delicate blending of rosy and creamy tints forcibly reminding one of the great mass that when bathed in light bears the name in a mightier range than Snowdon. This is an important work, and has value beyond its high pictorial merits. A curiously cold drawing is Mr. E. Hayes's "West Pier, Gorleston" (919), but full of good work and steeped in truth. Mr. Ghent's "Passing Showers" (984) is probably from a sketch made not many miles from the spot selected by Mr. Potter for his British Jungfrau. Here again is Mr. Arthur Severn with "Storm Cloud Passing over Venice" (1,037), a grand mass of smoky black cloud, fringed with stormy red, and evidently charged with lightning enough to consume Venice, should that event be in the story. It is a work of great power. "Beaching a Pink" (1,063), by T. B. Hardy, gives us an angry aspect of the Dutch coast, and we feel the chill of the north wind that is rising, and that will justify the work that is in progress. Amongst flower pieces here we are attracted by Lucy Varley's Sunflowers (901), which are in a low tone for such a subject, the fair artist having been scarcely fair to the colouring of her huge flowers. But Mrs. Duffield makes amends, perhaps, in her "Guelder Roses" (764), for here the tame hut admirably drawn viburnums are warmed with a bunch of fiery pelargoniums, the purity and brilliancy of which are of peculiar interest, for such daring colour is but seldom seen except in the picture gallery of great Nature's own.

Correspondence.

VARNISHED HOT-WATER PIPES.

Having had some unpleasant experience with varnished hot-water pipes, I am very sorry indeed to learn that your correspondent "J. D." has made the mistake of having the pipes in the houses under his charged varnished. He is not the only gardener who has varnished hot-water pipes, for I once did it myself, and I know two others who committed the same mistake. The question now to consider is, What can he done to prevent serious injury to the vines? According to my experience, "J. D." should continue, as you advise, to ventilate as freely as circumstances will permit, and allow the ventilators at the apex of the roof to remain open a little way during the night. He should also, as quickly as possible, paint the pipes with a thick solution of lime, which will cause the pipes to rust and facilitate the removal of the varnish with which they are coated. The next step will be to procure some thin boards, and nail them together in such a way that they will resemble the letter V. As these contrivances are formed, turn them bottom upwards over the pipes to prevent water falling on the pipes, as the vapour rising from them does much mischief. The pipes should not, under any consideration, be syringed or sprinkled with water. When the vinery is again at rest, well wash the pipes and paint them with lead-colour paint. If possible, all tender plants should be removed from the house. G. Wooderson.

Bexley Heath, Kent.

I was once in the same predicament as your correspondent J. D. in consequence of having the pipes varnished instead of painted. The pipes were in a forcing house, and all the caladiums, maidenhair ferns, and cucumbers were cut down or turned brown. In a cool-house the leaves of the pelargoniums turned brown and dropped off. My remedy was to wash the pipes with hot lime when the water in them was nearly at boiling point. The pipes were washed over twice with the lime, and the application was most beneficial. As much air should be admitted at the top of the house at all times as the weather and and other circumstances will permit. R. W.

Docking Hall, Norfolk.

SPRING FLOWERS.

The cruelly cold weather of the past fortnight has pretty well pinched out of existence the few flowers that were appearing, and completely stopped the leafing of the trees. But once again nature is making an effort to beautify the world. On Monday last, with a north-east wind blowing, there was a sensible improvement in respect of temperature, and vegetation made a kind of spring, though but a small one, and the progress since then has been slow but steady. All the trees except the oak and the ash are now showing a glimmering of greenness; many fruit-growing districts are white or are whitening with bloom, and the gardens are pretty freely spangled with flowers. The narciss family are in full force; and not only are trumpet daffodils plentiful, but the poet's narciss is flowering freely in gardens near London. The primula family are making pretty faces at us in the shape of primroses, oxlips, and polyanthuses, but alpine primulas are shy to show their flowers, and even *Primula rosea*, which we see glowing on the rockery, has been coaxed into flower in a frame, and has but just been planted to cheat us into belief that spring has really come. All the large-leaved saxifragas or megaseas are in flower, or very soon will be, and the rock cresses, drabas, and later hellebores are gay with flowers. Amongst the flowering trees there is nothing more gay than *Forsythia suspensa*, with its soft yellow pendant bell-like flowers; but *Prunus cerasifera*, the myrobalan plum, and *P. divaricata* are conspicuous by reason of their profuse snowy bloom. In London the horse-chestnuts are fully in leaf, and their great panicles are forwarder (considering the season) than might be expected as compared with the backward state of flowering trees in general. In greenhouse collections several good things are now in condition, such as *Kennedya rubicunda*, *Clianthus puniceus*, and *Acacia armata*. This, indeed, is the season for acacias, and the beautiful *A. dealbata* and *A. affinis* are conspicuous amongst many with their welcome flowers. Of soft stuff, such as cinerarias, lachenalias, cytisus, and the like, there is no scarcity; and in good collections *Mackaya bella*, with its delicate mauvy grey flowers, is a fine feature.

Replies to Queries.

Sap.—G. W.—You are quite right in your opinion.

Dahlias.—H. D. T.—The following would form a good stand show: Alexander Cramond, Criterion, Canary, James Stephen, Mrs. Gladstone, Henry Bond, Fancy, Chorister, General Gordon, George Barnes, Lotty Eckford, Miss Browning, Professor Fawcett, Pompone Gem, Dove, and Lydia.

Strawberries.—H. D. T.—The following are five fine varieties which could be successfully cultivated on your soil: Vicomtesse Héricart de Thury and Grove End Scarlet for preserving; and Sir Joseph Paxton, President, and Frogmore Late Pine for dessert. The last mentioned is useful for late supplies, but if you decide to limit the number of varieties to four it should be omitted.

Gardening for Amateurs.—Sussex.—It is printed by A. Tesseyman, Whitefriargate, Hull, price one shilling. It is very rarely we can give the price of a book that comes before us for notice, for the simple reason that publishers do not condescend to give the information unless it is specially and directly inquired for. But the admirable little essay on "Gardening for Amateurs" has the price plainly stated on the title page—a sort of hint to the reader that the authors intend to be frank and plain from first to last.

Weighing Bread on Delivery.—J. F.—This question obtained peculiar elucidation some three years ago in the case of Ridgway v. Ward, in the Court of Appeal. We could not make room for report of the case, but we can state the result in a few words. Bakers who deliver bread to their customers by servants not provided with beam and scales, so that the purchaser may have the bread weighed at the time of delivery, are liable to be convicted in a penalty under 6 and 7, Will. IV., c. 37. Sec. 7. In the case cited, the magistrate had convicted, and the Court confirmed on appeal.

Obituary.

On the 16th inst., at Montagu House, Kew, the Rev. William Williamson Newbould, M.A., F.L.S., aged 67 years. The deceased gentleman was for many years associated with the Royal Herbarium, Kew, and was well-known and much respected by botanists and plant collectors.

On the 16th inst., at his residence, 41, Mecklenburgh Square, Sampson Low, in his 89th year.

Markets.

COVENT GARDEN.

Fruit.

Apples ..... per ½-sieve	2s. 6d. to 4s. 0d.
Apples, American, per bar.	10s. 6d. ,, 21s. 0d.
Cobs, Kent ... per 100 lbs.	35s. 0d. ,, 45s. 0d.
Grapes ..... per lb.	4s. 6d. ,, 8s. 0d.
Lemons ..... per case	8s. 0d. ,, 10s. 0d.
Pine-apples, English, per lb.	1s. 0d. ,, 1s. 6d.
Pine-apples, St. Michaels, each	3s. 6d. ,, 7s. 6d.
Strawberries ..... per lb.	4s. 0d. ,, 8s. 0d.

Vegetables.

Artichokes, Globe, per dz.	2s. 0d. ,, 3s. 0d.
Asparagus, English, per 100	5s. 0d. ,, 6s. 0d.
Asparagus, French, per bun.	7s. 6d. ,, 12s. 6d.
Beans, French .... per lb.	1s. 0d. ,, 1s. 6d.
Beet ..... per doz.	1s. 0d. ,, 2s. 0d.
Broccoli, Sprout, per bush	3s. 6d. ,, 4s. 6d.
Carrots ..... per bun.	0s. 4d. ,, 0s. 6d.
Cauliflowers ..... per doz.	3s. 0d. ,, 4s. 0d.
Cucumbers ..... each	0s. 8d. ,, 1s. 0d.
Endive ..... per doz.	1s. 6d. ,, 2s. 6d.
Garlic ..... per lb.	0s. 4d. ,, 0s. 6d.
Herbs ..... per bunch	0s. 3d. ,, 0s. 4d.
Horse-radish .... per bun.	3s. 0d. ,, 4s. 0d.
Lettuces, Cabbage, per doz.	1s. 6d. ,, 2s. 6d.
Lettuce, Cos ..... per doz.	4s. 0d. ,, 5s. 0d.
Leeks ..... per bun.	0s. 3d. ,, 0s. 4d.
Mint, Green ..... per bun.	0s. 8d. ,, 1s. 0d.
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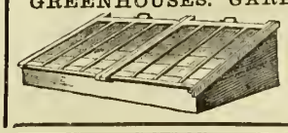

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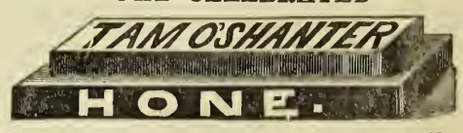

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1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
2	S	**Low Sunday.**	4 33	3 10	7 23	4 10	5 25	0 43	1 3	10 8	10 28	51·3	Ada aurantiaca	Pamplona.	122
3	M	Jamaica taken, 1695. [Sittings begin.	4 31	3 16	7 24	4 37	6 36	1 21	1 40	10 46	11 5	51·5	Cattleya speciosissima	Caracas.	123
4	Tu	● New Moon, 3h. 43m. morn. Easter Law	4 29	3 22	7 26	5 6	7 45	1 58	2 15	11 23	11 40	51·7	Dendrobium nobile	Assam.	124
5	W	Napoleon I. died, 1821. [assaulted, 1882.	4 28	3 28	7 27	5 40	8 53	2 33	2 49	11 58	—	52·0	Dendrobium Hookeri	Sikkim.	125
6	Th	Lord Frederick Cavendish and Mr. Burke as-	4 26	3 32	7 29	6 22	9 59	3 9	3 27	0 14	0 34	52·2	Phalænopsis intermedia	Manilla.	126
7	F	Savings Banks instituted, 1815.	4 24	3 37	7 30	7 10	10 59	3 47	4 8	0 52	1 12	52·5	Epidendrum Wallisi	Colombia.	127
8	S	Half-Quarter Day.	4 22	3 41	7 32	8 7	11 52	4 30	4 51	1 33	1 55	52·8	Vanda suavis	Java.	128

BRENTWOOD HORTICULTURAL SOCIETY.—THE SUMMER EXHIBITION of the Society will be held in connexion with the Essex Agricultural Society's Show, in the Grounds at Weald Park, near Brentwood, on THURSDAY and FRIDAY, June 17 and 18, 1886, when a VALUABLE SILVER CUP, the gift of the President, J. BIGGS, Esq., and about Three Hundred Prizes will be offered for competition. Schedules may be obtained of the Secretary, Thos. Haws, Brentwood.

Exhibitions and Meetings for the Ensuing Week.

Tuesday, May 4.—Indian and Colonial Exhibition.—Opening Day.
Thursday, May 6.—Edinburgh International Exhibition.—Opening Day.

Auction Sales for the Ensuing Week.

Tuesday, May 4.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
Wednesday, May 5.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Carnations, Picotees, Plants, &c.
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Wednesday and Thursday, May 5 and 6.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

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Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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The Gardeners' Magazine.

SATURDAY, MAY 1, 1886.

Colonial and Indian Exhibition, to be opened by Her Majesty the Queen on Tuesday next, promises to prove the most attractive and useful of the series—of which also it will be the last. The powers that be are resolved to "rest and be thankful" when this undertaking is completed; and therefore the collective illustration of the vegetable kingdom that certain horticulturists, at the instance of the R.H.S., proposed for the year 1887, may be regarded as removed from the region of reasonable expectations. It is well that the "wind-up" should be of an impressive nature; and the promise is now before us of a magnificent demonstration of the capabilities of our colonies and dependencies, as also of their public spirit and conformity to the usages of the country they directly or indirectly, but always honourably, represent. Great surprises are in store for the British public at South Kensington. We have complained of the colourless sheds and shop-like courts of previous exhibitions; but it is likely we shall have but slender grounds for the repetition of such complaints. For weeks past the courts and corridors have been gay enough for festive times, even if very disorderly with packages and trolleys and the machinery of electrical installations. At all events, it has been everywhere impressed on one that "The Colonies"—for such will be the colloquial name of the thing—will not be housed in shabby sheds or advertise their products in the "shoppy" fashion that was so unpleasantly conspicuous in the "Healtheries" and the "Inventions." The first exhibition, devoted to Fisheries, was at once fresh in subject and obtained high-minded treatment. The two that followed, though rich in interest and magnificent in certain features, were, upon the whole, examples of "how not to do it;" for in each case "the shop" was thrust forward so unpleasantly that no one inquired if there was any "parlour" behind it. Well, we have changed all that: the commercial features will have the importance they are entitled to, because they will not be allowed to swallow up all else to their own detriment no less than of other interests.

India will make herself known to the British public by means not hitherto afforded her. The old Indian Museum in Leadenhall Street, and the new thing of the same name in South Kensington, never obtained the attention they deserved; for, in fact, they were treated with the indifference we are accustomed to when debates on Indian affairs take place in Parliament. The wood carving—the productive industries, and the manners and customs of our fellow-subjects in the East are admirably illustrated, and will certainly add new chapters to the sum of popular information. Very happy is the juxtaposition of Old London with the Indian Palace, wherein are located the reception-rooms of the Prince of Wales: and the contrast between the two gateways is full of matter for thought, retrospective and prospective. Ceylon, the near neighbour of India, will not be outshone in splendour of display, and, as being nearer the Equator, and of a very varied surface, it will stand apart in respect of products in many interesting particulars.

The provinces of Greater Britain—Canada, Australia, New Zealand, The Cape, the West Indies, and the coast colonies of Africa—have all entered into the project with suitable taste and spirit; and their combined efforts will abundantly justify the fame of the British people as the first of colonizers. "British" we may designate them, in accordance with growing usage; but, beyond doubt, the purely British element is less seen that of the Anglian and Frisian forces—the restless, sea-loving, venturesome, daring, and enterprising race now collectively known as Anglo-Saxon. It is in the nature of a monument to Hengist, Cerdic, and Ida that the thing appears when regarded from the historical and ethnographical point of view. But there remains a wonder: and it is that every known race has some sort of place in it; and this exhibition is scarcely less than a museum of anthropology, reaching back to the most ancient times and pointing forward no one can say how far or for how long, yet in some way pregnant with the fate of the entire human family. For were the Anglo-Saxon blotted out, the planet would require to be reconstructed and replenished.

It is the duty of all to wish well to this enterprise and to criticise it generously. It is the embodiment of much thought, enormous labour, and most tremendous expenditure. It should prove the most successful of the series to which it will form a glorious *finale*. We cannot regulate the weather for it, but we shall hope for a fine season, for that will be good for many things besides the Colonial and Indian Exhibition.

Taunton Horticultural Society.—Annual show, August 12.

Hull Horticultural Society will hold its annual exhibition July 14 and two following days.

Mr. J. Walker has been engaged as gardener by A. Soames, Esq., Old Hall, Grimsby.

Mr. R. Heggie has been engaged as gardener at Monkwood, Edinburgh, the residence of T. S. Aitchison, Esq.

Mr. R. Fraser has been engaged as gardener by R. H. Measures, Esq., Woodlands, Streatham, S.W.

Sir John Lubbock will deliver a lecture on the "Forms of Seedlings" at a meeting of the Royal Institution, Friday, the 21st inst.

Wimbledon Horticultural Society will hold its annual exhibition in the grounds of Belvedere, July 7.

The Queen will open the Liverpool Shipping Exhibition on the 11th.

Royal Academy and Grosvenor Gallery Exhibition will be opened on Monday next.

Mr. J. Douglas Dick has been appointed by the Commissioners of the Colonial and Indian Exhibition superintendent of the entrances, a post he has filled with singular ability at the previous exhibitions.

Richmond Horticultural Society.—The summer exhibition will be held in the Old Deer Park, July 7; autumn exhibition, November 11 and 12.

Horticultural Club.—At the next monthly meeting of the club on Tuesday, May 11, Mr. George Paul will discourse on the Bog Garden.

Caledonian Rose Show will be held in Edinburgh in the second week of July.

Tobacco cultivation in Holland and Belgium is the subject of an important letter in the *Times* of April 29.

Synonymic Lists of Primulas were prepared for the Primula Congress by Mr. Daniel Dewar, of the Royal Gardens, Kew; and by Herr B. Stein, of the Botanic Gardens, Breslau. Printed copies of both were distributed at the meeting of the conference.

Odontoglossum crispum apiatum, which was exhibited by Baron Schroder at the meeting of R.H.S. on Tuesday, was purchased a few days previously at Messrs. Protheroe and Morris's rooms for 160 guineas.

Australian fresh Fruits and Vegetables are to be sent over fortnightly to the Colonial Exhibition. They will chiefly come from Victoria and South Australia, and will be brought over in cool ice-chambers on the same plan as the foreign meat.

Orchid Exhibition.—The orchid exhibition at Mr. William Bull's establishment in the King's Road, Chelsea, which annually attracts so much attention, and is so largely patronized, opens on Tuesday, May 4th, and continues through May, June, and July.

Easter Monday was a great day for outdoor entertainments. On the Great Eastern Railway there were 128,000 passengers. At Kew Gardens the visitors numbered over 80,000, against 46,000 last year. Crystal Palace had 55,000 visitors, the Zoological Gardens 31,200, and Hampton Court Palace 30,000.

The Queen will enter the Colonial Exhibition from the Exhibition Road at twelve noon on Tuesday, and will be received by the Prince of Wales and the Royal Commissioners. The doors of the exhibition will be opened at 9.30, and will be closed at 11. The entrance from the Albert Hall will remain open until 11.30. From this time there will be no admission until 4 p.m., when the exhibition will be open to all comers on payment of one shilling, or presentation of ticket.

National Rose Society.—The schedule of prizes offered for competition at the exhibitions to be held at South Kensington and Birmingham in July next has been issued; and we observe that it is fully equal in liberality and comprehensiveness to the schedules of previous years. A list of synonymous roses is given, and for the guidance of exhibitors in the classes for new roses the schedule includes also the names of all the varieties eligible to be shown as "new" at the exhibitions of the society.

National Chrysanthemum Society.—The schedule of prizes offered for competition at the exhibitions to be held in September, November, and January next, affords abundant evidence that the executive is fully alive to the responsibilities of a society occupying so important a position, We have already given publicity to the principal prizes offered at the several exhibitions, and it will now suffice to say that ample provisions have been made for chrysanthemums of all classes and seasons. The meetings of the Floral Committee will be held at the Royal Aquarium, October 13 and 27, November 10 and 24, and December 8, at 1.30 p.m.

Ancient British Oak appears to have far exceeded in dimensions the finest growths of the present age. Recently at Brigg, in Lincolnshire, a British ship has been uncovered, and proves to be unique as a relic of prehistoric times. It is in the form of a single tree "dug out," and is 48 ft. long, 4 ft. 4 in. wide, and 2 ft. 9 in. deep. Mr. William Stevenson, of Scarborough, who gave particulars of the discovery in the *Times* of Saturday last, describes it as "the finest and most perfect British vessel that has ever been found; the size of it impresses us as regal, a 'Great Harry' of its time." And he remarks on the tree that "there is no tree growing in England to-day that is its equal. The diameter of the butt is about 5 ft. 3 in.; at the first branch, which was nearly 50 ft. above the ground, it is about 4 ft. 9 in., and throughout this length it is straight and uniform as if turned in a lathe. The trunk of this tree, measured over the bark, contained between 900 and 1,000 cubic feet, and when dressed for converting into this vessel contained 700 cubic feet."

"Graphic Microscopy" is the title of a monthly illustrated paper by E. T. Draper, F.R.M.S., the object of which is to display in colour objects of special interest as seen under the microscope. We are bound to regard this as an interesting experiment, and we have taken down our Pritchard (4th edition) to make comparisons. The mention of this work must not convey the impression that Mr. Draper will limit himself in "graphic microscopy" to the lowest forms of life; he need not, indeed, recognize any limitation whatever. But Pritchard's drawings are admirable of their kind, and the comparison of style and mechanism results in a verdict for the work before us in some such words as brilliant success and great advance. The subjects in Part 1 (price one shilling) are the eyes of *Lycosa piratica*, one of the jumping water spiders, and *Anguinaria spatulata*, a peculiarly beautiful polyzoon. The author informs us that the course of labour he has entered on originated in a project to illustrate the Micrographical Dictionary, and we can but draw a deep sigh of regret that the project was abandoned. But to carry out such a notion would be an almost superhuman task, and might ruin half a-dozen people. We prefer, instead of looking back, to look forward, hoping Mr. Draper may be encouraged to pursue his course, for the result will be a grand gathering of pictures from the invisible world, painted by a master, and admirably reproduced by Mr. Vincent Brooks and Messrs, Day and Son.

Crystal Palace Exhibitions for 1886 comprise—great summer show, May 21 and 22; Rose Show, July 3; Fruit and Dahlia Show, September 3 and 4; Hardy Fruits, Vegetables, and Potatoes, October 6 to 9; Chrysanthemums, November 5 and 6.

The Spring is so much like Winter that we cannot pretend to enjoy it. London is becoming very green, and plums and pears and cherries are flowering; but the present prospect is destitute of comfort, and we can but hope that we are quite mistaken in entertaining the fear that the fruit crops of this year will be unsatisfactory. There is, however, time yet for improvement, and it is very much a question of temperature. As regards the weather, the signs of change are over and around us; there is likelihood of much rain, and no likelihood of a wind from a warm quarter.

Sending Vegetables to Market is not always a profitable business, as witness the following, cut from the *Standard* newspaper:—

Hearing what high prices were being paid in London for vegetables and greens—as high as sixpence per pound—I was induced to send thirty four-bushel sacks of turnip greens to Covent Garden Market. Below you will see the handsome return to the producer from an acre and a half.

Dr.	£	s.	d.
Wages to three men and two women picking	0	9	6
Wagon, two horses, and man, delivering to station, five miles	0	10	0
Railway carriage	0	12	0
Messrs. Skinner and Sons, for use of sacks and selling	0	15	0
Cr.	2	6	6
Thirty sacks of greens at 2s.	3	0	0
Net return	£0	13	6

I have just had to pay nearly 5s. per quarter, viz., £1 18s. 4d., for the carriage of eight quarters of seed barley from Norfolk.

Cane-end House, Reading, April 10. Douglas Vanderstigen.

THE LATE MR. TURNBULL, BOTHWELL CASTLE GARDENS.

The death of Mr. Turnbull, at the Garden House, Bothwell Castle, on the 18th ult., has removed a well-known figure from the horticultural world of Scotland. Mr. Turnbull was born at Legerwood, Berwickshire, January 18th, 1804, and served his apprenticeship at the Haining, near Selkirk. In the year 1821 he removed to the Duke of Buccleuch's gardens at Dalkeith, then under the able management of Mr. McDonald, who soon discovered that in young Andrew Turnbull he had an assistant of rare value. He soon promoted him to be foreman in the plant department, and in due course to be general foreman; and the writer of this obituary notice had it from Mr. McDonald's own lips that of the hundreds of such men that had passed under his charge, he never had a better than Andrew Turnbull. His expression was, "Whatever you placed under Andrew's charge was sure to be well attended to." When Lord Archibald Douglas succeeded his father in the Douglas estates, he applied to Mr. McDonald for a gardener for Bothwell Castle, and he recommended young Turnbull, who entered on his duties in 1828; and no man ever more faithfully discharged them than he did, gaining the high esteem and friendship of six successive employers, including the present Earl of Home. All these noblemen and noble ladies, including the present Earl, were exceptionally kind to everyone employed on their estate; and Mr. Turnbull, while exacting justice for the employer, was an excellent exponent of the latter's kind feeling for the employed, thus retaining the respect and esteem of both.

When Mr. Turnbull entered on his duties at Bothwell Castle it was then the leading garden in the west of Scotland; there were then few great gardens as we know them now. Bothwell Castle was, and is now more than ever, surrounded by mining and manufactures, and its noble proprietors in consequence did not add to the glass structures, as in other circumstances they would have done, the result being that in that respect it fell behind many gardens of the present day. But for a well-managed kitchen garden, for its collection of hardy herbaceous plants, and for its heaths, it had few equals. It is generally known that Mr. Turnbull raised more fine seedling heaths than any man, and that of these plants he was a most successful cultivator.

When Mr. Turnbull began his career at Bothwell Castle he first directed his attention to improving the herbaceous calceolaria, and with eminent success. His Lord Douglas, a splendid large purple flower now lost, has never had an equal of its colour. When the writer had the good fortune to enter under Mr. Turnbull in 1832 he was just beginning to raise seedling heaths, and he has continued to do this up to a very recent date. When I heard from him a few weeks ago, he remarked that he had taken advantage of the bad weather to get most of his heaths shifted and staked. I replied a week ago, sending him some blooms of a new orchid he was anxious to see, but never heard from him again, thus closing a correspondence that for forty-nine years has been uninterrupted.

Mr. Turnbull was one of the first cultivators of orchids in Britain, and though his facilities were small he grew some remarkable specimens, one of which is at this moment the finest probably in Europe. I refer to his grand plant of the autumn-flowering Cattleya labiata, which for forty years has produced from eight to twelve spikes of bloom annually.

For a number of years Mr. Turnbull has had the charge of the whole grounds, including the farm at Bothwell Castle, which he has managed with that upright honest fidelity to his employer that was a striking characteristic of his nature. If he abhorred anything it was double dealing of any description. His was a soul of transparent honesty. Mr. Turnbull was never married; a most excellent sister kept his house till her death some twelve years ago. He had saved a little money, which he lost in the City of Glasgow Bank when it failed. The writer went to see him on that sad occasion, and found him as brisky and cheery as ever, and as ready with a joke. No man had a keener appreciation of a well-told amusing story, or could laugh more heartily at one. His word was his bond in all things, and take him all-in-all he has left few his equals. His remains are interred in Bothwell Churchyard beside those of his sister and brother.—W. T.—*Journal of Horticulture.*

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 13.

White grapes not largely grown—A noble house of white Muscats—The islanders clever grape growers—The Jersey grape superior to that of Guernsey—Method of packing the fruit—Prices obtained, freight, &c.—Late-keeping grapes.

A writer whom we have several times quoted in the course of these articles observes that the white kinds of grapes are declining in favour; some are unprofitable for want of weight, and others, as, for example, the Muscats, are objected to as requiring artificial heat and separate houses. The Muscadine or Chasselas varieties are too thin-skinned to bear carriage, though they are easy to grow. Notwithstanding, in the course of our rambles over the islands we found a large number of houses confined to the cultivation of white grapes, and containing splendid specimens. One house in particular, about 400 feet in length, which we went over in Jersey, held a grand exhibition of this beautiful fruit. Another house at Highfield, in the same island, about 360 feet long, was remarkable as containing a splendid crop of perfectly ripened Muscat of Alexandria, though no artificial heat had been employed. The vineries at Highfield, which contain something like 200,000 superficial feet of glass, are situated in a deep enclosed valley that is fully exposed to the hot rays of the sun for the greater part of the day. The houses are arranged in crescent form, tier upon tier, immediately facing south, and the natural heat thus obtained is very nearly the same as would be obtained by an unheated house in a more open and exposed situation. Some of the bunches in the Muscat house alluded to measured fully eighteen inches in length and weighed 4 lb. each. They would be ready early in November, and would realize an average price of from 4s. to 5s. per pound. Mr. Pond, of St. Laurence, also grows very fine white Muscats, the largest bunches turning the scale at 5 lb.

Grapes ripen perfectly in these islands without artificial heat, at a somewhat earlier period than in England. The cottagers are very clever in their treatment of the vine. We were much struck with the cleanliness of the houses, and the almost entire absence of mildew, shanking, scalding, or other diseases to which the vine is heir. In the matter of careful thinning and judicious ventilation they would seem to have nothing to learn. The vines all appeared to be in the very best possible condition, and the grapes were invariably beautifully coloured, the bunches large and well-shaped, and generally half enveloped among the dark green foliage, the natural function of which in the full development of the berry is evidently well understood.

The Jersey growers pride themselves on the superior size of the grapes grown by them; and there can be no doubt that, so far as size is concerned—and this is an important consideration—the Jersey grape is a far better article than the average grape produced in Guernsey. This is owing to the fact that on the former island the plants are set at a further distance apart, and that the fruit is more severely thinned out in the bunches, &c., on the rods. In the packing, too, somewhat more care appears to be bestowed by the Jersey grower.

But the list of this fruit raised in the Channel Islands cannot fairly be compared to the English grown grape, when both appear side by side in the market. The choicest of the grapes grown in the neighbourhood of London, which are seldom packed and are as little handled as possible, are of an almost matchless quality. The island produce, on the other hand, is packed for a long journey, and has to pass through a large amount of inevitable handling before it can reach its destination. Let not the hasty reader deem this part of the story unimportant. It is no small matter to trust grapes on a steamer, to have them on board frequently transhipped from the lighter, unloaded at Southampton, reloaded into the railway trucks, and from the latter into the carriers' vans, in which they undergo a smart rattle through the London streets, to be followed by more or less handling at Covent Garden Market. That they arrive in anything like fair condition is almost a matter for surprise, and shows that the islanders are remarkably skilful in their mode of packing. Perhaps this particular traffic receives more attention than is given to ordinary articles of merchandise. One grower told us that he estimates that his grapes suffered through transit a loss in marketable value of from 6*d*. to 9d. per pound. Not only is the delicate bloom destroyed, but the shape of the bunches is often spoilt and even more serious damage done. But in this last event, on proper representation being made, the railway company will allow compensation.

With respect to packing, Mr. J. B. Randell, of Guernsey, informs us that the method adopted in that island, and presumably also in Jersey, is briefly as follows. Baskets without covers are almost invariably sold of a size that will when closely packed contain about 15 lb. weight. After having cut the grapes, the bunches are placed singly on flat trays, upon which clean soft packing-paper has been placed. The basket is lined all round and at the bottom with a double thickness of the same paper. It is then tilted to an angle of about 45 degrees, and held in position by a couple of bricks. A large bunch is picked up and laid carefully in the basket at the lower end, the point of the bunch downwards; then a small bunch is placed in the bottom of the basket next to the small end of the bunch previously put in, and the placing of another large bunch next to the small one will generally complete the first layer. The baskets taper towards the bottom; and although the bunches are much larger at the top than at the bottom, it requires small bunches to pack nicely, as it is absolutely necessary to fill up all the space to prevent them moving about in the basket during the journey. When the basket is nearly full, the small space at the top is filled by choosing what may be called the key bunch, which is selected so as to fill up the basket without requiring pressure or without leaving any space unfilled. When the key bunch is in its place, the basket is removed from its tilted position and gently shaken, so that the berries may lie close together. A sheet of white paper is then carefully spread over the top and tied over with strong twine.

The earliest grapes are packed in 10 lb. baskets, the cost of carriage to Covent Garden being 1s. 6d., while the rate for the later ones, which are packed in 20 lb. baskets, is 1s. 9d. The consignments usually reach their destination in 48 hours from the time of departure.

Before concluding the subject of grapes, a word as to prices may be useful. The earliest of the forced fruit realizes an average price of 2s. per pound, and falls to 1s. per pound. The unforced fruit begins at 1s. 3d. and falls to 8d. per pound, though some have been sold at so low as 4d. per pound. Some of the larger growers have made special provision for preserving the late-cut grapes. A dry building is chosen and fitted up with a number of racks, which are furnished with wine bottles fixed at a convenient angle, the bottles containing rain-water and a little charcoal, into the necks of which the shoots of the grapes are inserted. In this manner grapes may be kept in excellent condition up to February or March; the price of 9s. or 10s. per pound, often realized, making the extra labour and expense involved fully remunerative.

WATERCRESS IN ABUNDANCE.

Although the past winter has been very cold, and exceptionally trying to vegetation, we have had, as for several years past, an abundance of watercress, and have greatly surprised many of our friends. We have, in fact, been able to obtain sufficient for both the tea-table and the salad bowl since the autumn, and from the appearance of the advancing crop at the present time there is not any likelihood of there being a scarcity before the outdoor beds are in full bearing. It is now about five years since we began to grow watercress for our own consumption, and throughout the whole time there has been hardly a day on which we have not been able to meet any demand that may have been made by the household. The results have, indeeed, been so uniformly good that I am fully persuaded no crop grown in the garden could possibly afford a greater degree of satisfaction, or be more profitable. The cultural details are not difficult to understand or carry out, expensive appliances are quite unnecessary, and the produce, even with a moderate degree of success, is very large in proportion to the space occupied. It is, of course, essential to begin well, that the disappointments at the outset may not deter the cultivator from proceeding with the work or from taking that degree of interest in it which it so well merits. No beginning could well have been more satisfactory than my own, for although the crops at first were not so good as those we obtain now, I have not had from first to last a single failure. I took for my guide Mr. Hibberd's "Home Culture of the Watercress," an inexpensive book in which the whole of the details are so fully and clearly described that it would be difficult to make a mistake. The value of the work is materially enhanced by the illustrations with which the text is embellished, as they enable the inexperienced cultivator to more readily understand the various directions, and afford substantial assistance in carrying out the several details.

The production of a continuous supply of watercress throughout the year does not impose a very heavy tax on those who have not much spare time on their hands or but few conveniences. It is essential there should be a warm greenhouse or pit at command for the accommodation of the pans from which the supplies during the winter and spring are obtained, and there must be space sufficient outside for one or two beds to furnish the summer and early autumn gatherings. With a very moderate amount of space under glass and in the open it will be a comparatively easy matter to maintain a supply throughout the year. I have just formed the outdoor beds, and as there are but few gardens in which the space for a watercress bed cannot be readily found I will briefly describe the way in which the beds have been prepared and planted. Sunshine and an abundance of moisture are both essential to a plentiful supply of delicate cresses, and a sunny position within a short distance of the water supply is selected as the site of the beds. There appears to exist a belief that watercresses can in the garden be grown the most successfully in the shade, but it is not so. A little shade will not do any harm, but when the bed is formed on the north side of a high wall or fence the growth is weak and spindling, and not more than half the produce will be obtained from a given area as from a bed in the open. The importance of having the bed within a short distance of the water supply is sufficiently obvious to render any reference to it unnecessary. But it may, perhaps, be well to observe that when the beds are so far from the water tank or the pump as to render the work of supplying the beds with water rather heavy, it will occasionally happen that they will be allowed to become somewhat dry, to the injury of the crop.

When the site for the beds has been selected the soil receives a rather liberal dressing of old stable manure, and is then forked over to a depth of nine or ten inches, and care taken to well incorporate the manure with the staple. The next step consists in marking out the beds, which, for convenience of gathering and watering, we make four feet in width. When we have two or more beds parallel with each other a two feet space is allowed between them. Very satisfactory results can be obtained by planting on the level, but a considerable saving of labour may be effected by either making the beds four or five inches below the general level, or by forming a ridge round each bed with the soil drawn from the surface or the intervening spaces. When the beds are so arranged that the water cannot run away the beds can be quickly and effectually watered without saturating the paths and surrounding soil. The surface is made rather fine, and then beaten lightly with the back of the spade to make it level and sufficiently firm to enable the cuttings to be fixed in the soil without

difficulty. Cuttings, as advised in "Home Culture of the Watercress," are far preferable to plants, and should invariably be employed. We generally obtain our cuttings from plants in the pans that have become exhausted and placed in a cold pit for a short time. But the tops of the watercress now coming to market, and plentiful on all sides, make excellent cuttings, and a few bunches obtainable for an outlay of a few pence will furnish enough for a large bed. The cuttings are dibbled in at a distance of about four or five inches apart each way, and at once receive a liberal watering with a water-pot to which a rose is affixed. From the time the cuttings are inserted in spring until the frost puts a stop to further growth in the autumn the beds should be watered every morning and evening. Until the cuttings are beginning to root into the soil and to make new growth, moderate supplies of water will suffice, but when they are in full growth the beds should be thoroughly saturated each time. As soon as the plants are well established they will begin to produce flowers, and if these are nipped off immediately they make their appearance they will be followed by a crop of young shoots which will quickly afford abundant gatherings.

To ensure a succession to the supplies from the open beds we commence the indoor culture early in September, as the plants in the beds cannot be depended on to make new growth after the end of the month, and as a matter of course when the growth is checked the supplies also cease. To maintain a successional supply throughout the winter we have four distinct crops, consisting of six pans each, but of course the number of pans must be determined by the requirements and the space at the command of each cultivator. We use pans fifteen inches in diameter and five inches in depth, and place a few crocks in the bottom, but any large quantity of drainage materials is quite unnecessary. We use a mixture consisting of loam and old mortar or lime rubble in the proportion of one part of the mortar or rubble to three parts of loam. In filling the pans the soil is pressed rather firmly, and sufficient put in each pan to raise the surface in the centre four or five inches above the surface. As the pans are prepared we give the soil a moderate sprinkling of water, and then stand them on one side for a short time to allow the water to drain away. The cuttings, which may be obtained from earlier crops, or from watercresses purchased in the usual way, should be inserted regularly over the surface at a distance of between two and three inches apart. They must be well watered in, and it will be an advantage to place bell glasses over them, as a close, moist atmosphere is the most conducive to the rapid production of roots. When nicely established the glasses must be removed, and the pans be placed near the glass, a light position being essential to success. The several crops are started in September, November, January, and March respectively. A plentiful supply of water will be necessary at all times, but the watering must not be overdone at mid-winter.

Watercress can be readily raised from seed, but it is a very slow process, and seedlings occasion considerably more trouble than cuttings. Where cuttings are employed we can begin gathering in about a month after the cuttings are inserted, but with seed a period of between ten and twelve weeks elapses between the sowing and the gathering, a difference in time which few will fail to appreciate.

J. E. S.

EVERGREEN HEDGES.

By J. C. Clarke.

Of the various evergreen shrubs suitable for forming hedges there is none I like so well as the holly. When one has planted a hedge of either of the hollies he feels that he has done something that will show in years to come a return for labour bestowed. Few shrubs are more lasting as hedge plants. As to whether the green or the variegated leaved form is the best, position alone should decide. To form a screen in pleasure grounds, especially near the residence, the golden variegated variety is eminently suitable, and particularly if Golden Queen is the one selected. Throughout the year the well-marked leafage of this form has a rich appearance, but if one with a lighter character is desired the Silver Queen may be chosen. Of the green-leaved hollies, the variety named Hodginsi is perhaps the most suitable on account of its distinct character. It is also a good grower, and quickly forms an impenetrable hedge. Holly hedges are not usually required more than five feet high, but this variety may be allowed to grow six feet, and, if well managed, the bottom of the hedge will keep well furnished. To plant on banks or to overtop a low wall the common holly is the best, as it can be kept clipped down very low, better than the large-leaved kinds.

In sheltered situations, where a somewhat informal growth can be allowed, the laurestinus is a capital evergreen, and such positions are sometimes available. Where more of a screen than a hedge is required, and if it should be a position in the full sun, yet sheltered from east and north winds, this shrub has no equal amongst evergreens. In mild winters it not unfrequently remains in flower for six months, but it is not adapted for a stiff hedge that must be kept clipped with shears to keep it in a line; but to form a dense mass from four to five feet high and from three to four feet wide it is unsurpassed. The proper way to deal with the laurestinus when grown in this form is to prune it at the end of April with a knife. The green form of the tree box is an excellent subject for a hedge, for if good plants are used it does not take many years to form a hedge five or six feet high. Berberis Darwini is a capital plant to form a line where severe clipping is not required. It does not increase in height very fast, but it is quite capable of forming a hedge ranging from four to six feet high. The common laurel will be found useful in some cases, but it is hardly refined enough in character for a prominent position. As a screen to shut out any unsightly object quickly it is perhaps unequalled. Cupressus Lawsoniana is a capital conifer for a hedge where a formal growth is desired, as it at all times wears a nice green colour, and it will form a hedge six feet high in a few years.

In consequence of the lateness of the season any of these subjects may still be planted, especially hollies, but in every case it will be necessary to secure properly prepared plants; or, to speak more definitely, they must be furnished with plenty of roots and have been selected from open positions, as those from under the shade of trees, or that have stood very close together in nursery quarters, are not adapted to stand in lines where they will feel all the effects of both the sun and drying winds. In the case of hollies I would rather plant them early in May than at any other season of the year. Whatever subject may be chosen to form a hedge, it is very desirable that the plants be of one uniform height and size, so that from the first the form of the hedge may be regular. I have not mentioned the yew as suitable for hedges; not because it is unworthy of notice, but because I have seen such deplorable losses through cattle eating the half-dead clippings that I cannot advise anyone to plant it, unless they are prepared to exercise more than ordinary care in disposing of the clippings. It does not, I know, involve much trouble to burn them, and thus render accidents impossible; but such a manner of disposing of them is not always thought about until, perhaps, considerable mischief has been done.

I need hardly say that to obtain a satisfactory growth a well prepared soil is necessary. In every case the soil where the hedge is to be planted should be trenched up two feet deep, and for a single line the space trenched should be two feet in width, and for a double line four feet will be required. Where the soil is naturally poor some well rotted farmyard manure should be mixed with it while the work of trenching is in progress. When planting, it is desirable to place the roots well below the surface, so as to be able to securely fix them in the soil. If the weather should be dry, give sufficient water to thorougly moisten all the soil down to the lowest roots, and after this has been done a thick layer of half-rotten manure should be laid on each side to protect the surface from drying sun and wind. Unless plants above ordinary size have been used they ought not to be clipped or pruned until they have completed one year's growth. August and April are the best months in which to clip or prune evergreen hedges, but I prefer the latter month, as then new growth quickly follows and hides up any blemishes left by the shears or knife.

Notes of Observation.

SPRING CABBAGES.

As in other districts, the crops of spring cabbages in the market gardens in this neighbourhood have been terribly thinned and the plants that have escaped are much below the average in size. I have not had the time to examine the crops sufficiently to enable me to state with a proper degree of exactness the percentage of the plants that have been killed; but I have seen enough to convince me that, as was recently stated in the report of the markets, the supply will this season be very small, and much later in coming to market. A rather large breadth of cabbage plants that I had in the open field has been practically annihilated. Many of the plants were destroyed by the frost, and with but few exceptions the remainder were eaten by the larks, which must have been much pinched for food. I have certainly no recollection of any season in which these birds have been so destructive to green crops as they were during February and March last. One of the best pieces of cabbages in this district that I have seen is in a field in which the soil was left in as rough a state as possible when ploughed up in the autumn. It was, in fact, simply ploughed over and the plants put out. Very few losses have occurred, owing, doubtless, to the plants being sheltered by the rough surface from the cold winds which did so much damage to tender vegetation.

Feltham. W. Cole.

ROSE INNOCENTE PIROLA.

In the report of the spring exhibition of the Royal Botanic Society, at page 218, you refer to the adaptability of Innocente Pirola for specimen culture, and I should like to substantiate your remarks by saying that it is one of the best tea roses for pot culture we have. I have grown Innocente Pirola since it was first introduced, and not one of the many beautiful tea-scented roses has proved so thoroughly satisfactory. It has rather short-jointed wood, and with a very moderate amount of pruning and training excellent examples can be produced. As so well known, it is free in blooming, and the flowers are large in size and exquisitely beautiful.

Practical Rosarian.

NEW HYBRID ANTHURIUMS.

The two new hybrid anthuriums exhibited by Sir Trevor Lawrence at South Kensington, April 13, differ so widely from the several kinds with which the English cultivator is familiar, and are, moreover, so beautiful, that it is to be hoped they will soon become plentiful. Exception might well be taken to the names of both, for anything more uncouth it would be difficult to imagine. One is known as Anthurium Scherzerianum Rothschildianum, and has spathes about equal in size and shape to an average form of A. Scherzerianum, and freely spotted with vermilion on a blush white ground. The other, which bears the name of A. Scherzerianum Devansayanum, has spathes larger in size and finer in form than those of the first-mentioned hybrid, and they are thickly spotted with deep scarlet on a ground of the purest white. Both are desirable, but the last-mentioned is the best of the two, and should be grown for competitive purposes in preference to the other.

Visitor.

SALPIGLOSSIS.

The sowing of annuals being now in progress on all sides, I would like to suggest to amateurs and others who have large beds and borders to fill the advisability of not neglecting these distinct and attractive annuals. They attain a height ranging from eighteen to thirty inches, have an elegant habit, and produce large flowers, which afford various shades of rose, purple, and crimson. The most effective of the several kinds is S. variabilis grandiflora, which can be obtained in six distinct colours. But there is no particular advantage in having the colours separate, and I invariably grow them in mixture. The flowers stand well in water, and are very useful for indoor decorations when cut. The plants can be raised under glass, and bedded out in the course of May; but highly satisfactory results, with much less trouble, can be so obtained by sowing the seed where the plants are to bloom. The sowing should be made as soon as practicable after this date. W. J.

MARSHALL'S ONCIDIUM.

Of the several oncidiums now in flower there is not one that can be compared with O. Marshalli, of which we now have an extremely beautiful display in the odontoglossum house. Not only is it the best of its season, but it is quite unsurpassed by any other member of the genus. The most formidable rival is perhaps O. Rogersi, which is at its best during the autumn months. Admitting its surpassing effectiveness, it will at once be acknowledged that it is well worthy of the attention requisite to have it in the highest degree of perfection. Some of my friends complain of their inability to grow the species as well as they could wish, and on inquiry I have invariably found that they have failed in consequence of subjecting the plants to too much heat. They place the plants in the East India house with others of the oncids, but the structure best suited to its requirements is the Cattleya house, in which we keep our stock excepting during the flowering season. On the production of the flower spikes the plants are removed to the odontoglossum house, where they remain until the flowers have lost their beauty. Unlike many other of the oncids, this species does not require a very large quantity of material about the roots, and we find it thrives best on rafts and cylinders, with a small quantity of sphagnum, and of the two the rafts are the best. A light position is essential, and the plants should at all times be suspended within a short distance of the glass. ORCHIDOPHILIST.

STANDARD ROSES IN POTS.

Although I am not very partial to standard roses in the garden, I was charmed with the standard specimens exhibited by Messrs. Paul and Son at South Kensington, on the occasion of the Primula Conference. There were about twenty, and all were remarkable for the freshness of their foliage and the number and quality of the flowers. In admiring them, in common with other visitors, it struck me that standards would prove of great value for conservatory decoration, and I would suggest that a few should be grown in gardens especially for that purpose. Dwarf specimens are highly attractive when bearing the impress of skilful cultivation; but there is considerable difficulty in arranging them with ornamental leaved plants to produce a really satisfactory effect. But in the case of standards no such difficulty arises, because their slender stems and light heads readily lend themselves to artistic treatment. It is, in fact, a very easy matter to produce with standard roses and a few palms or ferns an extremely beautiful effect. It is worthy of notice that the standards can be grown under precisely the same conditions as the dwarf roses; and it has been proved that with the aid of top-dressings of some suitable fertilizer they can be grown in the same pots for two or three years. R. S.

PRIMULA ROSEA.

If you do not consider that your pages have already contained too much bearing on the primulas, I should be glad to point out for the information of cultivators one of the essential conditions of success in growing this beautiful Himalayan species. In the gardens of my friends it is a quite common occurrence to see the plants of this species perched on the ledges and mounds of the rockery in company with P. ciliata and others of similar character. It is equally common to hear complaints of the plants not thriving. One of the essentials of success is an abundance of water; and this it is of course impossible for the plants to obtain when on the ledge of a rock, unless exposed to the drip of water from above. On one side of our rockery we have a small stream of water in which are grown a few aquatics. Three years since I planted some strong seedlings close to the margin of the water, and they have made such a robust growth, that they now form large tufts and produce large masses of flowers. At the present time they produce such a rich effect as to greatly surprise those who are accustomed to the flowering of the plants grown under such conditions. In examining them the other day I found plenty of roots in the water. W. B.

SWEET-SCENTED BORONIAS.

There are two of the boronias which claim attention for the fragrance as well as for the beauty of their flowers, and cultivators would probably do well to grow them more largely than has yet been the case. The most fragrant of the two is B. megastigma, the flowers of which are so highly scented that an example in a five-inch pot is quite sufficient to fill a medium-sized conservatory with its perfume. The flowers are rather sombre in colour, but the plant is so elegant in growth that it would be well worth growing were it scentless. B. pinnata is quite distinct from the foregoing, and the flowers, which are of a bright pink colour, are very sweet. This species is certainly one of the most attractive of the genus, and makes an effective exhibition. They can both be readily propagated by means of cuttings of the young shoots taken when they have become moderately firm; and the production of strong examples is not difficult provided care is taken to keep the plants near the glass, especially during the earlier stages. T. W.

VARIETIES OF ANTHURIUM SCHERZERIANUM.

One of the most interesting and useful contributions to the meeting of the R.H.S. on April 13 was, in my opinion, the collection of varieties of Anthurium Scherzerianum, from the gardens of the president. It was useful because cultivators were able to institute comparisons between the several forms with scarlet spathes, under conditions favourable to forming a correct estimate of their relative merits, and it gave them also an opportunity of making the acquaintance of two of the new hybrids. There were four scarlet varieties, but one of them, known as Pygmeum, is of such little value that it may be at once dismissed. The others were Wardi, Hendersoni, and Palmeri; all of which have large spathes, and are highly ornamental. In the size and colour of the spathes there is not much difference between Wardi and Hendersoni, but in shape and appearance they differ so widely that no one could well fail to readily distinguish them. The spathes of Wardi are roundish, and have the appearance of a banner when filled with wind. Those of the Hendersoni, which are rather longer, and deeper in colour, are, on the other hand, much indented, and bear a striking resemblance to a banner when flapping against a pole. This is a decided defect, and the specimens lack the effectiveness of those of Ward's variety. In the case of Palmeri the spathes are very long and narrow, and although they do not present such a striking appearance as those of either of the other two varieties they are by no means wanting in attractiveness. It is not well suited for exhibition specimens, but it is so meritorious as to be well worthy of a place in even a limited collection of stove plants. VISITOR.

POTATO PLANTING

By PETER MCKINLAY, Esq.

THE long and cold winter we have had delayed the planting of potatoes considerably beyond the usual time, and we have now only just completed the work. I did not, in fact, begin planting until April 7; but as the ground was in fairly good condition, we were able to push the work along rather rapidly and complete it by the 24th of the month.

When we began I found the soil rather moist, but it worked very well, and no difficulty was experienced in planting the sets under the conditions most favourable to their making a satisfactory growth. I do not recollect any season in which I have found so few wireworms and slugs as this year, and the comparatively small numbers of these two pests I attribute to the long frost. In planting I have adopted my usual method, which consists in cutting the sets more or less and leaving two, three, or four eyes on each portion, according to the character of the variety. The sets are planted from sixteen to twenty inches apart in the rows, which have a space ranging from three to four feet between them.

This season I have planted rather deeper than usual—not in any way because of the lateness of planting, but because of the conclusion arrived at last season that I was planting too shallow. Notwithstanding the comparative lateness of the season, I have acted upon my convictions, and have planted from five to six inches deep, instead of from three to four and a-half inches as in previous years. My soil is fairly light and well trenched, and I believe that a layer of light soil over the sets is not too much; but if the soil was heavy it would not be advisable to plant so deep. The principal advantage in planting at this depth will, in my opinion, be freedom from scab, with an equally heavy crop. But this is not all. Certain varieties that produce tubers which crack or split in the ground will not do so under a more uniform temperature than is enjoyed where shallow planting is adopted. I may be wrong in my theory with regard to scab, and also to the splitting of the tubers; but I have found the crop produced by the deep-planted sets more free from scab than the crop of the same varieties of which the sets were planted rather shallow, particularly in certain seasons. I would much like to know what the experience of other cultivators has been on this point.

The number of varieties has this season been reduced to thirty-four, the sorts planted being as under:

Sutton's Prizetaker	General Gordon
Reading Russet	The Dean
Midsummer Kidney	Reading Giant
Schoolmaster	Model
London Hero	Sunrise
Adirondack	First and Best
Sutton's Seedling	Peachblow
Pride of Eydon	Vicar of Laleham
Snow Queen	Beauty of Hebron
Snowball	The Colonel
Fidler's Prolific	Fidler's Enterprise
Charter Oak	The Chancellor
Rosebud	Lilywhite
The Cardinal	White Emperor
Rufus	Fidler's Perfection
Harvester	McKinlay's Pride
The Doctor	Fidler's Bountiful.

In addition to the foregoing thirty-four selected varieties, I am growing several odd sorts on trial.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 6d. and 1s.—[ADVT.]

FLOWERING CURRANTS.

THE rosy currant, *Ribes sanguineum*, began to flower freely in London about the 20th of April, but in some extra warm nooks it was showing flowers about the 10th. The common variety is a fine thing, but where there is room for many flowering ribes the white variety, *R. s. albidus*, and the deep red, *R. s. atrorubens*, should be planted. Another of the series has pink flowers; this is catalogued as *R. s. glutinosa*. And yet another has flowers of the deepest blood crimson; this is *R. s. atrosanguinea*.

The yellow currant, *Ribes aureum*, is a good garden shrub, with small shining leaves and yellow flowers that are lightly touched with red. *R. aureum serotinum* should flower later than the common yellow; but is generally in flower at the same time. The flowers are of a pale yellow colour. The early flowering *R. a. præcox* differs a little from both the foregoing, and flowers in advance of them. It is of no special value. Another yellow currant is *Ribes palmata*, with palmate leaves and long-tubed yellow and red flowers, which are sweet scented.

The red and yellow currant, *Ribes Gordonianum*, is a hybrid between *R. sanguineum* and *R. aureum*. It is a grand shrub of its class, with three-lobed leaves and large clusters of flowers of a deep vinous red passing into creamy amber in the centre. But though beautiful, it is scarcely effective.

Three interesting ribes are—*R. cereum*, with waxy flowers of a pinky white colour; *R. alpinum pumilum*, very dwarf, flowers greyish green; and *R. foliis punctatis*, with leafage blotched with yellow on a ground of light green.

FLOWERING CURRANT, *Ribes Gordonianum* (Flowers red and yellow).

FANCY DAHLIAS.

WE have recently given in the MAGAZINE illustrations of two of the finest show dahlias yet raised; we now present our readers with a figure of one of the finest fancy dahlias sent out within recent years. *General Gordon* was raised by Messrs. Keynes and Co., of Salisbury, and exhibited for the first time in 1884, at the Crystal Palace, where it created quite a sensation. The colour is yellow, most beautifully striped with scarlet; it is of beautiful form, and, unlike many of this section, it is not too large and coarse. The habit of the plant is dwarf, and it is a continuous bloomer. It obtained, as by acclamation, first-class certificates at the Royal Horticultural Society and Crystal Palace and various other places. It was also first prize for premier blooms at the National Dahlia Show.

The question has been often asked—What is a fancy dahlia? We now take this opportunity to make a general reply to the question. The fancy dahlias comprise those which are striped and spotted, also dark grounds with light tips or edges; these being distinguished from light grounds and darker tips in the classification. For example, Startler and Peacock, which have dark grounds and white tips, and Mrs. Saunders, yellow, tipped with white, &c., are fancies; Mrs. Harris, white, tipped with lavender, and John Bennett, yellow, tipped with scarlet, are show varieties. There appears to be some doubt whether Harris's Ruby Gem is a fancy or not. In our opinion it is; as the ground colour is ruby, with a distinct yellow tip. Many years since Stafford's Gem, a flower of the same colour, was always exhibited with the fancy dahlias.

Unfortunately, the varieties of this handsome section are very variable, the tipped kinds losing the tip, and the stripes coming the whole colour of the stripe; and as there are only a limited number of first-class varieties, it is calculated to cause disappointment and inconvenience to the exhibitor who has to put up a stand of twenty-four blooms with perhaps only thirty or thirty-six varieties to choose from. When a fancy dahlia comes self—that is, whole-coloured—it cannot be shown with fancies, but may be put in a stand of the show flowers. We would particularly impress this on the minds of exhibitors who have had but limited experience, as we have frequently had to disqualify an otherwise good stand where a self dahlia has appeared, the exhibitor evidently labouring under the impression that he was perfectly right in staging it because of its place in the catalogue of fancies.

The fancy dahlias progress but slowly towards the perfection that is desired for the realization of a high standard. It is only at rare intervals we see such fine varieties as General Gordon, George Barnes, Frank Pearce, and Professor Fawcett. These fine flowers combine both form and quality, which is lacking in many other kinds. Take, for example, Gaiety, one of the most esteemed of the fancies, on account of its extreme showiness and large size; in fact, it is apt to come too large and coarse, but it is indispensable at present in the smallest collection. We want more varieties with the varied colours of this flower, and the good qualities of those we have mentioned. There is a great dearth of good flowers of the Mrs. Saunders class, which is yellow, tipped with white. This variety, raised in 1870, is still the best of its colour, and is certainly very beautiful; but it is not perfect, by any means, as it is much too flat. There are others of this colour, but this is by far the best.

FANCY DAHLIA, "GENERAL GORDON."

Great improvement is necessary in flowers of the Startler class, which is black, tipped with white, and very showy, but not up to the mark for exhibition. Peacock is very large and gay, as well as constant

to colour; but the same remark applies to it as the preceding—that it is too flat. What we want to see are flowers of this colour with the depth and build of George Barnes.

More varieties are needed among the white stripes, in the way of Lottie Eckford, which is the best sent out in recent years. Scarlets and reds with white tips are sadly needed; there is scarcely one good kind of this colour. Jessie McIntosh and Fanny Sturt are pretty when caught with the tip, but they are very liable to come self-coloured, when they cease to be fancies.

The tipped flowers appear to be more difficult to secure in true colour than the stripes. We would advise, therefore, that seed be saved from the tips, and that amateurs and others take up the interesting and profitable occupation of seedling raising. To obtain good new varieties of the colours we have mentioned will be a work of time, but the reward will be sure to follow. It is interesting, because the seedling raiser will find plenty to do in attending to the wants of his plants, securing the most promising against high winds, weeding out the most worthless ones, and watching the development of the buds. The various colours we have mentioned are badly wanted, and really good new flowers will find a ready sale. On the commercial point, however, we prefer to say the least possible, lest we should raise expectations not to be realized. The finest fancy dahlia we can call to recollection in the course of, say, the past forty years, was *Jupiter*, conspicuous in Mr. Turner's first-prize stand of fancies at the National Dahlia Show in the year 1858. This was a grand dark marone flower, with white tip, perfectly startling in colour, and in quality of petal fine. But it proved so inconstant that it suddenly passed out of cultivation, and, it pains us to add, was soon forgotten by a considerable number of dahlia growers, who are not usually classed amongst people with bad memories. Alas, alas! Jupiter soon forgotten! Let not the divine occupants of Mount Olympus know that amongst vain mortals such a negation may be.

ON THE ROOT-STRUCTURE AND MODE OF GROWTH OF PRIMULACEÆ IN RELATION TO CULTIVATION.

By Dr. M. T. Masters, F.R.S., F.L.S., &c. Read at the Primula Congress.

For practical purposes it is very serviceable to consider a living plant in the light of a piece of mechanism, constructed and put together to do certain work as efficiently and as economically as circumstances permit. The comparison may serve our purpose without it being necessary to point out where it fails, and wherein lies the great difference between a machine begotten of its predecessors, and who had the like structure and endowments with itself, self-sustaining, supplying its own power from sun and air and water, built up and adapted by its own energy, and one constructed by the art of man, dependent on artificial means for its support and its power, and with no innate faculty of self-adjustment to varying circumstances. Availing ourselves, therefore, of the comparison, we may proceed to discuss what it is our machine is called on to do, how it is enabled by its conformation to do what is required of it, and, incidentally, how we may help or mar its action. The primulaceæ will afford us as good illustration of these matters as any other family of plants. It is the group which is expressly selected to furnish a text for these remarks, and which, moreover, are, as prescribed, to be limited to a part only of the machine—the root. It is permissible, however, on such an occasion to use the term root in the broad sense in which it is usually employed by gardeners, and not in the more accurate and strictly limited sense in which it is made use of by physiologists.

The Requirements.

What, then, is our machine—the root—called on to do? In all cases to lay hold of the soil and secure the plant mechanically. How it does this will be sufficiently though incidentally illustrated later on, and is not a subject on which we as cultivators need linger long. The plants we have now to deal with may be lifted out of the ground by frost, but they are hardly likely to be washed away by floods or uprooted by winds. To pot firmly and press the crown firmly into the soil in transplanting are lessons which common experience teaches, lessons which the conformation of the root, to be presently noted, do but accentuate.

Another universal duty imposed on the root is to feed the plant. There is soil-food and there is air-food. The leaves, stimulated by light and heat, collect and transform the one; the roots, influenced by heat, absorb and digest the other. How they do these things is beyond the purpose of this paper to explain, but reference to any modern botanical text-book, and in particular to the truly marvellous revelations contained in the chapters on root movements in Darwin's *The Power of Movement in Plants*, will supply the information and afford indications of the processes of absorption, of solution, of fermentation, of transformation, which, with or without the agency of minute Bacterian organisms, constitute each root-tip, each root-hair, a laboratory and a workshop. Each root-tip, each root-hair, moreover, is as sensitive as a nerve, not only responding to a touch, but transmitting impressions from the spot touched to adjoining cells. It is as mobile as a muscle, turning towards what is useful to it, bending away from what is noxious or obstructive, threading its way through the soil, and adapting itself to circumstances as if it really possessed intelligence. It acts like the brain, says Darwin; and truly, as a sentient organ, receiving and transmitting impressions and directing the course of growth and movement, it would be hard to say wherein its inferiority to the nervous system of the lower animals consists.

In the case of annual plants which live their life within the compass of a few weeks or months, there is little else for the root to do than to secure the plant in the ground and to go in search of food and turn it to account when found.

But in the case of perennial plants such as most of our primulaceæ, another duty becomes incumbent—that of providing a store-place for water and for food. The food so stored, principally starch and allied substances, is not absorbed directly by the root and packed away, but partly by root action and soil food, partly by leaf action and air food, is manufactured in the leaves and afterwards transferred and deposited in the root or in the root-stock.

A similar formation of starch takes place in annual plants, but it is used up in process of growth, or stored in the seed to be turned to use by the seedling plant when it begins life on its own account. In any case the storage requirements of an annual are small in comparison with those of a perennial. To ascertain how and in what manner the food is obtained, transformed, stored, and employed is surely to put ourselves in possession of information, of any that could be named, the most important for cultural purposes.

Another phase of work which it falls to the lot of the root to achieve is that of propagation, and by observing how this is effected spontaneously we may surely obtain some useful hints for our own artificial procedures.

Such, then, in very general terms, is the nature of the work to be done; such, in merest outline, are the requirements of the case.

The Mechanism.

In the following remarks it is proposed to give a few illustrations of the machinery by means of which the work just alluded to is done; for while the work is in all cases the same, the machinery by which that work is accomplished is manifold in detail.

Annuals.

Very few primulaceæ come under this head. Some of the Androsaces and Anagallis are annuals; but, speaking from a cultivator's point of view, they might be passed over if it were not for one circumstance, frequently ignored or overlooked, though one of great importance—the fact that seedling plants even of those species destined to be perennial are, to all practical intents, annuals. Barring the slender resources stored up in the seed, the seedling plants have little store to draw upon, and thus, like the annuals, they must have good food within easy reach, and be provided with rapid means of utilizing it; else they wither away.*

Centunculus minimus.—A weed no cultivator would bestow a thought upon, unless it were to compass its destruction, may, nevertheless, serve as a useful illustration. It sends down into the soil a slender tap-root, which speedily ramifies just below the surface, branches and branches again till it, as it were, invades a considerable area of soil. There are no great "hold-fast" roots—none are needed, but, on the other hand, there is a great multiplication of small fibres, and a consequent extension of absorbent surface. Notice, too, that there is no caulicle; in other words, the radicle comes straight away from beneath the two cotyledons, without there being any perceptible internode (stalk) between the base of the seed-leaves and the top of the root. In a seedling primrose may generally be observed the radicle, giving off branches, then an erect cylindrical portion bearing the cotyledons or seed-leaves, but sometimes reduced to very small dimensions; this is the caulicle or tigellum. Above the two seed leaves is the plumule, consisting of the first leaf or leaves above the cotyledons. In these seedlings it is curious to see how, whilst the primary roots descend vertically, the secondary ones pass off horizontally.

It is quite clear that the seed in Centunculus was not buried deeply, for the caulicle is a minus quantity. It is clear also the soil for such a plant should be light, open, rich, well drained. Contrast this with the germination of Primula reticulata, in which not only is the tigellum very long, but the two cotyledons are also raised on long, erect, or ascending stalks, as if the plant grew in the clefts of the rocks, and had a long distance to thrust its seed-leaves into the light and air. The requirements of seedlings are, it need hardly be said, of the same character. We all know the care that is requisite to secure the germination and the rearing of these delicate organisms.

"In the morning sow thy seed, and in the evening withhold not thine hand."
—Eccles. xi. 6.

The mode of growth for the Androsaces is similar. They are, it is true, for the most part not annuals, but in their root-growth some of them (the cæspitose species) follow the mode of annuals. The seedling plants have roots of the annual character, with a long radicle giving off numerous branches. The adult plant has little provision for storage, but consists of a dense tuft of leaves, from the axils of some of which proceed long slender runners, like those of a strawberry, and which bear at their ends a tuft of leaves like the parent from which they sprung. From the under surface of this tuft proceed roots like those of the centunculus, and, like them, destined, not for any lengthened use, but only for a temporary purpose; no long time, indeed, elapses ere the tuft throws out the new runners, and thus repeats in another generation the process of its own genesis. It would seem from this peculiar mode of growth that the Androsaces speedily exhaust the area in which their roots spread, and having done so haste—

"To-morrow to fresh woods and pasture new."—Milton, *Lycidas*, t. 193.

Whether this is not an indication of value to the cultivator I leave to others who have had more experience to decide. My own want of success with these plants cannot in fairness be attributed only to neglect of the indication!

Perennials.

In these, as for annuals, there is need for daily supplies during the growing period, and further, there is the necessity for replenishing the stores. It is necessary, therefore, to consider the root growth of these plants from two points of view—that of food collecting and that of food storage.

The actual absorption of water is, of course, effected in the same way in the roots of perennials as in those of annuals, but the perennial habit allows more time wherein to work, and frequently secures a wider root range than is possible in an annual. In a perennial, *cæteris paribus*, the roots can travel further, or penetrate deeper in search of food, than in the case of an annual.

In an annual the roots, as gardeners say, "keep at home," and there is not much necessity for a system of conduits to convey the water from its source to the stem; but in perennials it often happens that the best food supply is at some considerable distance from the stem, and the consequence is that the fibrous roots collect the liquid from the feeding ground, and convey it in so many conduits to the stem. The thicker root fibres have, as every one knows, little or no power of absorption, that faculty being mostly limited to the thinnest extremities of the root fibres, and to the root hairs (where present). Of course the number, length, and degree of branching of the roots depend very greatly on the physical nature of the soil in which the plant happens to be growing—

"Pinguibus hæ terræ habiles, levioribus illæ."

But when due allowance is made for these circumstances each plant has more or less its own distinct character. The roots of most species of primula, for instance, are very different from those of Androsace, and indicate different requirements. But even in the same genus we get variations in this respect. In the common primrose and polyanthus, in P. cashmiriana, P. capitata, P.

* "Some [seed] fell upon stony places, where they had not much earth: and forthwith they sprung up, because they had no deepness of earth: and when the sun was up they were scorched; and because they had not root, they withered away."—Matt. xiii. 5, 6.

amœna, P. auricula, P. denticulata, P. nivalis, P. longiflora, P. cortusoides, &c., the roots are generally rather thick and fleshy, descending more or less vertically for some little distance without branching, and then giving off short nearly horizontal branches with few root-hairs (except in P. auricula), in which, in some cases at least, the roots are covered with a velvety coat of hairs. Such roots are not surface-feeders, but are capable of penetrating to a considerable depth in search of food, while their succulent habit and reserve store of water obviate the necessity for that dense network of fibrous roots that other species present. Primula rosea, P. Kaufmanniana, P. involucrata, and Cortusa Matthioli, afford instances of this densely matted and comparatively superficial root development. They have few if any large root or conduit fibres; but, on the contrary, an intricate mass of fine fibrous roots, penetrating in every direction, and availing themselves, as it were, of every scrap of soil within reach. Surely we have here an indication of the necessity in cultivation of supplying these plants with ample depth and breadth of light, rich, moist, not to say wet soil. The utility of a mulch in hot, dry weather is also indicated as a means of preventing the drying up of the surface roots.

In some of the Androsaces we find provision for keeping the roots moist and free from the risk of drought. In seedling plants of A. elongata, for instance, the caulicle is very long and the slender radicle descends vertically for a long distance without branching, and then gives off near its tip a leash of much branched fine filaments.

In *Soldanella* we have a tuft of rather thick fibres, which descend vertically into the soil, and are unbranched till near the points, where they give off numerous relatively short horizontal fibres.

Storage and Rest.

In perennials we have specially to consider the arrangements for storage of food in convenient places for use when required, and the modifications of structure associated with the periodic alternations of active growth and relative rest. Of a primrose, whether "by a river's brim," or elsewhere, whether a yellow primrose or one of other hue, it may be said that at one season its constant care is to increase its store, while at another its aim is to make all snug for winter. Of course the primrose is not peculiar in these matters, but we may perchance profit somewhat if we make use of it as an illustration of general application.

The Root Stock.

The body which emits roots on the one side or beneath and throws up leaves and flowers on the other is the "rhizome," or root-stock. It is usually subterranean, and so gets called a root, but inasmuch as it produces leaves, buds, and offsets, and has the internal structure of a stem, botanists will not admit its claim to be considered a root, for a root, under ordinary circumstances (*exceptis prœtermissis*), does none of these things. It is a development of the plumule or of the caulicle, or of both together. Usually it is more or less horizontal in its direction, as in the primrose; in other cases it is vertical, as in the auricula, where it thrusts itself above ground, and gives off buds or offsets in such a way that no one can mistake it for a root. Horizontal or erect, it throws down feeding roots into the soil, and these roots are usually fleshy—serving, indeed, not only as feeders, but as storeplaces as well, thus sharing the office of the stock itself. At the free end of the stock is a bud, or a cluster of buds, by means of which the plant grows. From these buds upspring the leaves and the flowers.

Polarity of the Stock.

Owing to this position of the buds, the stock grows at one end and extends and pushes itself into new territory, while the other end of the stock, having yielded up its store of water and starch to the growing bud, gradually decays. Thus the plant effects very quietly and gradually a change of residence—an indication of the desirability of occasional transplantation. This progressive decay at one end suggested to old auricula growers the "removal of the end of the carrot," and there was nothing to be said against the process provided their surgery was confined to dead portion only, and did not include the healthy and (potentially) active roots also. In such a case the stock is put to the trouble of making new roots, which, to say the truth, it does not fail to do speedily under propitious circumstances.

The progressive growth at one end, associated with progressive decay at the other, is a very marked feature in primulaceæ. Moreover, it is often manifested in the earliest period. The root apparatus of the seedling plant seems destined for the use of the seedling only (which is thus, as before noticed, practically an annual), and when the plumule develops gradually into a permanent stem with its leaves and potential flowers, new roots are thrust out from the plumule, as may be seen in Primula reticulata, P. elatior, and in P. verticillata.

The development of the tufted stem from the plumule is well exemplified in the case of the cowslip, as pointed out to me some years since by Mr. Holland. The seedling plant germinates in the usual way, but after a time the weight of the rapidly growing plumule causes the caulicle to bend downwards and become more or less horizontal. Adventitious roots are then thrown out from the top of the original caulicle or the base of the plumule, which gradually decays, leaving the young plant independent. (Henfrey's *Elementary Course of Botany*, ed. 4, p. 654.)

Protection.

One other provision with reference to the root-stock may here be noted, and that is the manner in which in most species—notably in P. latifolia, P. graveolens, P. Palinuri—the deeply descending rhizome is protected from loss of heat, as also from mechanical injury, by the dense covering afforded by the remains of the old leaves. Contrast this state of things with the way in which auriculas thrust themselves out of the ground, their rootstalks showing little or no trace of the leaves beyond the scar which indicates the place whence they have fallen. It would be interesting to ascertain whether these peculiarities in the auricula may not be connected with the development of offsets (buds) from the side of the rhizome.

Tubers.

The tuber of a cyclamen (a development originally from the tigellum) is essentially the same as the rootstock, differing only in its more or less globular form. It throws off feeding roots from its base or its sides, and it forms a bud or buds at the top. Its fleshy tissue is laden with starch and building material for new growth.

In trientalis, from the caulicle or from the base of the plumule emerge long subterranean branches, which end in thickened tubers like those of Convolvulus sepium.

Winter Buds.

In Primula rosea and P. involucrata, P. farinosa, P. rotundifolia (herbarium spec.), and probably in many other species, we find what may be termed winter buds. In point of fact the stock in these cases decays away almost entirely, leaving only the buds which form at its extremity, or at the ends of its branches. Those buds are made of dilated leaf-stalks densely packed one over the other, like the similar parts in a "head of celery." They are furnished at the base with numerous root fibres, very fleshy in P. involucrata, fibrous in P. rosea, and which serve to supply sufficient moisture in the dry season. Carefully stowed away in the centre of the leaves is the inflorescence, whose tiny pearl-like flowers may be seen securely nestling, even in mid-winter, beneath their protective wraps, exactly as in the case of bulbs, or cabbages in which the leaves "turn in" well. P. denticulata is not so fortunate. In this plant the leaves spread widely and do not close up to cover the inflorescence; the consequence of which is the latter is apt to be stimulated by the capricious and unseasonable gleams of sun that we get in some winters, and bursts into bloom at a time when "a frost, a killing frost," is only too likely to damage the blossoms, or, if this does not happen, the flowers are liable to be rotted with wet or snow. Of course, this is easily prevented by laying a fir branch or other protection over the plant.

The formation of a thick root-stock of tubers, of fleshy roots, or of large winter buds, may all be taken as indicative that the plant is thrifty enough to lay by a provision for the future, and, moreover, that it adapts itself to falling temperature and other untoward circumstances, and goes to rest. To afford such rest in our uncertain climate is, as all gardeners know, occasionally a difficult matter. In my own experience, which, if personally small, is vicariously large, I find much virtue in a covering of fern, straw, or a fir branch.

The foregoing remarks apply to plants growing in the open air, or with no other protection than a cold frame in winter. Under glass the requirements are somewhat different, and the conditions likewise. The plant is grown for some special purpose, and the gardener considers not so much the natural "habit" of the plant under normal circumstances, and the way in which he may promote *its* welfare, as the manner in which he can induce it to adapt itself to *his* requirements, and the conditions *he* offers. He may even find it requisite or advantageous to invert the natural course of things—to force when the plant, left to itself, would go to rest, to check growth when the natural tendency would be to progress. For instance, the formation of the cyclamen tuber is an indication that the plant, under natural circumstances, has a season of rest; and before cyclamen culture had reached such a pitch of perfection as it has now attained, growers were wont to give the tubers an enforced rest by drying them off. Now that practice is quite reversed; and that such an amount of rest as the old growers gave the plant is not necessary under artificial conditions, is shown by the fact that the foliage of the cyclamen is persistent, and no deficiency of food to sustain this prolonged season of growth is to be feared, for food the gardener can give freely and at times when Nature herself might close her stores. This justifies the treatment of the cyclamen as if it were a bulb with evergreen foliage.

Servile imitation of nature—such imitation, that is, as we can compass!—is, to say the least, not very much better than mechanical routine. The wisdom of the gardener is first shown in his knowledge of plants and their ways, and next in the skill and judgment which he brings to bear in inducing or helping the plant to adapt itself to unnatural conditions, and to the fulfilment of artificial requirements.

Whether from the point of view of the physiologist, or from that of the cultivator, a thorough study of the life history of plants is absolutely essential to complete success. It is not given to any to reach the highest standard, but it is a satisfaction to know that every step in the way is a real gain—a link in the chain of true progress—a progress, which, at least as far as the community at large is concerned, knows no counter-march.

Correspondence.

DESTROYING COCKROACHES.

Having suffered severely from the mischief done by cockroaches, and seeing from the inquiries in the Gardeners' Magazine that these pests are very troublesome elsewhere, I will briefly describe the simple remedy that I have found most effectual in getting rid of them. Cockroaches seem to be particularly fond of dry crusts of bread, and with a few of these and a biscuit tin I have been able to get rid of them. I place a piece of dry bread in a biscuit tin, which is perfectly smooth inside, and about four inches deep. I place the tin with one side against a wall, where they are the most abundant or plunge to the upper edge. I am, in fact, disposed to accommodate them as far as possible, and make a ladder with a few strips of wood, which will enable them to reach the upper edge of the side of the tin. It is not a matter of much consequence which course is taken, as they will, in endeavouring to reach the crust, tumble in, when, of course, they can be readily destroyed by being dropped into hot water. I have tried to poison these pests, and also to catch them with the aid of a patent beetle-trap; but have not found either so effectual as catching them with crusts of bread and biscuit tins.

A. H. B.

HARTLAND'S MARGUERITE.

In the Gardeners' Magazine of April 10 there is a note from Mr. W. H. Cullingford, in which he says that he has ripened seed of the chrysanthemum, and that he has named the variety Hartland's Marguerite. On page 204 it is said that the seed saved is that of Chrysanthemum frutescens. This is a misapprehension, and I should be glad if you would allow me to set the matter right. Hartland's Marguerite is a true Chrysanthemum indicum and an early flowering variety. I can vouch for this, as I have seen the flowers, and have plants growing. I believe that we are on the eve of one of a very important discovery in the saving of chrysanthemum seed in England.

Forest Hill, S.E. W. Piercy.

No Juice in a Flint.—This trite saying has a parallel; *there is no getting juice out of cheap tea.* The Chinese are yearly increasing the supply to English tea-drinkers of redried and worthless leaves, utterly destitute of *theine*, which is the one active principle most to be desired in the beverage; consequently cheap tea becomes dear tea *at any price.* The true policy of supplying wholesome Pure Tea is alone to be commended; hence the enormous and increasing sale of *Horniman's Tea, guaranteed absolutely pure*, by Chemists and others who are Agents in all parts of the kingdom, and supply the public at London fixed prices.—See advertisements in all Newspapers and at Railway Stations for list of Local Agents.—[Advt.]

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Azaleas that have grown out of shape, and have become leggy, may now be cut back with advantage, as there is plenty of time before them in which to make new growth. When pruned they should be turned out of the pots, have the balls of soil materially reduced, and be returned to pots one or two sizes smaller. It is important to start them into growth quickly, and therefore as they are repotted place them where they will have the assistance of a brisk temperature and a liberal degree of atmospheric moisture. Water sparingly until the roots are beginning to run freely in the new soil; but syringe freely overhead, to assist them to break strongly.

Begonias for summer flowering should have a position near the glass in an intermediate temperature, and a rather liberal degree of atmospheric humidity. Seedlings must be pricked off into pans, and plants started early be shifted on as they require more root space. The pots must be efficiently drained, and the compost moderately light and rather rich.

Camellias that have finished growing for the season to have less water and more air. They must not go absolutely dry, because that would seriously injure them, but should have only as much moisture as will keep them from flagging. It is too soon to put them out yet; so give them airy positions in the house.

Epacris that have flowered must now be repotted, the soil to be sandy fibry peat. The strong-growing kinds must have a large shift. Use plenty of drainage carefully packed, and place the plants in a turf pit for the summer and shade during midday. As the new growth progresses, pinch it back to promote a bushy habit. Now is a good time to propagate from points of new shoots an inch and a half long. Dibble them into pans of silver sand and cover with bell glasses.

Pelargoniums showing their flower buds will receive considerable assistance from frequent doses of weak liquid manure. Fresh sheep, deer, or cow dung, one peck to seven gallons of water, to be used when quite clear, will answer admirably. Keep the plants as near the glass as possible, give air freely, and use the syringe not only over the leaves but on the stems and branches underneath, which is a grand preventive of fly.

STOVE AND ORCHID HOUSE.

Orchid Houses will require shading in bright weather, as the sun will now do much damage to plants that are fully exposed to its influence. Moveable blinds are in all cases desirable, as it is a great advantage to the plants to have the shading materials removed during periods of dull weather. A liberal degree of atmospheric humidity should be maintained, as the plants are now in full growth. To maintain a moist atmosphere sprinkle the paths and stages two or three times daily.

Stove Plants require abundance of atmospheric moisture, both to promote a free growth and to keep down vermin. Many valuable plants may be propagated now from cuttings of the new growth, and this operation must be attended to in good time, especially in the case of plants required for next winter's flowering.

FORCING AND ORCHARD HOUSE.

Fruits ripening under glass must have a comparatively dry air and plenty of ventilation, or they will lack colour and flavour. If a fair crop of fine fruit is preferable to a large crop of an inferior kind, let those that take the lead swell off and ripen, and remove the greater part of the remainder. This practice is of great importance in the case of strawberries, as succession berries coming on while more forward fruits are ripening retard the progress of the latter, and prevent their attaining to their full size and flavour.

Orchard House Trees are now swelling their fruit, and need the help of liquid manure. Use it rather weak at first, for fear of causing stone fruit to fall. After two or three doses, alternating with plain waterings, increase its strength. Stone fruits not yet beginning to swell should be kept without it for the present. Use the syringe freely, and with force, to wash off withered blossoms. Give air night and day. Wherever you see a curled leaf, search for the cause of it, and you will find a grub or fly, with either of which deal promptly.

FLOWER GARDEN AND PLEASURE GROUNDS.

Annuals sown early to be thinned out as soon as the plants are large enough to handle, and sufficient should be removed to allow those remaining to have space for their full development.

Herbaceous Plants throwing up their flower spikes will in many cases require to be neatly staked to protect them from high winds and heavy rains. This is the more needful where herbaceous plants are mixed with shrubs in borders, as in such cases they always push their heads of flowers out in an oblique manner, and this prepares them to fall over when heavy rains occur.

Ranunculuses and Anemones want plenty of water while their flower-buds are swelling. When so far advanced give the beds during periods of dry weather a good soaking in the evening, using a water-pot to which a coarse rose is affixed, and do not be afraid as to quantity.

KITCHEN GARDEN AND FRAME GROUND.

Cucumbers in trenches planted out two or three weeks hence, and protected with hand glasses, will produce better crops than if kept in pots till they spindle away their strength. Make the trench two feet and a half wide, and one foot deep. Fill it a foot above the surface with hot dung and leaves that have been twice turned, or a mixture of leaves, straw, and grass mowings. Three days afterwards put on six inches of soil, and leave it a couple of days; then put on three or four inches more soil, and plant. They will then have a steady bottom heat, and if sheltered for a time will do well.

Parsley should be sown on rich light soil, and thinned as soon as large enough to handle. This method will ensure finer produce than leaving the plants close together, and those with richly-curled leaves can be selected as soon as they are a little advanced beyond the seed leaf.

Potatoes that were planted early are now pushing with vigour. Hoeing between is of immense benefit, and a little earth should be drawn to the stems.

Spinach is usually sown thick, and the best way to thin, as vegetables are so scarce, is to wait till the leaves are an inch long, and then draw the plants in little bunches and send to the kitchen.

Surface-dressing between growing crops with wood ashes, soot, guano, or any other artificial manure is far better than the use of liquid manure in all open-ground cultivation. Indeed, in most good gardens pot plants demand all the liquid manure that can be obtained; but where there are capacious sewage tanks, and a good supply, it may be used freely to strawberries, cauliflowers, rhubarb, gooseberry-trees, and other gross-feeding plants. It should always be understood that weak liquid manure in large quantities is to be preferred to a strong liquid in small quantities.

Turnips are not much in demand till autumn and winter, but this is a good time to sow a small breadth for summer supply. Use manure abundantly, and after sowing sprinkle over the bed a little lime or soot. This usually prevents the eating off of the young plant by the fly, as it is only while in the seed-leaf that turnips are in danger.

NARCISSUS COMMITTEE.

A meeting of the Narcissus Committee was held at South Kensington on April 13, when a large number of specimens were exhibited, including, amongst others of special interest, seedlings from Captain Nelson and Mr. Engleheart, and a great many wild varieties of different types. There was not sufficient time to go thoroughly into all the collections which were received, but the following is a brief account of what was submitted for inspection and the decisions taken:

1. Incomparabilis, from Mr. J. Dickson, of Chester, not known, but apparently a form of Incomparabilis, from the Pyrenees. Particulars requested of its history.
2. Nobilis, from Dr. Wallace, Colchester, collected by Mr. Maw. Deferred to another year.
3. Golden Spur, from Dr. Wallace. Correctly named.
4. A form of Pseudo-Narcissus, from Mr. H. Collins. Not considered worthy of a distinctive name.
5. Calathinus, of Redouté, from Mr. Barr. True to the figure.
6. Tom Thumb, Mr. Barr. Deferred.
7. Automedon, a good variety of Pseudo-Narcissus, from Mr. Tyerman. Name registered.
8. Henry Irving, a Spurius of Dutch origin, from Mr. Barr. Name registered.
9. Challenger, a strong growing variety with foliage resembling Rugilobus, from Mr. Llewellyn. Name registered.
10. Pseudo-Narcissus, from Mr. Tyerman. Not considered worthy of a name.
11. Some small forms collected in the Maritime Alps, and ranging from deep yellow and lemon self-coloured shades to yellow trumpets with white perianth. From Mr. Scrase Dickins. Accepted as varieties of Minor.
12. White Ajax, from Miss Owen. Identified as Colleen Bawn.
13. Irish cernuum, from Miss Owen.
14. A small straw-coloured Daffodil, from Miss Owen. Named as Minor citrinus.
15. A flower from Mrs. W. B. Hartland, similar to the last in shape and size, but white. Named as White Minor.
16. A Polyanthus Narcissus, from Mr. Archer Hind, collected in woods near Ostia. Not recognized.
17. A form of Pseudo-Narcissus, from the Rev. Mr. Wilks, described by him as the earliest, strongest, and most floriferous sort he has ever met with. Named Troilus.
18. A seedling from Tottenham Yellow, more robust in form, from Mr. Wilks.
19. A seedling from Captain Nelson, in appearance like a white Telamonius.
20. A seedling from Captain Nelson, like a pale Exquisite.
21. A seedling from Captain Nelson, of a deep gold colour.
22. A short crowned Moschatus, from the Rev. Mr. Engleheart. Name registered as Niobe.
23. Some forms, single and double, found growing between Telamonius plenus and wild Pseudo, which had been planted in concentric rings round the stems of trees, showing strong evidence of being hybrid seedlings between the two (Rev. Mr. Engleheart).
24. Specimens of Pseudo-Narcissus of various forms and colours, from Rev. C. Wolley Dod.
25. Corbularia nivalis, from Mr. Corder, true; Triandrus pulchellus, and some other forms of Triandrus.
26. A collection of forms of Spurius from Mr. A. E. Barnaart, including Golden Spur, Spurius coronatus, and Henry Irving; and several others not recognized by distinctive names.
27. A collection of Italian Trumpet Narcissus, from Mr. Morse, of Epsom.
28. A report, with dried specimens of N. Triandrus, was presented to the committee from Professor Henriques, of Coimbra.
29. A collection of white Ajax was brought by Miss White. One large variety, known sometimes as Tortuosus tenuifolius, was registered under the name Leda. It had the peculiarity of being strongly scented.
30. Bishop Man, a very tall-growing Moschatus, from Mr. W. B. Hartland. Deferred.
31. Minnie Warren, a small Moschatus, from Mr. W. B. Hartland. Name registered.
32. Gladys, another small white form. Name registered.
33. A very interesting collection of forms of Incomparabilis, from Mr. W. Godolphin Osborne, collected by him in the Pyrenees, varying considerably in the colour of the crown and perianth.
34. Muticus and Juncifolius, and a Corbularia from the same source.
35. A white Ajax with buff-coloured trumpet, very distinct; and a variety of Sir Watkin, with deeply stained crown, were shown by Mr. J. Walker.
36. A collection of various sorts from Mr. J. H. Krelage, for verification of names.
37. Some flowers were shown by Mr. Ware which were accepted as true Nobilis. The roots were collected in the Pyrenees, and had been in cultivation in England for two years.
38. A number of single and double Pseudo-Narcissus and Telamonius from various sources, sent in reference to the question of the conversion from single to double.—C. R. Scrase Dickins, *Hon. Secretary.*

Cultivation of tobacco is treated at length in a pamphlet by Messrs. James Carter and Co., who have made a special importation of seeds of seventeen varieties of "the weed," in aid of the experimental culture many are now entering upon.

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, April 27.

Promenade Show.

Daffodils, as on the occasion of the two previous promenade shows, largely predominated, and formed of themselves a very extensive and highly attractive exhibition. In addition there were several collections of miscellaneous plants and a group of pot roses, which added in no small degree to the interest and attractiveness of the display.

The collections of daffodils sufficed to fill about one half of the available space within the conservatory, and comprised examples of all the leading species and varieties now in bloom. Messrs. Barr and Son, 12, King Street, Covent Garden, contributed an immense collection, and were awarded the silver-gilt Banksian medal. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, also exhibited a very large and thoroughly representative collection, and received the award of the silver-gilt Banksian medal. Mr. Ware staged also a beautiful group of spring flowering plants in which Anemone fulgens, A. apennina, A. Robinsoniana, and the varieties of Primula Sieboldi were especially well represented. Mr. J. Walker, Whitton, Isleworth, contributed a collection of moderate extent, and remarkable for the magnificent development of the flowers. Especially conspicuous in the collection were Sir Watkin, Dr. Hogg, Emperor, Michael Foster, a grand bicolor, with an exceptionally large trumpet, and Bicolor Empress. The award of the siver Banksian medal was made. A medal of like value was awarded to Messrs. Collins Bros. and Gabriel, Waterloo Road, for an excellent collection.

One of the most important and attractive of the contributions to the gathering was the group of standard and other roses in pots from Messrs. Paul and Son, Cheshunt, who were awarded the silver-gilt Banksian medal. The standard roses were especially well grown, and liberally furnished with flowers of high quality, and proved immensely attractive; the specimens of Niphetos, Anna Olivier, and Madame Lambard being particularly good. Messrs. Paul and Son exhibited also a charming group of alpine plants, for which they were awarded the bronze Banksian medal. Amongst other subjects represented were, Arnebia echioides, Gentiana verna, Saxifraga diapensoides, a beautiful dense growing variety, bearing large pure white flowers; S. arteoides alba, a beautiful variety with white flowers; S. arteoides primulina, a variety equally beautiful, with flowers of a pleasing primrose colour; Ranunculus amplexicaule, a handsome species bearing pure white flowers; Megasea cordifolia purpurea, one of the darkest forms of the megaseas; Tulipa Clusiana, and Adonis vernalis. Mr. J. Walker, Thame, contributed a collection of cut roses, which were much admired for their high quality and freshness, and was awarded the bronze Banksian medal.

A very bright and highly interesting collection of hard-wooded plants in bloom was exhibited by Messrs. W. Cuthush and Son, Highgate and Barnet, to whom the award of the silver Banksian medal was made. The collection consisted of such good things as Hedaroma fuchsioides, Tetratheca hirsuta, T. verticillata, Polygula Dalmaiseana, Erica Victoria, E. Hartnelli, Choysia ternata the perfume of which may be likened to that of the hawthorn, Boronia pinnata, and Hypocalymna robusta, remarkable for its elegant habit and attractive rose-coloured flowers. Mr. May, Dyson's Lane Nursery, Edmonton, exhibited a refreshing group of ferns and crotons, and was awarded the bronze Banksian medal. Especially worthy of note amongst the ferns were Adiantum Paccotti, distinguished by its dense deep green fronds; A. cuneatum grandiceps, Pteris serrulata compacta, one of the most useful of the crested forms of this species, and P. cretica variegata Mayi, a distinct variety, with curiously crested fronds. Mr. G. Stevens, St. John's Nursery, Putney, exhibited a large collection of abutilons, representing the finest of the varieties raised by Mr. George, and was accorded a vote of thanks.

Floral Committee.

Present: G. F. Wilson, Esq., in the chair; Major Lendy, Rev. W. Wilks, Dr. Masters, and Messrs. J. Douglas, W. Bealby, G. Duffield, H. Herbst, Shirley Hibberd, R. Dean, T. Baines, G. Paul, J. Dominy, H. M. Pollett, J. O'Brien, H. Ballantine, W. B. Kellock, and E. Hill.

The subjects submitted to the committee were more numerous than on any previous occasion this year, and a large number of certificates were awarded. Mr. West, gardener to Major Lendy, Sunbury, exhibited cut flowers of a variety of Cattleya Mendeli, on which a certificate was conferred, and several spikes of odontoglossums. Messrs. J. Veitch and Sons sent four new amaryllis, for three of which they were granted first-class certificates. Mr. G. Bethell, gardener to the Duke of Marlborough, Blenheim Palace, Woodstock, staged a large splendidly bloomed specimen of Epidendrum lencochilum, for which he was awarded a cultural commendation. The compliment of a vote of thanks was paid to Mr. S. Ford, Leonardslee, for a cut specimen of Wellingtonia gigantea, liberally furnished with cones. A good specimen of Cattleya Lawrenciana was shown by Messrs. T. Cripps and Son, Tunbridge Wells, and a vote of thanks was accorded the firm. Messrs. Page and Son, Twickenham, contributed examples of Odontoglossum crispum and O. Andersoni; and Mr. Ballantine exhibited cut orchids, including Dendrobium macrophyllum Dearei, a rare variety with pure white flowers. Mr. Linden, Ghent, submitted Dendrobium striatis, a new species, of robust growth, bearing medium sized flowers, of which the sepals and petals are white, and the labellum freely veined with rose; and Alocasia Lindeni, a distinct species with cordate leaves, of which the midrib and secondary veins are bright yellow.

Fruit Committee.

Present: H. J. Veitch, Esq., in the chair, and Messrs. J. Willard, W. Denning, G. T. Miles, J. Smith, G. Norman, G. Bunyard, S. Ford, J. Burnett, and P. Crowley.

As is customary at this season of the year, the labours of the committee were very light. Messrs. J. Carter and Co., High Holborn, exhibited examples of their Knickerbocker radish, a long variety with roots remarkable for their large size; and a request was made by the committee asking that it should be sent to Chiswick for trial. A dish of Newland Sack apple was sent by Mr. W. Crump, Madresfield Court, to show its keeping qualities. Of this the committee thought highly as a good keeper.

Novelties.

The new plants and flowers submitted on this occasion were more numerous than usual, and in merit they were considerably above the average. First-class certificates were granted as under:

To Messrs. F. Sander and Co., St. Albans, for

Odontoglossum luteopurpureum leucoglossum.—A very distinct and handsome variety; the flowers of large size and fine form; the sepals cinnamon brown, the petals yellow heavily blotched with brown; the labellum rich cinnamon brown broadly margined with white.

To Messrs. J. Veitch and Sons, King's Road, Chelsea, for

Amaryllis King of Crimsons.—A medium-sized flower, of fine form and good substance; the colour brilliant crimson and extending to the base.

A. Duchess of Edinburgh.—A flower remarkable for its large size and fine form; the colour blush, freely veined and suffused with vinous red.

A. Duchess of Albany.—One of the most distinct and attractive varieties bloomed by the firm this season; the flowers are of medium size and good form; the colour rich vinous crimson.

To Mr. J. Linden, Ghent, and Mr. Gilbert, gardener to R. B. White, Esq., Earlsfield, for

Cypripedium Hyeanum.—A very distinct and handsome species, remarkable alike for the beauty of its flowers and foliage. It has a rather robust habit; the leaves are marked with various shades of green in the way of those of C. Lawrencianum; the flowers are rather large, the petals and labellum bright green and the dorsal sepal white veined with green.

To Mr. West, gardener to Major Lendy, Sunbury, for

Oncidium undulatum.—A handsome species, producing its flowers in large much twisted racemes; the flowers are comparatively large, the sepals greenish brown, the petals white barred with brown and tinted with rose, and the labellum dull rose.

Cattleya Mendeli Lindleyana.—One of the finest of the numerous varieties of this beautiful species. The flowers are exceptionally large, and the sepals and petals, which are of great breadth, are of a pale rose-lilac hue, and the labellum is of a rich amethyst purple with orange-buff throat.

To Messrs. E. H. Krelage and Sons, Haarlem, for the under-mentioned Fritillarias, all of which have large finely formed flowers:—

Corneille.—Dark purple, with green tessellation just showing through.

Siege of Haarlem.—Very attractive; the flowers richly tesselated yellow and brown.

E. H. Krelage.—One of the most effective of the series; the flowers very large and marked with brown, purple, and yellow.

Van Lerins.—An attractive variety, the flowers marked with green and yellow.

To Messrs. Barr and Son, 12, King Street, Covent Garden, for

Narcissus C. J. Backhouse.—A beautiful variety belonging to the Lsedsi group. The flowers are large and of superb form; the perianth sulphur-white, and the chalice brilliant orange-red.

N. Duchess of Westminster.—An exceedingly chaste and beautiful variety; the perianth segments pure white, and the chalice primrose yellow.

To Messrs. Paul and Son, Cheshunt, for

Rose Gloire Lyonnaise.—A hybrid tea, sent out in the autumn of 1884 by the French raiser as a "yellow hybrid perpetual." The flowers are of medium size, very poor in shape, devoid of fragrance, and white tinted with sulphur. Not equal to the teas with white flowers.

To Mr. T. S. Ware for

Narcissus spurius Henry Irving.—A grand variety, belonging to the section so well represented by the Emperor. The flowers are of large size, and have a bright yellow perianth and a deep golden trumpet.

N. Nelsoni aurantiacus.—A distinct variety, remarkable for the bright colouring of the chalice; the perianth is white and the chalice bright orange.

Hemerocallis Kwanso pl. fol. variegatus.—A variety of the double-flowered Day Lily, with leaves marked with longitudinal bands of sulphur white. Very bright and effective, and admirably adapted for decorative purposes under glass.

To Mr. R. Dean, Ealing and Bedfont, for

Primrose (Jack-in-the-Green) Crimson Beauty.—A highly attractive variety, with flowers of a rich crimson hue.

To Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, for

Odontoglossum crispum apiatum.—A superb variety; the flowers large and nearly circular in shape, and freely blotched with brilliant rose on a pure white ground.

To Mr. Ruffet, Panshanger Park, Herts, for

Beaumontia grandiflora.—A fine old stove shrub, robust in growth, with stout oblong-lanceolate leaves, and producing large pure white and sweetly-scented trumpet-shaped flowers.

MANCHESTER ROYAL BOTANICAL SOCIETY, SECOND SPRING SHOW, April 27.

The second of the two exhibitions of spring flowers arranged for the current season by the Manchester Royal Botanical Society was held in the Town Hall on Tuesday, and proved not less successful than the excellent meeting in March. Additional interest was imparted to the show by the exhibition of the northern section of the National Auricula Society, which was held in association with it.

The exhibition of auriculas, as at South Kensington, was rather below the average as regards the number of plants, but those staged were remarkably good, and in point of quality the show will compare most favourably with those of previous years. The most successful of the exhibitors in the auricula classes was Mr. A. Potts, Hoole Hall, Chester, who, in addition to his other prizes, was awarded that for the premier flower in the exhibition, the variety selected being John Simonite, a white-edged flower of superb quality. Miss Woodhead, Norwood Green, Halifax, Mr. Pohlman, Halifax, Mr. W. Brockbank, Didsbury, Mr. C. Royds, Rochdale, Mr. S. Barlow, Stakehill House, Middleton, and Mr. W. Bolton, Warrington, were also very successful in the several classes, and deserve high praise for the admirable condition in which their collections were staged.

One of the most important of the collections of miscellaneous plants contributed to the exhibition was that from Mr. J. Broome, Didsbury. The collection was sufficient to fill the whole of the space in front of the organ gallery and proved a source of great attraction to the visitors. It included finely-developed examples of Dendrobium nobile, D. Wardianum, Vanda suavis, Nepenthes hicalcarata, N. Hookeræ, and Ataccia cristata, the last mentioned being well furnished with its singularly formed flowers. Mr. Schloss Bowden contributed a good specimen of Rudgea macrophylla, a handsome stove plant bearing large trusses of pure white flowers. From Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, came a very interesting group of plants, in which were good examples of Cattleya citrina, and Tillands a tesselata, one of the most handsome of the bromeliads grown for the beauty of their leafage. Mr. Williams sent also some excellent Amaryllis. Mr. J. Hooley, Edgeley, contributed an attractive collection of decorative plants.

Messrs. James Dickson and Sons, Newton Nurseries, Chester, exhibited a collection of daffodils, comprising about sixty varieties, each of which was represented by a dozen flowers. Very conspicuous in the collection were Emperor, Mary Anderson, Bicolor Horsfieldi, Bicolor Empress, Sir Watkin, and General Gordon, or Spurius coronatus. Mr. S. Barlow contributed a basket of beautiful primroses. Mr. Bruce Findlay sent from the gardens of the society at Old Trafford a pleasing collection of alpines, in which were Phlox canadense, Rodgersia polyphylla, and Lychnis alpina. Hardy primulas were admirably shown by Mr. W. Brockbank.

The awards for the miscellaneous contributions comprised: Cultural certificate to Mr. J. Broome for his nepenthes and other plants, and commendations to Mr B. S. Williams for his collection, to Mr. E. G. Wrigley for Cattleya Lawrenciana, to Mr. S. Barlow for primroses, to Mr. Walkden for polyanthuses, to Mr. S. Hunter for mignonette, to Messrs. J. Dickson and Sons for daffodils, and to Mr. Hardwick for Cinerarias.

LEWISHAM AND DISTRICT FLORAL SOCIETY.

At the monthly general meeting of this society, held on Wednesday evening, the 21st ult., at the Hither Green Hall, Lewisham, a paper on the Chrysanthemum was read by Mr. C. Harman Payne, one of the vice-presidents. There was a very large attendance, and the chair was taken by H. E. Joyce, Esq.

Mr. Payne, in the course of his paper, pointed out how gradually but surely the chrysanthemum had risen into public favour. Descriptions were given of many of the original kinds introduced into this country, and the differences pointed out between them and those now grown. The efforts of some of the earliest growers in ripening the seed in this country were described, and an account given of Mr. Salter's labours in the advancement of the chrysanthemum to the rank of a florists' flower. The hybridization of the varieties and the ripening of home-saved seed also formed topics for speculation, while the question of an amateur's ability to obtain new varieties from seed was gone into somewhat fully. The paper, which occupied more than half-an-hour in the reading, was subsequently followed by a discussion amongst the members.

AN UNDEVELOPED FRUIT REGION.

"A dime a dozen oranges" has been the cry of the fruit hawkers for several weeks past in the busy streets of this epitome of the Old World's cities, San Francisco, where representatives of all European and some Asiatic nations may buy in the markets, or enjoy at restaurants kept by their own countrymen, almost any of the common viands and many of the rarer dainties they would find in London, Paris, Vienna, Naples, and Madrid, or in Tokio and Canton. The tourist passing through the Golden State a few weeks ago might have seen, first at Sacramento, and later in San Francisco, an exhibition of fruits which, more especially in the case of those of the citrus family, was a revelation even to Californians of resources and possibilities hitherto realized by few. The profusion of luscious fruits—oranges, lemons, limes, citrons, shaddocks, pomeloes (near relatives of the pompelmoose of the West Indies), persimmons, bananas, grapes, apples, pears, chestnuts, walnuts, almonds, pecans, and many other kinds of nuts, besides dried peaches, plums, and raisins—brought together on these occasions must have favourably impressed any who for profit or for health might be seeking a new home, and may have led them to consider the advantages and charms of residence in a land where the orange and the olive thrive and gardens are gay with rose blooms in midwinter. The resident of San Francisco is most enviably situated. North and south of him all the fruits of the temperate and sub-tropical zones will grow and ripen in the open air throughout the region lying between the western outliers of the Sierra Nevada and the eastern slopes of the coast range. Long before the discovery of gold in California the Roman Catholic missionaries, pushing northward from Mexico, had taught the Indians to cultivate the grape, the olive, and the orange in the lower part of this State; but the suitableness of the soil and climate of the more northerly portion of the country for the culture of citrus fruits and others which require similar climatic conditions was not, owing to the various causes, generally recognized until recently. When the first violence of the gold fever abated, and settlers began seriously to give their attention to agriculture, the fertile valley lands, which yielded abundant crops of wheat with the least possible expenditure of labour to the cultivator, were occupied by men whose habits and experience led them to direct their husbandry to the raising of cereal crops. Then thrifty French, German, Swiss, and Italian immigrants began to dot the sunny foothills with vineyards, while here and there a farmer of a speculative turn of mind planted a few orange pips, more out of curiosity than with the expectation of getting more, perhaps, than a handsome tree, ornamental and useful for its shade in the garden. The outcome of these early and successful experiments in the upper portion of the State was to be seen in the splendid display of oranges, lemons, and other citrus fruits held this winter in the capital, and subsequently repeated in the principal port of the State. About twenty counties, representing an area of more than 40,000 square miles of the upper part of California, contributed to these shows, which were remarkable, not less as evidence of the development of a new industry, than as indicating climatic conditions popularly supposed to prevail only in the southern portion of the country. It is estimated that there are now over a thousand places in the northern part of California where oranges are cultivated, and that there are not fewer than 30,000 orange trees in cultivation.

The disaster which this year overtook Florida, in the destruction of fruit and young trees in her orange groves by a severe frost, has, of course, suggested comparisons altogether in favour of the more equable climate of the Pacific coast. One speaker, at a meeting held during the citrus fruit exhibition, asserted that "Auburn, Sacramento, Marysville, Red Bluff, Redding, and other places in northern California, have a higher mean temperature for the coldest month than the cities of Rome, Madrid, Marseilles, or Jerusalem." This Californian Auburn is not a village of the plain, but a sheltered sanatorium, with a station on the Central Pacific at an altitude of between 1 300 ft. and 1,400 ft, as travellers by the railway may remember if they have been tempted by a brilliant moonlight to forego their beds in the Pullman car on the last night of the long overland journey in order to admire the wild scenery of the sierras, while the train rushes through gloomy cañons and around promontories at giddy heights in descending from the summit to the valley of the Sacramento. The success obtained in orange culture further north has surprised many residents of the country. Let me take, for example, the result of experiments in Tehama country. The district lying between the Sierra Nevada and the Coast Range comprises about a million acres of land nearly all suitable for cereals or fruit, fringed on the east and west by high hills affording fine pasturage or bearing marketable timber. Good land, one of the county spokesmen said, is plentiful and cheap. From a meteorological report issued by the United States Signal Service it appears that in the seven years 1875-6 to 1882-3 the minimum temperature at the town of Red Bluff (lat. 40 deg. 10 min. N.), in the Tehama county, about 200 miles north of San Francisco, was 24 deg.; the mean temperature for the same period 64 deg. Fahrenheit. There was one day (in 1883) when the thermometer registered 19 deg., but the mean of the lowest temperature for eight years was 25 deg. Even with the temperature at or below the freezing point, however, it is stated that vegetation is not injuriously affected by the frosts, which endure but for the night. The weather record for this representative northern town shows further that the percentage of clear days was 60, of fair days 21, and of rainy days 19; while the average rainfall has been 27 inches per annum, as against 19 inches at Sacramento and 12 inches at Los Angeles within the seven years reviewed.

Throughout the northern division of the state the upland sheltered valleys, with the slopes of the foothills to a height of 2,000 feet above sea level, and the rich adobe lands and the loamy soils of the plains serve, if not equally well, at least in a satisfactory measure, for the cultivation of the citrus fruits, provided that some care is taken in the cold weather of the lemon trees, these being more delicate than the acclimated orange seedlings. The experience of one grower in Sacramento county may be novel to many horticulturists. Finding on part of his estate no more than 15 inches of sandy soil above the rock—in mining slang the "hard pan"—he made holes for the roots of his orange trees through the rock to a depth of five or six feet, when he reached a stratum of hard sand which afforded excellent drainage. The trees so planted have thriven better than those growing in other parts of his grounds in a sandy clay loam three to five feet deep. Those in the hard pan holes when grafted or budded on large seedling stocks have borne fruit in the second year. As a rule, apparently, seedling oranges begin to bear in this country from seven to twelve years of age, though under favourable conditions some produce fruit earlier. Grafts bear in from three to five years. It has been found in many cases that grafted trees brought from the southern part of the State will not always stand the cold in the northern counties without protection, but that seedling varieties, being acclimatized, take no harm from the few frosty nights of the winter season. If grafted on seedling stocks, however, the orange seems to thrive in almost any part of the State, and, as an inducement to settlers, it is stated that there are thousands of acres of land which might be profitably devoted to the cultivation of oranges and other table fruits, wine and raisin grapes, or olives, and which can be bought at prices ranging from £2 to £10 an acre.

Among varieties of the orange in high repute here is the seedless navel orange from Brazil. The variety, introduced originally into this country by the United States Agricultural Department, and distributed from Washington, is also represented here by trees reared from cuttings which found their way to this coast from Bahia by the roundabout way of our Australian colonies. It does well here, is juicy and sweet, has a full yet delicate flavour, and is especially valued because it ripens early. Oranges on this coast are sold in small boxes less than a quarter the size of those in which the Mediterranean fruit is brought to Billingsgate. The Californian boxes contain from 160 to 170 oranges, and common kinds have lately been sold by the wholesale fruit dealers at about 6s. a box, or rather less than a halfpenny each. For navel oranges I was asked 8s. 6d. a box. From a seedling tree that has been bearing for fifteen years at Newcastle, at an altitude of nearly 1,000 feet above the sea, the crop of oranges is worth from £6 to £8 per annum. The grower expects to pluck 10,000 oranges this year from his garden. The crop on his trees begins to ripen early in November. Of figs he can get three crops in the year, and some vines raised from cuttings planted two years ago bore from 50 lb. to 70 lb. of grapes last season. The cherries in his orchard have been very fine, and the olive, he writes, does well in the neighbourhood. Good, but uncultivated land is still to be had in the locality, he adds, for from £3 to £5 an acre. Italians who have been engaged in olive-growing in their own country declare that in quantity and quality the yield here is superior to that of their own land.

By a slow process of individual experiment, which now, looking at the evidences on all sides of the possibilities of the country, seems, at least in the northern parts of the State, to have been carried on with strange timidity and want of appreciation of the undeveloped resources surrounding them, the Californians of the north have at length convinced themselves that in fruit-growing they have an industry both remunerative and otherwise desirable in its social aspects. While wheat-growing, admitting, and, indeed, demanding the employment of machinery as a condition of success, tends to the formation of large farms, and providing occupation for comparatively few labourers, offers few inducements to immigrants of the humbler class, fruit-growing, and especially the culture of fruits of the citrus family, requires more close attention, with individual care for the plants, and affords profitable occupation to a greater number of hands, acre for acre. For its satisfactory prosecution, too, fruit-growing calls for superior intelligence on the part of the labourer, and affords employment for that yeoman population it has been the object of the homestead laws of this country to attract by the facilities given for the acquisition of 160-acre holdings. Having come to the conclusion that fruit-growing is remunerative, people in all parts of the State are now with characteristic impulsiveness laying out fruit gardens by the 100 acres. Mistakes will of course be made, and in a year or two probably the cry will be raised that the thing is overdone, and that the middle man is reaping most of the profits and the grower bearing the losses; still it is beyond doubt that there are all the elements of an eventually important and stable industry in fruit culture here.

From returns of freight carried by the Southern Pacific Railway Company over their northern and southern routes in 1885, I find that 4¾ million pounds of fruit were sent away from San Francisco last year, very nearly 19 million pounds from Sacramento, and 28,850,000 pounds from Los Angeles; making, with the consignments despatched from Stockton, San José, and Marysville, a grand total of very nearly 60 million pounds, or 26,760 tons of fruits of all descriptions, including almonds and nuts. This not inconsiderable yield for a still young State was made up of 20,950 tons of fresh fruits, the orangories contributing half the weight. The remaining fifth consisted in very nearly equal weights of raisins and other dried fruits. Walnuts, chestnuts, and other varieties of nuts added 1,673,600 pounds to the total weight. The railway returns do not state values; the Customs returns give values but not weights; so that comparison is impossible, and mere estimates would be of little use. By shipments from the port of San Francisco, how-

over, it may be of interest to state that California sent away last year over half a million dollars' worth of fruits. The canned fruits shipped were valued at 355,000 dols, green fruits at 95,500; dried fruits at 42,275 dols.; and raisins at 10,560 dols. Nearly half the fresh fruit exported and 88,000 dols. worth of canned fruits—altogether, fresh fruits, dried fruits, and fruits in tins, with nuts to the total value of 155,000 dols.—were shipped to Australia. New Zealand was another British customer and took 21,840 dols. worth; British Columbia purchased fruits valued at 25,770 dols.; and England had a bill to pay of over 198,000 dols. for canned peaches and other Californian fruits. This year a great addition will be made to the acreage of land planted for fruit, and with the very large number of young trees just coming into bearing, the cultivation of the fruit gardens and the picking, drying, curing, and transport of the enormous and varied crops which the prolific soil readily yields will in time afford constant occupation and a comfortable livelihood to a large portion of the population. The labour question, however, has yet to be solved. Some of the effects which the mob movement against the Chinese will have upon the progress of this young industry in the near future it is not difficult to foresee. Representatives of the fruit growers of the State at the last meeting of their association entered a protest against measures which, if carried out completely, would deprive them of the only labour at present obtainable, at least at rates they can afford to pay. There is another side to this question, however, and many thoughtful men are anxious by peaceful and constitutional steps to replace the Chinese by white labourers. But whatever may be the difficulties of procuring labour or organising a system of distribution satisfactorily, the enterprising class of men who have invested their capital in fruit growing will assuredly before long secure a place for this industry second only to that now held by wheat. Perhaps, indeed, as India and Australia become in a larger measure granaries of Europe, fruit will rank with grain at the head of the agricultural interests of this State.—*Times.*

A SYNOPSIS OF THE EUROPEAN SPECIES OF PRIMULA, WITH THEIR DISTRIBUTION.

By J. G. Baker, Royal Herbarium, Kew. Contributed to the Primula Conference.

Group I. Primulastra.—Young leaves revolute, never mealy beneath. Calyx strongly ribbed. Flowers yellow.

1. *P. vulgaris*, Hudson. (Primrose).—Leaves narrowed gradually to the base. Umbel sessile; pedicels long. Calyx teeth lanceolate. Corolla limb large, pale yellow. Distrib.: Throughout Europe, except the Mediterranean region.

2. *P. elatior*, Jacq. (true Oxlip).—Leaves narrowed gradually to the base. Peduncles produced; pedicels short. Calyx teeth lanceolate. Corolla limb large, pale yellow; throat not plicate. Distrib.: Throughout Europe, except the Mediterranean region. Differs from the hybrid Oxlip by its more villose calyx and paler corolla, not plicate at the throat.

3. *P. officinalis*, Scop. (Cowslip).—Leaves narrowed suddenly at the base to a winged petiole. Peduncles produced; pedicels short. Calyx teeth deltoid. Corolla limb smaller, deeper yellow; throat plicate. Distrib.: Throughout Europe; rare and not typical in the Mediterranean region.

Group II. Aleuritia.—Leaves often mealy beneath, revolute when young. Calyx not ribbed. Flowers lilac.

4. *P. farinosa*, Linn.—Leaves small, crenulate, mealy below. Pedicels and calyx also mealy. Calyx tube campanulate; teeth as long as tube. Corolla tube short. Distrib.: Northern and Central Europe, mountains of Spain.

5. *P. stricta*, Hornem.—Differs from farinosa by leaves not mealy beneath, pedicels and calyx not mealy, flowers fewer. Distrib.: Mountains of Scandinavia and Northern Russia.

6. *P. sibirica*, Jacq., *var. finmarchica*, Jacq.—Leaves broader than in farinosa, entire, not mealy beneath. Pedicels longer. Calyx tube oblong; teeth much shorter than the tube. Corolla tube short. Flowers few. Distrib.: Mountains of Scandinavia. The type known in Siberia only.

7. *P. frondosa*, Janka.—Leaves large, thin, not mealy beneath. Calyx tube campanulate; teeth lanceolate-deltoid, as long as the tube. Corolla tube short. Distrib.: Mountains of Thrace. Very rare.

8. *P. longiflora*, All.—Leaf like that of farinosa, usually mealy beneath. Calyx longer, both tube and teeth. Corolla tube one inch or more long. Corolla limb ½—¾ inch in diameter. Distrib.: Mountains of Central Europe.

Group III.—Auriculastra.—Young leaves involute. Calyx short both tube and teeth.

* *True Auriculastra.*—Leaves, calyx, and pedicels, not viscose.

9. *P. Auricula*, Linn.—Leaves large, entire or minutely toothed. Leaves beneath, pedicels and calyx mealy. Bracts small. Flower pale yellow. Distrib.: Mountains of Central Europe.

10. *P. Palinuri*, Petag.—Differs mainly from the large forms of auricula by its constantly inciso-crenate leaves and larger foliaceous bracts. Flower pale yellow. Distrib.: Promontory of Palinurus, Naples.

11. *P. marginata*, Curt.—Much dwarfer than auricula, with strongly inciso-crenate leaves with a white mealy margin. Flowers fewer, lilac. Distrib.: Alps of Dauphiné and Piedmont.

12. *P. carniolica*, Jacq.—Leaves oblong, thin, entire, not at all mealy. Flowers lilac. Distrib.: Alps of Austria and Lombardy.

** *Erythrodosa.*—Leaves, pedicels and calyx viscose.

13. *P. viscosa*, Vill.—Leaves obovate, strongly inciso-crenate. Pedicels twice as long as calyx. Calyx teeth nearly as long as the tube. Flowers few or many, lilac. Distrib.: Pyrenees and mountains of Central Europe. Many varieties (villosa, Wulf., latifolia, Lap., &c).

14. *P. daonensis*, Leyb.—Differs from dwarf few-flowered forms of viscosa by its narrower leaves, shorter pedicels, and much smaller calyx, with very small obtuse teeth. Distrib.: Granitic Alps of Switzerland and Austria.

Group IV.—Arthritica.—Young leaves involute; calyx long; tube cylindrical or infundibuliform. Flowers always lilac.

* Corolla lobes shallowly bifid.

15. *P. calycina*, Duby.—Leaves large, entire, acute, with a distinct white mealy edge. Bracts large, linear. Calyx ½ inch long; teeth lanceolate, as long as tube. Distrib.: Alps of Lombardy.

16. *P. spectabilis*, Tratt.—Leaves large, entire, obtuse or subacute, with an indistinct pale edge. Bracts smaller than in the last. Calyx ¼—⅓ inch long; teeth much shorter than the tube. Distrib.: Alps of Central Europe; several varieties; was included by Linnæus under integrifolia.

17. *P. integrifolia*, Linn., *ex parte.*—Dwarfer than spectabilis, with smaller leaves, and only 1—3 flowers. Distrib.: Pyrenees and mountains of Switzerland and Lombardy.

18. *P. Allioni*, Lois.—Dwarf, 1—2-flowered, with very short peduncle and pedicels. Leaves obovate, very obtuse, subentire, viscose. Distrib.: Alps of Piedmont, very rare; and a geographical variety (P. tyrolensis, Schott) in the Tyrol.

** Corolla lobes deeply bifid.

19. *P. minima*, Linn.—Very dwarf; leaves small, obtuse, sharply toothed, not viscose; flowers 1—2; peduncle and pedicels both very short. Distrib.: Mountains of Switzerland, North Italy, Austria, and Turkey.

20. *P. glutinosa*, Wulf.—Leaves obtuse, denticulate, viscose. Flowers many, in a dense umbel, with an elongated peduncle, and large oblong obtuse bracts; pedicels absent. Distrib.: Mountains of the Engadine, Lombardy and Austria.

Literature.

THE ART OF GARDENING.

The Art of Gardening: A Plea for English Gardens of the Future. By Mrs. J. Francis Foster (Satchell).—On the first appearance of Mrs. Foster's essay we dismissed it somewhat briefly, and should be again disposed to do so, but respect for its intentions persuades a different course. Its one object is to present to the lovers of gardening reasons for abandoning the bedding system and giving more attention, and special attention, to hardy border flowers. The question of bedders *versus* hardy plants was first discussed at length in this magazine shortly after the accession to office of the present editor; and the papers entitled "The Old School and the New" attracted attention, and prepared the way for the revolution in taste that followed. We trust that we never forgot that the question has two sides, and that the bedding system owed its popularity as much to its usefulness as to the prevailing ignorance of hardy plants that tended to favour the cultivation of showy plants of tender constitution. Mrs. Forster does not admit that the question has two sides, and for the advancement of her advocacy of hardy plants the arguments employed are weak, and partake rather of the character of desultory gossip than of reasoning upon definite premises. With a certain few, sentiment of a quite superficial kind is argument enough; but with men of the world, and with the men and women who bring common sense to bear on the canons of taste, something more is needed than eulogy of wild roses or the sweetness of mignonette.

But this is an enjoyable essay, although, as a contribution to an important discussion, it is of comparatively small value. Those who can enjoy the famous Quarterly and Carthusian essays on gardening will find in Mrs. Foster's neat little brochure a bouquet of refreshing pictures and restorative ideas. As a light discourse, garnished with anecdotes and illustrations from the poets, it is a welcome addition to the library of leisure, and as such we recommend it to our readers, who probably do not need any persuasion on the way they should pursue in the ordering of their gardens. The authoress has definite notions as to the enjoyment of a garden, and will win many to her views by sympathy who might never be convinced by her reasoning; and we should hope that the influence of her endeavour will be to augment the number of those who will walk in the same way.

"It is the prerogative of a lady to put the life of a letter in the post-cript, and Miss Foster reserves for an "Appendix, certain proposals that have interest at this time, even for those who do not elect to adopt them. We place before our readers those proposals, hoping they may find in them entertainment and material for thought.

Antiquarian Gardens.

"In the Chaucerian border we have placed those plants which we know to have been cultivated in old English gardens with one or two of British growth, such as Mountain Avens and Colchicum, which, from their great charm, are most likely to have been also there. The Orange Hawkweed may scarcely seem worthy of culture, but Gerarde says that it grew in every old garden. He calls it 'Grim the Collier.' With much regret we leave the tall white lilies out of this border. Surely it can have been no other flower than this which Chaucer thought of when he said that his heroine

'Fayrer was to sene.
Than is the lily on his stalk grene.'

Yet the fact of this lily being in England before the 16th century has been contradicted and we have, therefore, feared to commit an inaccuracy by placing it among Chaucer's flowers. Of Roses we need have no stint, for they were in all the crowns and garlands of the flower-loving Middle Ages. "Paid so much for Rose garlonds on S. Barnebes' Day," say the old accounts, and, again, "So much for Rose garlonde and Wodrove (Woodruff) garlonds on S. Barnebes' Day." Bishops and Canons wore roses when they walked in procession, and the churches were garnished with them. Roses were even given in part payment for tenure of land, and we all know that there were Roses, red and white, in the Temple Garden when Somerset and Warwick walked there, long ago, and their "brawl" grew to a faction.

In the Elizabethan Border we have named only such flowers as were brought to England, and here cultivated, before the year 1597. None of the Chaucerian flowers are repeated in this border except such as are specially named by Shakespeare. The *Tulipa sylvestris* we have placed here because, although said to be a native of England, it does not appear to have been cultivated until the time of Gerarde (circa 1579).

We have, it will be seen, often advised that hardy annuals should fill up the places left void by the fading of early bulbous flowers. These annuals should be sown in some spare ground in March, April, and May, and when large enough to move, should be thinned and pricked out into their blooming places in patches of eight or nine plants, each plant being well parted from its neighbour. None of the bulbs, except perhaps the tulips, should be disturbed, but the annuals, planted among them, will do no harm. The fading leaves of bulbs should never be cut. To do so is a sure way to check the next years bloom. These leaves can be secured to a stick, or in the case of crocus grass, can be plaited together to prevent untidiness. Before planting our hardy flowers our borders should be deeply dug and filled with good, rich, loamy soil, but when once we have finished our planting it is best not to dig in the borders; the surface of the soil can be stirred every autumn and mulched with plenty of good earth. Every three or four years the herbaceous plants can be divided to prevent their degenerating and to propagate their species. It is better to cut the blooms of these plants before they have formed seed. Many of them as *Dame's Violet* and *Campanula*, if cut to the ground as soon as they

have faded, will bloom again the same season. *A propos* we do not recommend the single form of the *Dame's Violet* to be brought into borders near a house or into any place where great neatness is an object. It is easily grown from seed, and the young plants should be pricked out in the kitchen garden borders where their flowers will make the evening air very sweet, and will yield blooms for our nosegays through many weeks.

Besides the schemes already mentioned, we have also ventured to offer a few for more modern borders. Perhaps such schemes may be useful to those who are even greater novices than ourselves in the art of hardy gardening. The borders recommended for the winter garden may, of course, be planted in the same way in any sunny and sheltered place. We have endeavoured, as much as possible, to use the English names of flowers, but, in some cases, have thought to be more useful to our readers by giving the names which are to be found in the lists of modern gardeners. *Antennaria dioica*, for instance, is the *Mountain everlasting*, which of old was called '*herba impia*,' because, says Gerarde, 'the younger, or those flowres that spring up later, are higher and overtop those that come first, as many wicked children do unto their parents.' The *Trollius Europæus* is the beautiful *Globe flower*; it has, as Gerarde says, "very fair yellow flowers;" be careful, for Chaucer's border, to obtain the British kind. *Phlomis fruticosa* is *Jerusalem Sage* and *Phlomis herba venti* is the pink flowered *wind-herb*. This plant should not often be disturbed; its blooms, we are assured, will improve when it is well established. We have called the old white garden pink, 'Milton's pink,' because it is immortalized in Lycidas.

We have seen it suggested that in planting hardy mixed borders no regard should be had to the heights of the plants. This, we cannot but think, would be a falling back into one of the faults of the so-called natural gardens. In each row the plants may be of various heights, but in the case of borders with backgrounds no plant should be decidedly taller than what is behind it. An even slope from the back to the front of the border is most certainly to be avoided, but of this there is no fear. There will always be among these flowers a lovely rise and fall caused by the various natures of the plants and by their different times of blooming.

Directions for Planting a Chaucerian Border.—At the back of this border should be a wall or trellis covered with climbing Roses and Honeysuckles; if a wall, there might be a trained service tree of which the berries are beautiful in winter.—1st row: Sweet Brier Bush, Yellow Flower-de-luce, Cherry Bush, Golden Rod, Tansy, Rose Bush, Hollyhock, Iris fœtidissima, Double flowered Monkshood, Apple Bush, Welsh Golden Rod; repeat to end of the row. 2nd row: Campanula persicifolia, Martagon Lily, Double white Dame's Violet, Sweet Cicely, Feverfew, Campanula Glomerata, Double purple Dame's Violet, Double Scarlet Lychnis, Tall Double white Campanula, Snapdragon, Melissa officianalis, Canterbury Bell, repeat to end of row. 3rd row: Motherwort, five roots of Primrose Peerless, Blue Jacobs ladder, Trollius Europæus, five roots of Poet's Narcissus, Green Hellebore, Yellow Wallflower, five Daffodils, White Double Queen's Stock, Carnation, five Summer Snowflakes, White Jacob's Ladder, Red Double Queens Stock; repeat to end of row. 4th row: Goldilocks (chrysocoma), Blue perennial Flax, five Scilla Autumnalis, Orange Hawkweed, Lungwort, Carnation, Scilla bifolia, Oxlips, Lychnis Viscaria fl. pl. Solomon's Seal; repeat to end of row. 5th row: Mountain Pink, Lilies of the Valley, Bergamot Mint, Drooping Stars of Bethlehem, Yellow Sea Pansy, London Pride, Snake's Head Lily, Woodruff. 6th row: Double primrose, Stars of Bethlehem, Pink Thrift, Cluster of Snowdrops, Double White Violet, Yellow Gagea; repeat to end of row. 7th row: Marjoram. Purple Spring Crocus, Mountain Avens, Antennaria dioica, Crocus sativus, Double Daisies, Colchicum autumnale, Maiden Pink; repeat to end row—edging of Periwinkles white and blue. When the taller bulbs have faded prick out Herb Basil and Adonis Æstivalis, and in place of soft bulbs sow white sweet Alyssum, and prick out the yellow annual Oxalis.

Directions for Planting an Elizabethan Border.—At the back a trellis over which should be trained Rosemary, of the two climbing kinds, Clematis flammula, Periploca græca, Jasmine (the white, the gold leaved, the silver leaved, and the double flowered), and Musk Roses, yellow and white. 1st. row: Gladiolus communis, Hollyhock, Yellow Asphodel, Crown Imperial, Hemerocallis fulva, and, between each of these, alternately Provence Rose Bush, Lavender, Bee Larkspur, Iris Pallida, Asclepias variegata, Gentiana lutea, Purple flowered Mullein; repeat to end of border. 2nd row; Lychnis chalcedonica, Iris Siberica alba, Columbine, Blue Iris Siberica, Lilium candidum, Anchusa italica, Lilium bulbiferum, Pæonia officinalis, Campanula maxima alba fl. pl., Phlomis fruticosa, Lil. umbell. bulbiferum, Great Honeywort, repeat to end to row. 3rd row: Eryngium alpinum, Purple Martagon Lily, Dianthus superbus, Ononis hircina, Savory, Veronica maritima, Clematis erecta, Phlomis herba venti, Virgil's Daisy, Phyteuma spicata, Centaurea alba, Catananche cerulla, Yellow Day Lily, Argemone Mexicana, Iris Xiphium. 4th row: S. Bernard's Lily, Carnation, Dianthus superbus, Lilium croceum, Anemone Hortensis, Picotee, Narcissus bifolia, Meadow Rue, Fritillaria persica S. Bruno's Lily, Carnation, jonquils, Dianthus superbus, Iris biflora, Carnation, repeat to end of row. 5th row: Helleborus niger, Scilla amœna, Gentiana cruciata, Tulipa Gesneriana, Fair Maids of France, Winter Cherry, Anemone coronaria, Hyssop, Scillas lilio hyacinthus, Sage, Bellevalia; repeat to end of coronaria. 6th row: Prunella grandiflora, Blue hepatica, Lathyrus tuberosus, Mint, Spring Snowflakes, Pansy, Pale Primrose, Ranunculus asiaticus, Alyssum saxatile, Hyacinths, Oxlids, Red hepatica, Tulipa sylvestris, Marjoram, Yellow Auricula, Anemone palmata, Cortusa matthioli, Anemone pavonina; repeat to end of row. 7th row: White Dogtooth Violet, Sideritis, Blue Grape Hyacinths, Gentiana verna, Musk Hyacinths, Arabis alpina, Purple Dogtooth Violet, Double White Violet, White Grape Hyacinths, Red Daisies, Sisyrinchium, Cyclamen coum.

Actinism is strikingly illustrated by the statement of M. Vogel, in *Biedermann's Central Blatt*, that the cinchona trees grown in plant houses are destitute of quinine. Still, it does not follow that quinine cannot be produced under glass.

Tobacco cultivation will be permitted for experimental purposes during the present year. The intending grower must give notice to the secretary of Inland Revenue, Somerset House, London, stating name of place and parish, and extent of land to be planted. He will then be supplied with the needful forms for the authorization of his procedure by the Lords of the Treasury. Before any tobacco grown under these arrangements can be put into commerce the duty must be paid.

Replies to Queries.

J. H.—Le Grand and Sutcliffe, Bunhill Row, London.

Florist.—Certainly, Covent Garden is the place for you, but we would not venture to name a house. We might do you more harm than good by so doing. Advertise for what you want and you will obtain a choice of houses.

Ageratums.—Inquirer.—Two of the best ageratums for beds of medium size are Perle Bleue and Perle Blanche, which have blue and white flowers respectively. They are both about eight inches in height, very compact, and bloom freely. The very dwarf ageratums are of but little value for bedding, as a considerable proportion of the plants invariably fail to bloom satisfactorily.

Begonias for Bedding.—K.—Unless the plants are likely to be injured by overcrowding they should remain in the boxes in which the tubers were started until they are bedded out. They do not require a very large amount of root space, and few plants suffer so little from being transferred direct from boxes or pans to the beds. The plants must be kept near the glass and receive sufficient warmth to maintain them in a progressive state. The frame ought to be ventilated freely, as unless the growth is firm it will suffer a check when the plants are fully exposed.

Unhealthy Cattleyas.—B. S.—The Cattleyas are evidently in a bad state, and should at once have attention. The plants that have lost a portion of their roots should be taken out of the pots and have the whole of the peat removed from them. When this has been done, well wash the roots in tepid water, and cut away all that are dead or show signs of decay. After the washing, lay them on the stage for a short time and then repot. With the exception of those in a vigorous state of health, the others should be repotted in the usual way; but it will perhaps be advisable to remove a rather large portion of the old peat. The healthy examples will not require repotting this season.

Melons in Frames.—W. Robins.—Excellent crops of melons may, in most seasons, be produced in unheated frames, provided care is taken to commence early enough. If you decide to grow melons in the frames which are at present occupied with bedding plants you must commence at once to raise a stock of plants, in readiness for putting out immediately the bedders are removed from the frames. It will be an advantage to make up a bed of fermenting materials within the frames to give the plants a start; but the most important point is to have strong plants, and to put them out as early in May as possible. The best soil for melons is a strong loam, to which a very small quantity of well-rotted manure has been added.

Names of Plants.—T. H.—Your variegated leaf is Begonia falcifolia. The only figure we know of it is in Hibherd's *New and Rare Beautiful Leaved Plants.* —R. H. Cousens.—1, Diplopappus incanus; 2, Euphorbia denticulata; 3, Euphorbia Portlandica; 4, Pinguicula edentata.—J. H., Jersey.—Your narcissi, sent in paper box, were shrivelled to mere dust when they reached us. 1, Orange Phœnix; 2, Sir Isaac Newton; 3, Phyllis; 4, Intermedins. The trumpet Rugilobus. We cannot guarantee these names, in consequence of the shrivelled state of the flowers.—J. Hazard.—1, a pale and poor variety of Primula pubescens; 2, P. Clusiana; 3, P. calycina; 4, cannot be named from leaf only, it belongs to the section of P. auricula.—J. Watson.—Davallia pyxidata.

TRADE CATALOGUES.

William Bull, 536, King's Road, Chelsea.—*New, Beautiful, and Rare Plants.*

James L. Boyson, Caen, Calvados.—*Roses.*

James Cocker and Sons, Aberdeen.—*Florists' Flowers.*

Obituary.

On the 27th ult., Thomas Edwards, the Banff naturalist, in his 72nd year.

Markets.

COVENT GARDEN.

Fruit.

Apples ..... per ½-sieve	2s. 6d.	to	4s. 6d.
Apples, American, per bar.	10s. 6d.	,,	21s. 0d.
Cobs, Kent..... per 100 lbs.	35s. 0d.	,,	45s. 0d.
Grapes ..... per lb.	5s. 0d.	,,	8s. 0d.
Lemons ..... per case	8s. 0d.	,,	10s. 0d.
Pine-apples, English, per lb.	1s. 0d.	,,	1s. 6d.
Pine-apples, St. Michaels, each	3s. 6d.	,,	7s. 6d.
Strawberries ..... per lb.	2s. 0d.	,,	6s. 0d.

Vegetables.

Artichokes, Globe, per dz.	2s. 0d.	,,	4s. 0d.
Asparagus, English, per 100	5s. 0d.	,,	6s. 0d.
Asparagus, French, per bun.	3s. 6d.	,,	8s. 6d.
Beans, French .... per lb.	1s. 0d.	,,	1s. 6d.
Beet ..... per doz.	1s. 0d.	,,	2s. 0d.
Broccoli, Sprout, per bush	3s. 6d.	,,	4s. 6d.
Carrots ..... per bun.	0s. 4d.	,,	0s. 6d.
Cauliflowers ..... per doz.	3s. 0d.	,,	4s. 0d.
Cucumbers ..... each	0s. 8d.	,,	1s. 0d.
Endive ..... per doz.	1s. 0d.	,,	2s. 0d.
Garlic ..... per lb.	0s. 4d.	,,	0s. 6d.
Herbs ..... per bunch	0s. 3d.	,,	0s. 4d.
Horse-radish .... per bun.	3s. 0d.	,,	4s. 0d.
Lettuces, Cabbage, per doz.	1s. 0d.	,,	1s. 6d.
Lettuce, Cos ..... per doz.	2s. 0d.	,,	3s. 0d.
Leeks ..... per bun.	0s. 3d.	,,	0s. 4d.
Mint, Green ..... per bun.	0s. 8d.	,,	1s. 0d.
Mushrooms ..... per basket	1s. 0d.	,,	2s. 0d.
Onions ..... per bushel	4s. 0d.	,,	5s. 0d.
Onions ..... per bunch	0s. 4d.	,,	0s. 6d.
Parsley ..... per bun.	0s. 4d.	,,	0s. 6d.
Radishes ..... per doz. bunch	1s. 0d.	,,	2s. 0d.
Rhubarb ..... per bun.	0s. 4d.	,,	0s. 6d.
Seakale ..... per bun.	2s. 0d.	,,	3s. 0d.
Small Salading .. per pun.	0s. 3d.	,,	0s. 4d.
Spinach ..... per bushel	3s. 6d.	,,	4s. 6d.

Vegetables—*continued.*

Tomatoes ..... per lb.	1s. 0d.	to	1s. 6d.
Turnips ..... per bunch	0s. 4d.	,,	0s. 6d.

Cut Flowers.

Abutilons.... per doz. bun.	2s. 0d.	,,	2s. 6d.
Anemones ..... per doz.	3s. 0d.	,,	4s. 0d.
Acacia, French .. per bun.	1s. 0d.	,,	1s. 6d.
Azaleas .. per doz. sprays	1s. 0d.	,,	1s. 6d.
Bouvardias ..... per bunch	0s. 6d.	,,	1s. 0d.
Callas ..... per doz.	4s. 0d.	,,	6s. 0d.
Carnations, per doz. blms.	1s. 0d.	,,	2s. 0d.
Daffodils ..... per doz. bun.	2s. 0d.	,,	3s. 0d.
Eucharis, per doz. blooms	5s. 0d.	,,	7s. 6d.
Gardenias, per doz. blooms	2s. 0d.	,,	5s. 6d.
Heliotropes, per doz. sprays	0s. 6d.	,,	0s. 8d.
Lilac, French .... per bun.	3s. 0d.	,,	6s. 0d.
Lily of the Valley, per doz. sprays	0s. 9d.	,,	1s. 0d.
Marguerites, per doz. bun.	4s. 0d.	,,	7s. 0d.
Mignonette, per doz. bun.	4s. 0d.	,,	7s. 6d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d.	,,	0s. 8d.
Roses ..... per doz. blms.	2s. 0d.	,,	4s. 0d.
Roses, Tea .. per doz. blms.	1s. 0d.	,,	2s. 0d.
Spiræa ..... per doz. bun.	5s. 0d.	,,	7s. 6d.
Tropæolum .. per doz. bun.	2s. 0d.	,,	4s. 0d.
Tuberoses ..... per doz.	2s. 0d.	,,	2s. 6d.
Tulips ..... per doz. blooms	0s. 9d.	,,	1s. 0d.
Violets ..... per doz. bun.	1s. 0d.	,,	1s. 3d.
Violets, de Parme, per bun.	3s. 0d.	,,	5s. 0d.
Violets, Czar .... per bun.	1s. 0d.	,,	2s. 6d.

BOROUGH AND SPITALFIELDS.

Potatoes.

Regents ..... per ton	75s.	to	100s.
Magnum Bonum ..... per ton	65s.	,,	90s.
Scotch Champion .... per ton	55s.	,,	70s.
Victorias ..... per ton	70s.	,,	90s.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
9	S	**2nd Sunday after Easter.**	4 21	3 44	7 33	9 12	—	5 12	5 35	2 16	2 37	53·0	Cattleya Mendeli	South America.	129
10	M	Indian Mutiny commenced, 1857.	4 19	3 46	7 35	10 22	0 37	6 2	6 30	3 0	3 27	53·2	Cattleya Skinneri	Mexico.	130
11	Tu	☽ First Quarter, 2h. 30m. morn.	4 17	3 49	7 36	11 38	1 14	7 1	7 33	3 55	4 26	53·4	Cymbidium Lowianum	Burmah.	131
12	W	Passage of the Douro, 1809.	4 15	3 50	7 38	After.	1 47	8 9	8 47	4 58	5 34	53·6	Dendrobium densiflorum	East Indies.	132
13	Th	Pope Pius IX. born, 1792.	4 14	3 51	7 39	2 9	2 17	9 29	10 7	6 12	6 54	53·8	Masdevallia Harryana	Colombia.	133
14	F		4 13	3 52	7 41	3 24	2 45	10 42	11 17	7 32	8 7	54·0	Odontoglossum vexillarium	Colombia.	134
15	S	Daniel O'Connell died, 1847.	4 11	3 51	7 42	4 38	3 13	11 48	—	8 42	9 13	54·3	Trichopilia suavis	Costa Rica.	135

ROYAL HORTICULTURAL SOCIETY.
SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS: Fruit and Floral, at Eleven a.m., in the Conservatory; Scientific at One p.m., in the Lindley Library, on TUESDAY next, MAY 11.
FIFTH PROMENADE SHOW.

CRYSTAL PALACE.—GREAT FLOWER SHOW OF SEASON, MAY 21 and 22.
For Schedules apply W. G. HEAD, Superintendent.

BRENTWOOD HORTICULTURAL SOCIETY.—THE SUMMER EXHIBITION of the Society will be held in connexion with the ESSEX AGRICULTURAL SOCIETY'S SHOW, in the Grounds at WEALD PARK, near BRENTWOOD, on THURSDAY and FRIDAY, JUNE 17 and 18, 1886, when a VALUABLE SILVER CUP, the gift of the President, J. BIGGS, Esq., and about Three Hundred Prizes will be offered for competition. Schedules may be obtained of the Secretary, THOS. HAWS, Brentwood.

READING HORTICULTURAL SOCIETY, 1886.—The FIRST SHOW will be held on JUNE 2; the SECOND SHOW on AUGUST 25, when prizes to the value of £230 will be awarded. Schedules may be obtained of the Secretary, Mr. WILLIAM Smith, 97, London Street, Reading.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, MAY 11.—ROYAL HORTICULTURAL SOCIETY.—Fruit and Floral Committees, 11 a.m.; Scientific Committee, 1 p.m.

TUESDAY, MAY 11, TO SUNDAY, MAY 16.—NATIONAL HORTICULTURAL SOCIETY OF FRANCE.—Exhibition and Congress.

WEDNESDAY, MAY 12, AND THURSDAY, MAY 13.—BIRMINGHAM BOTANICAL GARDENS.—Orchid Exhibition.

Auction Sales for the Ensuing Week.

TUESDAY, MAY 11.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

WEDNESDAY, MAY 12.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Carnations, Picotees, &c.

WEDNESDAY AND THURSDAY, MAY 12 AND 13.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

FRIDAY, MAY 14.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C., to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 1ls. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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The Gardeners' Magazine.

SATURDAY, MAY 8, 1886.

HORTICULTURAL FASHIONS are like many other fashions: they consist of a core of truth encrusted with various expressions of human folly. The truth is not always perceptible, the follies being so many as to conceal it, more especially while the fashion is raging. But both the inside and the outside, the truth that attracted and the folly that perverted, are discernible when time has weakened the relations between the fashion and our sympathies. Then we measure the thing, and our feelings oscillate between regret for the good that is gone and surprise at the folly that disgraced it. Probably the history of costume would illustrate the philosophy of the subject best of any; for the extremest eccentricities of dress—from the disciple of humility practising abnegation of buttons to the dandy of any age making a ridiculous exhibition of paint and powder, or of tinsel and taffeta—the extremest case either way has its foundation in the necessities of nature and the reasonable adaptation of ready means to obvious ends. The age of crinoline was succeeded by the age of closely clinging skirts. The men who rejoiced in powder now condemn their flunkeys to perpetuate the nasty fashion. The masters have learned to keep their heads clean, but they are not sure about the heads of their servants. The carrying of a sword was at one time a matter of necessity; now it is a part of the finished costume on a very solemn occasion, when the man who should dare to draw the sword would disgrace himself for ever. In the days of King Arthur, one of the dreadfullest things that ever happened was for Sir Launcelot to be carried on wheels instead of on horseback. Now a gentleman of the very first quality may ride in a common omnibus, "tuppence all the way." The fashions that revolve around us are seen from one side only; when they have had their day we may hope to see them from the other side, and from all sides—and, generally speaking, the many-sided view is of a profitable nature, because immensely amusing.

Nothing in the range of horticultural fashions can excel in interest the bedding system as it was practised during a run of about fifty years, its finest attainments being comprised within about half as many. We had positive colouring and neutral colouring, and governing tones and chromatic balances, and rainbow gradations and degradations. There will be some who practised and advocated it who will now avoid the avowal, and will talk as though they had from the first renounced the unreasonable thing. Yes: at every turn in every street we have to encounter hypocrites of one sort or another; but it is not necessary to employ any ordeal of fire or water or poison to distinguish them. It is the plain truth that the "floral fireworks" commanded the homage of all, both great and small; and their universal acceptance constitutes the most attractive feature of the history of the bedding system. It is out of fashion; of that there can be no question; and it went out of fashion because of its growth beyond reasonable requirements, and its consequent destruction of many of the most enjoyable features of a garden. There was a lot of truth in the core of it. The mixed border, as it was called, was mostly occupied with weedy rubbish, and a reform of some kind was called for. It is in the nature of man to go from one extreme to another. The melancholy "Amen" of the husky clerk, and the nasal chorus of ill-trained children, led to a revival of church music; and in the opinion of some the result was more music than devotion. The cruel carelessness of our painters brought about a reaction called the "pre-Raphaelite" movement, and one result was lessons in anatomy where only beauty and truth in outward expression were required. The weedy borders were made terrifically gay, with waving ribbons of the most powerful positive colours; and the green lawns, once so refined and restful, were invaded with equally vivid masses of colour violently contrasted, and in forms resembling corkscrews, daggers, dust-shovels, curling-tongs, horse-shoes, and dumb-bells. It is not the founders of a school, whatever its scope or object, that bring it within the range of ridicule, but the disciples who import so much of themselves into it that it becomes at last a mere reflection of their infirmities. In the later days of the bedding system, many able men with a true eye for colour had brought their work to a perfection that still gives delight to such as remember it. Not many of the masters of the art are now living; its special prophet, the late Mr. Donald Beaton, passed away when it was still in its glory. Truth that gave it vitality was a larger and lovelier mass than the prophets of the newer fashion would venture to acknowledge. The few who really observe as they go through the world can tell us of glowing masses of scarlet poppies ordained by nature, and planted where few could see that they outshone by many degrees the most fiery blocks of zonal pelargoniums; and everybody has seen sheets of yellow flowers as gay as any beds of calceolarias; while in many parts of the western counties foxgloves make such a riot of colour as will sometimes suggest to one the propriety of bedding-out gloxinias, and perhaps the bedding system would have come to that with a few more years of licence for its vagaries.

The newer fashion has in some degree prospered by abuse of the old. It is in the nature of mankind to put under foot a thing that has served its purpose. Hence it is that for one fine old edifice carefully preserved as a venerable relic, a thousand are allowed to fall to ruin, or are torn asunder to furnish materials for newer constructions. It is a common thing to see a magnificent monument of inestimable

value to the antiquary and historian used as a quarry to supply gravestones and gateposts. In like manner the advocates of hardy plants are never weary of abusing the bedding system, as though incapable of distinguishing between the good that was in it and the folly with which it was discredited. In great places of public resort it was and is a true system of floral decoration. But in the suburban garden of the citizen—whose aims are not high, but whose desire, above all things, is to be happy in his green retreat—the tasteless lumps of vulgar colour that consume space and strength that in the interests of happiness might be better employed, are but senseless imitations of true artistic work, and illustrate the well-established truth that weak disciples have some power, not to advance, but to undermine and degrade a philosophy. In the new fashion there is a core of truth—a large one, a strong one, a lasting one. But the disciples are at work to encrust it with their follies, and as the years speed on the incrustations will become conspicuous by reason of their number and thickness, and in proportion the core of truth will be concealed from the casual eye. In the early days of the revival it was enough to have flowers in variety, variously associated with abundant leafage, and with a large expanse of green to give repose. The cottage garden, with its elderberry tree, and its pansies and cuckoo-flowers, and tufts of tansy, and perhaps of teazle—beautiful things all of them—was the favourite model; and it contrasted effectively with the garden of the palace, with its severe lines of prim poplars, its long walks, and its gorgeous geometry in forms burlesquing Euclid, in colours making mockery of any painter's palette—even that of Turner when he was occupied in putting Wilkie's nose out of joint. But the world moves; and fashions, like comets, do not stand still. We are now in the throes of "collecting." The lover of hardy plants does not care much now for the cottage model: he or she must have hundreds of sorts of daffodils, primulas, pyrethrums, lilies, irises, and other special favourites; not because of their merit, but because the prophets of the new school have raved about them, and the latest Jeremiah can accomplish by loudness what other prophets vainly endeavour to accomplish by reason. The world is large, and rich in variety. The hardy people have treated the bedding system as the doltish peasantry treat the prehistoric monuments. And they are equally earnest in treating florists' flowers with the same kind of contumely. But perhaps they err rather through lack of knowledge than want of sensibility. They do not know, they cannot know, that on the face of this "sublunary sphere" there are to be found flowers severally called tulips, hollyhocks, dahlias, and pelargoniums. Fashion blinds them to such things; and yet they feel that there is a sort of perfunctory infallibility in following the fashion, whatever it may be. There is a vital core in the new fashion, for who will say that hardy flowers are unworthy of attention? For the man or woman who should dare to utter the word, there is prepared by Society a "strait-waistcoat," or some other restrictive agency. It will perhaps be a long task and a hard task to convince the lovers of gardens that some old fashions were not altogether foolish and some new fashions are not altogether wise. But perhaps it is, after all, a matter of small consequence: every age will amuse itself in its own way, and the preachers and teachers are only like the lamps that glimmer weakly in the street, and that have to be periodically extinguished that they may shine more bravely when lighted again.

The many-sided nature of the subject is illustrated in its relations to business. The bedding system kept the nursery trade happily on the move the whole year round. That is all gone; and the trade in herbaceous plants does not balance the loss, or a thousandth part thereof. In this one particular, change of fashion has diminished the annual outlay of the public on gardening to an extent that is enormous; but we could not summon courage to attempt an estimate of the amount. If someone who can speak from experience and observation should put the loss to the trade at a million per annum, we should be slow to question the alarming total. The jobbing gardeners have perhaps suffered more than any class, because the bedding made for them a lot of work; and there is nothing to take the place of it, for the people who employed them to put out bedders have not taken to the new craze. Thus, while thousands of gardens that were bright throughout the summer are now dull, and in many instances entirely neglected, the jobbing gardener finds his occupation gone, and the deadness of the times precludes the possibility of the growth of a new industry suited to his circumstances. Thus the bright side and the dark side are seen in contrast from the commercial point of view. As regards mere display, or say power of colour, there is no border of hardy plants to be found that can equal in splendour the borders that were furnished with pelargoniums, tropæolums, petunias, verbenas, and the rest of the gay throng known as "summer bedders."

Surrey Floricultural Society.—Annual Exhibition, in grounds of Casino House, Herne Hill, July 14 and 15.

Canterbury Rose Show.—Date altered from July 1 to June 29.

Brookham Rose Show will be held in the grounds of Holmwood, near Dorking, July 3.

Ramsbottom Floral Society.—Annual exhibition November 20.

Luton Flower Show will be held July 21.

Brentwood Horticultural Society will hold its summer exhibition June 17 and 18, in Weald Park.

National Rose Society's Provincial Show, 1887, will be held in Edinburgh.

Mr. B. S. Williams' Exhibition of Orchids will be open daily from May 12 to June 26.

Winchester Horticultural Society.—Summer Show, July 13 and 14; Autumn show, November 16 and 17.

Acacia verticillata has proved quite hardy at Worthing, and is found to bloom freely trained to a south wall in Mr. Bateman's garden.

Route Book for Colonial Exhibition (published by Clowes and Sons) is a key for times and trains from and to all parts of the country.

Mr. C. Orchard, head gardener at Coombe Leigh, Kingston, was a few days since presented with a diamond pin by the Coombe Warren Cricket Club, of which he is the honorary secretary.

Messrs. Richardson and Co., of Darlington, have obtained for their Patent System of Ventilating Horticultural Buildings the award of a Silver Medal by the Society of Architects at the Architectural and Building Trades Exhibition, London.

Bath Floral Fetes.—The Spring show will be held on Wednesday next in the Sydney Gardens. The Rose show will be held July 8; Autumn show, September 1 and 2; Chrysanthemum show, November 10 and 11.

Primula Conference.—Council of R.H.S., at a meeting held a few days since, adopted by acclamation a special vote of thanks to Mr. Shirley Hibberd for the assistance rendered by him in contributing a paper on "The Origin of the Auricula."

Tobacco Culture formed the subject of a communication made by Colonel Clarke to the recent meeting of the R.H.S. Colonel Clarke recommends the cultivation of tobacco on ridges, the removal of lateral shoots, early harvesting, and the gathering of the leaves when perfectly dry.

A Conference on the Nomenclature of Orchids will be held at Liverpool in connexion with the exhibition which will be opened on June 29, and a committee, consisting of Sir J. D. Hooker, Mr. Ridley, Mr. A. H. Smee, Mr. H. J. Veitch, and Mr. J. O'Brien, has been appointed for making the necessary arrangements.

Cinerarias are in great force in Messrs. James Carter and Co.'s nurseries, Forest Hill, at the present time. Those who are interested in these flowers would do well to make a visit while the bloom is full and fresh.

Mr. T. S. Ware, of Tottenham, made a magnificent display of hardy flowers, occupying the entire length of one side of the conservatory on Tuesday last, gratifying thereby the Royal party and the general assembly.

Mr. William Bull's Exhibition of Orchids was opened at his nurseries, King's Road, Chelsea, on Tuesday last. The display is rich in attractions, and includes many interesting orchids of recent introduction.

Horticultural Club monthly dinner will take place at 1, Henrietta Street, at six p.m., on Tuesday next. The post-prandial entertainment will be a discussion on bog plants, initiated by Mr. George Paul.

Edinburgh International Exhibition was opened on Thursday, by His Royal Highness Prince Albert Victor. An important feature is the fine art section, which constitutes the best show of pictures ever seen in the Scottish capital. In the industrial departments four hundred artisans have contributed.

Royal Gardens, Kew.—The official guide books have received the useful addition of a *Guide to the Museum of Timbers*, which occupies the corner at the turn of the main walk. We have also received a *Route Map* of the Gardens and Arboretum. This will enable the stranger to find with ease any particular object of interest.

Rhododendron Nuttali, and some other rhododendrons of special interest, are now flowering in the conservatory in R.B.S. Gardens, Regent's Park, and the Temperate House, Royal Gardens, Kew. In the dell near the Brentford Ferry Gate in the Royal Gardens a few of the rhododendrons are full of colour.

Certificates were bestowed upon certain Primulas at the Primula Conference, but by whom and on whose authority are matters hitherto concealed from the public eye. The journalists who indulge in "nagging" at the Floral Committee hold this committee responsible for the certificates now referred to; but the Floral Committee did not meet on the occasion, and had absolutely nothing to do with them.

Flower Pictures are usually such poor things that we note with gladness a splendid exception to the rule in Mr. Luke Fildes' "Flower Girl," No. 61 in the First Gallery, in the present Academy exhibition. It is not wanting in sentiment, every detail is worked out with care, the girl is a beauty, and her flowers glow and sparkle with the truth and freshness of life.

Royal National Tulip Society.—The making-up meeting will be held this day (May 8) at the Bull's Head Inn, Market Place, Manchester, at three p.m. The circular announcing the meeting informs us that new subscribers and exhibitors are much wanted, "our ranks having been sadly thinned of late years by death." The secretary is Mr. James W. Bentley, Stakehill, Castleton, near Manchester.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 14.

The pear trade very important—Inferior sorts of pears were never grown—The trade is dependent on the season—Varieties grown—List of best sorts grown and recommended to be grown—The Doyenné du Comice—The Chaumontel *the* pear of the islands—Neat method of growing against walls—The cordon system of training—Jersey grows better than Guernsey—Pears of extraordinary size.

That the cultivation of the pear is well understood by the Channel Islander was demonstrated beyond a doubt at the monster National Pear Congress held last year at Chiswick Horticultural Gardens, when over six thousand dishes were exhibited, unquestionably among the finest exhibits being those from Jersey and France.

Both Jersey and Guernsey are remarkably successful in the culture of this fruit, which, indeed, forms one of the most important and most profitable items of export from the islands.

It would be impossible, or at any rate we find it impossible so far as we can gather, to answer the question of when and by whom the first pears in either island were grown, and they are certainly questions of little moment. It is pretty evident that until within the early part of the present century the fruit grown on the islands was consumed by the inhabitants, owing to the absence of steamers to carry the produce away.

Perry was never made for sale by the islanders, who prepared cider, and possibly something stronger than cider, on occasions; inferior sorts of pears were therefore never grown, as was so generally the case with apples. Fifty years ago, and earlier, some 10,000 pears were annually exported from Guernsey, and the quantity is scarcely larger at the present time. The trade in pears is, however, necessarily dependent on the season. Thus, in 1859, a favourable year, "nearly 10,000 bushels were sold from Jersey only, while in the following year less than 3,000 could be procured." Within very recent years a great impetus has been given to the pear trade in Jersey, where several large plantations of pear trees have been laid out; but it is difficult to arrive at the actual quantity exported from either island, owing to the fact that these exports are entered under the general head of "fruit."

Of the varieties grown there are fully 60 in all, some of which are excellent, and include *bergamottes, doyennés, beurrés*, and others well known in England; but the sort in the cultivation of which the islands excel, and have gained such just reputation, is the *Chaumontel*, of which we shall speak presently. Mr. H. Howell, the secretary of the horticultural department of the Royal Agricultural and Horticultural Society of Jersey, has furnished me with the following list of the best varieties of pears recommended by the society for cultivation in that island, having respect to the soil and to conditions of climate.

	Month of Ripening.		Month of Ripening.
Chaumontel	Nov. & Dec.	Gratioli	Sept. & Oct.
Glou Morceau, or "Beurré d' Aremberg"	Dec. & Jan.	Winter Nélis (Wall)	Jan. & Feb.
Doyenné du Comice	Nov. & Dec.	Souvenir du Congrès	September.
Marie Louise (free stock, S. W. Wall)	Sept. & Oct.	Bergamotte Esperen	March.
Louise Bonne	Sept. & Oct.	Beurré Superfin	September.
Beurré d'Amanlis	September.	Beurré Bachelier	November.
Joséphine de Malines (Wall)	Jan. & Feb.	De Tongres	October.
Doyenné d' Hiver, or Bergamotte Pentecôte	Feb. & Mar.	Williams's Bon Chrétien	August.
General Todleben	Oct. & Nov.	Crassanne (S. Wall)	November.
Van Mons Léon Leclerque (free stock, Wall)	Oct. & Nov.	Beurré Diel	Nov. & Dec.
Beurré Hardy	Oct. & Nov.	Urbaniste	Sept. & Oct.
Maréchal de la Cour	Oct. & Nov.	Napoleon (free stock)	September.
		Doyenné Boussoch	September.
		Gansell's Bergamotte	October.
		Passe Colmar (Wall)	Dec. & Jan.
		Jargonelle	August.
		Jules d'Airolles (Wall)	January.

Other sorts than those included in the above list are grown, but the bulk consists of Chaumontel. In view of the Doyenné du Comice becoming valuable for market purposes, the society has invited growers to give their opinion as to whether it succeeds best on the quince or free stock, and the best situation to select for it.

In both islands the Chaumontel is largely grown. One or two trees are to be found in almost every garden, and are usually tended with great care. A Chaumontel pear tree will yield something over £3 worth of fruit each year, and is, therefore, a part of the cottager's stock in trade not to be despised.

A very neat mode of fastening their wall trees obtains with the cottagers in this island. It consists in fastening the trees to upright pieces of painted deal, three-quarters of an inch square, fastened to two or three cross rails, which latter are fixed in between the joints of the stone wall by means of iron hooks, the upright piece being nailed to the rail. The trees are secured to these uprights by straw or osier willow shoots. Jacobs the historian, remarking on this tidy plan, observes that strangers have thought the fruit could not ripen so well, the branches being from one inch to two or more from the wall, "and some experienced English gardeners have also objected to this Guernsey mode, from its admitting a current of air between the branches and the wall; but there is no reason to complain of that in this island."

The cordon method of training fruit trees, the pear included, is followed in some instances, and for many years has been carried out successfully in the gardens of Richmond House, Guernsey. Rev. T. Collings Brehaut, of that island, was the introducer of several important modifications of the cordon method, which he describes in a treatise on the subject published in London in 1860. Professor Ansted, in his valuable work, from which we have before quoted, truly describes the method as follows:

Trees are planted against walls, either in the open air or in orchard houses, at intervals of thirty-six inches, and having three leaders each, which are laid in at an angle of 45 deg. The spurs, and successional growths on these spurs, are chiefly pinched in during the summer, so as to leave little for the winter pruning. It has been observed by Dr. Lindley that summer pruning has been too long neglected; and the result has been that fine crops of fruit have been annually gathered under this system. . . . As soon as six leaves were developed on any shoot they were pinched down to three; the succeeding growths were respectively pinched in to two and one, the whole resembling a thick cord of leaves, shoots, and fruit, from which the name "cordon" is derived. This system is applicable to trees in pots whose branches grow naturally at an angle of 45 deg., and to standard trees in the open. For Chaumontel trees against walls and in the open air it has no equal.

Of the two islands Jersey certainly bears off the palm for a superior growth of pears, the fruit being both larger and finer flavoured. Forty-five years ago, when Guernsey was exporting annually some ten thousand bushels of pears, Jersey was sending away no less than 2,000 bushels in the same period*; but now Jersey takes the lead both in the matter of quantity and quality. The warmer, dryer climate of this island is more favourable to the culture of this fruit. The Chaumontel is, indeed, brought to such perfection in no other part of the world. The same pear in France is not to be mentioned on the same day, and the grafts introduced into England from time to time do not retain the superiority for which the Jersey produce is so famed.

With respect to the extraordinary size sometimes attained by this pear, Guernsey stands higher than Jersey, for a fruit grown at Laporte in that island, in 1849, measured 6½ in. in length, 14½ in. in girth, and weighed no less than 38 ounces. Jersey does not appear to have produced any pear weighing more than 30 ounces. Professor Ansted tells of a group of pears from a single tree, of which, he says, "there is perhaps no more remarkable instance recorded." It occurred in the season of 1861, when of five fruits obtained from one tree in the gardens of Mr. Marquand, of Bailiff's Cross, Guernsey; four of them weighed together seven and a-half pounds. It is worthy of remark that in this case the tree, though usually prolific, bore only these five fruits. The pears in question weighed respectively 32½, 33, 31½, and 21 ounces.

That the Chaumontel is maintaining its old reputation for size and beauty was shown beyond a doubt at the autumn fruit show of the Horticultural Society of Jersey, where, among the many fine exhibits, 50 well-shaped fruits turned the scale at 55¼ lb. Other varieties mustered in force, showing how well to the front the islanders are in the culture of many fine sorts. The Duchesse d'Angoulême were a grand lot, all the classes being closely contested, as was also Marie Louise. They were pronounced the finest and cleanest ever shown in the island. General Todleben, the handsome highly-coloured De Tongres, and Maréchal de la Cour, were in their classes well represented, whilst many other fine varieties made a most interesting display—Belle de Jersey, best 25, scaling 35 lb., its rival Catillac weighing 35 lb.†

SEASONABLE NOTES ON GRAPE-GROWING.

By J. C. Clarke.

However favourable a late spring may be for outdoor fruit crops, it cannot be said to be so to grape vines growing in houses that have only ordinary skill to manage them. The inexperienced may, perhaps, think that because the vines are under glass the weather does not affect them, but it is a mistake to suppose any thing of the kind. It is many years since vines that have not been assisted by fire heat have been so late in starting into growth as they are this season. The long-continued low temperature which has prevailed has made them fully a fortnight behind the usual time, and should we have ordinary weather two months longer the cultivator must be prepared to apply fire heat in August and September to ripen off the crops. In the case of vines that have usually ripened off the crop without the assistance of fire the cultivator will find enough to do to persuade them to do so this season unless we should have an unusually favourable summer and warm weather extending far into the autumn.

But those who take advantage of the sun's influence from this time will stand a better chance of dispensing with fire heat later on than those who are indifferent now. It is for this reason that I have ventured to pen these notes, as practical advice given thus early in the season may assist the inexperienced in understanding how to act to make up the loss of time. The first point to attend to is to utilize on every occasion as much of the heat of the sun as possible by paying extra attention to the ventilation so as to maintain as much as possible the maximum temperature over as long a time as possible during the day. It is important to close the house early when there is sun heat, so as to enclose as much warmth as possible. With regard to giving air, it is very desirable to do so in every case early in the morning, before the sun strikes on the glass with much force. The air admitted need not be much. If the top ventilators are open a few inches it will suffice to dry up any moisture hanging on the leaves or berries, and that is all that is required until the thermometer inside the house registers 25 deg. This temperature will suffice for such varieties as the Black Hamburgh and Foster's Seedling; but for Muscats no more air should be given until a temperature of 90 deg. is

* "Jersey as It Is," by F. Robiou de la Fretionnais, p. 68.

† At the Chiswick Pear Congress of last autumn, Mr. Le Cornu, of Jersey, exhibited samples of Uvedales St. Germain at 1 lb. 10 oz., and of Catillac, the same. Other good weights were—a Belle Angevine, 2 lb. 3 oz.; General Todleben, 1 lb. 11 oz.; 8 Louise Bonne of Jersey, 4½ lb.; 6 Pitmaston Duchess, 7 lb.; and Beurré Clairgeau, 4¾ lb.

reached. As the day advances, and according to the power of the sun, more air may be required; but with plenty of air circulating between the vines and the glass, the Black Hamburgh will not burn even with a temperature of 100 deg. But from 90 deg. to 95 deg. is much safer, and this temperature will also serve for Muscats.

To assist in maintaining the proper night temperature it will be necessary to make full use of the sun heat by closing the houses early in the afternoon. It is not possible to fix any time when the vinery should be closed, as so much depends on the aspect of the house and whether the weather is bright or dull. But it is quite safe to begin to reduce the amount of air at three p.m., when the temperature recedes to 90 deg., and to gradually close the house as the sun's power declines, taking care to have the house quite close early enough for the temperature to rise from 5 deg. to 10 deg. after the house is shut up. The night temperature for Muscats when in bloom should be 70 deg.; a few degrees less will do for Black Hamburgh, and if the heat is likely to go much below that it will be best to light a fire to prevent its falling lower.

It must be understood that I am writing for those who wish to obtain grapes of first-class quality, which cannot be had without these attentions. I am quite aware that Black Hamburgh and other cool-house grapes are sometimes ripened without the aid of fire heat, but it is a well-known fact that first-class samples cannot be depended upon without it every year. The season has a good deal to do with it; and if the anxious cultivator does not provide against all contingencies early in the summer the most painstaking management at the end of the season will fail to ensure satisfactory results. With regard to applying fire heat early in the season, my experience quite convinces me that in a general way it is more profitable to do so early in the year, especially in the case of Muscats, than towards the close of the season; not only is a saving in fuel effected, but the heat being applied when there is the maximum amount of light, the vines receive greater benefit than they do when they are assisted with fire heat during the shorter days and subdued light of the early autumn months.

Much may also be done to forward the crop by the early removal of all bunches that are not wanted. In the case of Black Hamburgh, it is quite safe to remove them as soon as it can be seen which are likely to make the best bunches, and before they flower. As the Muscats do not set their berries so freely, it is advisable to leave a few more bunches than are wanted until the berries are set. But those not wanted must not be allowed to remain a day longer on the vines than is necessary for the cultivator to decide which is the best. It is equally important that the thinning out of the berries should be proceeded with as soon as they are large enough. This operation should commence as soon as the berries are the size of large pin-heads; not only is it necessary to thin them out early for the sake of increasing the size of those which are left, but the work can be done much more expeditiously. It is desirable in every case to examine the bunches a second time, to thin out any that are crowded; and for choice samples we give the bunches attention a third time, so as to secure well formed clusters.

ORCHIDS IN FLOWER.

The orchid-house is now in full dress, and glows with colour. Dendrobiums, cattleyas, odontoglossums, and oncids are making a great show; the stately *Vanda suavis* is in bloom, and many interesting and singular orchids compel attention.

Dendrobiums are effectively represented by our old friend *D. nobile*, which has not yet gone out of flower. A very delicate and beautiful species is *D. Pierardi*, which is known to all orchidists as one of the most valuable members of the genus. Appropriately named is *D. transparens*, an exquisitely beautiful Indian orchid, bearing transparent flowers, with the sepals and petals faintly tinged with lilac, and a lip of a similar hue, but enriched with a crimson blotch near the base. The beautiful *D. crassinode*, noticeable for the distinct colouring of the flowers, has not yet run its course, and the same may be said of *D. chrysotoxum*, which has showy yellow flowers. One of the finest, however, of the dendrobes now flowering is the magnificent *D. Dalhousianum*, which was named in honour of the Countess of Dalhousie. It is a noble kind, of vigorous growth, and is sometimes seen attaining a height of over five feet. Although the flowers are not of brillant colouring, they are of immense size, frequently quite four inches in diameter; the sepals and petals are buff veined with delicate pink, and the lip is spoon-shaped, rich velvety marone at the base, and at the front pure white, studded with hairs. In *D. thyrsiflorum* we have a very fine species, resembling in habit the well-known *D. densiflorum*. The amber-coloured flowers are borne in a dense pendent raceme, and the lip is of a richer hue than the sepals and petals. It is a very desirable orchid for amateurs. *D. luteolum* is still blooming, and the easily-grown *D. lituiflorum* is making a gay display. The latter is very free-flowering, and produces medium-sized blossoms, resembling somewhat those of D. nobile. The sepals and petals are purple, and the trumpet-shaped lip is of a similar hue, but bordered with white. An interesting kind is *D. aggregatum*, which bears, in arching racemes, pleasing yellow flowers; and in *D. barbatulum* we have a very beautiful dendrobe from Moulmein. It is of dwarf growth, and the slender flower stem supports small pure white flowers, having the base of the lip embellished with fine yellow hairs. *D. superbum* is a very handsome species from the Phillipine Islands. The flowers are large and of a light rosy hue, except the tubular folded lip, which is purple, and at the front white.

Masdevallias are nearly always in bloom, and at this season there are species and varieties that deserve notice. *M. Shuttleworthi* has added to the interest of the orchid-house for some time past, and at Kew there is a variety in bloom, but it does not equal the type for beauty. *M. Lindeni* and *M. Chelsoni* make a gay display with their showy flowers, and *M. xanthina* and *M. psittacina* will attract attention.

Cattleyas flowering now include the gorgeous *C. amethystoglossa*, which has been blooming for several weeks; the popular *C. Mendeli*, and the handsome *C. speciosissima*. The tulip-like *C. citrina* is in full beauty in the orchid-house at Kew, and scents the air with its heavy but delightful perfume. A somewhat rare species is *C. chocoensis*, the flowers of which are not fully expanded as in other Cattleyas, and this rather detracts from their beauty. They are of quiet colouring, except the front of the lip, which is stained with a rich purple hue. It is a native of Choco, New Granada.

Odontoglossums are in perfection, and of course one of the most familiar is *O. Alexandræ*. If a species combining easy culture with extreme beauty is wished for, select the charming *O. cirrhosum*, which is now in full glory. The flowers are produced in an elegant raceme, and are profusely spotted with rich chocolate on a snow-white ground. *O. carinifcrum* is an attractive species, and the same remark applies to the well-named *O. gloriosum*, which is one of the finest members of the genus. An old but desirable odontoglot is *O. luteo-purpureum*, which was found in New Granada, at an altitude of about eight thousand feet. The flowers are of a very bright brown colour, relieved with white and yellow. *O. maculatum* is well known, and of this splendid orchid there are several fine varieties. A sweet thing is *O. pulchellum*, which has white flowers of rare beauty. *O. triumphans* is a grand species, the flowers frequently measuring more than three inches across. The sepals and petals are blotched with a rich brown colour on a golden yellow ground; the lip is rose at the front, yellow in the centre, and white at the base. It was found by Linden in 1842, growing in New Granada at an elevation of over eight thousand feet. We must not pass over *O. Cervantesi* and *O. nebulosum*, both desirable orchids, and they bloom at the present season.

Oncidiums claim attention, for several are in flower. A very easily grown and beautiful species is *O. cucullatum*, which bears, on an upright stem, small flowers distinguished by rich colouring. The lip, as in most orchids, is the most showy portion, and in the present instance it is of a rosy crimson hue, profusely spotted with an intense shade of the same; the sepals and petals are brownish. In *O. aureum* the most conspicuous part of the flower is the prominent golden-yellow lip. *O. Batemanianum* also boasts of a highly coloured lip; this species is somewhat shy-flowering, but is nevertheless desirable in a large collection.

Chysis bractescens is one of the finest members of the genus. It hails from Guatemala, and produces its large waxy flowers on a short spike. The flowers are of great width, and of a creamy-white hue, except the lip, which is embellished in the centre with yellow ridges.

Eulophia Krebsi may be seen in bloom now at Kew. It is not striking, but it has its attractions. The flowers are borne on a long stem, and the sepals are greenish spotted brown, and the petals pale yellow, standing out over the column and lip; the latter is small, prominent, and yellow.

Calanthe brevicornu is also in bloom at Kew, and, although not showy, is interesting. The sepals and petals are narrow, rich purplish crimson in colour, with white lines; the lobed lip is of a lighter hue than the other parts of the flower, and is distinctly ridged along the centre.

Phajus maculatus is now flowering, and a well-grown specimen has a commanding appearance. As is well known, the leafage forms by no means an inconspicuous part of the plant, but the flowers are also attractive. They are bright yellow, showy, and borne in short spikes; the lip is curiously folded in at the margins, and is brown and yellow.

Colax jugosa is a real beauty, dwarf in growth, and of attractive colouring. The flowers are of medium size, neat, and associate well with the dark-green leafage. The sepals and petals are white, with the latter banded and spotted with rich violet; the lip is blotched, and veined with a similar hue. This is suitable for amateurs.

Phalænopsis are in fine form at the present time, and one of the most charming of all is the lovely *P. amabilis*. A very interesting kind now is *P. violacea*, which succeeds well in a pan suspended in a light position in the East Indian house. This species is well deserving a place in all collections of any size. On the short peduncles are seated the comparatively large flowers, with the narrow sepals and petals violet in colour, streaked near the base with a deeper shade of the same hue. The lip is also violet and ridged along the centre, in this respect resembling *P. Luddemanniana*. The flowers are not only pleasing in appearance but agreeably fragrant.

Other orchids blooming now are *Vanda insignis*, *V. suavis*, *Restrepia elegans*, *Mesospinidium roseum*, *Ada aurantiaca*, *Bletia hyacinthina*, *Cypripedium Leeanum*, *C. porphyrum*, *C. Haynaldianum*, *C. concolor*, *C. Bulleni*, *C. hirsutissimum*, *C. Hookeræ*, *Cymbidium Devonianum*, *C. eburneum*, *Angræcum citratum*, *Lycaste Skinneri*, and *Maxillaria luteo-alba*.

Rhododendron niveum was submitted by Mr. J. Bateman at the second of the two April meetings of R.H.S. The specimen, which was well furnished with flowers, had been grown in Mr. Bateman's garden at Worthing, where it is quite hardy, the only shelter being that afforded by a perpendicular rockwork, some twenty feet high, which screens the plants from the sun and sea breezes.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 6d. and 1s.—[Advt.]

Notes of Observation.

PROPAGATING CROTONS.

Few cultivators have attained to a higher degree of success in the cultivation of crotons than Mr. Hudson, the able gardener at Gunnersbury House, and some reference to the way in which he increases the stock may prove useful. Mr. Hudson grows these plants somewhat largely for the decoration of the dinner table, and therefore requires plants well furnished with foliage of full size. In raising a young stock he does not take the tops of short-jointed side-shoots in accordance with the orthodox practice, and then grow the plants on for a year or more until they are of a sufficient size to be employed for decorative purposes. But, instead, the plants, as they become too large, have their tops taken off with a stem twelve inches or more in length, and these are then suitably prepared and struck. The leaves are removed from the portion of the stem that will be buried in the soil, and the cuttings are then inserted in small pots, one in each. As they are inserted in the pots they are shut up in a close propagating frame in a warm corner of one of the stoves. When any of the cuttings are too tall to be put in the frame, head-room is provided by taking two hand-lights and putting one on the other. By this course of procedure strong plants, well furnished with foliage to the rim of the pot, are obtained, and in a surprisingly short space of time, for they are available for decorative purposes almost directly they are removed from the frame. Large shoots from specimens may be struck in precisely the same way as the tops of the smaller plants. G. G.

BEST ROSE OF THE YEAR.

A considerable number of the new roses sent us last autumn by the French raisers have already flowered, and with reference to the majority it may be said that they will have to improve in a very marked manner before they take a high position. One of the number has proved so good that it may be safely described as the best rose of the year. The name of the beauty is Clara Cochet, which formed one of the short selection of new roses given in the Gardener's Magazine by M. Jean Sisley, last autumn. It was raised by M. Lacharme, and has rather large and finely formed globular flowers, which are of a very bright rose colour, deep carmine rose in the centre. The blooms, even on small plants, and produced under conditions not particularly favourable to their full development, attain a very large size and are extremely well built. The amateur rosarian, whether he produces flowers for competitive purposes or for the enjoyment of himself his and friends, should certainly include it in any selection of new roses that he may make. Viator.

MELONS IN FRAMES.

We have to meet such a great demand for melons during the summer months that we have to devote several unheated pits to them, as well as the heated structures specially provided. Usually we are able to obtain heavy crops of well-ripened fruit, and it is only in very cold and wet seasons that the fruit is not of excellent flavour. There are two points to be observed in the cultivation of unheated pits and frames: one is to select varieties that have a good constitution, and the other is to have the plants in readiness for putting out immediately the frames are cleared of the bedding plants. Every day is of the utmost importance after the middle of May, and any considerable delay will jeopardize the crop. Two of the most suitable varieties are Blenheim Orange, a scarlet-fleshed variety, now so well known as not to require any description, and William Tillery, a green-fleshed variety, remarkable alike for its hardy constitution and delicious flavour.

G. S.

PREVENTING THE SCORCHING OF VINE LEAVES.

In the glazing of several of my Muscat houses I have departed somewhat from the usual practice, with, as I have good reason to believe, highly satisfactory results. The general practice is to have the glass at the lower end of the roof close down upon the wood of the sash or rafter plate, as the case may be, to prevent injury to the foliage by cold draughts. Instead of having the glass of the roofs of the houses in question close down upon the woodwork, I have so arranged the sash-bars that there is a space of about three-quarters of an-inch between the glass and the woodwork. Some of my friends on seeing these wide openings have not been slow to express their opinion that the leaves of the laterals at the lower part of the roof would in cold weather be shrivelled up by the current of air passing over them. But as a matter of fact nothing of the kind has happened, or is, indeed, likely to occur. What has happened, however, is the perfect immunity of the leaves from scorching even when the ventilators at the apex of the roof are not opened so early in the morning as they should be. With openings such as these described at the lower part of the roof there is at all times a constant circulation of air between the glass and the foliage, and as the result any moisture on the leaves is dried up before the sun has sufficient power to scorch or burn the leaves. As grape growers are so well aware, the scorching of the leaves takes place chiefly in the early part of the day, owing in most cases to the houses not being ventilated early enough to dry the foliage before the sun is sufficiently high in the heavens to shine with full force on the roof. These openings will not remove the necessity for careful attention to the ventilation early in the day, but the air admitted by them will assist materially in drying the foliage, and when the ventilators in the roof are opened they will afford such substantial assistance as to ensure the drying process proceeding as rapidly as could be desired. I would add that the houses referred to are not forced early.

The Grove Vineyard, Feltham. William Cole.

VEGETABLE MARROW.

The most useful of all the vegetable marrows for private gardens is Moore's Vegetable Cream, for the fruits are produced in great abundance, and in the matter of size and delicacy of flavour they are unsurpassed. My employers would not tolerate the fruits of such coarse sorts as the Long-fruited White and the Long-fruited Green, even if I was inclined to grow them. The globular fruits of Pen-y-Byd are not liked, as they do not have such an elegant appearance when served. As regards sowing the seed of vegetable marrows, there is no better way, when only one crop is required, than to sow where the plants are to remain. The position of each plant should be marked with a short stick, and two or three seeds be dibbled in. When the plants are sufficiently advanced, all but one in each station can be withdrawn. By sowing in the beds early in May, a crop can be had as early as from plants that are raised under glass, and put out without protection. When a supply extending over as long a period as possible is required, and there is plenty of room, two sets of plants should be grown. One should be raised in heat in March and put out early in May, and protected by handlights, and the other by sowing the seed in the bed early in the month last mentioned. Sowing in the beds has much to recommend it to the amateur with very little accommodation for plants under glass. W. B.

MONSTROUS VIROFLAY SPINACH.

For sowing now the Monstrous Viroflay is of great excellence, quite surpassing the round-seeded. It is very robust in growth, and when sown in soil that has received a moderate dressing of manure the plants will attain a diameter of fully two feet, and furnish a very liberal supply of the large leaves, which are more succulent than those of the Round, and do not shrink so much in the cooking. The seed is now plentiful, and not expensive. G. S.

HARDINESS OF CARNATIONS.

Reference has been made on several occasions to the losses experienced by cultivators of carnations during the past winter, and I am not disposed to question the statements of those who say that they have lost a considerable proportion of their stocks. But I am persuaded that show carnations and picotees are not so tender in constitution as they are generally supposed to be. It will be conceded that the winter was exceptionally trying to these plants. The autumn and the early part of the winter was cold and wet, the rains being so frequent that the soil about the roots of those which were not sheltered by grass was kept in a constantly saturated state. The wet weather was followed by a long period of cold, which was continued until quite the end of March. Not being able to accommodate the whole of my stock under glass, about a hundred and fifty plants that were required for filling a large bed were, on their being potted, placed at the foot of a wall, where for a period of more than four months they did not have a glimpse of sun. The plants consisted of carnations and picotees in about equal numbers; and the varieties, of which there were fifty-four, comprised the finest show flowers at present in cultivation. Of the number stated, I lost about twenty plants, and these mostly along the front row, where they were not so well protected by the mats as at the back. In the second week in April, when they were bedded out, the plants were not so large as those wintered under glass, but they made good progress, and present such a satisfactory appearance that I have no anxiety as to the way in which they will bloom. The strongest plants were those of Sarah Payne carnation and Mrs. Payne picotee, which are so well known for their high quality in their respective classes. Selfs that were left in the borders have been destroyed wholesale, and the old Crimson Clove has suffered severely.

George Gordon.

BEAUMONTIA GRANDIFLORA.

You truly describe Beaumontia grandiflora as "a fine old stove shrub." for so it is when in the condition in which it was presented by Mr. Ruffet at South Kensington the other day. But in admitting this I must not be understood as agreeing with those who think the plant worthy of a first-class certificate. On the contrary, I consider the committee made a mistake in certificating it; for if the certificate is of any value at all, it stamps the plant as of great value, which is very doubtful. The flowers are beautiful, but what of that if they are produced at such intervals that few men have an opportunity of seeing them more than once in a lifetime. It would be interesting to know how long the plant from which the flowers were gathered has been at Panshanger, and how many times it has bloomed satisfactorily since Mr. Ruffet has had charge of it. I do not believe in the practice which now obtains at South Kensington of certificating old plants when they are shown in exceptionally good condition. If plants have so far passed out of cultivation as to be practically unknown to cultivators they must have some serious defect. They must either have an indifferent constitution or be very shy in blooming; for cultivators, as a body, are not so unwise as to neglect good old things for the purpose of enabling them to grow plants that have but little to recommend them beyond their novelty. O. P. Q.

Interesting Primulas have been sent up from Cork by Mr. W. B. Hartlands. *Danesfort Yellow* is a showy hose-in-hose cowslip with orange centre; *Danesfort Sulphur* is an equally showy hose-in-hose oxlip. *William of Orange* is a brilliant oxlip, full yellow, with large orange centre and green calyx; the flowers in immense heads on fasciated stems. These are old varieties, that are but rarely met with except in the south of Ireland.

CHERRY-LIKE NUTTALIA.

There are two Nuttalias—one a genus of malvaceous herbs, the other rosaceous trees. It is of this last we have now to speak, with the aid of the accompanying figure. *Nuttalia cerasiformis* is a hardy deciduous shrub with the habit of a spiræa, the leaves narrowish oblong, light green, the flowers in pendant racemes somewhat like those of the bird cherry, white, and, although pleasing, yet certainly in some degree inconspicuous. This shrub is a native of California, and represents a genus named by Torrey in commemoration of Thomas Nuttall, the American botanist to whose honour is dedicated the noble Rhododendron Nuttali.

The cherry-like Nuttalia is one of the liveliest shrubs of its class in spring, as it produces leaves and flowers earlier than many of the subjects that are noted for precocious movements: it is, indeed, often the "first of the throng." Its tender green leafage, profusely overspread with the delicate clusters of white flowers, renders it far more valuable than might be predicated from any one particular character. It is one of the many good things that do not forcibly recommend themselves, and therefore must be mentioned as deserving of admiration.

CHERRY-LIKE NUTTALIA, *Nuttalia cerasiformis* (Flowers white).

NARCISSUS "MINNIE WARREN."

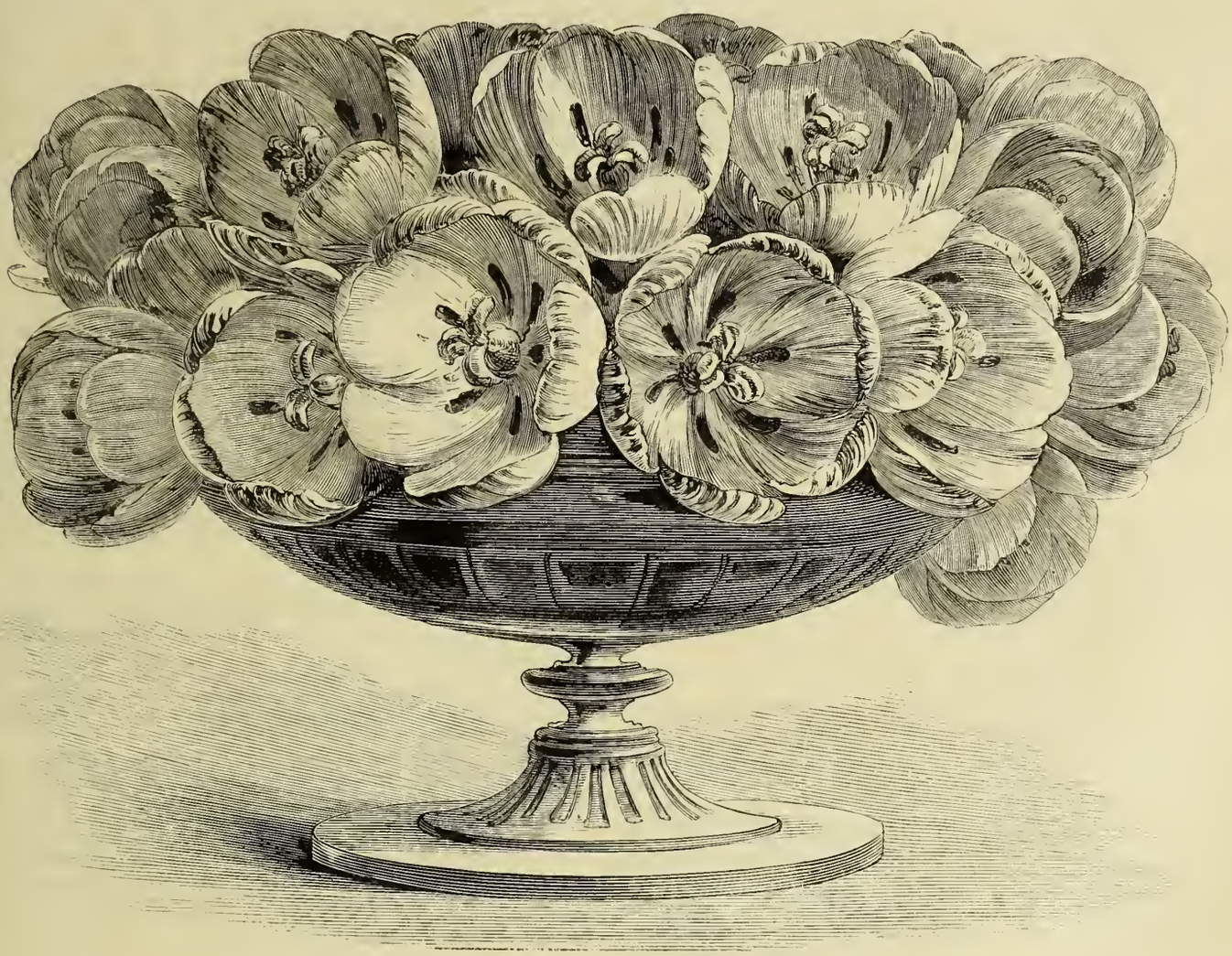
For the variety here figured we are indebted to Mr. W. B. Hartland, 24, Patrick Street, Cork. It is a trumpet daffodil of the moschatus section, coming near to Nanus in growth and foliage; but the flowers are creamy white, becoming creamy yellow after having been placed on the table for a few days. Mr. Hartland describes it as "violet scented." It certainly is peculiar and pleasing in its fragrance, but not every nose would liken its odour to that of the violet. Minnie Warren may be regarded as indispensable where there is anything like a collection of these interesting flowers; for it is sufficiently distinct, and the class it represents is a small one.

TRUMPET NARCISS "MINNIE WARREN" (Flowers crea y white).

Flowers of the new type of Auricula mentioned by the Rev. F. D. Horner, in his paper read at the Primula Conference, were submitted to the meeting of the scientific committee of the R.H.S. on the 27th ult. The variety, which belongs to the green edge class, has a ground of a bright red colour, and is singulary attractive. The chief point of interest, however, is its wide divergence from the types now in cultivation.

A BOWL OF TULIPS.

It sometimes happens that one has a heap of flowers of one sort, and few or no leaves to mix with them. This very catastrophe happens often to the writer of this note, for the flowers are cut and brought in and supply sufficient entertainment by their individual beauties, so that when they have "passed muster" they might be thrown away so far as concerns the interest of the undersigned. But the family threatens insurrection if there is any more destroying of flowers here, and the way out of the difficulty is to "cease firing." When a great lot of tulips came the other day I put them in a large yellow bowl that I stole from the kitchen, making no pretence at arrangement or leafy dressing. When they were thus hastily and roughly mounted they presented a glorious appearance, and I was vain enough to call a sweet lady to admire them. The sweet one said, "Yes, that will do, but——," there the speech ended. An hour afterwards I found them on my luncheon table mounted in a handsome tazza; and they certainly looked better than in the yellow bowl, and, having signified approval, a sketch of the thing was made, and here it is for all whom it may concern. The tulips are all seedlings of the show section, hence their fine forms. These are the "breeders" that are talked about, but they are really as scarce as birds of paradise. W.



A BOWL OF TULIPS.

CHRYSANTHEMUMS FOR THE BORDER.

I have frequently been asked by friends to recommend to them varieties sufficiently hardy to stand the winter. There are many who, without wishing to grow fine blooms, like to have plants for outdoor use; and to such it may be useful to mention that last June, having several varieties above the number I intended potting up, they were planted in the border, and, without having the slightest protection during this very trying winter, many are now alive and throwing up healthy young suckers. The survivors are: Mons. Cochet, L'Or de France, Mons. Comte, Madame de Sevin, La Charmeuse, Fleur de Marie (anemone), Fair Maid of Guernsey, and François Delaux. There are undoubtedly many other kinds quite as suitable as the above.

C. Harman Payne.

THE DOCTOR'S CUCKOO.

My neighbour, Dr. W., is fond of his garden, and takes an intelligent interest in all that pertains to it; not only the asparagus and peas, roses and strawberries, but the bird and insect life that haunt its prim hedges or hover with painted wing over the opening flowers. It is rather an old-fashioned garden. A thicket of drooping cobnuts and filberts shades the little sloping lawn as one enters, and broad gravelled paths, with neat box edgings, intersect the oblong at right angles. On the right, or north-east, engirt with rugged elms, stands the visible church, and in the shade of the elms is the rough square tomb whereon the author of "Childe Harold" spent many a placid hour, watching the crimson sunsets that glowed over the wide horizon.

The Doctor tells his tale somewhat as follows. There is a picturesque exaggeration about his stories usually, as, for instance, when fishing at Ruislip, "an enormous pike run out a hundred yards of line, and after rushing across the lake leapt into the air, and came down with a sounding splash that echoed through the woods like thunder." Such extravagant diction is omitted in the following account.

Some years ago (says he) I kept a cuckoo. He lived at large in my little study, and would perch on my shoulder and feed from my hand, so that I had ample opportunity of watching his youthful career. One fine morning in early June, when bird life was unusually active, a hedge-sparrow dashed out of a bush just in front of me. I like to see birds' nests in the hawthorn, sweet-brier, and honeysuckle of my garden hedge. Woe to the prowling bird-nester or loafing stranger who molests them! Quietly putting aside some twigs, I noticed a nest built close by the stump of a whitethorn. There were three eggs in it, of that charming mystery of blue which none but the little brown hedge accentor can match. Next morning I looked again, and to my surprise and delight saw an egg about the size of a skylark's, but lighter in colour. The egg of the cuckoo is comparatively very small for the size of the bird. Within a week of its birth it had monopolized the nest by getting beneath the unsuspecting balskins and lifting them one by one on its broad fluffy shoulders over the edge of the nest. Twice I replaced one of the helpless nestlings, but it was as often cold-shouldered over the threshhold. Of this sad catastrophe to her legiti-

mate offspring the mother bird seemed to be entirely unconscious. Her time and attention were too completely absorbed by the gaping harpy in her nest to take means for securing her outcast children. Every time I peeped into the nest the little monster opened its wide red mouth for food. This consisted chiefly of woolly caterpillars, moths, and larvæ. As I afterwards discovered, however, nothing came amiss to it in the way of insect life. When it was about eighteen days old I relieved the anxious and weary mother of further solicitude on its behalf.

My cuckoo grew apace, and soon became attached to me. Its home was a wicker cage, with the door left open. At a whistle it would fly on to my table, and droop its chittering wing to be fed.

One morning, however, towards the end of June, there had been a shower, and bird-life was, of course, exuberant. Young blackbirds and thrushes were experimenting on the early worm, and there was a chorus of bird music. On such a morning, when the rain-spattered buds of roses, pinks, and lilies unfold, and their fragance fills the garden, a cuckoo flew past the open window, shouting, as he skimmed along in graceful curve to the elms aforesaid. The temptation was too strong for my protégé, and, without a single word of parting—not even a "Cuck!" or "Cuckoo"—he suddenly discovered his latent powers of flight, and swept away over the adjacent meadow. The ungrateful wretch! For weeks I had made diligent search among the brassicas and gooseberries, and cut strange capers round my garden in the capacity of his beetle and butterfly catcher!

But my cuckoo soon tired of his life of liberty. His early education had been neglected, it seemed. Even the blackbirds and thrushes, martens and sparrows, flouted him; and, hunted and chased from hedgerow to tree, he was glad to take refuge again in his wicker cage. One day I found him there disconsolate, and ravenously hungry. Morsels of lean beef from the undercut of a juicy sirloin were eagerly devoured, and so were the few chrysalids I found in the crevices of an old shed. As September waned and cool evenings drew on, my cuckoo seemed to lose heart and cowered in a corner of his cage, with his pale-brown and ashen-gray fluffy feathers all of a heap, and his once lustrous eyes dim and half-closed. My wife made the poor fellow a little woollen coat, and we hung his cage in a warmer corner. But he still felt the cold and absence of light, and missed his accustomed caterpillar diet. And so, half-buried in the soft hay, with his head beneath his ruffled wing, he lingered till the beginning of November, dreaming perchance sometimes of his early life in my garden hedge. Thus, while his undutiful and dissolute parents were shouting joyously, perhaps, in the sunshine of Algerian woods, he breathed his last—the ungrateful wretch! Had he hopped out of his cage but once, drooped his slaty wings, spread his tail, and hiccuped out only the faintest of cuckoos by way of thanks, I could have forgiven him—and even had him stuffed!

Harrow. T. W.

HARDY FLOWERS IN THE HALE FARM NURSERIES.

Although the daffodils have nearly run their race, and the keen easterly winds which prevailed during the greater of April were most unfavourable to tender vegetation, the various quarters of these nurseries are well paved with flowers, and there is plenty of colour to gratify the eye on all sides. Especially attractive at the present time is the large rock garden near the entrance to the herbaceous department, the aubrietias and other subjects with which its slopes are so liberally draped being now in perfection. The plants now in bloom would form a very lengthy list, but it must for the present suffice to enumerate a few only of the more important.

Anemones are to be met with in huge breadths on all sides. Very brilliant is the effect produced by the large breadths of A. stellata fulgens, which are now thickly studded with their large rich scarlet flowers. A. apennina affords sheets of flowers of a very pleasing shade of cerulean blue, and its white form known as A. apennina alba is equally deserving the attention of those engaged in beautifying woodland walks. The double wood anemone, A. nemorosa alba plena, is profusely spangled with elegant white flowers. Still more noteworthy is the rare beauty, A. nemorosa cærulea, which has large pale blue flowers, and is unquestionably the best of the group. The Pasque Flower, A. pulsatilla, must be referred to for the purpose of mentioning a form met with in the nursery which has a much stronger habit and produces flowers of a much richer shade of purple than the type.

Arnebia echioides is now well furnished with its large clusters of rich yellow flowers. It is interesting to observe that the flowers as they expand are marked with marone spots, and that as they acquire maturity those markings are gradually effaced. The growth is neat, and no finer plant of its colour could be had for a conspicuous position in the front row of a choice border.

Corydalis nobilis differs so widely in general character from the other plants of its season that it seldom fails to arrest attention. The growth is vigorous, the leafage very elegant, and the yellow flowers are produced in great profusion. It will thrive in the open border, but it attains to its highest state of development in a damp shady place.

Doronicums are making a brave show in the several quarters devoted to them, and an excellent opportunity is afforded for instituting comparisons between the several species. Some of the most effective are D. Clusi and D. austriacum, both of which have yellow flowers and are of much value for spacious borders.

Dog's-tooth Violets, now in bloom, comprise Erythronium albidum, with creamy white flowers, E. giganteum, which has straw-coloured flowers. Both have prettily marked foliage and flowers much larger than the more generally known E. dens-canis.

Fritillarias in bloom that especially deserve attention are F. Moggridgei, which has large bright yellow flowers, and F. pallidiflora, a robust-growing species of which the flowers are of a bright greenish yellow colour.

Geums are beginning to present flowers on plants occupying sheltered nooks in the rock garden, and will produce successional supplies for some time hence. The species most fully in bloom is G. montanum, the colour the richest yellow.

Iris in bloom comprise several beautiful varieties of the Crimean iris, I. pumila. Three varieties were made note of as being especially attractive, and those were—Alba, which has white flowers; Pallida, of which the flowers are delicate lavender blue; and Cærulea, a very effective variety bearing flowers of a deep lavender blue. All the varieties are of dwarf growth, and especially suited for the front row.

Ranunculus amplexicaulis is now in perfection, and its glistening white flowers in contrast with the dark green leafage produce a singularly striking effect.

Saxifragas in bloom at the present time would make a goodly list, so numerous are they. Two of the very best are Saxifraga caryophyllus and S. Camposi. The last-named is the finest of all the species belonging to the mossy section.

Trillium grandiflorum constitutes a good feature of itself in the Hale Farm Nurseries, for it is grown in great breadth, and is everywhere in the most luxuriant condition of leaf and flower. T. erectum is also a fine plant.

Literature.

Cassell's Popular Gardening, edited by D. T. Fish, is now completed in four handsome and quite convenient volumes, and must have a leading place in the domestic library. We have no work of the kind on the same plan, and therefore we shall be spared the task of making comparisons; but we must say at once that it is properly designated "popular," because the several subjects are discoursed upon in the language of the world, and in a way to render them comprehensible by persons unaccustomed to the technicalities of horticulture. There is nothing, from the potting of a plant to the planting of an orchard, or from the management of a common frame to the furnishing and keeping of a tropical plant house, but has its place in this work, and is presented to the reader in an agreeable form; so that if it is not desired to carry out the proposal submitted, there will be gained some useful information by reading what the writers have to say about them. And as regards these writers, they constitute a formidable army of whom, as commander-in-chief, Mr. Fish may well be proud. We have here Mr. James Britten, of the British Museum; Mr. Richard Dean, of the R.H.S. Floral Committee; Dr. M. T. Masters, F.R.S., of the *Gardeners' Chronicle*; Mr. W. Watson, of the Royal Gardens, Kew; Mr. John Willis, of the Laboratory at Rothamsted; and half-a-dozen other gentlemen who are renowned in their several departments for horticultural skill and taste. They have worked together admirably, and the result is a book that for its special purpose stands alone.

Gardens of Light and Shade. (Elliot Stock).—In an attractive volume, small quarto size, with photographic views to illustrate the text, "G.S.C." discourses of gardens in the style that has become fashionable, the underlying idea of which is that the writer has made the discovery that in gardening a little of nature is better than much of art. The present essay is intended to have practical uses, inasmuch as the author gives plans and scenes with a view to show that in a garden of most limited dimensions, beautiful, various, and even large effects may be obtained by judicious planting. The essay is agreeably written, and in spirit is thoroughly well-intentioned; but we are getting tired of the discovery, made by so many in recent years, that costly terraces, elaborate parterres, much statuary, and miles of clipped yews are not absolutely essential in the production of a garden for home enjoyment apart from public display. The discovery is delightful, and will continue to delight, provided only that the discoverers contrive to impart into their reports of events a touch of the eternal freshness that so especially belongs to the "nature" they profess to love.

Cassell's Doré Gallery contains in parts 37 and 38 ten large prints from selected works of the master, including the painful Stoning of Stephen, the terrific Mouth of Hell, and the fantastic Court of the King of Serendir. The most Doréish design in the present batch is the Wolf Turned Shepherd, a sort of satire on society,

Library of English Literature. By Henry Morley (Cassell).—Part 40 of this valuable and fascinating work contains the conclusion of Layamon's Romance of British History, a history and analysis of Chaucer's Canterbury Tales, and a lengthy review of the works of Gower.

Familiar Garden Flowers, by Shirley Hibberd (Cassell), has reached part 87, and will be completed in 100 parts. The part before us contains the Guelder rose and the Almond, both very familiar flowers.

Quentin Durward follows upon "The Heart of Midlothian," in Ward and Lock's beautiful "Selected" Waverley Novels. This is one of Scott's great works, and is a grand key to unlock secrets of the making of France.

Amongst important books in course of publication by Messrs. Ward and Lock of which continuing parts have been received are The Works of Josephus, Plutarch's Lives, Beeton's Garden Management, Universal Instructor, Popular Histories, Amateur Work, and Sylvia's Home Journal.

Primitive "Telpherage."—A writer in *Chambers's Journal* states that a familiar object in a Norwegian glen is now the strong steel wire rope which stretches from the foot to the summit of the mountain. Down this wire the bundles of hay are expeditiously sent, and then carried on sledges to the steadings. Descending by their own weight, they save many a weary climb, which would otherwise be necessary to bring down the hay cut on the mountains for winter fodder. It is added that the Norwegian fieldsman appears to have borrowed the idea from his brother hillsmen of the Tyrol about eight years ago—a curious instance of the cosmopolitan tendencies of the age, when it is remembered how remote the localities named are practically from one another, and how averse the natives to change of every kind. The same writer notices a fashion of decorating the chief rooms in Norwegian farmhouses which we do not remember to have seen mentioned before. From pots on the floors ivy is often trained up and along the wooden ceiling, or rather roofs, giving a festive and refreshing display of greenery.

"SPRING LEAVES."—In the warm genial climate where Tea is grown, the early Spring leaves of the plant burst forth with a vigour and luxuriance unknown in colder regions; this early growth yields the richest juices, and tea of amazing strength, combined with a most delicious flavour and aroma, is obtained therefrom; being carefully selected from the early Spring growth, and shipped free from all adulteration, Horniman's Tea (in packets) commands an enormous sale in England and abroad. The same reliable good quality, at the same fixed price, is always secured in every City, Town, and Village in the Kingdom, by purchasing of Horniman's Agents. 6,000,000 packets sold yearly. See list of Agents in all papers, and at Railway Stations.—[Advt.]

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory and Greenhouse should both be freely ventilated at all times when the weather is favourable to the admission of air. Increased supplies of water at the roots will now be required by all the plants in pots, and climbers and other subjects in the borders must have an abundance of water. Camellias planted in conservatory borders are in full growth, and should receive copious supplies of water, and be also syringed overhead occasionally, provided it can be done without injury to other subjects.

STOVE AND ORCHID HOUSE.

Stove.—Begonias, Euphorbias, Justicias, Poinsettias, and other quick-growing soft-wooded plants for display during winter, should now be propagated. Specimen plants to be assisted with liquid manure, and the shoots to be stopped of all shrubby and branching kinds. Stove climbers now want plenty of room and liberal culture; the syringe will do wonders to keep down vermin. Average temperature, 65 deg. to 70 deg. at night, and 75 deg. to 85 deg. day.

Orchid House.—In the Indian and Mexican houses abundant moisture and a liberal temperature may be allowed. By far the greater number of the most valued species derive their chief subsistence from the atmosphere; hence frequent sprinkling of the paths and stages should be practised. Where there are large plants needing abundance of atmospheric moisture, the walls and tables near them should be drenched frequently, and the tanks should be kept full. This treatment will be most needed by Saccolabiums, Vandas, Phalænopsis, Dendrobiums, and Aerides, which make little progress unless liberally treated.

FORCING AND ORCHARD HOUSE.

Figs must have plenty of air when the fruit is ripening, and at the same time the fruit must be kept dry.

Melons will be enjoying plenty of sun heat now, and if the beds still give a tolerably good heat it may not be necessary to line them again; but if it is some time since the beds were lined, and the fermentation is nearly at an end, put a fresh lining. Use the syringe moderately to keep a healthy foliage.

Peaches under glass are now well furnished with wood for next season, and the cultivator will have to select now the shoots that are to bear next year's crop, instead of waiting till the winter pruning. Tie in betimes, and thin away all superfluous growths, as if the trees are crowded none of the wood will ripen properly.

Pines established must have very little shade and plenty of air, as weather permits. Shift succession plants as required, and give very little water at the root until they have begun to take hold of the new soil. Put them on a good bottom heat, and shade from eleven to three.

FLOWER GARDEN AND PLEASURE GROUNDS.

Asters must be pricked out where they are to flower or be potted singly in light rich compost. The frame is the best place for potted Asters; those bedded out will want the protection of mats should the weather become cold again.

Balsams should be treated as advised for Asters. Some of the early-sown plants will be showing bloom now, and be very useful for the conservatory or greenhouse; but the finest flowers are those produced first.

Hardy Herbaceous Plants going out of bloom may be propagated from cuttings or seeds. Double Wallflowers, Alyssum, Iberis, spring Phloxes, &c., should be grown in quantity.

Pæonies need the support of sticks to prevent the blowing over of their heavy flowers. A heavy soaking with liquid manure will do very much towards improving the bloom.

Phloxes which have formed strong stools in the border will need thinning to reduce the number of shoots to a few manageable leaders, which are to be staked neatly and separately. Phloxes are now being grown in pots, but are scarcely the best of subjects for that method, though it is convenient for showing, and enables the exhibitor to put up complete plants, which are always preferable to cut blooms when it is possible to show them.

KITCHEN GARDEN AND FRAME GROUND.

Broad Beans for a late supply may be sown. Early crops will need the earth to be stirred between the rows, to keep down the weeds and promote the vigour of the plants.

Beet to be thinned; generally speaking, a foot apart is the proper distance, but some of the large-growing kinds must have fifteen inches.

Broccolis advancing in the rough leaf to be pricked out on light rich borders. Occasionally dust the plants in the seed-bed with lime, to preserve from slugs.

Capsicums and Tomatoes may be planted out on warm borders and on walls, provided protection from frost can be afforded them there.

Celery to be pricked out in frames and on warm light borders. Trenches may be dug out for the earliest crop.

Endive.—Sow the first batch.

Kidney Beans to be sown now; the rows two feet apart, the seed six inches apart in the rows. Kidney beans are generally sown as thick as spinach, and the crop is less than may be had by using a tenth part of the seed.

Lettuce to be sown for succession. Plant out on well-manured ground from seed pans and boxes. In places where summer lettuces commonly bolt it is necessary to manure liberally, and sow where they are to stand, as the check occasioned by transplanting greatly favours the bolting.

Ridge Cucumbers.—The growth of cucumbers on ridges is a very simple matter, and it may be accomplished with or without hand-glasses. If hand-glasses are used the plants may be put out at once, but if not, next week will be full early enough. Any moderately good light loam will grow them well, but fermenting material is necessary to produce a gentle bottom heat. The trenches are made of various widths, some growers preferring to make them up as four-feet beds; but the usual and best measure is two and a half feet. The soil is taken out to a depth of one foot and laid on each side; the trench is then filled to a foot above the surface with fermenting dung in a condition somewhat subdued as to heat by previous turning.

Vegetable Marrows may be planted out provided the beds are in a nice warm condition and the plants are strong. After planting put hand-glasses over, or put baskets or large pots over at night for a time in case of frost. But if the beds are not in a state of steady fermentation, or if the plants are not strong, defer planting for a fortnight or so. But in any case gets the beds ready, if not done already.

Calls at Nurseries.

MR. W. M. CROWE'S, THE BOLEYN NURSERY, UPTON.

All classes of flowering and ornamental leaved plants are so fully represented in this well known nursery, that in walking through the several departments it is difficult to determine the features to which Mr. Crowe, the energetic proprietor, pays special attention. It is quite evident that whilst due regard is paid to the requirements of those who appreciate the graceful outlines and refreshing colour of the palms and ferns, the wants of those who enjoy the brilliant colouring afforded by azaleas, zonal pelargoniums, and other subjects, are not neglected.

It is interesting to note that both palms and ferns fully maintain the high degree of popularity which they have so long enjoyed, and to learn that at no time were the more hardy kinds in greater demand. With reference to the palms it is not necessary to recapitulate all the good kinds met with in the extensive collection; but it may be of interest to mention a few which find special favour amongst the general body of cultivators. Especially popular are Areca lutescens, Cocos Weddelliana, Corypha australis, Geonoma gracilis, G. Seholtiana, Kentia Balmoreana, K. Canterburyana, K. Fosteriana, Latania borbonica, Phœnix reclinata, P. rupicola, Raphis flabellimormis, and Seaforthia elegans. If it be asked, Why are these species preferred to the many other kinds in cultivation? the answer is because they show their characteristics at an early stage, and are available for decorative purposes when of a moderate size, and have, moreover, a comparatively hardy constitution. In turning to the ferns, several adiantums at once arrest attention, which are so good as to merit the most widely extended culture: the most noteworthy being Adiantum Legrandi, a compact-growing species with light and elegantly crested fronds; A. Pacotti, a very distinct form with dense leafy fronds of a rich green colour; A. rhodophyllum, a new hybrid of dwarf growth, elegant in appearance, and highly coloured; and A. Victoriæ, a dwarf growing hybrid of great beauty, which can be most satisfactorily grown in the warm greenhouse.

Pelargoniums are grown in immense numbers, the collection comprising all the best of the zonal, ivy-leaved, and decorative varieties. Conspicuous amongst the latter is the new white form of Volonté Nationale, which is proving of special value for the supply of flowers for decorative purposes in a cut state. Volonté Nationale also is very fine in blooming, and the flowers, which are of the purest white, are remarkably stout and stand well. The ivy-leaved varieties include Edmond About, Emily Lemoine, Madame Thibaut, and other of the fine varieties of recent introduction. Of the zonals the collection is very large, and especially deserving of attention are the new varieties of Messrs. Pearson and Son, M. Lemoine, and others of the leading raisers. Abutilons and bouvardias constitute two good features, and amongst the latter are Sang Lorraine, Triomphe de Nancy, and Victor Lemoine—three double varieties with brilliantly coloured flowers, which promise to form capital companions to Alfred Neuner. The begonias, which abound, include Semperflorens gigantea rosea and S. gigantea carminea, two comparatively new hybrids, which are proving of great value for decorative purposes, as they are exceeding free in blooming, and highly effective in colour. Carnations must be referred to for the purpose of mentioning Mrs. Keen, Thomas Wallis, Princess Stephanie, and Pride of Penshurst, four of the finest tree varieties at present in cultivation. They are all robust in growth, and free in blooming, and have flowers large in size and of good form.

In the several structures devoted to the greenhouse plants there is a series of displays of Azaleas, which are now flowering freely, and form a feature of great interest, as the collection includes many of the new varieties as well as all the best of the established kinds. Two varieties of Azalea mollis contribute much to the attractions of the nurseries, for they are grown in immense numbers for the London market, and the pleasing hues they afford present a striking contrast to the more brilliant colours of the Indian varieties.

ORCHIDS AT THE YORK NURSERIES.

Having frequently visited this old-established nursery early in the year, I have never failed to find some new or choice orchids in flower, as well as many rare and interesting hardy herbaceous plants. The orchid-houses here are of large size, the greater portion of them being span-roofed. The largest house of all is a span-roofed one, and it is set apart for the culture of Cattleyas principally. Some of the finest varieties of C. Trianæ had been sold; for there is almost instant sale for anything unique in the way of orchids. Many varieties had passed the flowering period, and yet there would be between three hundred and four hundred flowers open at least of C. Trianæ, and mingling amongst them were the first flowers of C. Mendeli. This species cannot be excelled by any, and one or two varieties that had just opened their flowers seemed more lovely than ever. There is also a nice group of C. Lawrenciana. On one plant was a handsome spike of its richly coloured flowers, reminding one of a fine variety of C. Skinneri, but much larger and more richly coloured. The first flowers exhibited at South Kensington by Dr. Duke were rather disappointing; but subsequently Messrs. Laing, Mr. B. S. Williams, and Baron Schroder exhibited it much finer, so that it has received, as it richly deserves, the highest award of the large London societies. Lælia Schilleriana is also conspicuous in immense specimens. It is doubtless a form of L. elegans; but it is classed by some authorities as a distinct species. I was particularly interested in some wonderful specimens of Cattleya gigas. They were starting into growth of remarkable vigour, and I believe this species flowers very freely in this house. At the time of my visit the sun was shining brightly through the clear glass; and on further examination I could see no provision for shading, and Mr. Backhouse informed me that they never shade their Cattleyas; and certainly the appearance of the plants gave evidence that they liked the treatment they receive. The practice of watering very freely in the afternoon when the sun was shining on the plants, and sousing the plants overhead, appears to be in favour. The house runs north and south, so that the direct rays of the sun do not shine upon the plants at midday; but it is intensely hot in the afternoon. I noticed a plant of Renanthera coccinea in full exposure to the sun. It is not of large size, but in this exposed position it flowers freely. I have seen this handsome orchid in flower at Chatsworth, the plant fixed on stoutish birch poles nearly twenty feet high. It was also flowering freely in Messrs. Veitch's nursery last year, attached to a birch stem, with the roots running down into a potful of drainage. Here it is potted in sphagnum in the usual way.

The next house is also unshaded, but the glass is thicker, and slightly opaque. Cattleyas and Lælias do not succeed so well in this house as they do in the one with clearer glass. Cattleya citrina on blocks suspended from the roof was an exception, as they had made very fine growths; the flowers of

large size and rich golden yellow. There was also a splendid lot of Lælia anceps, amongst them some large well-grown plants of the recently imported white forms. I have not seen any better grown examples than are to be found here. I believe Messrs. Backhouse were the first to flower this white variety. The old Lycaste Harrisoniæ was in flower, and a very handsome species it is; the sepals and petals white, the lip marone purple; it is also very sweet. I noticed in this house a very handsome example of Dendrobium thyrsiflorum with white flowers.

In a warmer house, in which Angræcums are cultivated, there are a few noteworthy specimens of choice orchids, such as a large example of Cœlogyne Massangeana, with eight strong leading growths. Cypripedium Spicerianum is also in force. In the cool-house, which is well shaded, Masdevallias grow with great vigour, amongst them some very fine varieties of M. Veitchi, and a very pretty form of M. amabilis named lineata. J. D.

HARDY PLANTS IN FLOWER.

Grape Hyacinths have been gay for some time past, and amongst them *Muscari neglectum* is conspicuous for its fine blue colour. The somewhat scarce *M. Heldreichi* comes near to the well-known *M. botryoides*, but has a larger spike of a fuller colour, and is somewhat later in flowering. It is much to be regretted that the old feather hyacinth, *M. comosum monstrosum*, has become scarce, for its beauty is unique, and it is amusing as well as beautiful.

Spring Moneywort is the "English" name given to Hacquetia epipactis or Dondia epipactis in the *Garden Oracle* (1886) catalogue of herbaceous and alpine plants. For some time past this good old plant has very fairly imitated a little heap of golden coins, but is now changing from yellow to green, and beginning to grow for the season.

Marsh Marigolds are wonderful in the flat lands of the eastern counties now, and often deck the watercourses with most lavish profusion of huge full-coloured "buttercups." Wherever *Caltha palustris* can be grown well, the collection should include all the species and varieties at command, for they are abundantly entertaining at a time when the weather invites one out, and flowers are not over plentiful. There are two or three double varieties varying in colour, and a grand new species called *Caltha purpurascens*, which has brilliant orange flowers borne on purple stems. All they want is moisture, for it matters little whether the soil be peat, loam, or sand, provided it is wet. In many borders far away from water they thrive, but on decidedly dry ground it is a folly to plant them.

Toothwort Rocket may be a proper colloquial name for *Dentaria pinnata*, and perhaps for dentarias in general. This species is very rocket-like, and a bold-looking plant, with a good head of white or lilac flowers. A good kind is *D. digitata*, of dwarf growth; flowers purple or lilac. A robust and showy plant is *D. maxima*, with pale purple flowers. These plants require a moist, sandy soil, and partial shade; they are not remarkable for beauty, but belong to the class of "usefnl" rockery plants.

Barrenwort is the accepted "familiar" name of the epimediums, of which we have to report that in gardens near London all the known species have proved perfectly hardy. At the present time they have a pitiable appearance, for the winter has disfigured them in a most woful manner. *Epimedium pinnatum* and *E. alpinum* are flowering fairly well, but have no beauty. Other kinds are in the like predicament.

Barberries are flowering freely, and present a splendid appearance. *Berberis chinensis* is of the most vivid green, dotted with red buds that will expand at the first flush of soft weather. *B. Darwini* is all a-fire with its rich apricot-coloured flowers. *B. stenophylla* is as beautiful as any, with its most graceful whip-like branches, and *B. buxifolia* is rich in apricot colonr. Even the large-leaved species, though lumpy, contribute to light up the shrubberry.

Forsythias comprise *F. suspensa* and *F. viridissima*—the first a most valuable shrub for its profusion of yellow flowers, both worthy of a place in every well-furnished shrubbery. Forsythia suspensa appears to singular advantage trained on an ample space of wall to a height of 20 ft. to 30 ft., and the aspect is not of great consequence provided the wall has the sun upon it at some time in the day.

Spiræas are not as yet plentiful, but *Spiræa prunifolia* and its proper companion, *Exochorda grandiflora*, are showing their welcome white flowers. Both are "almost good," but no one can say they are worthy to rank with shrubs of the first order of beauty. The most noticeable spiræa now is *S. opulifolia lutea*, the leafage of which is of a strong clear sulphur yellow; the most strikingly yellow-leaved tree of the season.

Plums and Cherries play their part in the shrubbery, and the best of the ornamental kinds are now out of flower in the south. But exception must be made in favour of *Prunus Pishardi*; for this produces lovely flowers of large size, white, with a touch of red in the centre, and they show up well against the bronzy leaves, which are now most delicately coloured. Another exception is *Cerasus Sieboldi rosea-pleno*, with large flowers that may be likened to those of an apple, or perhaps to those of Luculia gratissima. Of *Prunus triloba* we must not discourse for ever and ever, although its beauty might justify many more words than have been uttered in its praise as yet.

GREENHOUSE PLANTS IN FLOWER.

Acacias are conspicuous everywhere, and at the present time *Acacia armata* is the finest of all; certainly it will always have to rank with the best half-dozen. An interesting plant is *A. brachybotrya*, with grey leafage like a small-leaved eucalyptus, the flowers in small yellow balls. *A. salicina* is an interesting plant, with needle leaves and flowers in cylindrical clusters.

Box-leaved Agapetes makes a good show now with its bold tubular red flowers, but is troublesome owing to its parasitical habit, being a lodger on trees in moist forests of Bhotan. This *Agapetes buxifolia* is figured in B.M., 5,012.

Blood-coloured Brugmansia is quite as worthy of glorification as the Beaumontia, and if the last would flower in the same house and under the same simple treatment as the first, they would be a magnificent pair of plants for a large house. *Brugmansia sanguinea* is now in fine order, its huge, full-coloured flowers having a most noble appearance. The strong-growing tree bears hard pruning well, and thus when established in a warm house it may be kept within bounds, and will not fail to do its duty.

New Plants, Flowers, and Fruits.

Cypripedium Io (*Gard. Chron.*, 1886, 488).—A fine cross, of which C. argus was the seed parent and C. Lawrencianum the pollen parent.

Oncidium sarcodes discoidale (*G.C.*, 1886, 488)).—Differs from O. Rigbyanum in having spots on the anterior part of the lip.

Dendrobium euosmum v. leucopterum (*G.C.*, 1886, 488).—It strikes one just as if it were a charming white *D. nobile*.

Odontoglossum retusum (*G.C.*, 1886, 522).—Sepals and petals dazzling vermilion, with a little mauve.

Lilium Japonicum (*Garden*, 540).—The plate is of some special interest because of the question whether L. Japonicum and L. Browni are one and the same. It is here fairly discussed, and the points of distinction are clearly stated.

Rose Wm. Allen Richardson (*G.*, 541).—A good figure of this beautiful little "apricot," but a trifle too soft in delineation; the truth is more positive.

Cœlogyne Stellaris (*G.C.*, 1886, 8).—In the way of *C. testaceum*, but with green sepals and petals and a white lip with brown stripes.

Microstylis bella (*G.C.*, 1886, 9).—A robust orchid from the Sunda Archipelago; sepals and petals pale purple with green tips.

Spathoglottis angustorum (*G.C.*, 1886, 9).—A fine novelty; leaves cuneate oblong, very broad; sepals and petals lilac, lip lilac, white at base.

Eucomis Zambesiaca (*G. C.*, 1883, 9).—Intermediate between *E. punctata* and *E. undulata*.

Fremontia Californica (*G.*, 525).—A fine figure of this handsome Californian shrub.

Anemone Fanninni (*Gard. Chron.*, 1886, 443).—A robust species from Natal, probably not hardy. The leaves are of great size, palmate; the flowers are large, white, and bear some resemblance to those of a composite plant.

Dendrobium melanophthalmum (*G. C.*, 1886, 426).—The supposed hybrid between D. Wardianum and D. crassinode.

Apple Wareham Russet.—A medium-sized culinary fruit, keeping well until the spring; the quality all that can be desired for its season. The tree is a constant bearer, and thrives on the Paradise stock. Messrs. F. and A. Dickson and Son, Upton Nurseries, Chester, have introdnced this variety, and possess the stock.

Pear President Drouard (*Bulletin d'Arboriculture*, Feb., 1886).—Of medium size, pyriform. bronzy green, the flesh melting and juicy; in season January to March. Tree hardy, constantly fruitful, and forming a handsome pyramid on the quince stock. Introduced to cultivation by M. Louis Leroy, Angers.

Correspondence.

CLASSIFICATION OF DAHLIAS.

The beautiful figures of show and fancy dahlias you have lately published should tend to enlarge the circle of the admirers of these noble flowers. The establishment of the National Dahlia Society is a fact of great importance, for it is as true to-day as it ever was that a certain few of the finest flowers we possess need special agencies for the vindication of their claims and the advocacy of their interests. The definition given of the difference between the show and fancy dahlias is sufficient to supply a practical rule, but is not sufficient for a scientific separation of the two classes. We say "show" and "fancy," but both are "show" flowers, and as regards the scientific view of the case, a dark tip is as much a "fancy" as a light tip. The distinctions observed are founded on visible characters, and are approved by all dahlia growers; there can be no good reason therefore for questioning their propriety. But it seems desirable to get rid of the words "show" and "fancy," as in the region of common sense entirely without meaning. As I have passed into the category of "veterans," perhaps I shall obtain attention for my proposal of a new classification of dahlias as Selfs and Parti-coloured. This proposal carries its explanation with it; there seems to be in it no possible place for misapprehension, but it does carry with it a partial revolution—certainly a sweeping change in the system of exhibiting.

For behold what follows. The moment we separate the flowers as *Selfs* and *Parti-coloured*, all the tipped, striped, and edged flowers are lumped together as distinct from Selfs, and the dark tips will rank with the former fancies and will be lost to the stands in which hitherto Selfs have predominates. But the loss one way will be a gain in another, for the class hitherto reckoned as fancies will be augmented, and, to follow common sense, irrespective of an apparent anomaly, it may be said that the gain one way is greater that the loss in the other way, for we are rich in Selfs and poor in Particolours.

In connection with this proposal I would make another. Instead of 48 varieties being required, as now, in the larger class, let 36 be the maximum number. In the event of a judicious selection being made, the stands of Selfs would gain rat' er than lose in attractiveness by this reduction of numbers. The darks and yellows, with their various shades, and the reds and whites with their shades, might be rendered effective, and the comparative absence of weak features would advantage the general tone of the display. The tipped, edged, and striped being reinforced by the new arrangement, we might make the maximum number here the same as in the Self class, 36. The collective result would be a common-sense classification, and the establishment of equality between the two classes. George Rawlings.

VARNISHED HOT-WATER PIPES.

In reference to your note to "G. D." in p. 205, you may be interested to hear of the following experience, which is within my personal knowledge. After a series of losses in a large establishment arising from the pipes being coated with a "preservative solution," and after innumerable attempts to find a cure by ventilation, lime-washing, &c, the following proved a complete remedy: Paint the pipes with sulphuric acid; allow it to remain on 24 hours, and then wash off with lime water. Nothing short of this is of the slightest use. E. W.

ECONOMIC EFFECTS OF LIGHT ON PLANTS.

Some original observations on this subject have been lately communicated to the Munich Akademie der Wissenchaft by Professor A. Vogel. He has found that hemlock grown in Bohemia contains the alkaloid principle known as *coniin*. Hemlock grown under the duller skies of Scotland contains none. Again, chinchona plants reared in European hothouses, he asserts, contains little or no alkaloids. But, while sunlight favours the development of these principles in the living plant, it is injurious to the stripped bark, which, exposed to the sun, becomes converted into a dark insoluble resinous mass, worthless for pharmaceutical use. This effect of sunlight on the chinchona alkaloids, Vogel considers to have its counterpart in the case of chlorophyll. The wan, etiolated leaves of plants grown in the dark contain no chlorophyll; the sunlight is needed to bring out the green hue; but let the green leaves of healthy plants be exposed to the sun after they have been separated from the vital source, and a short time will suffice to destroy their green colour. Vogel believes that the tannin in plants is influenced in like manner. Hence the discrepancies in the tannin percentages of various economic barks—notably, of beech and larch, in which the proportion is small, but varies considerably at different heights on the same tree, and on different trees, according as they have been grown in light or shade. Sunlit mountain sides, of medium altitude, have been found by repeated experiments to yield pine-bark richest in tannic acid, and thus of most value to the tanner. As regards undergrowth, the tannin is always in largest proportion about clearings, and smallest in deep shade. A German reviewer remarks that the same observations apply to hops. There can be no reasonable doubt that the tannin and other less known principles in hops are dependent on a due supply of sunlight. What are known in Germany as "schattendolden"—hop-bells which the sun has not reached—are always worthless for brewing. On the other hand, the injurious effects of exposing the picked hops to a strong direct sunlight are well known to hop-growers.

Mr. Trendell's Book on the Colonies, a copy of which was presented to the Queen in the course of the ceremonial on Tuesday last, is published by Clowes and Sons. From it we learn that Greater Britain is a realm of 8,000,000 square miles in extent, much of it not yet peopled, but offering fruitful fields for industrious hands, and room for any amount of profitable enterprise.

Proposed Testimonial to Mr. W. Holmes.—An influential committee has been formed for the purpose of taking the necessary steps to present Mr. William Holmes, honorary secretary of the National Chrysanthemum Society, with a testimonial in recognition of the admirable manner in which he has performed the duties of his arduous office for so many years, and the important part he has taken in raising the society to the high position it now occupies. The chairman is E. Sanderson, Esq., president of the society; and the secretary Mr. N. Davis, Lilford Road Nursery, Camberwell.

Australian Apples in surprisingly good condition have been recently received through the Royal Horticultural Society. The samples before us are all of rather large size, exceedingly well-coloured, and have the fresh appearance characteristic of fruit that has had but a short stay in the store. In sending the fruit the assistant secretary of R.H.S. writes: "I am sending you a few apples which were grown by Mr. James Lang, Harcourt, near Castlemaine, Victoria, and sent by request of Mr. John Carson, of Melbourne (late President of the Victoria Horticultural Society), to the care of G. F. Wilson, Esq., to be exhibited by the Royal Horticultural Society. The apples, which have reached here in fine condition, were each of them packed in soft paper with cotton wool round, and a layer of cotton wool between each layer of apples, and were kept at a temperature of 40 degrees all the way. The soil in which Mr. Lang grew them was decomposed granite. I give you a list of names of the apples, and hope the subject will be one of interest to your readers." The varieties are as follows: Scarlet Nonpareil, Dumelow's Seedling, Stone Pippin, Reinette du Canada, Gipsy Queen, Perfection (colonial and non blighting), Worcester Pearmain, Merritt's Pearmain, Blue Pearmain, Cleopatra, London Pippin, Sturmer Pippin, Newtown Pippin, and Munro's Favorite (colonial).

Tropical Dew.—An Indian correspondent of *Nature* sends some interesting remarks on this subject. He writes: "Having had occasion to lay out a large quantity of iron hoes and picks without handles on the hard ground of an open enclosure in one of the driest parts of India (Bellary), where, in fact, these implements had been collected in the face of a scarcity, it was found that after they had lain there a couple of months a thick, weedy, but luxuriant vegetation had sprung up, enough, although there was no rain, to almost hide the tools. The effect depositing tools on grass has had in stimulating its growth the writer had observed in the tropics before, but was at a loss to account for it, except on some unsolvable theory of radiation or magnetism. The whole phenomenon is cleared by Mr. Aitkin's paper on 'Dew' (*Nature*, Jan. 14, 1885, p. 256), dew being proved to be deposited, not, as generally thought, by the air above, but rising and condensing from the soil below, and the ground in India is always hygroscopic. The outer surfaces of iron tools radiate, of course, quickly at night, and the stratum of air enclosed between their metallic under surfaces and the ground is therefore saturated with condensing moisture. That iron gratings laid on bare earth will raise a rank vegetation in places having from 10 to 15 in. of annual rainfall, and under tropical heat, is a not unimportant fact, as being a readily available substitute for irrigation water, is worth further experiment."

KIDNEY BEANS.

When due consideration is paid to the productiveness and high quality of the kidney bean it is not an easy matter to avoid the conclusion that they form one of the most useful classes of vegetables that have at present a place in English gardens. When placed under conditions favourable to their free growth, the supplies furnished by the best of the dwarf varieties are very large in proportion to the space occupied; and it may be assumed that no one will question the statement that no vegetable will give such a large bulk of produce from a given area as one of the finest types of the scarlet runner. Both runners and dwarfs are well suited for large and small gardens, but for the latter they are especially adapted, particularly those of which the area is so small that the kitchen garden as well as the lawn and flower garden is constantly under the eye. Unlike the peas, they do not often fail to produce a heavy crop. The runners sometimes suffer in dry seasons, but the dwarf sorts are well able to withstand the effects of a very severe drought, and for that reason they are well suited for hot dry soils, on which the crops of peas from the later sowings cannot be depended on to furnish satisfactory supplies during periods of hot dry weather.

Unless protection can be afforded the crop from morning frosts it is not of much use to sow before the early part of May. The seeds will germinate quickly when sown at the end of April, and the plants soon make their appearance above ground. But as they are very tender, and exceedingly susceptible to frost, a few degrees are sufficient to cut every plant down. But sowings of both dwarf and runner varieties should be made before the month is far advanced, as it is of some importance to obtain supplies as early in the summer as practicable, and it is quite safe to sow after the first week. A soil that has been liberally enriched with manure and deeply stirred is the most suitable for all the kinds, but a rich soil is of more importance to the tall than the dwarf kinds. The former are a much longer time in the ground than the others, and consequently it is necessary to provide a larger storage of food for them in the soil.

To ensure heavy crops the plants must have sufficient space for them to attain their full size, a point which is very frequently overlooked, especially in gardens of small size. The owner of the garden of moderate dimensions, in his anxiety to obtain the largest amount of produce possible from the limited area at his disposal, very frequently sows or plants too thickly, and thus defeats the object he has in view. The runners should be in rows, with a space of not less than eight feet between them, so that each side of the rows can enjoy a full share of light and air. But it is better to arrange the rows farther apart than eight feet, and it may perhaps be advisable to remind cultivators that there is no loss of ground in doing this, because the intervening spaces can be cropped with other vegetables of dwarf growth. Where space will permit, two sowings of runners should be made, one early in May and the other in the first or second week of June. The gatherings from the last sowing will be very useful at the end of the summer. The seeds should be sown in double rows in each drill, the rows to be six inches apart, and the seeds be twelve inches apart in each row. The dwarf varieties require a space of between two feet and thirty inches in width between the rows, and the greater width should invariably be allowed the strong growers, such as Canadian Wonder. They should all be sown in single lines, and the seeds be six inches apart. Where slugs abound it may be advisable to sow more thickly and remove every other plant immediately they are large enough to be safe from these marauders. The first sowing should be made as intimated above; and where space will permit, sow at intervals of three weeks until the middle of July, selecting an early variety for the last sowings.

A long selection of either dwarf or tall varieties is not required. One of the best of the dwarf varieties for early sowing is Ne Plus Ultra, and for main crops Canadian Wonder and Mammoth Long-podded Negro are unsurpassed. The Champion Scarlet and Giant White are the two best runners for supplying the table, and it is a good plan to sow the two varieties in equal proportions either in mixture or in separate rows. The best of the runners for exhibition is Girtford Giant, which produces pods of immense size. W. J.

While wishing for the spring we have had a taste of summer, for the temperature has at times within the past week been well nigh tropical. Vegetation has started forward at a bound, and before the bloom of plum and pear is fully out, that of the apple is in many districts already conspicuous. A more rapid change has rarely been witnessed. The frost immediately preceding this burst of warmth has made serious marks, not only in this country, but throughout Europe, but the full effect cannot be measured at present. The prospect has certainly very much improved, and if the rain we expected has not fallen, there is still ample time for a copious fall to prove highly beneficial. At the moment of writing this note, an extensive anticyclone is in process of dispersion, and a great change is rendered probable.

Gas-heating is abundantly illustrated in a neat list of apparatus and appliances by Mr. Thomas Fletcher, of Thynne Street, Warrington, and 83, Upper Thames Street, London. Probably no man in the world understands the economic use of gas so completely as Mr. Fletcher; but if that point be not conceded, we can without fear of error claim for him that he is a master, and in some respects a magician, in the construction of mechanism for extracting from gas for many purposes a maximum of light or heat, as may be required. In this list are examples of gas furnaces, blow-pipes, coffee-roasters, forges, grillers, cooking stoves, boilers, and many other things pertaining to the business of life. The heating stoves for heating fireplaces in dwelling rooms constitute an interesting and useful series.

CELERY FOR EARLY EXHIBITION.

A communication has been placed in my hands in which the writer asks for information on the production of celery suitable for staging at exhibitions held at the end of the summer and early in the autumn. With the letter has been received a request that I should deal with the matter in a manner likely to prove useful to the correspondent in question, and others who may aspire to honours on the exhibition stage; and with the request I gladly comply. It is now too late to begin with the sowing of seed; for to have heads that will do good service in he exhibition tent early in August, the plants must now be strong and in a condition to admit of their being planted out within a short time of the appearance of these notes. I shall, notwithstanding, briefly recapitulate the whole of the points of my practice, which has hitherto been very successful, for the guidance of the correspondent in following years, should he be desirous of continuing the cultivation of this vegetable for competition purposes.

One of the first matters to which the cuitivator must pay due consideration is the selection of varieties, for if the kinds are not in every way suitable, it will be a very difficult matter indeed to take a high place in a close competition. The selection of varieties for an early exhibition requires even more care than for late shows, because of the length of time required by many of the sorts for the formation of really good hearts, without which very little success will be achieved. For shows held late in the autumn there is a wider range of choice, as the plants have a much longer period in which to make their growth, and consequently with fairly good culture can be depended on to attain a proper degree of solidity in the centre. For the very earliest shows the two most desirable varieties are Incomparable Dwarf White and Sulham Prize Pink, as they are quick in growth, soon form good hearts, and are of excellent quality. For exhibitions to be held from the middle of September until the end of October, Cole's Superb White and Leicester Red are suitable, as they are equally as good in quality as the foregoing, and rather larger in size; but they require a rather longer period of growth. With exhibitions held after the month last mentioned, I have not now anything to do; but I would mention the fact that almost any of the large-growing sorts of good quality will be found suitable.

The crop from which we begin to obtain supplies early in August is raised from seed sown early in March, and the plants are grown on quickly under glass until the middle of May. The seed is sown in a shallow pan in the usual way, and the young plants when of a suitable size for handling, instead of being pricked off into boxes or other pans, are put into three-inch pots, one in each. A little more trouble is involved in growing them singly in pots, but the labour of attending to forty or fifty plants is not great, and will certainly not be objected to by those who are desirous of acquiring distinction as cultivators. The advantage of growing them singly is very great. The plants have more space for the development of both root and top, and, in addition, they can be put out without disturbance of their roots, or their receiving the slightest check. To allow them to become pot-bound would materially retard their growth; therefore, as soon as the roots are running freely round the sides of the pot, they should be shifted into six or eight inch pots. The soil used for the last shift, as for the small pots, must be thoroughly rich and friable, and the compost which I have found the most suitable is prepared with four parts of loam and two parts each of leaf-mould and well rotted manure. A pit in which they can be kept safe from frost will be the best place for the plants until the season is sufficiently advanced for them to be put out. They must have plenty of air at all times, and be thoroughly hardened before going out, by the removal of the lights during both night and day. Liberal supplies of water will be required, and care must be taken not to allow the soil to become dry and remain so for any length of time.

The plants should be strong enough to be put out in the third or fourth week of May, but the sooner they are in the rows after the 21st of the month the better will be the prospect of obtaining good examples early in August. The soil must be thoroughly rich, and where the staple is of moderate depth there is no better way than to plant in trenches twelve inches in width and about six inches in depth. The trenches should be formed by throwing the soil out equally on each side to a depth of ten inches. Then place a four-inch layer of short, fat manure from the farmyard or old hotbed in the bottom, and fork it in just deep enough to cover it with the soil. Where the soil is shallow a space about two feet wide should be marked out for each row, and then receive a heavy coat of manure, which must be forked in to a moderate depth. In the latter case the celery is to be planted on the surface, and the soil thrown about it from the surrounding surface. It may, perhaps, be useful to mention that much finer samples are obtained by planting in a thoroughly rich soil than by planting in ground that has not been liberally enriched, and then supplying with strong liquid manure. The liberal use of the latter will stimulate the growth, but the stalks are invariably soft and pithy, and wanting in delicacy of flavour. An occasional dose of liquid manure will not do any harm, but, on the contrary, will be decidedly beneficial; it is the excessive use of stimulants that does the mischief. For instance, a dose of liquid manure once a week will promote a strong growth, without impairing the quality of the produce.

Dull showery weather should, when practicable, be taken advantage of for planting out, but when the plants are in pots there is no occasion to lose time by waiting for suitable weather. If they are put out in the evening, well watered in, and shaded for a few days with branches of evergreens or strips of canvas, as may be most convenient, very little, if any, check will be received in the hottest of weather. An abundance of moisture is necessary, and it is impossible to maintain a vigorous growth during the summer months without using the watering-pot very freely when the weather is at all dry. There must be no hurry in earthing up celery required for early exhibitions, because when earthing up has been commenced the plants cannot be so readily supplied with water. It is a very good practice to tie a piece of bast rather loosely round each one when about twelve inches in height, and earth up to within a few inches of the top about six weeks before the heads are required for placing on the exhibition table.

G. H.

Exhibitions and Meetings.

OPENING OF COLONIAL AND INDIAN EXHIBITION.

Tuesday last appeared to many as a splendid repetition of the First of May, 1851, when in similar sunny weather, but with much less display of greenery in the parks and gardens, the Queen and Prince Consort opened the first International Exhibition of Industry in the palace of glass in Hyde Park. On that memorable occasion Nature smiled on the important ceremony with scarcely less benignity than on Tuesday last, when the east winds appeared to be softened for the occasion, and the world was in the best possible temper for the great event. Long before any doors were opened, crowds assembled in all the lines through which the Queen would pass, and the western suburbs of London were full of bustle in anticipation of great things. The Exhibition was in a state of remarkable completeness, and features that were incomplete were concealed by the devices customary on such occasions. The Prince and Princess of Wales arrived before the hour of noon, at which time the principal entrance in Exhibition Road was tremendously gay with banners above and uniforms below. For there was no "semi-state" on this occasion: we had the real thing, with its best millinery, and the happy faces of a crowd of royal and august personages to give countenance to the celebration of the diffusion of the Anglo-Saxon race throughout the world. The entrance-hall, usually a square shanty in which any kind of romance might perish right off through lack of proper surroundings, was now like a square scooped out of fairyland, and even the ugly equestrian statue of the Prince of Wales had a touch of sublimity, in part owing to the genial presence of the Prince himself—who was quite himself—and in part to the grove of palms and flowers around the plinth, which supplied a delightful lot of herbage for the refreshment of the gallant steed. In the course of some 65 minutes the Queen accomplished the journey from the railway platform at Windsor to the Exhibition, for the royal train started at a quarter past eleven, and the royal arrival was hailed at the entrance in Exhibition Road at twenty minutes past twelve, a very agreeable illustration of the possibilities of travel and the perfection of police arrangements on this particular day. The scene presented to her Majesty on entering may be hereafter described, and possibly painted. To describe it here would need space we cannot afford and powers we do not possess, and therefore we pass over the whole of the preliminary details in order to record that a bouquet of orchids was presented to the Queen by Miss Victoria Cunliffe Owen, and thereupon a procession was formed, and the royal party passed through the principal courts to the gates of Old London and the nobler gates of the Indian Palace, to the Conservatory, and thence by a new way formed for the occasion to the Albert Hall, where some 12,000 persons were assembled to witness the opening ceremonies. The appearance of the hall with its big pack of humanity was fine, but the curse of modern English costume was evenly spread over it, or in other words, the great pile of humanity wanted colour to make it a respectable picture. In the arena, however, there was colour enough, and to the untravelled vision the colouring was novel, not to say startling, for the throne was overhung with an Indian canopy of cloth of gold, the throne itself was of hammered gold, crimson fittings gave emphasis to the glitter, and ferns and flowers associated most happily with the various and mostly high-coloured costumes of the distinguished company directly concerned in the proceedings. The National Anthem having been sung in English and Sanskrit, and the choir having sung the Laureate's Ode composed for the occasion, the Prince of Wales read an address, and the Queen, through the Lord Chamberlain, declared the Exhibition open. Then followed a flourish of trumpets and a salute of guns, and the Archbishop of Canterbury offered a prayer for the success of the undertaking. The Hallelujah Chorus followed then Madame Albani sang "Home, Sweet Home," and the Queen departed as the choir sang "Rule Britannia."

The following is the text of the Ode by Lord Tennyson:—

I.

Welcome, welcome, with one voice!
In your welfare we rejoice,
Sons and brothers, that have sent,
From isle and cape and continent,
Produce of your field and flood,
Mount, and mine, and primal wood,
Works of subtle brain and hand,
And splendours of the Morning Land,
Gifts from every British zone!
Britons, hold your own!

II.

May we find, as ages run,
The mother featured in the son,
And may yours for ever be
That old strength and constancy
Which has made your fathers great,
In our ancient island-state!
And—where'er her flag may fly
Glorying between sea and sky—
Makes the might of Britain known!
Britons, hold your own!

III.

Britain fought her sons of yore,
Britain fail'd; and never more,
Careless of our growing kin,
Shall we sin our fathers' sin,
Men that in a narrower day—
Unprophetic rulers they—
Drove from out the Mother's nest
That young eagle of the West,
To forage for herself alone!
Britons, hold your own!

IV.

Sharers of our glorious past,
Brothers, must we part at last?
Shall not we thro' good and ill
Cleave to one another still?
Britain's myriad voices call
"Sons, be welded, each and all,
Into one Imperial whole,
One with Britain heart and soul!
One life, one flag, one fleet, one Throne!"
Britons, hold your own!
And God guard all!

ROYAL ACADEMY EXHIBITION.

The customary cant is in circulation about this year's Academy, and people say it is below the average. This has been said so often that it has become stereotyped, and may be said as wisely before the show is opened as at any time after. If we could pick out fifty of the best works from the 1,925 that appear, and hang them in spacious chambers, sufficiently separated to keep the eyes cool and the head clear, what a show it would be! Then we should place in the vestibule the President's noble sculpture, "The Sluggard" (1,921), and should proceed to select the pictures. The incoming of Mr. Burne Jones we should celebrate by finding a good place for his "Depths of the Sea" (314), and would have a little speech ready for explaining to bewildered visitors that it is a sublime satire on the vanity of human wishes. A mermaid has sighed for a man lover, and has found one. He happens to be dead, but she does not know that, being ignorant of mundane affairs, as people who indulge in wishing usually are. Mr. Alma Tadema should have a good place for his exquisite

"Apodyterium" (285), in which marbles appear with the usual profusion and variety, with such an assortment of humanity and draperies as none but this one man can paint. From the same hand, "Rose of All the Roses" (818) shows a human rose in its freshest bloom, with some samples of marble for contrast. Nor could we omit Sir J. E. Millais' portrait of Mr. T. O. Barlow (190), who sat for the glorious episode of the Taxidermist that formed the centre piece of the first gallery at the Grosvenor Millais feast. Mr. Hook is as great as ever with sea-coast scenes (65, 276, 827), showing such water, rocks, and skies as take one out of London at a bound, and whisper to us as we go another secret of the silly talk one has to hear about the Academy. Two of Mr. Faed's works will have to appear in our select fifty—"Sunday Afternoon" (806), and "Why Left I My Hame?" (197), being examples of his best work, both combining pathos with delicate truth to nature. One can scarcely have too many of Mr. Riviere's pictures in an exhibition representing the art of the present day. He has some half-dozen here, one of the noblest being "Rizpah" (268) respecting the purport of which read the twenty-first chapter of the Second Book of Samuel. For perfection of draughtsmanship, with enough of story to carry it, the trifle called "Welcome" (1,020) is worthy of special attention. Mr. Orchardson, Mr. Calderon, Mr. Holl, Mr. Ouless, Mr. Leader, Mr. Watts, and Mr. Pettie have contributed works that are worthy of their names, and that the picture-hunter will easily pick out from the crowd of inferior works that struggle to conceal them. In Mr. Luke Fildes' "Flower Girl" (61) we see flowers as we seldom see them in pictures. Compare this brilliant work with the "Flowers and Fruit" (770) of Mr. Charles Verlat, and what a difference! In "Susannah" (688) Mr. Goodall makes a new venture and achieves a new success.

We have remarked above that Mr. Hook's delightful sea-scapes whisper of the origin of the trashy talk about the Academy being always below the average, which of course is impossible, It is this—we find every man in his own particular line of work, and hastily say "We have seen this before." It is not strictly though partly true. That, instead of being a grievance, should be a delight. We would not have Mr. Hook desert the Cornish coasts or Mr. Watts take to Tadema's marbles, or the President renounce the human form in order to paint lilies and snowdrops. Pictures are painted for larger uses than to please a hurrying crowd in the London season: they are expected to take places in galleries representing all phases of art; and being thus scattered, the style of each particular painter accentuates the flavour of the gathering. Thus what "we have seen before," if of the highest quality in its own particular line, is a thing we cannot have too much of; for posterity will gladly receive what we in our hurry may be disposed to dismiss with less than its due meed of admiration. The had works weary one; and it is lamentable that certain R.A.'s will hang as many as they may, though as wall-papers they might be objectionable. This is a fine exhibition, and the wise ones will find much joy in it.

NATIONAL AURICULA SOCIETY (Northern Section).

The exhibition of the northern section of this society was held in conjunction with the second spring show of the Manchester Royal Botanical Society at the New Town Hall, Manchester, on April 27. As a whole, the auriculas were not in full bloom, very few having their pips smooth and fully expanded. There were bright and well-grown flowers here and there, but still the quality and quantity of a good year's average were beyond attainment in such a season as the auricula has had against it since January. The flowers from A. Potts, Esq., of Hoole Hall, Chester, were the winners of the chief honours, and the most remarkable for brightness; and Miss Woodhead's plants were good, with younger flowers, not all at their best probably. It is a great pity to exhibit the auricula too early, with its flowers too young to expand fully; for the bloom is ruined, never progressing after the hurtful check of an exhibition room. Some of the northern growers, notably Mr. H. Wilson, of Halifax, with auriculas, and Mr. J. Beswick, with polyanthuses, were unable to bring any flowers. There will be auriculas in flower well into May, but a late bloom is generally a short and hurried one.

The following is the list of awards made by the judges:—

Show Auriculas.—For a collection of six, A. Potts, Esq., Hoole Hall, Chester, was first with a well-grown Rev. F. D. Horner, a fine Richard Headly, Acme, very good Lancashire Hero, Alexander Meiklejohn, and Mrs. Douglas; Miss Woodhead, Halifax, second with George Rudd, Acme, George Lightbody, Black Bess, Prince of Green Edges, and Mrs. Dodwell; William Brockbank, Esq., Didsbury, third with Alexander Meiklejohn, Reliance, very poor, Rev. F. D. Horner, Negro, Richard Headly, and Acme; Mr. E. Pohlman, Halifax, fourth with Sapphire, Prince of Green Edges, J. Crossley, Acme, George Lightbody, and a Seedling Self; Mr. W. Bolton, Warrington, fifth with Mrs. Douglas, Prince of Green Edges, Reliance, Acme, Seedling Grey Edge, and Seedling Self: S. Barlow, Esq., Stakehill, sixth with Seedling Self, Complete, Seedling Green Edge, Violet-Ruby, a self of great purity, New Green, and Trail's Beauty; Mr. J. Buckley, Stalybridge, seventh with Pizarro, George Lightbody, Mrs. Douglas, Lovely Ann, Acme, and Alexander Meiklejohn.

In the class for four A. Potts, Esq., was first with Acme, fine, Mrs. Douglas, A. Meiklejohn, and Rev. F. D. Horner; Mr. R. Lord, Todmorden, second with Blackbird, Acme, George Lightbody, and Richard Gorton, a very promising Green Edge; Miss Woodhead third with Smiling Beauty, Black Bess, George Rudd, and Prince of Green Edges; Mr. J. Buckley, fourth; Mr. H. Wilson, Halifax, fifth; Mr. E. Pohlman, sixth; and Mr. W. Bolton, seventh. In the class for pairs, Mr. William Taylor, Middleton, was first with Trail's Beauty and Prince of Green Edges; R. Gorton, Esq., Eccles, second with Rev. F. D. Horner and Frank Simonite; C. Royds, Esq., Rochdale, third with Conservative and Prince of Green Edges; Mr. G. Gordon fourth with Trail's Beauty and a New Green; Mr. Richard Heys, Nordon, fifth; Mr. E. Shaw, Moston, sixth; Mr. T. Hilton, seventh.

In the class for the pairs, in which the competition was limited to maiden growers, Mr. G. Gordon was first, Mr. J. Hilton second, and Mr. H. W. Nixon third.

The premier auricula was John Simonite, with five good pips, exhibited by A. Potts, Esq., Hoole Hall, near Chester.

Single Specimen Auriculas.—Green Edges.—Premium, William Brockbank, Esq., with Rev. F. D. Horner; first, Mr. W. Taylor, with Lovely Ann; second, Miss Woodhead, with Prince of Green Edges; third, R. Gorton, Esq., with Lancashire Hero; fourth, William Brockbank, Esq., with a seedling; fifth, R. Gorton, Esq., with Rev. F. D. Horner; sixth, A. Potts, Esq., with Talisman; seventh, S. Barlow, Esq., with a New Green; eighth, Mr. W. Bolton, with Trail's Anna.

Grey Edges.—Premium, A. Potts, Esq., with George Lightbody; first, R. Gorton, Esq., with George Lightbody; second and third, Miss Woodhead, with Rachel and George Rudd; fourth and fifth, R. Gorton, Esq., with Alexander Meiklejohn and Lancashire Hero; sixth, Mr. W. Taylor, with Trail's Beauty; seventh and eighth, William Brockbank, Esq., with seedlings.

White Edges.—Premium, Mr. W. Taylor, with Acme; first, A. Potts, Esq., with John Simonite; second, Mr. E. Pohlman, with Acme; third, A. Potts, Esq., with Conservative; fourth, Miss Woodhead, with Smiling Beauty; fifth, Mr. E. Shaw, with Bright Venus; sixth, Mr. W. Bolton, with Snowdrift; seventh, C. Royds, Esq., with Silvia; eighth, Mr. W. Bolton, with Frank Simonite.

Selfs.—Premium, Mr. W. Bolton, with Sapphire; first, S. Barlow, Esq., with Carbuncle; second and third, Mr. W. Taylor, with Pizarro and Ellen Lancaster; fourth, Mr. W. Bolton, with Sapphire; 5th, W. Brockbank, Esq., with Lord of Lorne; sixth, Mr. W. Bolton, with Black Bess; seventh, W. Brockbank, Esq., with Cymbeline; eighth, Mr. E. Pohlman, with Topsy.

Alpine Auriculas.—In the class for four R. Gorton, Esq., was first with Victoria, Miss Taplin, John Leech, and Echo; S. Barlow, Esq., second, with Diadem, Mrs. Llewelyn, Dazzle, and Unique; Mr. E. Pohlman third with four seedlings; W. Brockbank, Esq., was fourth with Diadem, Mrs. Thompson, Beatrice, and Conspicua; Mr. R. Heys was fifth with Diadem, Mrs. Llewelyn, and two seedlings.

Single Alpines, shaded, yellow centres.—Premium, Mr. Buckley, with Diadem; first, Mr. E. Shaw, with Diadem; second and third, S. Barlow, Esq., with Mrs. Meiklejohn and Mrs. Llewelyn; fourth, Mr. G. Geggie, with Unique; fifth, Mr. E. Pohlman, with a seedling.

Single Alpines, shaded, white centres.—Premium, R. Gorton, Esq., with Victoria; first, Mr. E. Pohlman, with seedling; second, R. Gorton, Esq., with Goliath; third, fourth, and fifth, Mr. E. Pohlman, with seedlings.

Polyanthuses, three dissimilar, black grounds.—First, Mr. J. Hilton, with Lancashire Hero, Cheshire Favourite, and Exile; second, Mr. W. Taylor, with Lancashire Hero, Cheshire Favourite, and Exile; third, W. Brockbank, Esq., with Blackbird, Exile, and Cheshire Favourite; fourth, Mr. Walkden, Sale, with Cheshire Favourite, Exile, and a seedling. In the class for three red grounds—first, Mr. J. Hilton, with Lancer, Cox's Regent, and George IV.; second, Mr. W. Taylor; and third, W. Brockbank, Esq., with the same varieties.

Single Polyanthuses, red grounds.—Premium, Mr. J. Hilton, with George IV.; first and second, W. Brockbank, Esq., with George IV. and Lord Derby; third, Mr. J. Hilton, with Cox's Regent; fourth, Mr. W. Taylor, with Lancer; sixth, Mr. J. Hilton, with Sidney Smith.

Single Polyanthuses, black grounds.—Premium and first, Mr. Walkden, with Cheshire Favourite; second, Mr. J. Hilton, with Exile; third and fourth, W. Brockbank, Esq., with Beauty of England and Lancashire Hero; fifth, Mr. R. Heys, with King.

Fancy Auriculas..—There were two fine collections staged. The first prize was awarded to S. Barlow, Esq., and the second to Mr. W. Bolton.

Fancy Polyanthuses.—Only one pan of these was staged, and that was from S. Barlow, Esq., who was awarded the first prize.

Primroses.—First prize for twelve, S. Barlow, Esq.; second, Mr. W. Walkden, with a promising lot.

Miscellaneous.—J. Broome, Esq., of Didsbury, had a large and beautiful collection of miscellaneous plants.

LEEK AURICULA EXHIBITION.

The first exhibition of auriculas and other spring flowers ever held in Leek took place at the Town Hall, on May 1, for the benefit of the Cottage Hospital. The show was arranged and energetically carried out by a few growers and admirers of the auricula in Leek, to whom great credit is due. This beautiful flower, as yet so little known in Leek, was the centre of attraction, and considering the lateness of the spring, the specimens exhibited in all the classes, more especially the selfs, would compare very favourably with those contributed to the exhibitions held in other parts of the country, and augure well for the culture of this charming flower in the district.

In the Green Edge class we missed those fine varieties, the Rev. F. D. Horner and Prince of Green Edges, which were not in bloom in the Leek collections. Anna (Trail) first, Lycurgus second honour. Grey Edges: George Lightbody first, Frank Simonite second, Rob Trail third. White Edge: Acme (Reed) first, Beauty (Trail) second, True Briton third. Selfs formed the best class of all, the first prize being deservedly awarded to Negro (Mellor), a splendid truss of eleven pips; Mrs. Heap (Mellor) second, and Lord of Lorne third. Stage Alpines: Diana first, Lavinia second, Mercury third.

Mr. Mellor, nurseryman, Leek, was awarded a first-class certificate for a splendid collection of Alpines. The collection of daffodils, ten varieties, certainly constituted one of the chief features of the exhibition, the blooms being remarkably fine. The prizes, which were given by Mr. M. Mellor, nurseryman, Leek, were awarded to H. W. Nixon, Mr. J. Cheetham, and J. Garner, in the order of their names.

The room was tastefully decorated with stove and greenhouse plants, kindly lent for the occasion. Mr. H. W. Nixon, of Leek, read a very interesting paper in the afternoon and evening on "The History and Culture of the Auricula," for which he was accorded a hearty vote of thanks.

Replies to Queries.

Names of Plants.—H. C. Ewell.—1, Draba (or Erophila) verna; 2, Bitter cress, Cardamine flexuosa; 3, Common Thale-cress, Sisymbrium thalianum.—Amateur.—1, Acacia armata; 2, Fuchsia dependens; 3, cannot be named without flowers; 4, Cytisus canariensis; 5, Echeveria retusa.—J. Gorman.—1, Pulmonaria pubescens; 2, Puschkinia scilloides; 3, Allium carinatum; 4, not in flower, and to name the leaves impossible.—B. B. B.—Philabertia grandiflora.—X.—1, Berberis canadensis; 2, Berberis ruscifolia; 8, Cotoneaster laxiflora; 4, Ruscus hypoglossum; 5, Epigæa repens; 6, Erica tetralix.—H. B.—Your plant is Arum dracunculus. It is considered a good plant and thrives in a shady situation. Many persons do not like such plants, in which case, of course, it is an easy matter to destroy or remove them. We regard it as worthy of admiration. L. H.—1, Vitis labrusca variegata; 2, Adiantum formosum; 3, Davallia Tyermani; 4, Sedum Sieboldi; 5, Sedum azoidenm; 6, cannot be named from the leaves only.

THE DAFFODIL.

By the Rev. C. Wolley Dod. Read at a meeting of the Horticultural Club.

The subject of these notes is the Trumpet or Ajax daffodil, Narcissus pseudo-narcissus. In old English, say Parkinson's time, nearly three hundred years ago, the word daffodil was used as an equivalent of the Latin and Greek flower named Narcissus. The N. poeticus, the N. tazzetta, the jonquil, and N. triandrus, and the rest of that class were all called daffodils; whilst to the Trumpet daffodils the name Pseudo-narcissus or False Daffodil was given. Usage, however, has transposed these names. We now call the trumpet flowers daffodils, and most of the other kinds narcissus, and it is not desirable to interfere with usage in these matters, or to try to force changes of popular names. By the name Daffodil, therefore, we mean the Trumpet daffodil, excepting, however, the Hoop Petticoats, which, though anciently called Pseudo-narcissus by Clusius and others, are quite distinct in kind. Of these Trumpet daffodils, Linnæus, who wrote in the middle of last century, made five species; and Haworth, who wrote half a century ago, and whose nomenclature had been in a great measure adopted both by English and by foreign botanists, made twenty-nine species.

Mr. Baker, however, in a review of the genus narcissus, written seventeen years ago, includes all the Trumpet daffodils in one species called N. pseudo-narcissus, retaining, however, the five Linnæan species of it as sub-species or sections, under which he classes, with Haworth's names, the principal known wild varieties. I shall follow this arrangement, giving reasons, however, for one or two exceptions. I shall use the name Pseudo-narcissus in three ways, distinguishing as follows:—

1, Pseudo-Narcissus the species, including all the Trumpet daffodils; 2, Pseudo-Narcissus the sub-species or section, as admitted by Mr. Baker; and 3, Pseudo-Narcissus the type, the average form of the English wild daffodil or Lent Lily—the Garland of old writers. Most of you are well acquainted with the technical terms for the different parts of the daffodil; but as there may be a few here who are not, I will spend two or three minutes in defining them, that what I say afterwards may be more clearly understood. I need not define the bulb.

The flower stalk as high as the first joint is called the scape. The scape in the species pseudo-narcissus is usually one-flowered. In most varieties two-flowered scapes are rare. The normal, or regular scape, is straight and upright, but in the form of minor, being slender, apt to bend downwards. The scape in pseudo is more or less compressed or ancipitous, and more or less hollow.

The leaf varies in breadth from a quarter of an inch in the form called minimus, to an inch in some varieties of the section bicolor. It also varies much in thickness. The breadth is not always in proportion to the thickness or length of the leaf, or to the height or size of the flower. The leaves of some varieties are much twisted. In some they are far more conspicuously covered with glaucous bloom than in others. Some taper acutely at the ends, some are very bluntly rounded off, some decumbent, some upright. I cannot find any variety of form in leaf cross sections. As for the number of leaves to each flowering scape, I find that about 70 per cent. have three, the remaining thirty are nearly equally divided between two, four, and five leaves. In the section bicolor, however, the larger number of flower scapes have four leaves belonging to them, and some as many as seven. In estimating this number, care must be taken not to confuse the leaves belonging to different centres of growth in the same bulb. A bulb may produce only one flower scape and twenty or more leaves; but then there are three or four centres, each of which will develop a new bulb as the growth matures.

At the top of the scape there is a sort of joint or valve, where begins a membrane called the spathe, which entirely envelopes the flower whilst in bud. It sometimes fits tight and close, sometimes is very loose, either at the base or at the point, or both, as if far too large for the bud it encloses. Beginning also at the valve of the spathe is a distinct stalk, more slender than the scape, called the pedicel. Two-flowered scapes have two pedicels, but only one spathe. The pedicel connects the scape with the seed-pod or fruit. It is mostly in this pedicel that the bending or deflexion takes place upon which depends the angle of the flower to the scape. The pedicel may be quite straight or turned at right angles to the scape at the spathe valve, or bent into a complete semicircle, or any intermediate form. The commonest form is that of a quadrant, or fourth part of the circumference of a circle. The seed-pod, which we will call the fruit, is round or elliptical—*i.e.*, oval, furrowed, or smooth, and should be studied when swelled to its full size.

Immediately above the fruit is that part of the flower in which the base of the style and the filaments are fixed, and which in pseudo-narcissus is like a funnel or inverted cone. This is called the tube. It is important to remember this name, because we often find the word tube wrongly applied to the part I shall next describe—viz., the trumpet, called by some botanists the trunk, but which I shall speak of as the corona or crown. This begins where the tube ends, and from the line of juncture of the tube with the corona there grow out six flower leaves, sometimes called limbs or segments, but which I shall call divisions of the perianth. They correspond to petals and sepals alternately; the three which represent sepals generally overlap at their edges and base the three inner, which represent petals. When this is so, the divisions of the perianth are said to be imbricated, which properly means arranged like the tiles on the roof; but if the divisions when closed so as to touch the corona do not overlap, especially near the base, they are said to be not imbricated or free. I ask you to attend especially to the above important character.

Next we find that the divisions are sometimes shorter than, generally just the same length as, often a little longer than the corona. The perianth divisions are often twisted, or in some forms doubled back along the central line, and curved like a horn towards the end of the corona. The shape of the corona is rather cylindrical, the sides when looked at in profile being parallel, or it approaches a funnel in shape, the boundary lines diverging from the base to the mouth, or (rarely) it is larger at the middle than at either end, its shape is then called ventricose. The mouth of the corona varies more than any other part of the flower in the forms of pseudo-narcissus. In some forms we find at the mouth hardly any enlargement in the diameter of the straight corona; more commonly the corona bulges out near the mouth, but without turning back, whilst in many varieties the mouth spreads and is recurved like the mouth of a trumpet. Recurved is a better word to express this form than reflexed, which implies an angular and less gradual turn. The petals of a cyclamen are reflexed, those of a martagon recurved. With rare and abnormal exceptions in the mouth of the corona is divided by incisions—more or less deep according to the variety—into six equal lobes corresponding to the six divisions of the perianth. When the flower becomes double these divisions or incisions are continued to the base of the corona, so as to split it up into six parts. The lobes are often cut up at the edges by irregular notches, generally wedge-shaped, and varying in depth, into smaller divisions of uncertain size and number. This is called crenation, and the lobes are then called crenate—that is, notched. When the parts between these notches are doubled up together like a piece of crimped paper, or a nearly closed fan, the edge of the corona is called plicate (or folded), and when these folds are pushed together, so as to displace one another into a sort of flounced or puckered outline, it is called crispate (fringed or fimbriated), the edge then resembles a leaf of garden parsley or curled kale. It is a rare form.

Now, what are these characters worth in estimating varietal differences? Not much, taken singly; but several together, if found to be constant, are worth a good deal. Some who have studied daffodils have thought the mouth of the corona so important a character as to supersede all others in deciding varieties. Next to this in importance comes, I think, the arrangement of the perianth divisions—the question whether they are imbricated or free. The length of the pedicel is moderately constant, according to the variety. The relative length of the style and filaments often differs in the same variety, but Herbert, a careful botanist, who studied daffodils about the same time as Haworth, thought that he had observed that in some varieties of pseudo-narcissus the six filaments are attached to the base of the tube in two different rows. This arrangement of the filaments in a double series is an obvious character in many species of narcissus; but after examining a large number of pseudo-narcissus I have not been able to discover that any difference of length of the six filaments exists in any variety. This should be observed. The same botanist, Herbert, attached importance to the wrinkling or furrowing often observable in the fruit, and to its shape; neither is very constant, but both are worth notice. The comparative length of the perianth divisions and the corona often varies in the same variety, as anyone who will spend a little time amongst a bed of English wild typical pseudo-narcissus may satisfy himself. The form of the spathe before opening is also to be noticed. Some varieties may be recognized by this alone. Another distinction, though by no means constant, is the curvature of the pedicel. When the flower is fully expanded, the corona becoming either cernuous—that is, looking downwards, or horizontal, or even perpendicular; the pedicel remaining straight, though this form is generally abnormal. The angle which the perianth divisions, when open, make with the corona is also a character. I find neither the section of the scape nor of the leaf a trustworthy varietal character in pseudo-narcissus. In pseudo-narcissus as a species colour is an important point. The varieties are either concolorous or bicolourous—*i.e.*, either self-coloured, the corona, however, being always a little deeper than the perianth, or distinctly two-coloured. The English wild type is never, as far as I know, concolorous, and varies in colour within narrow limits; apparent exceptions to this rule which sometimes occur I believe to due to cross-breeding. I shall speak of them presently.

Daffodils of the same variety rarely vary much in colour. A form of N. minor found near Grosse, in the Maritime Alps, is an important and interesting exception to this rule. It remains to speak of size and time of flowering. To judge of the former, daffodils must be grown together for a year or two under the same conditions; and as for time of flowering, I find that the time when different individuals of the typical form open their flowers extends over a month, and though the same bulbs are early or late every year alike, one cannot attach importance to the difference.

I next speak of the characters and geographical distribution of several of the wild forms, and I may first remark that our knowledge of wild forms of pseudo-narcissus is increasing rapidly, and that every year new varieties are being added to our list, or the true home of some old garden variety is being discovered. N. pseudo-narcissus, as a species, is confined to Europe, and extends from the Atlantic on the west, and the latitude possibly of Edinburgh northwards, to about the longitude of Berlin eastwards. It has been reported as native in Hungary and other parts of the Austrian Empire as far east as Transylvania, but Herr Willkomon, Professor of Botany in the University of Prague, has told me that he does not believe it to be indigenous in those parts. It is unknown in Turkey or Greece. Its headquarters may be considered to be the region of the Pyrenees, and it is most abundant in Southern France, Northern Spain and Portugal, and Northern Italy. Whether it extends quite to the south of these latter countries is uncertain. It is convenient to adopt, as Mr. Baker has done, the five species of Linnæus as sub-species or sections under which to classify the known wild varieties. These sections are—1, Pseudo-Narcissus; 2, major; 3, minor; 4, bicolor; 5, moschatus.

I say I adopt these divisions of names for convenience, but I cannot say that they are satisfactory, though I have no better to offer. As the number of wild varieties found grows upon us, we find it more and more difficult to adjust them according to these sub-species. All arbitrary definitions break down. Whether we take colour, or size, or structure, we find from end to end, from the most concolorous to the most bicolorous, from the smallest to the largest, an unbroken series of links, and if we try to make a set of characters to fit particular names, they utterly fail when applied in practice. The minors, the majors, the pseudo-narcissus, the bicolors of Portugal, of the Pyrenees, of the Maritime Alps, all differ, and have some characters of one name, and some of another, and I therefore adopt these names, with this proviso, and as having, not only no real limitation as sub-species, but no consistent characters reaching beyond the individual variety we may accept as their type.

As for the first, the daffodil found wild in England has generally been adopted as the type of the species, and of this section. In Devonshire, where it is most abundant, it varies most in size, in substance of flower, in deepness of colour of the corona, and in width and recurving of its mouth. The corona, however, is seldom much recurved in English varieties. A form now known as sonticus is found in Ayrshire, taller and stouter, and with larger flowers than the type, and earlier in flower, and in its recurved corona presenting a beautiful example of crenation. It is improbable that it is indigenous to Scotland.

I must next mention that I know three places in England, one being in Oxfordshire and two in Dorsetshire, where typical pseudo-narcissus grow mixed up with concolorous forms, both white and yellow, presenting similar characters to the type. With them grow others resembling the bicolor section. After cultivating these forms and examining them, I believe that they are due to different varieties of foreign origin, planted together by design or accident, the offsprings of which are hybrid. The largest development of the section pseudo-narcissus is found in Italy, where varieties called Telamonius and princeps are found in the valleys and lower slopes of the Apennines, the

former having the most twisted leaf of any daffodil I know, and the latter the longest corona, sometimes exceeding two inches in length, or more than two and a-half times the length of the tube. From the Pyrenees themselves, amongst thousands of daffodils, I have never received any of exactly the English type, though it may exist there, but the prevailing pseudo-narcissus of the lower slopes of the Pyrenees, extending west almost to the sea-level near Biarritz, is an elegant very pale early daffodil, which we have imported under two names, Pallidus præcox and Variiformis, the latter name very suitable, as it is a very variable daffodil both in shades of colour, form of corona, and relative proportions of the parts of the flower. It carries its flowers at nearly every angle to the horizon, and the leaves are distinct in appearance, being hardly at all glaucous. It seems to have been unknown to Haworth, who, in his twenty-nine species of Trumpet or Ajax daffodil, does not even enumerate any into which it could possibly be made to fit. This daffodil has scarcely any character which is not inconstant and variable.

The forms included under the second section, major, are mostly concolorous, and of rich yellow. They have often been distinguished as Spanish, but at least one, the spurius of modern gardens, is probably native in Italy, and not yet known to be wild in Spain. The Tenby Daffodil, quite naturalized in South Wales, but of which the true habitat is unknown, belongs to this section. So does that very fine daffodil the maximus of gardens, which will probably be found native somewhere either in North Italy or Spain, when the countries have been more closely searched in early spring. The nearest wild approach to this form I have yet seen was exhibited by Mr. Ware last year to the Daffodil Committee. He had received it as collected wild near Saragossa, after which town it has been named. Two or three forms belonging, I believe, to this section were sent to me last summer by Mr. Alfred Tait, who collected them wild near Oporto. They are tall elegant flowers, with slender and much-twisted perianth divisions, not imbricated, and I think are new to cultivation. They may develop more when I have grown them longer. These double readily when planted in Mr. Tait's garden, and the double form is an ugly monster. Major is rather ill-defined as a section.

Of the third section, minor, the assumed type, as recognized, I believe, by the Narcissus Committee, has only just now been identified in its wild state; but its exact counterpart in all characters except size, N. minimus, is abundant on mountains in the north of Spain. The variety most common in gardens, now called nanus, though I shall presently give reasons for thinking that the name is wrong, abounds near Bayonne, where the French botanists call it minor; but the recognized minor, with large lobes, and generally with free divisions of perianth, was found in the Maritime Alps recently by Mr. Scrase Dickins near Grasse. Concolorous and bicolorous forms of it grow there not in separate clumps, but mixed up together in the same clumps, and I have had this season two or three boxes of flowers of it sent to study.

Of the bicolor section the characters are: The leaves thick in substance, very broad and large, not acute or tapering, but rounded off suddenly at the ends; it is late-flowering, the corona is cylindrical or ventricose, slightly lobed and the perianth divisions often large and loose. Two distinct wild forms are well-known. 1, lorifolius, which is found in the Pyrenees in North Portugal, and probably in the Apennines; and 2, N. muticus of the French botanist Gay, a very distinct daffodil, covering hundreds of acres on the French side of the Pyrenees, near Gavarnie, and in other parts. It is so distinct in its character that Haworth, though he had never seen living plants, assigned to it a separate genus, called Pileus, and divided it into five species. This is the bicolor of some French local botanists, and we do not know yet any wild form which comes nearer the bicolor of gardens, though we may expect to find some. As regards muticus, which is sometimes called abscissus in English catalogues, the large broad leaves with rounded ends, the straight cylindrical corona, its late flowering, and other characters claim for it a place in this section. It seems strange that so distinct a daffodil has never been figured in any English work.

(To be continued.)

Obituary.

On May 4th, Sir Humphrey de Trafford, of Trafford Park, near Manchester, aged 78 years.

Markets.

COVENT GARDEN.

Fruit.

Apples ..... per ½-sieve	2s. 6d.	to	4s. 6d.
Apples, American, per bar.	10s. 6d.	„	21s. 0d.
Cobs, Kent... per 100 lbs.	35s. 0d.	„	50s. 0d.
Grapes ..... per lb.	5s. 0d.	„	7s. 6d.
Lemons ..... per case	8s. 0d.	„	9s. 0d.
Pine-apples, English, per lb.	1s. 0d.	„	1s. 6d.
Pine-apples, St. Michaels, each	3s. 6d.	„	7s. 6d.
Strawberries .....per lb.	2s. 0d.	„	6s. 0d.

Vegetables.

Artichokes, Globe, per dz.	2s. 0d.	„	3s. 0d
Asparagus, English, per 100	4s. 0d.	„	5s. 0d
Asparagus, French, per bun.	3s. 6d.	„	7s. 6d.
Beans, French ....per lb.	1s. 0d.	„	1s. 6d.
Beet ..... per doz.	1s. 0d.	„	2s. 0d.
Broccoli, Sprout, per bush	3s. 6d.	„	4s. 6d.
Carrots ..... per bun.	0s. 4d.	„	0s. 6d.
Cauliflowers .....per doz.	2s. 6d.	„	3s. 0d.
Cucumbers ..... each	0s. 8d.	„	1s. 0d.
Endive ..... per doz.	1s. 0d.	„	1s. 6d.
Garlic ..... per lb.	0s. 4d.	„	0s. 6d.
Herbs ..... per bunch	0s. 3d.	„	0s. 4d.
Horse-radish .... per bun.	3s. 0d.	„	4s. 0d.
Lettuces, Cabbage, per doz.	0s. 9d.	„	1s. 6d.
Lettuce, Cos .....per doz.	1s. 6d.	„	2s. 6d.
Leeks.....per bun.	0s. 3d.	„	0s. 4d.
Mint, Green .....per bun.	0s. 8d.	„	0s. 9d.
Mushrooms ..... per basket	1s. 0d.	„	2s. 0d.
Onions ..... per bushel	4s. 0d.	„	5s. 0d.
Onions ..... per bunch	0s. 4d.	„	0s. 6d.
Parsley ..... per bun.	0s. 4d.	„	0s. 6d.
Radishes ..... per doz. bunch	0s. 6d.	„	1s. 0d.
Rhubarb .....per bun.	0s. 4d.	„	0s. 6d.
Small Salading .. per pun.	0s. 3d.	„	0s. 4d.
Spinach ..... per bushel	3s. 0d.	„	4s. 0d.

Vegetables—*continued.*

Tomatoes ..... per lb.	1s. 0d.	to	1s. 6d
Turnips ..... per bunch	0s. 4d.	„	0s. 6d.

Cut Flowers.

Abutilons....per doz. bun.	1s. 6d.	„	2s. 0d.
Anemones.....per doz.	3s. 0d.	„	4s. 0d.
Acacia, French ..per bun.	1s. 0d.	„	1s. 6d.
Azaleas ..per doz. sprays	1s. 0d.	„	1s. 6d.
Bouvardias ..... per bunch	0s. 6d.	„	1s. 0d.
Callas .....per doz.	4s. 0d.	„	5s. 0d.
Carnations, per doz. blms.	1s. 0d.	„	2s. 0d.
Daffodils .....per doz. bun.	2s. 0d.	„	3s. 6d.
Eucharis, per doz. blooms	5s. 0d.	„	6s. 0d.
Gardenias, per doz. blooms	2s. 0d.	„	4s. 0d.
Heliotropes, per doz. sprays	0s. 6d.	„	0s. 8d.
Lilac, French ....per bun.	3s. 0d.	„	5s. 0d.
Lily of the Valley, per doz. sprays	0s. 9d.	„	1s. 0d.
Marguerites, per doz. bun.	4s. 0d.	„	6s. 0d.
Mignonette, per doz. bun.	4s. 0d.	„	6s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d.	„	0s. 8d.
Roses .....per doz. blms.	2s. 0d.	„	3s. 0d.
Roses, Tea ..per doz. blms.	1s. 0d.	„	1s. 6d.
Spiræa .....per doz. bun.	5s. 0d.	„	6s. 0d.
Tropæolum ..per doz. bun.	2s. 0d.	„	2s. 6d.
Tuberoses .....per doz.	1s. 6d.	„	2s. 0d.
Violets.....per doz. bun.	1s. 0d.	„	1s. 3d.
Violets, de Parme, per bun.	3s. 0d.	„	4s. 0d.
Violets, Czar ....per bun.	1s. 0d.	„	2s. 0d.

BOROUGH AND SPITALFIELDS.

Potatoes.

Regents .....per ton	75s.	to	95s.
Magnum Bonum .....per ton	65s.	„	85s.
Scotch Champion ....per ton	55s.	„	70s.
Victorias .....per ton	70s.	„	85s.

Orchid Sale.—The first portion of the collection of orchids formed by Henry Lovatt, Esq., of Low Hill, near Wolverhampton, was sold at Stevens's Rooms on April 28 and 29. There was a good attendance, and the biddings were remarkably brisk. The most important lots, with their prices, are as follows: Lælia purpurata, a fine variety with about fifty leaves, 54 guineas; Epidendrum prismatocarpum, 10 guineas; Cattleya Mendeli, with thirty-four sheaths, 42 guineas; Dendrobium Ainsworthi, nine breaks, 15 guineas; Masdevallia Harryana, £10; Oncidium macranthum, 17 guineas; Brassia Lawrenciana, 10½ guineas; Cymbidium Lowianum, 70 guineas; Cœlogyne cristata, Chatsworth variety, in thirty-inch pan, 19 guineas; Cattleya Warneri, a fine dark variety, with thirteen leads, 75 guineas; Cattleya crispa majus, large specimen, 12 guineas; Cattleya Skinneri alba, 12 guineas; C. Morganiæ, 11½ guineas; C. Mendeli, twelve sheaths, 30 guineas; C. Mossiæ, white variety, £7; C. labiata, true autumn-flowering variety, one break, 20 guineas, C. Mendeli, white petal and dark labellum, eleven sheaths, 64 guineas; C. Mendeli, 40 guineas; Cœlogyne Massangeana, supposed to be the finest plant in the country, 27 guineas; and Lælia anceps Dawsoni, four breaks, 30 guineas.

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The May-Day Number of the

Ladies' Gazette of Fashion,

The Most Elegant of the Fashion Magazines.

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THE TWENTY-EIGHTH ANNUAL ISSUE,
OF THE

GARDEN ORACLE

AND

FLORICULTURAL YEAR BOOK

For 1886.

EDITED BY SHIRLEY HIBBERD, F.R.H.S., *Editor of the "Gardeners' Magazine."*

AMONGST the contents will be found a DIRECTORY FOR THE HARDY FLOWER GARDEN, comprising selections of the best of the Alpine, Border, and Shrubbery Plants, amongst the thousands that are offered, the object being to direct attention to the gems of the hardy garden as entitled to the first attention of all.
A SYSTEMATIC REVIEW OF THE HORTICULTURE OF THE PAST YEAR, showing the number and varieties of the acquisitions in New Plants, New Fruits, New
A CAREFULLY PREPARED DIRECTORY OF WORK IN ALL DEPARTMENTS OF THE GARDEN, with Lists of Flowers and Fruits for all seasons.
A DESK ALMANACK, with pages for Diary, and particulars of Tides, Astronomical Occurrences, and all Ecclesiastical, Commercial, and Household Affairs, forming a Directory of all important business throughout the year.
NOTICES OF HORTICULTURAL INVENTIONS, NOTIONS, AND FASHIONS, with illustrations of things considered worthy of special attention in connexion with advancement in Horticulture and the general management of outdoor properties.

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Sales by Auction.

Tuesday next.
CATTLEYA MENDELII—ODONTOGLOSSUM ALEXANDRÆ.

MESSRS. PROTHEROE and MORRIS are instructed by the New Plant and Bulb Company to SELL BY AUCTION, at their CENTRAL SALE ROOMS, 67 and 68, CHEAPSIDE, E.C., on TUESDAY next, MAY 11, at Half-past Twelve o'clock precisely, a grand importation of CATTLEYA MENDELII, 2,000 Odontoglossum Alexandræ, from the Pacho district. Also a choice lot of established Orchids, imported Dendrobes from Moulmein, &c.
On view morning of sale, and catalogues had.

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MESSRS. PROTHEROE and MORRIS will SELL the above BY AUCTION, at their CENTRAL SALE ROOMS, 67 and 68, CHEAPSIDE, E.C., on WEDNESDAY next, MAY 12, at Half-past Twelve o'clock precisely.
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On view morning of sale, and catalogues had.

SALES FOR NEXT WEEK.

MR. J. C. STEVENS will SELL BY AUCTION, at his GREAT ROOMS, 38, KING STREET, COVENT GARDEN, during the ensuing week, as follows, at Half-past Twelve precisely each day:—
WEDNESDAY.—A fine collection of Orchids in flower, including, amongst other choice things, two grand specimens of Cymbidium Lowianum, &c. &c.
THURSDAY.—Fine Imported Orchids, in variety, from Mr. C. Patin, of Antioquia; and 100 lots of good established Orchids.
And at KINGSBURY HOUSE, SHORTLANDS, on
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D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.temp avrg. of 40 yrs. Chiswick.	Orchids in Flower.	Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.		1886
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ROYAL BOTANIC SOCIETY GARDENS
REGENT'S PARK.
WEDNESDAY NEXT, FIRST SUMMER EXHIBITION OF PLANTS AND FLOWERS.
Entries should be sent in as soon as possible.

CRYSTAL PALACE.—GREAT FLOWER SHOW OF THE SEASON, FRIDAY and SATURDAY, MAY 21 and 22.
Admission—Friday, Five Shillings; Saturday, Half-a-Crown or by Season Ticket.

Exhibitions and Meetings for the Ensuing Week.

WEDNESDAY, MAY 19.—ROYAL BOTANIC SOCIETY.—Summer Exhibition.
FRIDAY, MAY 21, AND SATURDAY, MAY 22.—CRYSTAL PALACE.—Summer Show.

Auction Sales for the Ensuing Week.

TUESDAY, MAY 18.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
WEDNESDAY, MAY 19.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Carnations, Picotees, Plants, 2,500 Lilium Auratum, &c.
WEDNESDAY AND THURSDAY, MAY 19 AND 20.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.
FRIDAY, MAY 21.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
SATURDAY, MAY 22.—Messrs. Protheroe and Morris, at the American Nurseries, Leytonstone; Annual Sale of Bedding Plants.
SATURDAY AND MONDAY, MAY 15 AND 17.—Mr. J. C. Stevens, at Kingsbury House, Shortlands; Stove and Greenhouse Plants, &c.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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The Gardeners' Magazine.

SATURDAY, MAY 15, 1886.

SPRING CAME SO SUDDENLY that although people were weary of waiting for it, they were surprised when with sudden warmth the world was once more filled with flowers. A cruelly cold wave, that passed over Europe immediately after the first burst of spring weather, threatened the destruction of the fruit crops, and certainly influenced them in a disadvantageous manner, spent its forces in time to give the later bloom a better chance, and there is a fair prospect now of an average production and of more than an average in some places and of some things. But we are satisfied there is no reasonable prospect of a great fruit season, and at present it may be said the promise of apples is largest of any. The plums have made a great show, but were in many districts caught by frost, and we can scarcely expect this to prove a plum year. The pear trees are everywhere showing a thin bloom indicative perhaps of weakness. There is, however, quite enough bloom of pear for a tremendous crop, but the weakness that results in a thin display of flowers is not likely to terminate in a great display of fruit. The proper verdict after a broad survey at the present time, is, in respect of fruit prospects, that they are fairly good considering the unexampled length of the winter and the severe check that occurred at the opening of the spring.

Vegetation generally has made satisfactory progress since an improved temperature favoured growth, and spring seeds have come up well, so that in most places a good plant may be seen. Winter crops of all kinds, from wheat to cabbages, have suffered much, and in many instances were obliterated. But the uncomfortable blanks are being fast filled up, and where a plant of any kind remained in however worn a condition recovery has been rapid and complete, for warmth and light are the quickening powers of the world. But the losses are felt; it will take time to set up a balance against crops that were on the ground for six months or more and that perished at last overcome by cold and damp. The spirited and careful cultivator will see the balance restored; the careless man may fail to see it; and, indeed, the heavy losses are mostly on the shoulders of the last named, for good work and good luck are old companions in farming and gardening. The want of feed has combined with low toned markets to keep down the hopes of the men whose business it is to make meat, and all tillers of the land, no matter what their particular line of business, have had to witness the strange coincidence of scarcity of produce with low prices.

What is called the "land question" makes but slow progress in this country, and the men who are, or should be, the most deeply interested in it appear to be the least anxious of any. The farmer seems to be content to lose money by his business, and the landlord quietly adapts his style of living to the reduction of his rents. In our issue for November 26, 1881, we suggested a series of enterprises within the range of farming practice in this country, not to prove their profitableness, but to illustrate the helpless condition of the agriculturalist owing in great part to his supineness in respect of the political life of the country. Amongst the subjects then mentioned was tobacco, which is now obtaining attention, and illustrates not only the false position of the farmer, but the incapacity of people who profess to speak with authority on the bearings of rural industries. We have never averred that tobacco could be grown in this country with profit, for it remains to be proved whether the thing is worth doing, and, if so, how and where? The point of importance to note is that the prohibition of the cultivation by the law is an evidence that British agriculture is in a condition of deadly slavery, and if landowners and farmers are content with such a state of things the interests of the whole nation are nevertheless bound up with the land question. The proposal to give tobacco a trial brings into prominence the manner in which the law may and does throttle industry, so that, even for a trial of the crop with a view to the augmentation of the national wealth and general prosperity, a complicated series of permissions and regulations must be complied with. Thus, even now, tobacco growing is only allowed subject to certain restrictions that are a mild imitation of the statutory prohibitions, and they compel us to observe that were the farmer to see his way to a profitable employment of his labour and capital, he might have first to consider the possibility of obtaining for the exercise for his energies some reasonable amount of freedom. There are fiscal reasons for prohibiting the growth of tobacco in this country. Of course there are. And there are fiscal reasons for reduced rents and failure of employments; for war, for pauperism, for murder sometimes, and always for thieving. There are fiscal reasons for anything and everything; and our statesmanship is satisfied with them while the fortunes of the country are made the sport of factions, and our means of living are strangled with red tape. Tobacco must be tried under a variety of circumstances before anyone can say whether it is a paying or a losing game, and those who discount the project in advance proclaim their ignorance both of the political and the practical bearings of the question. One thing is certain, that the gardener can most easily master the first elements of the problem in aid of the general intelligence and the larger view of the practical part of the business. We shall hope that many gardeners will acquire and record experiences, for at present facts are wanted and we can wait for theories.

The weather continues to keep up the old conflict between hopes and fears. Changes long promised became visible on Sunday last in cloudy skies and small local showers of cold rain. Since then, the temperature has steadily declined, and the humidity has increased, and the conditions are now scarcely favourable to vegetation, although the rain that is falling was much wanted. In the year 1872 the early promise of a great fruit crop was so conspicuous as to cause general jubilation, but at the moment that the plums and pears were swelling into visiblility, a term of cold accompanied with an intermittent fall of rain occurred, and the prospect was darkened beyond recovery. It is not for us or for any to anticipate a repetition of that dismal tale; and, thus far certainly, the circumstances

are not exactly parallel. Having suggested the likelihood of a cold, wet spring, we are perhaps unduly anxious on the subject, and our great hope, of course, is that our expectations may be falsified.

Luton Horticultural Society.—Annual exhibition, August 18.

Aberdeen Horticultural Society will hold its summer exhibition July 22, and two following days.

Mr. James Carr has been engaged as gardener at Heveningham Hall, Suffolk, the seat of Lord Huntingfield.

Mr. A. McLeod has been engaged as gardener by the Marquis of Headfort, Headfort House, Kells, Co. Meath.

Chiswick Horticultural Society.—Summer show in R.H.S. Gardens, July 15. Autumn show, November 18.

Royal Botanic Society.—The first great show of the season will be held in the gardens, Regent's Park, on Wednesday next.

A Fire Extinguisher and Fire Alarm, operating by electricity, are on exhibition at the Royal Aquarium, Westminster, by Messrs. Thompson and Ritchie, 14, St. Swithin's Lane, E.C.

Bristol Chrysanthemum Society announces "the first grand summer exhibition" to be held in the Zoological Gardens, Bristol, July 14 and 15. The schedule comprises roses, stove and greenhouse plants, orchids, fruits, vegetables, &c., in a series of 55 classes.

Chestnut Trees are flowering freely in London at the present time, and to-morrow will be called "Chestnut Sunday," a great day for Bushey Park and Hampton Court. The Valley of the Thames is gloriously bright with golden green leafage and mountains of flowers.

Erythrina corallina is reported in the "New Mexican Pharmacopœia" to yield an alkaloid that is the only poisonous principle as yet obtained from a leguminous plant. In Lindley's "Vegetable Kingdom," p. 547, we are advised to regard the entire order of leguminous plants as poisonous, those that are useful as food being exceptions to the rule.

Liverpool International Exhibition, opened by the Queen on Tuesday last, is housed in the buildings that formed the framework of the Antwerp International last year. But oh! the difference. The Belgian affair was a display of taste, and was especially rich in colour. At Liverpool they despise such things, but the exhibition is full of interest for its solid contents.

Horticultural Papers are, as a rule, careful to steer clear of political matters, except in so far as they bear directly on horticulture. We learn from the *Globe* of May 10 that "a gardening paper has discussed the question of Home Rule for Ireland," and has in some way mashed it up with potato culture. We are curious to know the name of the paper referred to, and shall be thankful to any of our readers who can inform us.

Certificates of Primula Congress were awarded by a committee appointed for the purpose, comprising Mr. Churchill, Mr. Philip Worsley, and Mr. Moore (of Glasnevin). It was not to be expected or desired that those gentlemen should operate on the principles that rule the Floral Committee of the R.H.S., and those who view the operations of both bodies in the same light make a grave mistake, and may with advantage reconsider the matter. This point, however, is of importance, that the Floral Committee had nothing to do with the primula certificates.

Fruit Prospects in Somerset.—Taken altogether, the prospect is about an average one; but of course it is too early as yet to speak definitely about any portion of the hardy fruits. Plums are flowering abundantly; pears, as a rule, are not so laden with blossoms as we have seen them before; apricots have set a moderate crop; peaches on open walls will be only moderate; and cherries make a wonderful promise. In this district apples are opening well, and should we get a favourable time there will be an abundant crop. Gooseberries and currants promise well, as also do strawberries. So far, the outlook is cheering; but, even with a favourable time, I do not see at present that there will be a great abundance, except in the case of bush fruits.—J. C. Clarke.

The Willow is largely cultivated in America for medicinal purposes. The willow switches at the end of two years are from four feet to seven feet long, and are cut and gathered into bunches like sheaves of wheat. In the stripping building they are steeped in water, and the bark at the larger end is loosened for a couple of inches by machinery. One by one the switches are placed in the mechanical stripper, and with a pair of pliers are pulled through with a sudden jerk. They are then wiped off with a woollen cloth, bundled, and laid away to dry. All the leaves and bark are dried and baled, when they command a price of 25 cents a pound. The average yield is a ton to the acre. When dried the willows command 200 dols. per ton, and find a ready market.

Poisoning of Ducks by Ailantus Leaves.—M. Bourley, the distinguished French veterinarian, has communicated to the Academy of Sciences a note on this subject. Great alarm was recently caused at Castres, Department of Tarn, by what appeared to be a new and fatal epidemic amongst domestic ducks. The symptoms were those of acrid poisoning, followed by speedy death. Veterinary inquiry showed conclusively that the poisoning was caused by suckers of Chinese Ailantus, which had been eaten by the ducks. The gullets of all the dead birds, of which great numbers were examined, contained these leaves; and the leaves, fresh chopped, were readily eaten by other ducks, with the same fatal results. A number of Ailantus grew on the borders of a swamp frequented by the ducks of the neighbourhood.

Is the Primrose in Danger of Extinction?—It may aid the discussion of this question to have a few facts as to the number of flowers sent on the 16th and 17th of April from Guernsey. From this island alone there were despatched by parcel post, steampacket and railway, consignments amounting to a total of about seven tons. Our authority is the *Chronique de Jersey*.

The Charterhouse and Hayling Common are both spared the destructive treatment designed for them, the House of Commons having practically, if not formally, rejected the measures that were presented for authorizing the spoliation of these places. We can but thankfully recognize the healthy feeling of the legislature as thus manifested, and pray that a like spirit may govern in all things for the promotion of the public good. London keeps a fine old edifice and a most useful piece of garden ground, and Southsea retains the right of free exercise on 120 acres of sea beach untouched for recreative purposes.

Tobacco Cultivation in Austria-Hungary is the subject of important legislative proposals. The tobacco monopoly yields at present to Austria alone more than 72,000,000fl.; but 115,000 tons of tobacco are yearly imported, and it is calculated that the revenue would be much increased if the *Régie* had more dealings with home growers. Tobacco thrives well on the soil of this Empire. It is grown in Hungary, Galicia, Dalmatia, and South Tyrol, and the following returns were made for the year 1884: Galicia, 2,330,000 kilogrammes of green leaves, bought by the State; Dalmatia, 4,780 kilogrammes; South Tyrol, 4,200,000 kilogrammes; and Hungary, 44,000,000 kilogrammes.

Tulipa Gregi, a bold, self-coloured species of recent introduction, has sported in an interesting way in the plantation now flowering in the grounds of the New Plant Company, Colchester. The sport is smaller than the type, with yellow body, colour flaked with red, and tending towards a feather, while the base of the flower retains the typical marking, in which black predominates. The future of this sport is a subject for speculation.

The Orchid Exhibition in the Victoria Nurseries, Upper Holloway, is delightfully attractive, and should be visited at an early date by the lovers of orchids. Mr. B. S. Williams has this year staged the plants in his comfortable exhibition house, which is much more convenient for visitors than to keep them in their several climatal departments in the nursery. The result is a more complete picture than would be otherwise possible, and the fine development of the plants, to say nothing of the interest attaching to the rare and valuable varieties, is rendered more thoroughly appreciable.

The Queen's Reply to the address of the promoters of the Liverpool Shipping and Industrial Exhibition will remind a few old fogies of the royal speeches commented upon by William Cobbett in his famous English grammar. As a literary curiosity we reproduce it, and would gladly give the name of the author, were that possible. Nobody will impute to Her Majesty the authorship of such a thing, the brevity of which is its only virtue:—

"I receive with cordial satisfaction the address which you have presented to me on the opening of this international exhibition. It affords me sincere gratification to witness the successful result of your judicious labours as testified by the vast collection of interesting objects to be found within the walls of this building, and I heartily concur in the hope which you have expressed that the degree of success which you have been able to secure may prove worthy of the wide and comprehensive project to the accomplishment of which your operations have been directed."

Fruit from the Antipodes.—The *Austral* steamship, which arrived from Australia on the 6th ult., brought over several parcels of fruit, part of which was shipped by a Mr. W. Merchant, of Adelaide, the whole of which arrived in fine condition, and was sold by auction on Monday last in Covent Garden, by Mr. W. N. White, fruit broker. Such was the quality of the fruit, small cases of apples, holding not quite a bushel (43 lbs. gross), made the fine price of 9s. 6d. to 22s., according to samples, and cases of pears 22s. to 25s. per case. Although this is not the first time fruit has been shipped from Australia to London, it has hitherto been very risky business for the shippers, many sorts not being able to stand the tropical heat during the passage. This will now be overcome by treating the fruit on similar principles to the fresh meat, and it is thought that a very extensive trade will thus be developed, as fruit of this description can always command good prices during May and half June.

Cottagers' Allotment Gardens Bill.—The Bill ordered to be printed by the House of Commons to encourage and facilitate the provision of allotment gardens for cottagers is backed with the names of Mr. Chaplin, Sir W. Hart-Dyke, Mr. Harcourt, Viscount Curzon, and Mr. Charles Hall. It consists of 17 clauses, of which the most important is the seventh, containing the following regulations as to the acquisition of land by county authority:—"(1) Subject to the provisions of this Act the county authority shall have the like powers of acquiring lands for the purposes of this Act as local authorities under the Public Health Act, 1875, have of acquiring lands for the purposes of that Act; and sections 176 to 178, 297 and 298 of that Act shall apply to the acquisition of lands by the county authority, and to the making and confirmation of provisional orders under this Act, with the substitution of 'county authority' for 'local authority.' (2) In the construction of the Lands Clauses Consolidation Acts for the purposes of this Act, the expression 'the special Act' includes this Act, and any Order confirmed by Parliament authorizing the purchase of lands otherwise than by agreement for purposes of this Act. (3) In making any order for the acquisition of lands otherwise than by agreement for the purposes of this Act the Local Government Board shall not authorize the taking of an unfair quantity of land from any one person, having regard to the quantity of land owned by different persons in the parish respectively, and to all the circumstances of the case."

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 15.

A wonderful Beurré Clairgeau pear-tree—Weight of Chaumontel, General Todleben, and other pears—Mr. Blisset's pears—Mr. Bashford's pear orchards—An unfavourable situation—Mr. Gosset's great pear plantation—Description of the orchard—Sorts grown—A wonderful cooking pear—Mr. Gosset's *modus operandi*—Interesting facts about the Chaumontel—Quince and free stock—One million pears—Gathering and ripening of the crop—Prices, &c.

In a footnote in our last article we mentioned a Beurré Clairgeau pear which reminds us of a very remarkable tree, the most remarkable ever known in Jersey, that within two years ago was to be seen growing in Mr. Pond's gardens at St. Lawrence, in that island. Mr. Pond placed the particulars of this extraordinary tree at our disposal; they are as follows: It was planted twelve years ago against his fruit-room, and the second season produced one fruit weighing 1½ lbs. Up to within two years ago it continued bearing magnificent fruit, the pears never weighing less than 1 lb. each. In 1873 Mr. Pond had the surface earth carefully removed and replaced by good turfy loam from a meadow, and the following year he allowed the tree to bear 35 pears, which, when gathered, turned the scale at 56½ lbs. Every year that he exhibited with the fruit from this tree he carried off first prize, and at South Kensington the judges pronounced the pears to be the finest Beurré Clairgeaus they had ever seen.

"I have been," said Mr. Pond, "hardly less successful with the Chaumontel. Last autumn I exhibited at our local show 50 of these fruits which weighed more than 60 lbs., and the 100 containing the 50 pears I sold for £7 10s. I picked myself from five small pyramid trees of General Todleben 80 fruits weighing 85 lbs., and the other varieties which I grow, such as Duchess d'Angoulême, Beurré Bachelier, Doyenné du Comice, Triomphe de Jodoigne, &c., have done exceedingly well."

Mr. Pond is not a large grower of pears. Not far from his property are Mr. Blisset's gardens. This gentleman particularly prides himself on his growth of Chaumontels, which he considers to be the most perfect fruit of this variety sent from Jersey, the fruit being distinguished by superior size, first-rate quality, and a smooth, unbroken, and well-coloured skin.

But the situation of the two large pear plantations of Jersey is on the opposite side of the island. The first to be reached from St. Helier's is that of Mr. Bashford, whose immense vineries we have already described. The number of trees planted is 8,000, the sorts being Chaumontel, Doyenné du Comice, Beurré Diel, Beurré d'Aremberg, Beurré Clairgeau, Cattilac, Belle de Jersey, Williams, Gratioli, &c., the bulk, of course, consisting of Chaumontels. The Doyenné du Comice comes perhaps second. This is a truly deliciously flavoured pear, and is thought by many (so we are told) to be second in point of quality to no other variety. Some of the finest specimens of this fruit raised by Mr. Bashford weighed as much as 1½ lbs. each.

The orchard was not at its best for the inspection of visitors, as a severe wind had passed over it on the previous week from the only quarter to which it is exposed, and had badly blackened the leaves and broken several of the smaller branches. This would give the trees such a check that it was feared the crop of pears would be imperilled, or, at any rate, it would throw the crop back.

Mr. Bashford is a first-rate cultivator. He does not do a thing by halves; and if anyone could cultivate pears it would be him. But it is probable that he will give up pear growing—at least, this was what we understood he was contemplating. Not only is he exposed to a bad wind, but the subsoil being naturally dry—though it has been wonderfully improved by artificial means and at a large outlay—it is not at all suitable for such subjects as pears, and more especially for the tender varieties cultivated.

Not a stone's throw from Mr. Bashford's is another pear orchard, the largest in the island, or in the world, containing as it does close on 17,000 trees. Contiguous as are the two orchards, Mr. Gosset, the proprietor of the last-mentioned, has nothing to complain of on the score of either soil or situation. The land, which has a slope towards the south, is a strong loam resting on a substratum of clay, fairly retentive, and exactly suited for pear culture, being sufficiently moist to keep the trees growing and in a fresh-looking condition, even in the hottest and dryest season. Pear trees abhor damp soil or a dry parched soil; what they require is the happy medium, and at Mr. Gosset's estate they have it to perfection.

From intruding winds the orchard is both naturally and artificially protected, the artificial shelter consisting of a high wall, which is carried right round the plantation, and intersects it again at various points. It is thus divided into almost equal squares of about half an acre each. The entire space of land enclosed measuring forty vergées, or to translate it into English, about seventeen acres. On the south-east and south-west it is rather open, and to protect this aspect a screen of poplars has been planted, which is growing luxuriantly. The aspect of the whole is very trim and rather monotonous when there are neither leaves, blossom, nor fruit on the trees, but in spring and autumn the thousands of trees are beautiful objects. The wide carriage roads, gravelled and rolled, and not a weed anywhere to be seen, have a pleasing effect; and for the transporting of the crop and conveyance of manure to the trees it is seen that this large sacrifice of land is quite necessary.

Of the 17,000 trees already planted 12,000 are the Chaumontels, the remainder including such varieties as Doyenné du Comice, Williams's Bon Chrétien, Beurré d'Amanlis, Beurré Diel, Easter Beurré, St. Germain d'hiver, Beurré d'Aremberg, Catillac, Belle de Jersey,* &c.

Imported as maiden trees from France, the trees are grafted upon the quince, as when so worked they come into bearing sooner, though they do not last so long as when put on the free stock. Every year a certain number of old trees is replaced by these fresh importations, thus insuring a continual supply of full bearing trees. They are planted in mathematically exact lines, facing north and south, about nine feet from each other, and in the rows. The manure employed, and liberally employed, consists of a mixture of well rotted animal and vegetable refuse, and that it is entirely to the taste of the subjects is plain from the invariably strong healthy condition of the trees themselves. Nothing is permitted to occupy the ground under or about the trees, every weed even being rigorously kept down, lest they should deprive the soil of any of the needed nourishment.

In order to facilitate pruning and picking, the trees are kept to an average height of about seven feet. This plan has the additional recommendation that it keeps the trees well under the shelter of the walls. The trees planted against the walls are allowed to grow more freely. These last consist of those trees which would not survive the winter in the more open spaces, such as the *Easter Beurré*, *Winter Nelis*, &c.

To any but practical gardeners, there are several interesting facts connected with the Chaumontel not generally known. Thus, that Jersey is the only suitable locality in which to cultivate this pear; that it is the first to flower in the spring, and almost the last to freely mature its fruit in the autumn; and that the blossom of the pears always sets, so that you can accurately calculate the crop by the simple means of counting the blossom.

The Chaumontel, as well as the other varieties of pears, are severely thinned out soon after the fruit is set. Those growers who go in for large bulk of fruit rather than for individual size of the pear, of course do less thinning, or leave this operation entirely to nature; but there are not many who treat good pears in this manner, though we have met with some even in Jersey who follow this very unprofitable and unsatisfactory method.

On Mr. Gosset's estate are several fine Chaumontel trees 30 and 40 years of age, but the average age of trees on the quince is not nearly so long as this, therefore we presume these were on the free stock, these trees at present yielding annually crops of from 100 to 150 fine pears each. The average crop of a full-grown, vigorous tree may be stated at 100 pears. The three-year-old trees, of which Mr. Gosset has many hundreds, yield, perhaps, thirty pears apiece. The finest of these pears seldom exceeds one pound in weight, and their general average is from 6 to 10 oz. each. This year Mr. Gosset anticipates a yield of over 1,000,000 pears.

The time for gathering the Chaumontel is from the 3rd to the 10th of October. They are carefully placed in shallow boxes, the boxes being then stowed away on shelves in a building provided for the purpose. By the end of November they will be nicely ripening and in condition for dispatch to the markets. The through freight to London is at the rate of 3s. per cwt. By Christmas, when they are in capital form for the dessert table, they will command exorbitant prices—that is, those of good size. Pears weighing 16 ozs. apiece are worth quite 1s. each, or £5 the 100 to the grower, and at Covent Garden they are not retailed under 1s. 6d. or 2s. apiece. The smaller pears are very cheap, though the flavour is scarcely inferior to the largest specimens.

BEST OF THE BEDDERS.

In looking through some notes on bedders that were made in the course of last summer at home and in various parts of the country, it occurred to me that a brief transcription of them would prove interesting and useful to some of the many readers of the Magazine. I have accordingly prepared it, and as due care has been taken to include those kinds only that possess exceptional merit, I would suggest that they are well worthy of trial by those who have not yet grown them, or, so far, as according to the soils for which they are best adapted and the requirements of cultivators. It will be perfectly safe to obtain sufficient plants of either of the subjects to fill a bed of average size, provided it is adapted to the soil of the garden as indicated in the reference made to each class. But, generally speaking, the best course will be to procure about half-a-dozen plants of each of the varieties selected, and then plant them in a reserve bed away from the flower garden, or in the mixed border. By doing this the cultivator will be able to obtain a stock for a very trifling outlay, and he will also be able to become so well acquainted with the habit and the colour of the flowers, that he will be able to employ them the following season in the general arrangements to the best possible advantage. As I am anxious to be brief, I will at once proceed to refer to the several classes of bedders, and for convenience of reference will take them in alphabetical order.

Ageratums form a very useful class of bedders on hot dry soils, where many others fail during seasons of heat and drought, whilst they grow freely and bloom profusely on soils that are comparatively cold and close in texture. The varieties which attain a height of three or four inches are worthless, for under the most favourable conditions they fail to produce a good effect. A few plants here and there will bloom very well, whilst the others will produce but little besides leafage, the result being a most unsatisfactory appearance. The varieties, on

* The Belle de Jersey is a splendid cooking pear. At the fruit show held in 1880, in St. Heliers, there were six stewing pears of this variety, which weighed no less than 16 lbs. 3 oz., Jersey weight, or about 3 lbs. English each. One of these pears weighed no less than 3¼ lbs. Jersey weight. Mr. Le Cras, of Jersey, assured us he has picked one that weighed four pounds.

the other hand, which attain a height of six or eight inches, are most effective, and of these Perle Bleue and Perle Blanche, which have blue and white flowers respectively, are the best. Improvement, which is rather dwarfer than Perle Bleue, is also an excellent blue variety. To have ageratums in perfection throughout the summer it is necessary to propagate them by means of autumn-struck cuttings.

Begonias have proved of immense value for bedding purposes, especially in the western parts of England and in the greater part of Scotland. They can be grown most successfully in beds and borders where the rainfall is rather heavy and the atmosphere comparatively humid, and they are therefore better adapted for the western than the eastern counties of England. Not only do they grow freely and bloom profusely where they enjoy a liberal degree of moisture, both at the roots and overhead, but the flowers suffer but little from frequent drenching rains, and as the result of my observations I would suggest that they should largely take the place of zonal pelargoniums in moist climates. The varieties with red and scarlet flowers are the best for outdoor decorations; and selected seedlings from a good strain are fully equal in value to named varieties. Seedlings of the same year are of little use for bedding, as they vary so much in habit and in the colour of the flowers that it is quite impossible to produce a good effect with them. The most useful of the begonias for bedding that are obtainable at a cheap rate are Emperor, Madame Oscar Lamarche, Vesuvius, and Worthiana, various shades of scarlet; Lady Hume Campbell, bright pink; Lelia, rich crimson; and Princesse Mestschersky, bright carmine-red.

Calceolarias enjoy but little popularity, excepting it be in the northern counties, and they are so garish in colour that I have but little to say in their favour. It is, however, desirable that those who are partial to them should select the best varieties and grow them under the conditions most favourable to their full development. Golden Gem still continues the best amongst the yellow varieties, and Prince of Orange is unsurpassed amongst those having dark orange-coloured flowers. Sparkler has brilliant crimson flowers, and Invincible, has flowers of that delicate lemon colour peculiar to our old friend Amplexïcaule.

Cannas, judiciously employed, give a distinct and very pleasing character to the flower garden. To have these stately plants in perfection three maxims must be observed. The first is to grow them in masses of moderate size, without an admixture of other subjects; the second is to select a position where they will be somewhat sheltered from rough winds; and the third, to liberally enrich the soil with leaf-mould and manure. Under these conditions they will grow in the most luxuriant manner, and produce an effect of which but few have an adequate idea. There are four varieties which can be specially recommended, and these are Ehmanni, Edouard Morren, Gloire de Lyon, and Noutoni.

Dahlias should, as a rule, be grown in the mixed border, in association with other subjects, and by arranging them in the border according to their heights the cultivator has a wide range for selection. But for beds it is imperative to select varieties of dwarf growth and free flowering, and the best of these are Alba floribunda nana, white; George Thomson, rich yellow; Rising Sun, deep scarlet; Scarlet Globe, orange-scarlet; and White Bedder, white.

Fuchsias appear to be regaining some of their wonted popularity, and in the course of last summer I met with a very considerable number of highly attractive beds. To produce thoroughly good masses of fuchsias it is necessary to liberally enrich the soil with some suitable fertilizer and to put out old plants in a vigorous state of health. Large bushy plants from two to four years old are best, because as soon as they begin to grow freely they commence flowering and present a pleasing appearance. It is necessary to select varieties of robust habit, such, for example, as those which have been raised of late years by Mr. Lye. The following comprise some of the best for bedding: Harry Brooks, Earl of Beaconsfield, Lye's Rival, Mr. J. Huntley, Resplendent, Grande Duchesse Marie, Letty Lye, and Beauty of Trowbridge. Fuchsias enjoy a liberal degree of moisture at the roots, and derive great benefit from an occasional sprinkling of water overhead. Overhead waterings are indeed so conducive to their welfare that during June and July there is not much danger in ordinary seasons of overdoing them.

Helitropiums are usually so much appreciated for the delightful fragrance of their flowers that they should be planted rather liberally in the mixed borders. There are three varieties of exceptional excellence, and these are Roi des Noirs, the flowers deep violet; President Garfield, bright bluish-purple, in the way of Jersey Beauty, which has long been popular with cultivators, but it is in every way superior to that variety; and Swanley Giant, a robust growing variety, producing enormous flower trusses of a light purplish-blue colour.

Lobelias have not had any notable additions made to them for several years past, and cultivators will do well to rely chiefly on those which are now in general cultivation, After careful comparison of the blue varieties, made under varying conditions and in districts widely apart, I am persuaded that the best of the group is unquestionably Finsbury Park Blue. The flowers are of the must brilliant blue, and, unlike the majority of varieties, there is no eye to weaken the colour. The habit is very compact, and the shoots are so wiry, that there is no risk of the plants splitting and falling about in wet weather, as in the case of Pumila magnifica and other varieties that could be mentioned. Swanley Blue is an excellent light blue variety, and Andrew Holmes is well worthy of the attention of those who require a variety with deep violet blue flowers. Very little can be said in favour of the white varieties, but it may be useful to state that the two best are Ingrami and Swanley White, both of which have a good habit, and produce a profusion of pure white flowers.

Pelargoniums still occupy a foremost position amongst the summer bedders, and it is not surprising they should do so. We have certainly no other class of flowering plants which for adaptability to the various soils and situations, freedom of blooming, and simplicity of culture can equal the zonals. The varieties which are regarded as bedders differ very materially in their value for outdoor decorations, and I should strongly advise those who do not require a very large selection to confine it to the undermentioned, all of which are thoroughly good, and can be depended upon to prove satisfactory under the most diverse conditions both of climate and soil. The selected varieties are: West Brighton Gem, a much improved Vesuvius, with flowers of the most brilliant scarlet hue; Lord Gifford, rich crimson-scarlet, the habit remarkably good, and the flower trusses of good size; Henry Jacoby, deep crimson, decidedly the best of its colour, as demonstrated by the magnificent beds at Hampton Court and elsewhere; John Gibbons, a superb variety producing large trusses of bright orange-scarlet flowers; Rebecca, rose-crimson, a very effective shade of colour; Surprise, bright salmon, a very free blooming variety with a habit similar to that of Vesuvius, from which it sported; Lady Bailey, deep pink; Miss Blanche, rosy pink; and Niphetos and White Clipper Improved, two excellent pure white varieties.

Tropæolums of dwarf growth possess great utility for the decoration of gardens of which the soil is naturally light and dry. Especially useful are Bedfont Rival, rich scarlet; Vesuvius, bright orange-scarlet; The Moor, deep crimson; and Gloire de Bordeaux. The last-mentioned has double flowers of a billiant orange-scarlet hue, and is singularly effective when grown in rather poor soil.

Verbenas are so susceptible to the influence of the weather that they cannot have the same dependence placed upon them as the zonal pelargoniums and a few other classes. They are, however, so beautiful when grown under favourable conditions that excepting where the soil is very light a few beds should be devoted to them. Verbenas should have the advantage of well-prepared soil, and thrifty plants raised from spring struck cuttings invariably prove more satisfactory than plants of which the cuttings are struck in the autumn. The varieties that can be the most strongly recommended are Blue Beauty, bright blue; Hampton Court Crimson, scarlet-crimson, the best of its colour; La Grande Boule de Neige, pure white; Purple King, marone-purple; and Lady Cowley, bright pink. G. G.

NOTES ON STRAWBERRIES.

By Joseph Macdonald.

Those who have to grow strawberries on land that is naturally light will require to pay particular attention to the condition of the ground between the plants. It may happen that although they may produce plenty of blossoms which may set a sufficient number of fruit to furnish a full crop, the fruit will be small in size unless we should get more than an average rainfall up to the middle of June. In many cases the frost during the winter was both severe and prolonged, which left the ground in a very light and porous condition, and those will suffer most who neglected to thoroughly well tread the ground between the plants early in April. I am afraid that there are some people who do not pay sufficient attention to this part of the management of strawberries growing in light soils. It may perhaps be owing to want of information on the subject that this annual treading of the surface in the spring is neglected, but whether it be so or not, I can assure them, after many years' experience in growing strawberries in a light soil, that it is absolutely necessary for the welfare of the crop. For, as I have said above, the frost lightens the ground so much that many of the roots are also lifted with it, and, as the strawberry is well known to do better in a firm, close medium for the roots than in a light one, the necessity of making the ground firm about the roots becomes apparent. It is a standing order in our garden that all strawberry beds should be well trodden down before the month of April runs out. To do this work a couple of men are required when the surface is dry, and then every inch of the surface quite up and close to the plants is firmly trodden over. Thenceforward not a hoe nor fork is allowed to touch the surface to loosen it during the summer. What weeds appear are picked out with a weeding knife. With this and other necessary attentions we never fail to get good crops of strawberries, but before I took to treading the ground in the spring we frequently had only light crops, and the fruit only of medium size; now we grow as large fruit as anyone could expect.

It is not too late now for the plants to derive some benefit from the treading of the ground where it has not already been done, and I advise all who have to deal with a light soil to attend to this matter at once.

With regard to other attentions that strawberries now require, that of mulching over the surface to keep the fruit clean is the next most important work. In that part of the garden under my charge where the soil is light I find it best not to lay on the mulchings until nearly the end of May, as I find if laid on earlier the material soaks up a good deal of the moisture that the roots should get, and I assert from experience that strawberries growing in light soils never get more root moisture than they require ,even when there is a full average rainfall. Therefore to lay on the surface any material that will soak up a good storm of rain without any portion of it reaching the roots is a mistake until it is actually wanted to prevent the fruit from getting splashed by the rain. To keep the fruit clean we find nothing better to lay between the plants than long stable litter, and if it is laid down three weeks before the fruit begins to ripen it will have ample time to get clean on the surface. I have said we find nothing better than long litter, but I meant that remark to apply only to those who reside long distances in the country. For those who reside near London and other

large cities I say that cocoanut fibre refuse is the best mulching material for strawberries and for laying under gooseberry bushes to keep the fruit clean, as it is more cleanly and has a neater appearance. Residents near large towns will not find fibre refuse an expensive article.

I must now deal with the subject of watering, for I find unless I water our strawberries freely in dry weather that a good deal of labour bestowed upon them at other times is almost rendered useless. Unless the plants get plenty of root moisture all through the months of May and June we get only very small fruit. I do not mean to say we water our strawberries whether it rains or not; what I mean is that if there is not sufficient rain to keep the soil fairly moist down to a good depth we water them. Should a week go by without any rain, and there has been the usual amount of sun and wind, we know that in light land strawberries will be the better for having a soaking of water, and we set the watering cans to work, and give them sufficient to moisten the soil several inches in depth. In dry weather in June we make a point of repeating the dose twice a week, and continue the treatment until the first large fruit is ripe.

Respecting the use of mild forms of liquid stimulants for strawberries, I say by all means use them when they can be had, especially liquid manure from the stables or farmyard, or that made from animal manure, and also sewage water. How much any of these forms of manure water will require diluting depends entirely upon the source from whence they are derived. If from stables only, at least six times as much clear water must be added to it; in the case of the drainage from a farmyard, one half clear water added to it will generally reduce it sufficiently, and the same quantity will serve for sewage. Soot water is an excellent fertilizer. One peck of soot to 20 gallons of water will not be too strong for strawberries. It should be made a week before being used. To enable the plants to get all the benefit possible out of the liquid manure, its application must be commenced at the end of May, and be continued until the fruit is nearly ripe. Twice a week will not be too often in dry weather. Soot sprinkled on the surface near to the plants and raked in is a very good stimulant for strawberries. Just enough soot to cover the surface will be quite enough, and one application at the end of May will suffice. If the weather should be dry at the time the soot is laid on it should have a gentle watering as soon as the rake has been over it. To check the ravages of slugs, a mixture of half soot and half fresh slaked lime is a good thing. Spread the mixture between the plants when the ground is dry. This operation should be delayed until the earliest fruits begin to colour, as it is the ripe fruit which the slugs destroy.

THE LILAC.

There is nothing amongst the spring flowers more welcome to mankind than bloom of the lilac; and although it is customary to bewail that it is of brief duration possibly we should enjoy it less were it to last longer. It is valuable for its early display of bright green leafage, which often appears in southern counties before January is out, and is not uncommon near London in February. But the flowering of the lilac is of importance as a kind of jubilation; it crowns the new-come spring with spicy emblems of general joy, and whoever can cut a heap of lilac to put on the table will be pretty sure to do so, for the foamy fragrance few can resist. At this moment London may be said to be smothered in lilac bloom, and the old gardens, where the trees have grown to a great size, present a most delightful appearance with their vast masses of lilac and white.

The indications of its relationship to the olive and the privet are not conspicuous in the lilac, but the new Syringa Japonica may be regarded as a sort of connecting link. In essential characters, however, the genus Syringa is sufficiently definite. And here it will be well to say that the labelling of the mock orange and its allies as syringas is altogether improper. The mock orange group of flowering shrubs are in another order of plants, and their generic name is Philadelphus. With the Philadelphus are associated the Deutzia and the Decumaria—from these the Syringas are altogether distinct.

The origin of the generic name is not known with certainty. Linnæus traced the name to Syrinx, a nymph,

> "Who oft deceived the satyrs that pursued
> The rural gods and those whom woods include."

The word syringa in the Greek may mean a pipe, and in the grand old herbals the lilac is called the pipe tree, and unfortunately the philadelphus was called by the same name. The word lilac is Persian for a flower, and this Persian plant came to us through Constantinople some time towards the close of the sixteenth century. It was known to Clusius. Gerarde's reference to it (1597) implies that in his time it was a rarity, but in Martyn's Miller (1807) it is spoken of as common in English gardens. Its exceeding hardiness and its accommodating nature in respect of soil, and, above all, perhaps, the ease with which it may be multiplied by suckers, caused it to spread fast and free from the time its beauties became known.

Syringa persica is the well-known Persian lilac, of which there are several varieties, as the purple and the white flowered; the entire leaved and the cut leaved; the single and the double flowered.

Syringa Josikæa.—A native of Transylvania; is a rigid growing shrub with purple twigs, the leaves glossy green above and whitish beneath, the flowers purple. This does not impress one either by its beauty or distinctness. It flowers later than the Persian, and is of more value for its foliage than its flowers.

Syringa Rothomagensis.—The Rouen lilac is a hybrid, and intermediate between S. vulgaris and S. persica. It is of free growth, and flowers abundantly, giving us a series of varieties. The principal of these are the Royal, with purple flowers, and the Sanguine, with flowers of a sanguineous hue. It is often catalogued as Rubra, and is one of the finest trees of its class.

Syringa Emodi.—This Himalayan species is at present scarce in gardens. It has elliptic-oblong leaves, glaucous beneath, and purple flowers.

Syringa Sibirica.—A fine species of vigorous growth, the leaves small and narrow, the flowers blush-tinted white; very fragrant.

Syringa Japonica.—A grand tree, robust, growing rapidly; the leaves ovate or broadly elliptic, thick textured; flowers very small, in immense panicles, white, scentless, or very faintly perfumed. This comes near to Ligustrum, and might for colloquial purposes be called the privet lilac, and, strange to say, there are good people in the world to whom such names are useful.

Syringa vulgaris is the common lilac, usually in gardens called "French." It is common in Persia and Eastern Europe, and was the first of its race introduced to this country. It is known by its large ovate-cordate leaves. It is a limestone plant, but will grow in any soil, and is as hardy as any of its family. This is the common blue lilac, of which there are red and white varieties, many of them bearing distinguishing names. Amongst the best of these are *Grandiflora*, white; *Albert the Good*, reddish purple, very fine; *Béranger*, rich lilac-red; *Charles X.*, well-known for its shining leaves and rich reddish-purple colour; *Dr. Lindley*, blue-purple; *Cœrulea*, purple in bud, when open, clear full blue; *Prince of Wales*, flowers in large panicles, purplish-lilac, the petals curled and giving the appearance of stripes to the flowers. The double variety known as *Lemoinei* is exceedingly beautiful, but we cannot say if it flowers freely. W.

TOBACCO CULTURE IN WORCESTERSHIRE AND GLOUCESTERSHIRE.

The following appeared in the *Times* of May 8:—I send you a few historical notes, taken from the Worcestershire Sessions' records and other sources, from which it may be seen that "the weed" was profitably grown in this neighbourhood in the 17th century, and if so, why not in the 19th?

Winchcombe, a neighbouring town on the border of Gloucestershire, seems to have been the place where it was first cultivated in the midlands, and it soon became so profitable a crop as to lead to its speedy introduction to Worcester, Feckenham, Eckington, Pershore, Upton, Snodsbury, Pensham, Kempsey, and other places in this county. The first mention of its use at Worcester is in the Chamberlain's accounts for 1643—"Item: for one ounce of bacca which Mr. Maior sent for to spend upon Colonel Sandys, and for bacca pipe, eighteen pence." That sum would now represent 15s. or £1; and the luxury being so costly rendered it the more fitting for the enjoyment of "municipal worthies" who also were liberal in its consumption when "taking sweet counsel" with their representatives prior to the departure of the latter for Parliament. It was then that the "collective wisdom" smoked and drank sack together at the Globe or the Talbot.

But the "wicked weed" met with a powerful opposition. As early as 1621 it was moved in the House of Commons by Sir W. Stroud that he "would have tobacco banished wholly out of the kingdom, and that it may not be brought in from any part nor used among us;" and Sir Grey Palmer said that "if tobacco be not banished it will overthrow 100,000 men in England; for now it is so common that he hath seen ploughmen take it as they are at plough!" At a later period of the century, so inveterate had the practice become that an order was placed on the journals of the House, "That no member of the House do presume to smoke tobacco in the gallery, or at the table of the House, sitting at committees." Indeed we are told by M. Jorevin, who visited Worcester *temp.* Charles II., put up at the Stag Inn, and published his doings in the "Antiquarian Repertory," that the women in this city smoked as well as the men. Complaints were made of this "imitation of the manners of a savage people," as it was feared that by this practice Englishmen would degenerate into a barbarous state. So great an incentive was it thought to drunkenness that it was strictly forbidden to be taken in any alehouse in the time of James I., and His Majesty exhausted much ponderous wit in attempting to cry down the weed, his celebrated performance "A Counterblast to Tobacco," denominating it "the invention of Satan," and the custom of smoking as "loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs, and in the black stinking fume thereof nearest resembling the horrible Stygian smoke of the pit that is bottomless."

To prove that the cultivation of the plant was profitable, it need only be said that the Worcestershire farmers ran the risk of defying the orders of the Lords of the Council and of the Parliament, and grew the plant extensively. In 1659, William George, of Eckington, was indicted at the Worcester County Sessions for planting, setting, growing, making, and curing tobacco there, on 400 poles of land, and a fine of £400 inflicted! It was then ordered, "That no person plant tobacco after January 1, 1660, according to Act of Parliament, within England, to sell, upon forfeiture of the same, or value thereof, or 40s. for every roode or pole so planted, set, or sown, one moiety to the King, and the other to the informer; not to extend to physick gardens in the University."

In 1662 letters were issued from the Lords of the Council which commanded that "all tobacco planted within the county of Worcester shall be speedily destroyed by order of the sheriff and justices of the peace," to whom the said letters were directed; and for many years subsequent to that period the chief constable of this county sent warrants to the various petty constables for cutting and destroying the weed, and regular returns were made by them as to whether they had found any growing within their constablewicks. It is thus clear that the cultivation was suppressed by force, and the inference is that it must have been profitable. I trust, therefore, that no unnecessary obstacle will now be thrown in the way of another attempt at the growth of tobacco at a time when every resource should be resorted to for arresting the downward course of agriculture.—Yours, &c.,

Worcester. J. Noake.

ANDROSACES.

These typical Alpines often disappoint the anxious guardian of a rockery garden, but in doing so they teach a lesson of general value, that he who runs does not always read. It may be said with truth that every separate species requires separate and special treatment; but while this would be putting the case in an extreme form, it is quite certain that it is judicious to group them so as to ensure for each group the conditions that are favourable to success. A common requirement of all androsaces is constant humidity. To guard against the dangers of a dry soil a peat bed in a bay of the rock garden is a suitable spot for the free-rooting species, and the cushion-growing kinds may with advantage be placed on broad, low ledges; it is quite an imprudence to perch them on pinnacles where dry saxifragas and sempervivums would thrive. It is not unusual when plants of A. chamæjasme come to us direct from the Alps to find that they have long roots like riding-whips; but the cushion-growers are surface rooters, and the most likely therefore to suffer both from summer drought and winter damp. It is as needful to ensure perfect drainage as constant moisture, and they all love to lean upon and mix their roots with stones, the moisture

ANDROSACE ROTUNDIFOLIA MACROCALYX (Flowers pale rose, calyx light green).

that they find in this way being the explanation. Not less important is it to provide them with a very sandy or rather gritty soil. There are no hardier plants known; but in the rock garden shelter is good for them, provided they enjoy full exposure to light. And the last word of a general kind that need be said is that they require a pure air, and therefore are quite unfit for a town garden, however well managed the rockery may be.

Androsace chamæjasme is the most accommodating plant of this genus, and may with advantage be placed amongst stones on or near the ground level, with a good body of sandy loam for its searching roots. *A. carnea*, *A. ciliata*, *A. obtusifolia*, *A. pubescens*, *A. pyrenaica*, and *A. villosa* may be associated with chamæjasme as a group, and all should be near the eye and hand for the attentions they require. Weeds may choke them, slugs may eat them, drought may kill them, winter damp may clear them off. But none of these are to be regarded as presenting any special difficulties in their cultivation, though not by any means adapted to the circumstances of a beginner in Alpine gardening.

The tufted kinds, such as *A. helvetica*, *A. Laggeri*, *A. Vitaliana*, *A. bryoides*, *A. pubescens*, and *A. imbricata* constitute another group of a more fastidious nature, being surface growers, loving to hug stones, and being more susceptible of summer drought and winter damp than the chamæjasme group. It is advisable to prepare a station for these; say, a small promontory, slightly above the level, fully exposed to the sunshine, with a good body of gritty peat free from calcareous matter, perfectly drained, but in some way or other conveniently situated in

SHUTTLECOCK CINERARIA, side view.

respect of the moisture the plants will need in high summer. As a matter of course, the water-pot employed with diligence will make an end of the primary difficulty.

Androsace lanuginosa is a lovely Indian species, not quite hardy, but needing only the help of a frame in cold places, and of a hand-light in warm and sheltered spots. When doing well it grows freely and flowers superbly, and it will make a feature on a ledge of rock when it has a good roothold in sandy peat.

Androsace sarmentosa is an Indian species, requiring to be planted in a bed of small stones with a good body of sandy peat below for its roots to run in. When in flower it may be likened to a verbena, but the Alpine man whose heart is in the business will consider the comparison profane.

Androsace rotundifolia is also an Indian species, and may be likened to a saxifraga, the leaves being large and orbicular, lobed and crenated; but the flowers being of a true androsace pattern. This requires a loamy soil. It is more of a frame than a rockery plant, and is well adapted for pot culture. A variety named *macrocalyx* is of larger growth than the type, and with larger calyx lobes that bring them into the category of leafy-flowered primulas. The prominence of the calyx is shown in the figure, which is reduced from B.M. 6,617, where the variety is described as raised from Himalayan seed by the late Isaac Anderson Henry of Edinburgh. W. B.

A SHUTTLECOCK CINERARIA.

We have lately received from Messrs. W. Gordon and Sons, Coltbridge, Edinburgh, blooms of a curious and beautiful cineraria, which

SHUTTLECOCK CINERARIA, front view.

we have termed the "shuttlecock," because of its curious structure and appearance. The disk has a drum-like form, and the ray florets are inserted around in the way of the feathers on a shuttlecock, each floret being suddenly contracted at the base, which increases the likeness to feathers. The flowers sent were richly self-coloured, very striking and pleasing in appearance.

FAULTS OF AURICULAS.

By James Douglas.

With the recent Auricula exhibitions fresh in our minds, the above subject is a tempting one, and perhaps no more appropriate one could be chosen for a discourse at this time. To be to their faults a little blind, may be charitable and kind to the raiser of them; but the wisdom of ignoring the faults of your own seedlings or the faults of those raised by others is of a very doubtful kind. Some twelve years ago I spared no pains to obtain every good named Auricula in cultivation that had been raised up to that time. I inspected the very large collection of the late Mr. A. Meiklejohn, of Stirling, and some others in Lancashire. The plants obtainable had to be grown into a healthy, vigorous condition, and even then all the named varieties of that period, with very few exceptions, had many and serious faults.

Prince of Greens, that has since become so popular, was scarcely known. It is a green edge and, as this takes rank as the first and highest class, we may begin with that class, and take Prince of Greens as an example. It certainly produces the best truss of well formed pips of any green-edged Auricula, its ground or "body" colour is a rich dark marone, the paste is good, and the edge a rich deep green. But it has a pale, watery tube which, as the flower fades, dies off an inky colour—a very serious fault indeed. If this variety had a rich yellow tube it might be taken to illustrate the highest point attainable in green-edged Auriculas.

Amongst the old varieties Champion (Page) was considered the best. This variety I had from two sources. Its fault was the want of vigour. I tended the plants for years with the greatest care, and never could get a truss. I have seen it well grown with Mr. Horner, when it made good trusses of well-formed flowers, the edge emerald green, the ground colour reddish, the paste sufficient, and the tube good.

Freedom (Booth) had the same fault. It would not grow, and even when well grown it has an angular paste, which is its chief fault. The ground colour is quite black, edge rich dark green.

A SHOWY BUT FAULTY GREEN-EDGED AURICULA, selected from the National Auricula Society's Exhibition.

Amongst the very old varieties, Colonel Taylor (Leigh) stands pre-eminent, but it is seldom good enough for exhibition; one has to grow nearly a dozen plants to obtain one with a really handsome truss. The best truss I ever had was exhibited in the collection of twelve varieties at the last National Exhibition at South Kensington. When it was first sent out plants of it were sold for five guineas. The late Mr. Thomas Hogg, of Paddington, in his treatise on the Auricula, published in 1832, says of this variety: "Mr. Bailey, of the Clapton

Nursery, some years ago, produced at the Islington Flower Show as fine a plant of Lee's Colonel Taylor, and in as fine bloom as ever was exhibited, perhaps, in England, and which he sold the same day to Mr. Brooks, of Ball's Pond Nursery, for the sum of five guineas; but we are further told the plant never flowered again, but soon died owing to the pernicious compost used at that time. The Rev. F. D. Horner says of it: "Colonel Taylor is at times caught superior to all his faults, and is then a full, rich green edge, with body colour almost black, not a large flower, nor yet too small if kept to a truss of five or six pips." Its faults with me are that the ground colour is not constant, and the pips are uneven; nor did I ever see five good ones on the same truss.

The Rev. F. D. Horner has two or three good green edges with fewer faults than the old varieties. Monarch is the best of them; and the Rev. F. D. Horner (Simonite) is a decided acquisition: the edge and ground colour of this variety are really good, but the paste is slightly angular. None of Mr. Horner's flowers are to be obtained as yet, nor will they be sent out unless their raiser finds they maintain their first maiden promise. At present, therefore, every green-edge in commerce has faults of a serious kind; and of the hundreds of seedlings I have been able to raise by crossing, the best of them are worse than the parents, with very few exceptions. Verdure is the greenest-edged variety I have raised yet. It was exhibited in my collection of twelve; but the paste is thin and the petals pointed, as in the annexed wood-cut. I have not alluded to Anna (Trail), Imperator (Litton), Duke of Wellington (Dickson), and some others, because their faults are so evident that they cannot be admitted to a select collection. Good green-edged Auriculas are the most difficult to obtain, and are consequently held in greater estimation.

The grey-edged class comes next in order, and contains some of the best Auriculas. The trusses are fine, and they also surpass in smoothness, breadth, and roundness of petal all others. An old variety, Ringleader (Kenyon), which was well exhibited at South Kensington, is the parent of George Lightbody (Headly) and Lancashire Hero (Lancashire). The first of these two is a model of what an Auricula ought to be. In form of flower and substance of petal it is yet unsurpassed. Its fault, according to Mr. Horner, is "want of life in the body colour and of decision on the broad edge." That is to say, the ground colour is not quite broad enough sometimes. This fault, I ought to say, has been corrected in Greyhound (Horner), which will certainly oust Headly's George Lightbody if it comes up to its quality of 1885.

Lancashire Hero is not a decided grey edge, but is a noble flower with few faults. Amongst the newer varieties, Mrs. Moore (Douglas) and Silvia (Douglas) are not without faults. The outline of the first-named is not perfect, and Silvia has a slightly scalloped paste. Ajax (Horner) I have now proved sufficiently. It is doubtless from Ringleader, is sufficiently distinct from it, but not very greatly superior. As for some of the older grey-edged varieties, such as Complete (Sykes), Privateer (Grimes), General Bolivar (Smith) Mary Ann (Fletcher), &c., of the dark ground section, they may be dismissed as third, or, at least, not better than second-rate.

Another type of grey edge is that with bluish or violet ground; the probable parent of this section is Violet (Moore), and the varieties at present in cultivation are Colonel Champneys (Turner), Frank (Simonite), Marie and Sophie (Chapman), Sophie Dumaresque, probably raised by Chapman, but Mr. Meiklejohn could not say for certain who was the raiser of it. All the above are beautiful, and add lustre to any collection, but their faults are on the surface, and discernable at a glance; the pips are uneven, and the ground colour dashes through to the edge. I am not sure but I like Marie as well as any of them. Mr. Horner says of it: "Chapman's Marie is a belle, her edge almost white, and body colour a liquid violet blue."

In addition to other unpardonable faults, all the flowers of this colour have pale watery tubes. I have raised probably a thousand seedlings in the vain attempt to get a variety of this colour with good properties. I exhibited one three years ago under the name of General Grahame, which gained a first-class award from the Royal Botanic Society. As shown, it was superior to anything else, but its subsequent behaviour has been disappointing.

I am now nursing about three hundred seedling blue selfs, but they are getting their necks twisted as fast as the flowers open. Verily, the raiser of seedling auriculas has a golden opportunity for practising patience.

In white-edged flowers there has been an undoubted improvement during the last few years. Mr. Horner, to whom we all look as a leader in the culture and knowledge of Auriculas, says of the white edges, "I think there is no lovelier form of the flower than the true white edge. It is the Auricula in her modest glory—in her bridal dress." We have two very good new or recent white-edged varieties in Acme (Read) and Conservative (Douglas). They are both small plants, but prolific in offsets; they are both black ground varieties, with good rich yellow tube and perfect white edge. I have bracketted them together because I do not care to take the responsibility of placing the one before the other.

Smiling Beauty (Heap) is still a grand white edge; I have not been without it in my exhibition collection of twelve varieties once in ten years. Our excellent friend, Mr. Barlow, of Stakehill House, was present at the letting out of Smiling Beauty, and can tell of the disappointment of poor Heap when he failed to sell his small lot of plants at half a-guinea each. The raiser had, however, the pleasure of seeing Beauty lead the white-edged class for many years subsequently.

The three I have named are the best white edges. Reliance (Mellor) I grew and exhibited this year, but it was coarse and not a good white. The petals are wavy, like those of Glory (Taylor), a celebrated flower in its day, but it is now surpassed. True Briton (Hepworth) when it comes a good white is very fine, but it is often a grey only. Ne plus ultra (Smith) is distinct and good, but the petals are a little pointed; it has a chocolate ground colour, and is always a good white edge. John Waterston (Cunningham), though classed as a white, ought to be placed with the greys; the tube is too wide.

Earl Grosvenor (Lee) is a very good variety sometimes, but it has a fault which some of the others I have named do not lack; the farina is scattered over the ground colour. Ann Smith (Smith) has a steely blue ground colour, with a fair white edge, but it never has a massive truss, and its petals are always pointed, as in the variety figured in connection with this paper. Lady Sale (Smith) seems to be popular with many growers; it is certainly distinct, but lacks a well-defined edge, and the ground colour strikes through it. Miss Arkley (McDonald) is quite unique in its reddish ground and white edge, on which the farina is not sufficiently dense to hide the colour. Catherina is too small, so also is Ashworth's Regulator. Indeed, were I a beginner, I would purchase Acme, Smiling Beauty, and Conservative to seed from, leaving out everything else. I have omitted John Simonite (Walker); it is sometimes a grand white edge, but it is not a good parent. Its fault is in the tube, which is too open.

In selfs the faults are not glaring; the most common being a narrow paste, whereas a broad pure white paste of considerable density is indispensable. The outline ought to be circular, and there must be no notches in the petals, or want of substance in them. Some of the best selfs are Pizarro (Campbell), not quite a black nor marone, but a dark brown. It has been placed highest on the list, but the flowers lack substance, and the farina does not cover the centre with sufficient density. Blackbird (Spalding) is an old favourite, but its self edge is too narrow, and the tube is sometimes of undue size. Negro (Mellor) promises well as a new variety, and the northern growers praise Woodhead's Black Bess. The blue selfs have all the serious fault of pale tubes. The bluest and best of them is Sapphire (Horner). Charles J. Perry (Turner) is a very fine variety, and has long been popular. Mrs. Douglas (Simonite) has large handsome flowers of greater substance than the other two, but it has the fault of the powdered centre being too small.

In a collection of selfs Eliza (Sims) should hold a place, its greatest fault with me is that the edge fades almost as soon as the flowers open. Lord of Lorne (Campbell) has long been popular as a crimson self; it is one of the most vigorous growing Auriculas in existence; and a contrast to a yet darker crimson, Duke of Argyle, by the same raiser and from the same seed pod. The Duke refuses to grow absolutely, and scarcely increases at all. I have omited in the above list the new seedlings raised by Mr. Horner, that are not yet sent out. Perhaps some of them, that promised well, never will be distributed. Hersine, a dark self, for instance, has been sufficiently proved, and is the best self yet raised. Mr. Simonite also has some good seedlings, and there are a few in our own collection.

It has appeared to me best to write of varieties that any one can purchase. It must also be understood that I do not condemn any of the above flowers because I mention their weak points. We grow most of them in our collection, but naturally prefer those that have fewest faults. Referring to the wood-cut illustration, the centre or tube is of the right size, so also is the encircling paste; but the ground colour is not dense enough, and I may here remark that this part of the flower is never solid as in some "models," but strikes out in short lines to the outer edge, but not through it. Another fault is the pointed petals, which ought to be what the fanciers call rose-leaved, not pointed.

This faulty example was selected at the National Auricula Exhibition because of its exceeding "effectiveness," which attracted attention, and which of course gave emphasis to its exceeding faultiness.

New Plants, Flowers, and Fruits.

Trichosanthes palmata (*B.M.*, 6,837).—An interesting and beautiful Indian cucurbit.

Gentiana Bigelovi (*B.M.*, 6,838).—Flowers funnel-shaped, violet blue.

Hæmanthus Barri (*B.M.*, 6,839).—A dwarf, fleshy-leaved plant, more curious than beautiful.

Cypripedium Godefroyæ (*B.M.*, 6,876).—A fairly good figure of this interesting orchid.

Hoya Griffithi (*B.M.*, 6,877).—A beautiful species, with large rose-tinted creamy flowers.

Cypripedium Sanderianum (*Gard. Chron.*, 1886, 554).—A fine species from the Malayan Archipelago. It comes near to C. lævigatum.

Cattleya labiata Luddemanniana Schroderiana (*G.C.*, 1886, 554).—The flower is large, snow white, with orange lines and purple streaks and dots.

Allamanda Hendersoni (*G.*, 542).—A good figure, but not bold enough in size or colour. The accompanying paper is of importance.

Lilium Canadense (*G.*, 543).—Figures of two varieties.

Syringa Japonica (*G.C.*, 1886, 560).—A hardy shrub with large coriaceous leaves, and very large compound panicles of small white flowers.

Thrixspermum indusiatum (*G.C.*, 1886, 585).—An orchid of the Malayan Archipelago; it has no special attraction.

Cymbidium eburneum Philbrickianum (*G.C.*, 1886, 585).—Colour quite white, petals and sepals narrow.

Cattleya Lawrenciana concolor (*G.C.*, 1886, 585).—The flowers of one whole shade of light purple.

Beaumontia grandiflora (*G.C.*, 1886, 593).—A truthful figure, quite superseding B.M. 3,213, which was prepared from a poorly-grown example.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 6d. and 1s.—[Advt.]

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory will now require embellishing with a fresh stock of plants in flower, as many of the climbers and other large subjects will soon be past their best, and tree paeonies, forced roses, and deutzias will be gone. Celosia pyramidalis, stocks, balsams, and globe amaranthus should be pushed forward; begonias, fuchsias, and pelargoniums will of course be coming on well, and herbaceous calceolarias and show and regal pelargoniums ought now to be making a grand display. It is necessary to have plenty of these things, because of the demand for cut flowers at the season when lawn tennis parties are in vogue, and a good supply will allow of frequent changes in the conservatory, where, if anywhere, variety and change are charming. Permanent occupants of the conservatory, will now be growing with vigour, and must have plenty of water. Use shading sufficient to prevent scorching, but do not treat the sunshine as an enemy.

Hard-Wooded Plants will now require plenty of air, and specimen plants in flower must have shade. Cut back specimens that are out of shape, and keep them rather close afterwards, to obtain good breaks, so as to bring them into proper shape, and get the wood well ripened for next year's bloom. Where plants are crowded many may be removed to frames, so as to allow of a freer circulation of air.

Fuchsias and Petunias make beautiful specimens for pot blooming in the autumn if struck now and kept regularly stopped till July. They should not have a high temperature, fuchsias especially, which like shade and moisture.

Cinerarias done blooming should be cut down and planted in rich soil, in a cold frame, to furnish offsets for potting.

Camellias and Azaleas that have made their young shoots should have a little more ventilation to prepare them to go in the open air next month to ripen their wood.

Pelargoniums out of bloom to be cut in, and allowed to break before repotting them, and the syringe and fumigator kept in use as may be necessary, to destroy red spider and green fly.

Fire-Heat should be dispensed with as much as possible, preparatory to clearing and cleaning out the house.

Shift, Stop, and Tie out all soft-wooded plants that are advancing in growth; but if required to bloom shortly they must not be disturbed, merely kept in shape, and have plenty of water with free ventilation.

FORCING AND ORCHARD HOUSES.

Peaches and Nectarines ripening to have as much air night and day as can be given. Keep the atmosphere pretty dry, but the border must be moist while the trees are still growing. As soon as the trees show that they have made sufficient growth, assist them to ripen the wood by reducing the supply of water, and the more the sun roasts them the better.

Pines must be shaded lightly on bright days, and the soil about them kept regularly moist, and liquid manure used frequently. Suckers should be removed as soon as they make their appearance, except so far as they may be required for stock. Young pines for winter fruiting should be in a rather light soil, to prevent excess of moisture from stagnating about them. Pines for fruiting in autumn to have a heat of about 80 deg., with abundance of moisture. Plants throwing up suckers to have abundant watering and every necessary attention. In too many instances they are neglected at this stage of their growth, and the consequence is that stock has to be raised from poor weak suckers instead of the strongest that the plants can make.

Vinery.—Vines that have their roots in inside borders should be liberally supplied with water, and the shoots should be tied in in good time. Vines in pots will require frequent supplies of liquid manure, and stopping of laterals must be attended to, to regulate the growth. Red spider must be kept in check by the use of sulphur, and the best method of using it is to paint the pipes with a mixture of sulphur, lime, soot, and water. Examine the bunches occasionally, and thin them regularly, to promote their beauty and the size of the berries.

FLOWER GARDEN AND PLEASURE GROUNDS.

Annuals are held in light estimation because people do not really cultivate them. Thin out the patches and top the branching kinds, and they will bloom so vigorously as to be altogether unlike the crowded spindling things on which people vent their abuse. Quick-flowering annuals sown in shady places at the end of the month or early in June will come into flower for succession to those that are exhausted, and prove of great service.

Chrysanthemums lately struck to be potted off and plunged in beds of coal-ashes or cocoa-nut fibre waste. Cuttings of the pompone varieties put in now will make shrubby plants by autumn if well treated. When shifted to 60's let them have a firm loamy soil, plenty of turf and well-rotted dung, abundance of water overhead as well as at the root, and exposure to all weathers. Pompone chrysanthemums make nice plants for ordinary purposes from May cuttings, and better without than with bottom heat.

Dahlias should not go out till quite strong, unless to be protected every night with inverted flower pots, each pot to be covered with a mat. Dahlias should be potted in rich stuff to ensure strong plants before planting out, and be gradually hardened.

KITCHEN GARDEN AND FRAME GROUND.

Beet of the first sowing to be thinned to one foot apart as soon as large enough. Time enough now to sow for a crop of moderate-sized roots to store for winter.

Capsicums and Tomatoes may be turned out on warm borders towards the end of the month, but there will be nothing gained by over-haste. Tomatoes planted against south walls should be covered every night till the first week in June.

Celery.—In pricking out, choose a hard bottom for the bed, on which lay four inches of rotten dung and two inches of light soil. Handle the plants tenderly, water lightly and regularly, and keep the lights over till they look brisk and growing. They will lift from such a bed with vigorous roots, and at the first planting out choose the forwardest plants, and let the others remain for the next set of trenches.

Cucumbers in frames will require plenty of air and a brisk bottom heat. Re-line the beds where necessary. Train and thin the shoots. After lining give plenty of water round the inside of the frames. Sow or strike cuttings for succession. Ridge cucumbers to be planted out under hand-lights or trenches two feet and a half wide and one foot deep, filled with dung twice turned to a foot above the level. The dung should not be soiled over for a few days after making the bed.

Melons just planted must be kept close and warm till the roots get to work, and then a short-jointed growth should be encouraged by moderate ventilation and abundance of light.

Potatoes.—Hoe between the rows as soon as the plants appear, and hoe frequently irrespective of weeds and moulding up.

Sow Beans and Peas for succession, Savoy for late crop. Cabbage, Broccoli, Kale, Beet-root, Kidney Beans, both runners and dwarfs, Lettuces, Spinach, Turnips, Cucumbers, and Marrows may now be sown in the open ground for a late supply.

Vegetables in Season comprise Asparagus, Broccoli, Cabbages, Lettuce, Leeks, Onions, Radishes, Spinach, Turnips, French Beans, Carrots, Cucumbers, Mushrooms, Potatoes, and Tomatoes.

THE DAFFODIL.

By the Rev. C. Wolley Dod. Read at a meeting of the Horticultural Club.

(*Concluded from page 263.*)

The last section, Moschatus, or the White Daffodil, is very interesting. The only form of it we yet know for certain in its own home was rediscovered about six years ago by Mr. E. N. Buxton on the Spanish slope of the Pyrenees whilst chamois hunting, about 6,000 feet above the sea-level, near Mount Perdu. It was in May, and at that elevation the flowers were just out. Mr. Buxton at once laid down his rifle, and supplied himself with roots of this new prize, which were the first wild ones brought to England in recent times. Since then this habitat has become known to French collectors, and many thousands of bulbs have been imported thence to England. It has always been supposed that other and larger forms of this section are to be found wild in Spain, but we do not know for certain that any have yet been found, and we want trustworthy information on this point. A character of this section is that the separation of the perianth divisions is marked by a conspicuous line continued nearly to the bottom of the tube. This completes my short notice of the principal known wild forms, but the list of known wild forms will constantly increase, and is growing from year to year. A very distinct variety was sent to me by Mr. Alfred Tait from Portugal early in last month, but not in sufficiently good condition to describe its character. Another remarkable form of daffodil was sent by the same gentleman with perianth divisions reflexed so as to meet in a point, and with no tube. It is thought to be identical with the N. cyclamineus adopted by Haworth from old authors who figured it. If not a hybrid, it seems to demand a new species to itself, for it can hardly find a place amongst N. pseudo-narcissus.

I have followed Mr. Baker in adopting Haworth's names, though I feel all the while that several of them are misapplied. It seems inconsistent to adopt an author's names when the characters given by that author to the plants he describes under those names are manifestly at variance with the characters of the plants to which we apply them. For instance, Haworth's N. minor was a flower with imbricated perianth divisions, whilst we now apply it to a flower of which a distinctive mark is its free perianth divisions; and the same inconsistency applies to N. minimus. Again, the N. nanus of Haworth was a pale sulphur-coloured daffodil with leaves half an inch wide. Our N. nanus is a full yellow, with leaves narrower than those of minor. I am at a loss to know what variety Haworth intended by the name rugilobus, which he classes under the section pseudo-narcissus; but it is now transferred to one belonging evidently to the bicolor section, and identical, so far as I can judge, with lorifolius. The same uncertainty attends several others of the names of Haworth in their recent application.

We now pass on to speak of N. pseudo-narcissus as a cultivated plant, and of the changes and improvements which have taken place, or may be expected to take place, in its development under cultivation. Some of the finest forms, as Emperor, Empress, Horsfieldi, are believed to be varieties of cultivation, because they are not known to have been found wild, and the names of the growers are known; but whether they were produced by artificial crossing or by careful selection of seed from the finest flowers, and from seedlings raised under the most favourable conditions, we have not certain information, though the latter supposition is most probable. In a species in which so many and distinct natural varieties exist it seems not unreasonable to expect that there would be a strong natural tendency in the seed to produce varieties, but there is not sufficient evidence to support this belief. On the other hand, the more we become acquainted with large beds of wild daffodils growing away from the influence of other varieties, the more we are led to the conclusion that like produces like in daffodils as in other plants. We find, for instance, that the daffodils in the north of Portugal form a set of varieties distinct from those of the Pyrenees, whilst the Maritime Alps and North Italy have special forms which retain their distinct characters. We must not dogmatize on these matters, but let us consider the case of the Tenby Daffodil, which ripens seed and grows from it more freely than any variety I know. It covers several acres in South Wales, where it has grown for many generations; yet it continues remarkably constant to form, and varieties are hardly ever observed. Many similar instances might be mentioned. In gardens, on the other hand, where many varieties are in flower together, when we consider the readiness with which some distinct species of narcissus produce hybrids, we may infer that pseudo-narcissus will readily cross with varieties of the same species, and we reasonably expect spontaneous varieties from seed.

Few of us have patience to raise successive generations of daffodil from seed, keeping them carefully labelled for all the years—probably six at least—until they flower. So the history of new varieties raised in gardens is seldom known. It is more easy, however, to notice and record changes where no raising from seed takes place, changes which are produced by continued cultivation under favourable conditions of soil and climate. These conditions seem particularly favourable in many parts of Ireland, and I will give examples in illustration. I am indebted to Mr. Barr for calling my attention to the remarkable development in size and vigour which takes place in the Botanic Gardens at Dublin in the case of the variety of daffodil called maximus. The size of this variety in those gardens is such that Mr. Barr for long believed it to be a distinct and gigantic and early-flowering variety. When, however, it is planted in England side by side with maximus from Holland, and under the same conditions, the contrast the first year is very conspicuous. After a few years the two gradually assimilate themselves, until no difference can be seen. Another variety common in Irish gardens, and to some extent naturalized in Ireland, is named Princeps. As grown in Ireland this is perhaps the largest

of all daffodils. It comes to us from there in several sizes, as Princeps maximus, Princeps minor, and so on. I can hardly say whether these differences are maintained in any gardens in England, but I can assert that after two or three years all the varieties of Princeps become so degenerate in Cheshire as to produce flowers hardly larger than those of the wild type of pseudo-narcissus. I may mention, too, the fine daffodil called spurius, which has, I believe, recently been found wild by Mr. Englehoart in Italy. Spurius is a very old variety in the Dutch bulb farms, and comes thence to England bearing flowers of one size. It is now known that this variety is common in Ireland, both as a naturalized and as a garden plant, and in more than one size, some resembling the Dutch plant in every particular except size, but being much larger. This may be due to the favourable conditions in Ireland for its growth. I have cultivated the large form for six years, and it still maintains its majority; but whether it will in time reduce its dimensions to the Dutch size time will show.

I will further add that it is useless to compare the merits of or to attempt to identify daffodils until they have been grown together under the same conditions for a year or two. When this has been done, we want continuous observations and careful notes of them through a series of years, to see what changes soil and climate make in the same variety, in colour, size, habit, and form, especially noting the recurving of the corona to see whether this character is quite constant, or due to climate or soil in any degree.

Again, we cannot be sure until we have tried them for at least two years what varieties are best suited to the special conditions of our own gardens. Daffodils, according to their variety, have their likes and dislikes. Most of them prefer rich rather sandy loam, retentive, but well drained; and on the cold, stiff subsoil of my garden in Cheshire nearly all do better on raised beds. The moschatus section alone seem to like lighter soil of a peaty character. N. minor and N. minimus seem rather delicate and dislike wet; their flowers, which are dangerously near the ground, are much relished by slugs, and require, where such vermin abound, to be protected by perforated zinc collars or by a dressing of powdered tobacco—a valuable preventive. Several daffodils are, comparatively speaking, failures in my garden. I have already mentioned princeps. The major of trade produces few flowers, and the foliage looks unhealthy. Maximus increases slowly, and is liable to be attacked by an obscure disease which rots the base of the ball and prevents the formation of fresh roots. The Italian Telamonius looks healthy, but does not flower freely. The most floriferous of the larger kinds in my garden is spurious, whilst pseudo-narcissus, the type said to degenerate and die out in some gardens, flowers and flourishes extremely well. So do Horsfieldi and Emperor. I have mentioned these instances to show that daffodils require to be proved in each garden and selected accordingly.

At what Depth ought Daffodils in Gardens to be Planted?

The answer depends partly on the variety to be planted, partly on the character of the soil and the subsoil; but let everyone who can make patient experiments and carefully record his observations on this point. My own experience is generally in favour of deep planting, especially in raised beds where the drainage is good. Such daffodils as those called minor and nanus should, of course, not be planted more than half as deep as Horsfieldi and Emperor. In deep well-drained soils I plant from 4 to 6 inches deep in the case of the smallest kinds to a foot in the largest. When daffodils that have been dug up wild are sent to us in leaf it is easy to see at what depth they have grown; and not only have I taken notice of this, but have inquired of these who have dug up daffodils much abroad in their native homes. These accounts agree in telling of huge daffodils, with flowers as large as Emperor, which, after long and laborious digging, the finder was obliged to relinquish because they grew so deep. Some very fine daffodils just received from Italy, where they grow wild, reported to resemble maximus in appearance, have grown at a depth varying from 12 to 18 inches; and my friend Mr. Engleheart mentioned others still larger, none of which he succeeded in digging up. Mr. Tait sent me the leaf and flower of a lorifolius found near Oporto, being as large as those of Emperor, the bulb of which was deep beyond his reach.

On the other hand, a number of minor sent last week from the South of France had grown at an average depth of 3 inches. The soil was rocky, and a large proportion of oak-leaf mould was mixed with it on the surface. We must not, therefore, try to make our rules for depth too absolute. I need not point out that deep planting enables the gardener to cultivate other plants over them in summer, which may be done without any damage to the bulb provided that the growth of the leaves is not interfered with, and the soil sufficiently enriched by a top-dressing.

Daffodils do far better on a border facing, in autumn, a south than with a north aspect. The doubling of daffodils is a subject to which I have long paid special attention, though on several points connected with it my mind is by no means made up. It is certain that N. pseudo-narcissus doubles into a variety of forms, two of which may be particularly noticed: (1) the form in which the corona remains entire, and the doubling is confined to the inside of it—this we call the semi-double form; (2) the form in which the corona is split into six segments and spread open. This we call, for distinction, Rose-double. I have quite satisfied myself, by long observation, that these forms are not constant, but are often interchanged from year to year, depending upon conditions of soil and cultivation. About this time last year nearly 100 double typical pseudo-narcissus were sent to me, which were dug up wild when in flower. All of these were semi-double; but this year nearly all which have flowered at all have become rose-double. In the southern counties of England and Wales the type pseudo-narcissus is often found double, growing mixed up with single forms. It is hardly ever the rose-double, but when transferred to gardens the rose-double is the commoner form for it to assume. In spite of their taking that form, their tendency, in my garden, is to become constantly less double, until the divided corona closes together again, and the flower becomes entirely single and perfect in all its organs. These same bulbs, if sent to their native soil, produce double flowers again in a year. On the other hand, I have never, by any soil or cultivation, succeeded in persuading any single daffodil to double in my garden. As regards the frequent assertions made that in some gardens the typical single wild pseudo-narcissus will change in a few years into the large double daffodil called Telamonius, these assertions are too consistent, and made, I am certain, in too good faith to be at once rejected; but they require very careful investigation, which I have long been making, and am still continuing to make. Botanists assure me that no metamorphosis of any part or organ is necessary to effect this change. That single daffodils in some soils and under some conditions will produce double flower is nearly certain. Mr. Tait, of Oporto, sent me last summer a bag of double-flowered daffodils which he assured me were dug up in the neighbourhood single, and when planted in his garden became double. There is no mistake about identity of variety in these; the single kind is unlike anything I have ever before seen in cultivation in England, and the double flower, although a hideous monstrosity, evidently belongs to the same variety; but, as I said before, assertions of this kind require careful sifting.

To conclude, lovers of the daffodil may be congratulated on having a favourite which is easy of cultivation, presents endless variety, and gives less cause for anxiety through accidents than most flowers. Few destroyers, whether mice, or birds, or wireworms attack the bulb of daffodil. The narcissus fly is a pest of a warmer climate than ours. Dwarf forms like N. minor and N. minimus, as I said before, invite slugs, which, however, attack the flower only. High winds, too, are serious enemies to daffodil flowers. A westerly gale on March 31 snapped off at the ground line some of my best opening flowers; so that daffodils should either be planted in a sheltered place, or, if in windy quarters, be tied up; but upon the whole there is no class of flowers which give a more satisfactory result with a less amount of labour than N. pseudo-narcissus.

Calls at Nurseries.

ROCK GARDEN IN YORK NURSERIES.

The glory of the York nurseries is the rock garden, and the immense collection of hardy herbaceous plants. The rock garden has been in course of construction for many years; a portion of it has been made within the last year or so. It is formed of large masses of natural rocks, some blocks weighing as much as three or four tons. The choicest of alpine plants are grown here, as I have not seen them anywhere else, but of course considerable care has been taken to provide each species with the soil, and other material best adapted to its wants. The various species of primula are very beautiful, P. marginata, for instance, is quite at home, and forms great masses; P. rosea is also very beautiful in its setting of moss or green grass.

Amongst primulas in flower I noticed P. glaucescens, it has handsome trusses of showy rosy purple flowers, and grows well in peat and loam well drained. P. venzoi is new to me, but it is a distinct species, which varies in its tints of pale purple and lilac; the petals are deeply notched. A charming little species in great plenty is P. Allioni, it forms tufts an inch or two high, producing for its size large lilac flowers. One of the most beautiful forms of P. auricula is a deep yellow variety under the name af P. Balbisi.

Saxifragas also make a splendid show on the rocks in the early spring months, and for certain positions they are better than primulas. S. Burseriana major opens its flowers amongst the drifting snow. S. lantoscana follows close on its heels; and S. oppositifolia is very beautiful, forming great masses of rosy purple flowers. There were hundreds of plants of a variety named maxima superba. There were also a few plants of a white form.

Amongst the newer Saxifragas, S. Kotschyi, raised by Mr. Otto Foster, has pretty yellow flowers. It has been raised by crossing S. Frederici with S. Kotschyi. S. Boydi, raised in Scotland, is said to be a natural hybrid between S. Burseriana and S. aubretiodes. It has yellow flowers, and is of neat habit. Viola alpina is a very pretty plant for the rock garden; it has large purplish flowers, with a dark centre. What a lovely plant, too, is the Grecian anemone, A. blanda. It is as free in growth as our own wood anemone, and of many shades of blue. The most beautiful blue is the Omphalodes verna; it is now in flower, and in masses a yard across, resembling Forget-me-Not, but a more rich blue. There is also a white variety. The Androsaces grow in masses on the rocks, and do not require a deep soil, as they grow in the fissures. A. ciliata was in flower, and is one of the prettiest; it is very dwarf, flowers rosy red with yellow eye. A. Wulfeniana is also a neat plant, producing rose-coloured flowers. Daphne Blagyana is a charming hardy shrub, producing pure white flowers with the most delicious perfume.

Scillas and Chionodoxas are abundant, and they ought to be plentiful in every garden. A beautiful spring flower, not so well known, is Puschkinia scilliodes. There were a number of plants in flower, and along with it is Libonatica compacta, which proves to be the same thing, as it has been sent here; the flowers are white with faint blue lines. Noticeable amongst the Croci are two species, C. Boryi alba, white with yellow centre, and C. pusillus, white with purple stripes and linear rush-like leaves. Corbularia citrinus was flowering, plunged outside in pots, where it had been all the winter. Soldanella alpina is also a very pretty plant when well placed, and seems to establish itself well; its pretty lilac-purple flowers cannot fail to please. Excellent shrubs for the rock garden is the dwarf rhododendrons, R. Laponicum, only three or four inches high, yet furnished with trusses of small purple flowers; R. setosum is later but similar in habit. The Fritillarias are now mostly in flower; F. pudica, yellow; and F. Moggridgei, also furnished with large golden flowers, and F. tulipifolia with the leaves of the tulip; it has stems a foot high, and several dull purple flowers.

The Dog's Tooth violets are prominent features here. The one best adapted for ordinary gardens is the common Erythronium dens canis; its varieties album and roseum are common enough. I noticed a very fine form not so common, under the name of sibiricum. Its flowers are purplish with creamy centre. A pretty border plant is Dentaria polyphylla; it produces clusters of creamy white flowers above its pale green foliage. The varieties of Hepatica triloba are very numerous. These have been collected in the south of Europe, and are interesting as showing how much this charming spring plant varies in its wild state. The pure white form is lovely; and to see the double blue variety in great masses flowering freely makes one envious. J. D.

MR. WILLIAM BULL'S EXHIBITION OF ORCHIDS.

The exhibition of orchids that Mr. Bull has provided this season for the entertainment of visitors to his nurseries comprises all the great features for which those annual displays have from the commencement been distinguished. The show, as in previous years, is held in the house contiguous to the magnificent winter garden, with its elegant palms and tree ferns and its noble cycads, and well adapted is it to the purpose to which it is now put. On entering this spacious structure the difficulty is at once felt of determining whether the immensity of the display, the wealth of colour, the abundance of varieties of exceptional excellence, or the taste evinced in the disposition of the innumerable examples is the most worthy of admiration. Happy is the visitor who in passing the portals does not indulge in speculative questions, or attempt to determine what is the most worthy of praise in the exhibition, but, instead, at once enters into the full enjoyment of the fairy-like scene.

Cattleyas contribute so liberally to the attractions of the exhibition as to well deserve first mention. The comparatively new C. Lawrenciana musters in very strong force, and amongst the numerous specimens are several varieties so thoroughly distinct from the type and, moreover, of such high quality that many will be the wistful glances cast upon them by cultivators who are perforce compelled to be satisfied with the typical forms. The dark varieties are especially attractive, but one of the most interesting is that which has been named C. Lawrenciana oculata. This is distinguished by its having a pure white throat, as in C. Skinneri, and very bright and attractive is the appearance it presents. The fine old species last-mentioned is well represented, and one of the most conspicuous objects in the collection is C. Skinneri splendens, which is remarkable for richness of colouring and the large number of flowers of each spike. C. Mendeli Empress may be mentioned as one of the best of the many fine forms of this beautiful species in the exhibition house; it has flowers of immense size, and the sepals and petals, which are of great breadth, are pure white, and the labellum brilliant purple. C. Mendeli grandis is also a remarkable fine variety, the flowers being of large size and the colouring very rich.

Lælias include a large number of splendidly-flowered specimens of L. purpurata and its finest varieties. Especially noteworthy amongst the latter are L. purpurata Schrederiana, which has large, delicately-coloured flowers, and L. purpurata Brysiana, remarkable for its breadth of petals, and the deep purple colour of the labellum.

Odontoglossums contribute liberally to the display, and do not fail to obtain a large share of attention. Immediately in front of the entrance is a bank of O. vexillarium, the plants set in a fresh green groundwork of Adiantum cuneatum, and distributed through the house are dozens of well-bloomed examples of this fine species. These show a considerable variation in the size, shade, and colouring of the flowers, the colours ranging from the pure white of O. vexillarium albescens to the brilliant rose of O. vexillarium rubrum, which, by the way, is the most beautiful of all the high coloured varieties of the species. O. Alexandræ is conspicuous, and few orchidists will fail to note O. Alexandræ Chelseiense, which has flowers of immense size, the sepals and petals of great breadth, the former being profusely blotched with rich rose. O. citrosmum, which is now in perfection, forms a series of bold masses, and very pleasing is the effect produced by the association of the delicate rose-coloured flowers of O. citrosmum roseum with the delicate white blossoms of the type. Other odontoglots of special importance are O. histrionicum, a very handsome species with large flowers richly coloured yellow and bright red; O. cordatum superbum, a very beautiful variety, remarkable both for the large size and the richness of the flowers; O. Rossi majus, O. cirrhosum, one of the most elegant of the many beautiful species; O. triumphans and O. Roezli and its chaste white form.

Cypripediums comprise C. Godefroyæ, C. Dayana, C. lævigatum, C. ciliolare, C. Lawrencianum, C. barbatum Warneri, one of the best of the several forms of this lady's slipper, and C. Domini.

Oncidiums include the new O. undulatum, a handsome species in the way of O. macranthum, from the United States of Colombia, which was certificated the other day. There are also numerous examples of O. Jonesianum, a distinct species with handsome flowers profusely spotted with red on a pale lemon yellow ground; O. nigratum, an elegant variety with medium-sized flowers freely spotted with dark marone on a pure white ground; and O. macranthum aurosum, which has flowers of a more golden hue than the type. Suspended from the roof are numerous finely-flowered specimens of O. concolor, its racemes of bright yellow flowers presenting a very pleasing appearance.

Masdevallias attract attention by reason of their quaint forms and brilliant colours, and present a very striking contrast to the Cattleyas and Odontoglossums; M. Veitchiana gigantea, and M. Harryana acanthifolia may be mentioned as representing the finest forms of the respective species, and M. trochilus is so singular that it should not be overlooked.

Cymbidiums are represented by two species only, but they contribute much to the exhibition. These are the chaste C. eburneum, and the magnificent C. Lowianum, the last mentioned being represented by at least a dozen splendidly developed specimens. Racemes a yard in length, and bearing twenty-five flowers each are quite common and produce a striking effect. Mr. Bull has a very fine variety which he has designated atropurpureum, in which the throat is pure white, instead of yellowish green, as in the normal forms, and the blotch on the labellum of a brilliant shade of crimson.

Of the phalænopsis, dendrobiums, epidendrums, vandas, and trichopilias, space will not permit us to speak, but it must be said that they will not fail to afford abundant interest to the orchidist or to attract the attention of the general visitor.

MESSRS. J. CARTER AND CO.'S CINERARIAS.

The magnificent exhibition of cinerarias which Messrs. J. Carter and Co. have had in their nurseries at Forest Hill for some time past possesses special interest as demonstrating the capacities of these flowers for the embellishment of the conservatory, and at the same time showing the high state of perfection to which they have been brought by the firm. On entering the two houses devoted to the cinerarias the eye is almost dazzled by the brilliancy of the display of colour; but when it has become somewhat accustomed to the rich and varied colours afforded by the immense collection the fact soon becomes apparent that the plants, which are exceptionally well grown, are remarkable for their compact habit and dense flower heads, and that the flowers are of the largest size and superb shape, in the latter respect being well nigh perfect. There are upwards of seven hundred specimens, the majority being in eight or nine inch pots, and of the whole number there was not one of which the flowers were not of full size, with stout overlapping florets and perfectly circular. The uniformity in the matter of quality is indeed one of the most striking characteristics of the strain, and is not likely to fail in securing the appreciation of those cultivators who are acquainted with the disappointment resulting from growing large stocks raised from seed saved from an indifferent strain. With reference to the colours it may be said there is hardly a shade produced by the cineraria that is not represented. There are crimsons of great brilliancy, in some cases closely approaching scarlet; rich purples and magentas, deep and light blues, bright rose, and pure white. Flowers of which the florets are white tipped with rose or some other colour light up the collection in a remarkable manner, and present a very pleasing contrast to the selfs. The pure white flowers with violet coloured disc are particularly attractive, and must be regarded as a great gain to the cultivator.

Herbaceous calceolarias, for which the firm has long enjoyed a high reputation, have received increased attention at Forest Hill of late years, and the large collection which is now coming rapidly into bloom promises to produce a display not less remarkable in its way than the cinerarias. The calceolarias are also distinguished by their compact, sturdy habit, the comparative solidity of the flower heads, and the large size and rich markings of the individual blooms. In the frames we made note of the mimulus, which, as in the case of the calceolarias, are now coming into bloom. Of these there are many thousands of plants, and the flowers attain such gigantic proportions and are so richly coloured as to be sufficient to surprise even those who are well acquainted with those somewhat singular plants. Tobacco culture is also receiving due attention, and immense stocks of all the best kinds for commercial purposes are being raised with a view to putting to a thorough test the practicability or otherwise of the profitable production of "tobacco leaf" in the United Kingdom.

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, May 11.

Promenade Show.

Seldom has the conservatory in the South Kensington Gardens of the Royal Horticultural Society presented a brighter or more attractive appearance, or the collections staged possessed a higher degree of merit than on this occasion, and it must have been very gratifying to the exhibitors to see how highly appreciated were their efforts by the large body of visitors. The whole of the available space in the conservatory was fully occupied, the principal features being those formed by the roses, which charmed the visitors by their freshness and beauty, the hardy azaleas and rhododendrons, and the hardy flowers, which included a few daffodils, the latter being shown in just sufficient numbers to indicate that for this season they have well nigh run their race.

Messrs. William Paul and Son, Waltham Cross, Herts, exhibited a magnificent bank of specimen and cut roses, which attracted much attention, and brought them the well deserved award of the silver gilt Banksian medal. The specimen roses were of medium size, densely furnished with foliage to the rim of the pots, and bearing from twelve to twenty flowers each, the individual blooms being of large size and superb quality. The varieties represented in the collection comprised Madame Moutet, Glory of Cheshunt, a fine English rose producing large, full, and well-finished flowers of a brilliant crimson colour; Etoile de Lyon, one of the finest of the yellow teas; Elie Morel, a charming pink variety; Mons. Furtado, Marquise de Castellane, Marie Baumann, Madame Villermoz, Baron Wolseley, an excellent dark rose; Madame Gabriel Luizet, a very pleasing variety, with fresh pink flowers; Jacob Metral, rich crimson; Madame Fanny de la Forest, Souvenir d'un Ami, Alphonse Soupert, bright rose, large, and good; Dr. Andry, Queen of Queens, one of the best of the many good roses introduced by the firm; and Violette Bouyer. The cut roses comprised several boxes of superb blooms of Maréchal Niel, and good flowers of Charles Lefebvre, Selfaterre, President, Crown Prince, Devoniensis, Ulrich Brunner, Niphetos, Fisher Holmes, Duke of Teck, Dupuy Jamain, and Masterpiece. Mr. William Rumsey, Joyning's Nursery, Waltham Cross, Herts, contributed a group of roses in pots, consisting of dwarf bushes and standards in about equal proportions. The award of a bronze Banksian medal was made to the exhibitor.

Messrs. H. Lane and Son, Great Birkhampstead, who were awarded the silver-gilt Banksian medal, contributed a large collection of hardy azaleas and rhododendrons, which was arranged with exceptional taste, and produced a rich and striking effect. The azaleas consisted chiefly of varieties of Azalea mollis, which are extensively cultivated by the firm; and the rhododendrons included such fine varieties as H. W. Sargent, Mrs. R. S. Holford, Lady Eleanor Cathcart, The Queen, James Bateman, Mrs. John Clutton, Barclayanum, Michael Waterer, Minnie, and Lady Armstrong. Messrs. Wills and Segar, Onslow Crescent, South Kensington, exhibited two baskets of finely-flowered examples of Erica Cavendishi, for which they were accorded a vote of thanks. A like compliment was paid to Mr. J. Walker, Thame, for a basket of Gentiana acaulis, which appears to be quite at home with him. Messrs. Paul and Son, Cheshunt, contributed densely-flowered specimens of Rhododendron Fortunei, var. Mrs. C. Butler, a fine variety, bearing large blush-coloured flowers, and perfectly hardy, and of R. Lady Mary Fitzwilliam, a beautiful greenhouse hybrid, of which the flowers are pure white and very large in size. The firm exhibited also examples of Sunset Rose, an excellent tea-scented variety which is proving in every way worthy of the high character received when first introduced, and of Pride of Reigate, a beautiful hybrid perpetual, with flowers of a rich purple-crimson striped and flaked with white. The award of the bronze Banksian medal was made to the firm.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, contributed an immense collection of hardy flowers which sufficed to occupy a broad stage extending one-half the length of the conservatory, and received the award of the silver-gilt Banksian medal. The collection included excellent specimens of all the best varieties of Primula Sieboldi and good examples of about twenty of the finest of the Moutan Pæonies, one of which had the distinction of a first-class certificate conferred upon it. Excellent specimens were also staged of Geum miniatum, Gentiana verna, Disa grandiflora, Adonis pyrenaica, a beautiful species which received recognition from the Floral Committee; Trillium grandiflorum, Cypripedium pubescens, a very beautiful hardy species bearing large yellow flowers. The plants were supplemented by a bright display of cut flowers, those of the Moutan Pæonies being particularly interesting. Conspicuous amongst the varieties of those showy subjects of which flowers were staged in a cut state were Argueil de Hong Kong, deep purple; Caroline, delicate, very distinct and pleasing; Triomphe de Van der Moen, rich rose; Lactea, white; Esires, rich marone-crimson, one of the most distinct varieties of the series, and invaluable for contrasting with the light forms; and Fragrans maxima plena, a charming variety, remarkable for the delicacy of colouring of its flowers. From Messrs. Barr and Son, King Street, Covent Garden, W.C., came an extensive and attractive collection of cut flowers of irises and daffodils, for which they were awarded the silver Banksian medal.

Floral Committee.

Present: G. F. Wilson, Esq., in the chair; Major Lendy, Rev. W. Wilks, and Messrs. Shirley Hibberd, H. Bennett, W. Bealby, Amos Perry, H. Herbst, J. Walker, J. Hudson, G. Duffield, G. Paul, R. Dean, W. Holmes, H. Ballantine, J. Dominy, H. M. Pollett, J. O'Brien, H. Turner, T. Baines, H. Cannell, W. B. Kellock, and E. Hill.

The novelties presented to the committee on Tuesday were few in number, and of these only three were certificated. Orchids were fewer in number than at the meeting held a fortnight previously, but those staged were by no means wanting in importance. Mr. Pollett, Fernside, Bickley, contributed a small but very interesting group of odontoglossums, for which he was awarded

the bronze Banksian medal. The group comprised finely flowered examples of O. sceptrum splendens, a superb variety, distinguished by the large size and superb colouring of the flowers; O. Alexandræ Bennyana, a good variety, with large rose-tinted flowers marked with blotches of rose on the sepals; O. Alexandræ guttatum roseum, a beautiful form, the flowers of full size and heavily blotched with rose; O. Andersonianum and O. Wilckeanum pallens, with flowers of which the ground is a pale sulphur-yellow; and O. citrosmum roseum grandiflorum, one of the darkest of the forms of this beautiful variety. Mr. Howes, gardener to Mrs. F. Bennett, Tulse Hill House, Upper Tulse Hill, contributed a specimen of Dendrobium speciosum bearing twelve well developed racemes, and remarkable for the rich colouring of its flowers. A vote of thanks was accorded Mr. Howes, and a similar compliment was paid to Mr. Bradshaw, gardener to Baron F. de Rothschild, Waddesden, near Aylesbury, for a good specimen of Lælia purpurata. Mr. Bonny, Downs Park Road, Hackney, exhibited the pretty little Phalænopsis Parishi; Mr. R. Eichel, gardener to E. Charlesworth, Esq., Bradford, submitted a white form of Cattleya Gaskelliana; and from Mr. Bridger, Penshurst Place, Penshurst, came an example of the beautiful Dendrobium thyrsiflorum.

Messrs. J. Veitch and Sons, King's Road, Chelsea, contributed cut specimens of several hardy trees now in bloom, and were accorded a vote of thanks. These comprised Cydonia Maulei, Cerasus padus, Spartium præcox, a handsome broom, with pale yellow flowers; and Philadelphus microphyllus, an elegant species, with small white flowers. The firm contributed also a basket of plants of Rubus arcticus, a very dwarf-growing species, bearing single flowers about an inch in diameter and of a bright rose colour. From Messrs. H. Cannell and Sons, Swanley, came a gathering of flowers of Pride of Penshurst carnation, a yellow flowered variety, now known as one of the best varieties of its colour. The New Plant Company, Colchester, contributed flowers of Tulipa Gregi and other species. Messrs. Paul and Son exhibited an interesting basket of hog plants, amongst which were Ranunculus parnassifolius, a charming little species, with silvery foliage and papery white flowers, and Sarracenia purpurea, which grows most vigorously and blooms profusely in the hog garden in the nursery of the firm at High Beech. Messrs. J. R. Pearson and Sons, Chilwell, Notts, staged several of their fine new Zonal pelargoniums, and Mr. C. Orchard submitted a double cineraria, with blush-coloured flowers.

Fruit Committee.

Present:—Mr. T. F. Rivers, in the chair: Major Mason, and Messrs. A. W. Sutton, J. E. Lane, W. Denning, J. Ellam, W. Warren, G. T. Mills, G. Norman, J. Burnett, T. J. Saltmarsh, P. Crowley, R. D. Blackmore, T. B. Haywood, Harrison Weir, G. Bunyard, and C. Silverlock.

On this occasion the Veitch memorial medal and £5 were offered for a collection of salading, but only one collection was staged, and that was not considered sufficiently meritorious to justify the award, and the prize was accordingly withheld.

Great interest was imported to the meeting of the committee by the collections of apples and other fruits from the Colonies. The Canadian Commissioner exhibited fifteen dishes of apples, all of which were of large size and splendidly coloured. Especially noteworthy were the samples of Seek-no-Further, Swaar, Northern Spy, and English Nonpareil. Mr. J. Lang, Castlemaine, Victoria, presented a very fine collection of apples, in which the examples of Reinette du Canada, Lane's Prince Albert, Merritt's Pearmain, Northern Spy, and Dumelow's Seedling were of immense size and of high quality. The Commissioner of South Australia submitted a collection of apples and dried fruits. The award of a silver Knightian medal was made to each exhibitor. Mr. Divers, Maidstone, exhibited a collection of apples and pears which were in a fairly good state of preservation for so late in the season.

Novelties.

The following first-class certificates were granted:—

To Messrs. J. Veitch and Son for

Phœnix hybrida.—A very handsome palm, with comparatively large and gracefully arching leaves, remarkable for the length and deep green colour of the leaflets.

To Mr. T. S. Ware for

Adonis pyrenaica.—A rather rare Pyrenean species, bearing large, finely formed flowers, of a very rich yellow colour.

Pæonia Reine Elizabeth.—A superb Moutan variety, the flowers of immense size, very double, and of a rich carmine hue, passing to bright satiny rose.

BATH FLORAL FETE, May 12.

Under the most unfavourable circumstances as regards weather the Bath Floral Fête was held on Wednesday in the Sydney Gardens, Bath. The bright scorching sunshine of the previous week was followed by a copious rainfall, which, continuing almost for thirty-six hours, with but slight intervals, seriously affected the takings at the gates. The tents, considered waterproof, served only to filter the heavy rains on and among the choicest of the many good things staged, whilst the carriage-ways and paths, inside and outside, formed as many seas of soft mud. However, lovers of flowers and managers of floral fêtes have to make the best of such circumstances, and not a few braved the elements to inspect a gorgeous gathering of plants and flowers. Once under the tents, and the thoughts of a long continued winter vanished as one gazed on the grand specimens of flowering plants from the stove and greenhouse, the cut roses and orchids, and the gloriously developed plants with ornamental foliage. Those whose lot it is to visit the exhibitions at this western city from year to year, would, at a glance, discern that the number of giant specimens were fewer than usual; and, without further inquiry into the causes, we will proceed to note some of the choicest staged on the occasion.

Stove and Greenhouse Plants.—In the class for twelve distinct, Mr. J. Cypher, Cheltonham, was accredited with the premier award (£12) for a prime group, including Pimelia Hendersoni, and P. spectabilis, a pair of plants of great merit, leaving in size, form, and profusion of flowering but little to be desired; Anthurium Scherzerianum, carrying forty spathes; A. Scherzianum densifolium, with thirty spathes; Hedaroma tulipifera, Azalea Cedo Nulli, A. magnifica, Aphelexis macrantha purpurea, Francisea eximea, Erica affinis, E. Cavendishi, and Dracophyllum gracile. The second prize (£8) was awarded to C. Gardiner, Esq., Bridlington (gardener W. Long), for an excellent group of plants, embracing Ixora Fraseri, I. Williamsi, Erica Cavendishi, E. Vernoni, Pimelia decussata, P. mirabilis, Anthurium Scherzerianum, with thirty-four spathes; A. Andreanum with twelve spathes; Statice profusa superba, Azalea Iveryana, Hedaroma tulipifera, and Clerodendron Balfouriana. In the corresponding class for nine, Mr. J. F. Mould, Pewsey, Wilts, was first with a group of exceedingly fresh, full-sized, well-flowered examples of Boronia pinnata, Statice profusa, Clerodendron Balfouriana, Erica Victoria, superbly coloured; E. ventricosa coccinea minor, E. affinis, Imantophyllum miniatum, Epacris miniata grandiflora, and a good azalea. The second place was occupied by Major W. P. Clarke, Trowbridge, who staged a good group comprising Azalea Mdlle. Louise Van Houtte, A. Comtesse de Flandres, Anthurium Scherzerianum bearing thirty-six large spathes; Ixora coccinea superba, Erica alba, Statice profusa, Epacris, Eclipse, Clerodendron Balfouriana, and Bougainvillea glabra. E. E. Bryant, Esq., College Road, Bath, was third with beautifully-grown examples of Anthurium Scherzerianum with thirty spathes; Hedaroma tulipifera, H. Hookeri, Erica tricolor grandiflora, E. Cavendishi, Polygala oppositifolia, Pimelia spectabilis, Bougainvillea glabra, and Clerodendron Balfouriana. For six, the first prize was awarded to Mr. W. C. Drummond, Weston Nursery, Bath, who staged three quarter-sized specimens of Epacris miniata splendens, Eriostemon nerifolium, Anthurium Scherzerianum, Rhynchospermum jasminoides, Pimelia spectabilis, and Bougainvillea glabra. Thos. Jolly, Esq., Bath, was awarded the second prize for Anthurium Scherzerianum, Bougainvillea glabra, Polygala Dalmaisianum, Rhynchospermum jasminoides, and other good things.

Ornamental Leaved Plants were well represented. In the large class excellent groups were staged by Mr. J. Cypher and E. E. Bryant, Esq., both groups containing the best of the palms, crotons, pandanads, and cycads for exhibition purposes.

Azaleas were not quite so numerous as usual, but the specimens staged were remarkably good. The first prize collection of twelve was staged by C. Gardiner, Esq., the specimens of fine cone shape, eight feet high, and densely flowered. The varieties of which it consisted were Criterion, Roi de Hollande, Iveryana, Duc de Nassau, Souv. du Prince Albert, Flag of Truce, Model, Mrs. Turner, Magnet, Stella, and Stanleyana; Mr. J. Cypher, second, with good bushes comprising Duchesse Adelaïde de Nassau, Mrs. Turner, Cedo Nulli, Model, Flower of the Day, Criterion, Duc de Nassau, François de Leis, and Reine du Pays Bas; Mr. Drummond third. In the class for six Mr. Mould was well to the front with nicely grown plants of Marie, Hermann Seidel, L'Incomparable, Magnificent, Simon Mardner, and Sankey.

Single Specimens formed a most interesting division. For stove or greenhouse Mr. J. Cypher was first with a small plant of Anthurium Scherzerianum with thirteen very large handsome spathes; C. Gardener, Esq., second with a choice example of Ixora Prince of Orange. For a heath, Mr. Cypher first, with a large specimen Erica Cavendishi; C. Gardiner, Esq., second, with E. Cavendishi. For ornamental foliage, Mr. Cypher, first with Kentia Canterburyana; Mr. Drummond, second, with Cycas revoluta. For an azalea, C. Gardiner, Esq., first, with a grand pyramid of Model, Major Clarke, second, with a fine coloured example of Vivid.

Orchids.—Of these some sixty specimens were staged. In the class for six, Rev. E. Handley, Bath, was accorded the post of honour for a charming group, including Cattleya Mendeli, C. Mossiæ, Odontoglossum Roezli, Lælia purpurata, Oncidium Marshallianum, and Dendrobium thyrsiflorum; Mr. H. C. W. Miles, Bath, second, with Cypripedium caudatum roseum, Dendrobium thyrsiflorum, Oncidium macranthum, Masdavallia Lindeni, Odontoglossum Pescatorei, and Cattleya Mossiæ; Mr. J. Cypher, third, with Dendrobium, thyrsiflorum, D. suavissimum, Cattleya Mossiæ, C. Mendeli, and Cypripedium Lowi. For four, E. E. Bryant, Esq., first, with a very bright lot, including Cypripedium barbatum nigrum, Dendrobium litniflorum, D. thyrsiflorum, and Ærides Fieldingi; H. C. W. Miles, Esq., second, with Cymbidium Lowianum, Cattleya Mossiæ, Lælia cinnabarina, and Masdevallia Lindeni; R. B. Cater, Esq., Bath, third, with Cattleya speciosissima, C. Mossiæ, C. citrina, and Dendrobium thyrsiflorum. For a specimen (open) the card went to Rev. E. Handley, for a charming example of Odontoglossum citrosmum; while in the class for amateurs, R. B. Cater, Esq., led with a plant of Cattleya Mossiæ; Rev. E. Handley second, with Cypripedium Lawrencianum. In the non-competitive sets were pretty plants of Dendrobium crystallinum, Odontoglossum Alexandræ, O. constrictum, Oncidium sphacelatum, Epidendrum vitellinum, and Cattleya intermedia.

New or Rare Plants were not large represented. The first prize in the class provided was awarded to Mr. Cypher, for Anthurium Rothschildianum; Mr. W. C. Drummond second.

Roses made a bright display, the plants being symmetrical, healthy, and fairly flowered. For nine, S. P. Budd, Esq., Bailbrook, Bath, occupied first place with Catherine Mermet, Dupuy Jamain, Safrano, Comtesse de Serenye, Céline Forestier, Edouard Morren, Catherine Soupert, La France, and Pauline Lahoute; R. B. Cater, Esq., second with Charles Lawson, Madame C. Joigneaux, Madame G. Luizet, John Hopper, Rubens, Baronne Gonelle, Maréchal Niel, Marie Van Houtte, and Madame Willermoz. For six, Thos. Jolly, Esq., Bath, led with a nice group, wanting a few more hours of sunshine to expand the developing buds. The selection comprised Marie Van Houtte, Madame Rivers, Lady Mary Keith, Magna Charta, Princess Mary of Cambridge, and Charles Lefebvre; F. J. Walker, Esq., second with Madame Lacharme, Royal Standard, Richard Wallace, Albert Pages, Edouard Morren, and Xavier Olibo.

Cinerarias produced an extensive display, and the plants were dwarf grown and well bloomed. The prizes were awarded to R. B. Cater, Esq., Jerome Murch, Esq., and W. J. Brown, Esq., of Bex.

Calceolarias constituted a beautiful feature. The plants were good, and all the blooms were of large size and richly marbled, blotched, and spotted, with effective selfs, representing a fine strain. Major Clarke, Right Hon. Lord Justice Lopes, and Jerom Murch, Esq., divided the honours amongst them.

Pelargoniums constituted a brilliant feature. For nine, the card went to a magnificent group staged by Mr. J. Cypher, each plant three feet six inches across, well bloomed, and furnished with abundance of large healthy foliage. The varieties were Miss Simpson, Charles Outram, Decorator, Edward Perkins, Royalty, Digby Grand, Triomphe de St. Mandé, Rob Roy, and Lady Isabel; Major Clarke second with nice plants of Virgin Queen, Edward Perkins, Sappho, Sultana, Mary Mallet, Rob Roy, and Triomphe de St. Mandé. For six Mr. A. C. Biss, Bath, was placed first with Digby Grand, Lady Isabel, Edward Perkins, Duchess of Bedford, Kingston Beauty, and Triomphe de St. Mandé; Mr. J. Mattock, Headington, Oxford, second with Duchess of Edinburgh, Duchess of Bedford, Edward Perkins, Triomphe de St. Mandé, Mrs. Bradshaw, and Snowdrop; E. E. Bryant, Esq., third with William Smith, Rose Celestial, Digby Grand, Edward Perkins, Duchess of Edinburgh, and Perle Blanche.

Heaths.—Several groups of four each were staged. Mr. J. Cypher was first with large examples of Erica depressa, E. ventricosa coccinea minor, E. ventricosa magnifica, and E. Cavendishi; Mr. J. F. Mould second with E. Lindleyana, E. tricolor Wilsoni, and E. Bothwelliana; E. E. Bryant, Esq.,

third with E. Cavendishi, E. coccinea minor, E. tricolor Wilsoni, and E. depressa multiflora.

Cut Blooms included a number of choice hand bouquets, epergnes, and collections of bouquets in which all the choice varieties of stove, greenhouse, and orchid blooms were utilized. In addition, there was quite an array of tulips and pansies.

Roses were also exceptionally well shown. For twenty-four, Mr. John Mattock, Headington, Oxon, carried off the champion prize with a collection of blooms remarkable for their size and purity of colour, his selection including plump buds of Maréchal Niel, Catherine Mermet, Anna Oliver, Souv. d'un Ami, Souv. de Paul Neyron, Niphetos, Mme. Welch, Mme. Willermoz, Helen Paul, Auguste Rigotard, Jean Pernet, Perle des Jardins, Princess of Wales, David Pradel, Belle Maconaise, Hippolyte Jamain, Merveille de Lyon, and Comtesse de Serenye; S. P. Budd, Esq., second, with a box containing good blooms of Duc de Rohan, Alba rosea, La France, Catherine Mermet, Eug. Appert, Maréchal Niel, Princess of Wales, Mme. de Watterville, Countess of Oxford, Mme. Willermoz, Marquise de Castellane, Countess of Pembroke, Niphetos, Souv. d'un Ami, Grace Darling, Lady Mary Fitzwilliam, Duchess of Connaught, and Mme. Lambard; Messrs. G. Cooling and Sons, Bath, third, with a box consisting chiefly of Maréchal Niel, and Alba rosea, Devoniensis, Dupuy Jamain, Captain Christy, Countess of Oxford, Paul Neyron, La France, and Victor Verdier; for twelve blooms, W. Pethick, Esq., Sneyd Park, Bristol, was awarded premier honours. Extra boxes of blooms were staged by several of the above named competitors and Mr. F. Hooper, Bath; Messrs. J. R. Pearson and Sons, Chilwell Nurseries, Nottingham, staged a collection of pelargoniums arranged as bouquets in thirty-six varieties. A very interesting collection of narcissi in variety, and fancy polyanthuses came from E. J. Lowe, Esq., Chepstow, the flowers being generally of good forms.

Fruit.—Of apples and pears there were a few nice dishes, the premier award for apples going to a prime dish of Blenheim Orange. Strawberries were very fine, both gathered and in pots. For a dish, the first prize went to grand fruit of James Veitch, and the second and third to President. Those in pots were Sir J. Paxton.

Vegetables, for so early in the season, were staged in quantity. Cucumbers comprised Telegraph, Fear Not, London Market, and Biss's Cluster. Peas, Sangster's No. 1, Ringleader, and American Wonder; while Shiner, Ashleaf, International, and Woodstock Kidney potatoes were exhibited in good condition Asparagus, cauliflowers, cabbages, carrots, leeks, and rhubarb were each shown in quantity and of high quality.

BIRMINGHAM ORCHID EXHIBITION, May 12 and 13.

Owing to the great and rapid development of orchid culture in the Birmingham district during the past few years, the exhibition projected by the Birmingham Botanical and Horticultural Society was regarded with much interest, and it was generally expected that it would be alike remarkable for its extent and the high character of the collections. But high as were the anticipations of the promoters and others interested, the exhibition which was held on Wednesday and Thursday far surpassed the expectations of the most sanguine, and may be well regarded as one of the most important events in the history of orchid culture in this country. The schedule, which had been prepared with much judgment, contained eleven classes, comprising five for general collections, two for odontoglossums, two for cattleyas and lælias, one for masdevallias, and one for collections of cut flowers, thus ensuring an adequate representation of all the more important genera that are now in flower. In the whole of the eleven classes the prizes were exceedingly liberal, and the competition throughout was as keen as could well have been desired; and as the result of the spirited manner in which the prizes were contested, the large exhibition house, which forms part of the glass buildings of which an illustration was given in these pages in July last, had the space it affords taxed to the utmost. The arrangements were carried out with much taste and judgment by Mr. Latham, the able curator; and as palms and ferns of a suitable character were liberally associated with the orchids, the general effect was surprisingly beautiful. The weather unfortunately was wet and cold on both days, and consequently had a very unfavourable influence on the attendance of the visitors, a matter much to be regretted, both in the interests of the society and the residents in the town and its wide-spreading suburbs.

The contributions to the great open class for collections of twenty formed an important part of the exhibition, and did not fail to receive a full share of attention from the visitors. The first prize of £15 was awarded to Mr. J. Cypher, Cheltenham, for rather large, splendidly flowered, and remarkably fresh specimens of Vanda suavis, bearing three very fine racemes, Lælia purpurata, Saccolabium præmorsum, with superb racemes of exquisitely beautiful flowers, Odontoglossum citrosmum roseum, Dendrobium nobile, almost solid with bloom, D. thyrsiflorum, a magnificent specimen bearing thirty-five racemes, Cattleya Mendeli, C. Skinneri oculata, a superb form distinguished by its pure white throat, C. Mossiæ, profusely flowered, C. Mossiæ grandiflora, a superb variety, Cypripedium Lawrencianum, fresh and good, C. biflorum, very bright, C. villosum, exceptionally good in colour, Dendrobium crystallinum, one of the most beautiful of the many good dendrobes now in bloom, Calanthe veratrifolia, Anguloa Clowesi, Odontoglossum Roezli, Oncidium concolor, and Lælia elegans. Mr. J. Morgan, gardener to A. W. Wills, Esq., was second with a beautiful group, the specimens of medium size, and remarkably well flowered. Especially noteworthy in the group were Cattleya intermedia, Dendrobium Deari, a beautiful white-flowered variety of recent introduction, Lælia purpurata, Dendrobium Falconeri, a well bloomed specimen of this exquisitely beautiful species, which is seldom seen in such good condition, Odontoglossum Alexandræ, Cattleya Mossiæ, C. Mendeli, Lælia majalis, and Cypripedium niveum.

The premier award in the trade class for ten was made in favour of Mr. J. Cypher, who staged finely developed specimens of Dendrobium chrysotoxum, Lælia purpurata, Dendrobium Bensonæ, Calanthe veratrifolia, C. Mossiæ, C. Mendeli, a pale-coloured form of great beauty; C. Skinneri, with six fine spikes; Oncidium sphacelatum, and Dendrobium thyrsiflorum. Mr. J. Cypher was also first in the nurserymens' class for six, staging Dendrobium dixanthum, a very distinct species with rich orange-buff flowers; Cattleya Mendeli, C. Mossiæ, Oncidium sphacelatum, Cypripedium Lawrencianum, and Lælia purpurata.

The competition was very keen in the amateurs class for ten, and at the head of the several competitors was Mr. G. Barnes, gardener to C. Winn, Esq., Selly Oak, Birmingham, who contributed large and splendidly flowered specimens of Cypripedium barbatum, an exceptionally fine dark form, bearing about thirty flowers, Cypripedium Lawrencianum, Cattleya Mendeli, C. Mossiæ, Odontoglossum Alexandræ, O. Rœzli, O. vexillarium, Masdevallia Harryana, Oncidium Marshallianum, and Lælia purpurata. Mr. E. Cooper, gardener to Rt. Hon. J. Chamberlain, M.P., Highbury, Birmingham, was a close second with specimens remarkable for their freshness and finish, and including Cattleya Mossiæ, C. Mendeli, C. citrina, Oncidium concolor, O. Marshallianum, Odontoglossum citrosmum, O. Halli leucoglossum, O. Alexandræ, and Vanda suavis. Joshua Follows, Esq., Birmingham, was third with a collection consisting of rather small plants, but exceptionally fresh and well bloomed. The most important of the examples were Lælia purpurata, Chyris bractescens, Cattleya Lawrenciana, Ada aurantiaca, and Phalænopsis Luddemanni. Mr. Hodges, gardener to E. Wright, Esq., also contributed a good group, his principal specimens being those of Oncidium Marshallianum and Vanda suavis. The competition was very keen in the amateurs' class for six, and in this the first place was occupied by Mr. E. Cooper with specimens evincing cultural skill of a high order. The collection comprised Dendrobium densiflorum, bearing about forty splendidly-developed racemes, Aerides Lobbi, Lælia purpurata, Odontoglossum Alexandræ, and Oncidium Marshallianum. Mr. G. Barnes was a good second with Cypripedium spectabile, Cypripedium ciliolare, Dendrobium thyrsiflorum, Odontoglossum Alexandræ, O. vexillarium, and Cattleya Mendeli. Mr. J. Hodges was third with a collection in which Dendrobium Wardianum was well represented.

Two classes were provided for odontoglossums, and in that set apart for private cultivators Mr. G. Barnes was at the head of the competitors with a collection which materially enhanced the attractions of the exhibition and reflected much credit on his cultural skill. The specimens of which the collection consisted were Odontoglossum triumphans, with four superbly-developed spikes; O. citrosmum, bearing five good spikes; O. Alexandræ, O. Cervantesi, O. prænites, O. vexillarium albicans, a superb variety, remarkable for the large size and exquisite colouring of the flowers; O. tripudians, O. Roezli album, and O. Halli; J. Fellows, Esq, was second with a bright and attractive group, comprising well-grown examples of Odontoglossum Roezli, O. Roezli album, O. Cervantesi, O. Cervantesi decorum, O. citrosmum, and O. Alexandræ. In the corresponding class for trade growers, Mr. J. Cypher was first with capital specimens of Odontoglossum Alexandræ, O. triumphans, O. vexillarium, O. Roezli album, O. Rossi, O. Halli, O. citrosmum, O. Roezli, and O. Pescatorei.

The collections contributed to the classes for cattleyas and lælias produced a rich display of colour, and proved immensely attractive. Mr. J. Cypher was successful in taking the first prize for six lælias or cattleyas with medium sized specimens liberally furnished with flowers, of the under mentioned, namely, Cattleya Skinneri oculata, C. Mendeli, C. Mossiæ, C. citrina, Lælia purpurata, and L. purpurata alba. In the amateurs' class, Mr. G. Barnes was first, staging Lælia purpurata, L. elegans, L. cinnabarina, Cattleya Lawrenciana, C. Mossiæ, and C. Mendeli. Mr. E. Cooper was a good second, with a collection in which Cattleya Mossiæ was especially well represented.

The masdevallias were represented by two collections only in the class specially provided for them, but both were so good that they constituted one of the chief features of the gathering. Mr. G. Barnes was first with a very fine collection, consisting of superb specimens of Masdevallia amabilis, M. rosea, M. Veitchiana, M. Lindeni, M. Harryana, and its beautiful varieties, Acanthifolia, Thompsoni, Discolor, Dennisoniana, Splendens, Violaceum, and Cærulescens. Mr. J. Fellows had a less showy, but more interesting collection, in which were good examples of M. ignea, M. Veitchiana, M. Estradæ, M. ignea splendens, M. triangularis, M. Schlimi, M. Houllettiana, M. amabilis, and several fine varieties of M. Harryana. In the schedule it was stipulated that twelve distinct species should be shown in the class for masdevallias, but as both exhibitors staged varieties as well as species the stipulation was waived and the collections were judged on their merits.

There was a very attractive display of cut flowers, and the prizes offered for collections of twelve bouquets were awarded to Mr. J. Cypher, Mr. G. Barnes, and Mr. E. Cooper in the order of their names.

Collections of orchids not for competition were staged by Mr. Jinks, gardener to J. G. Wilson, Esq., Mr. E. Bicks, gardener to W. Chamberlain, Esq., H. Nettlefold, Esq., and Mr. Latham, the last mentioned staging a very fine group of specimens in which Cypripedium calceolus, and C. parviflorum were particularly good. Mr. R. Vertegans, Chad Valley, contributed a charming group of hardy herbaceous plants, and Mr. Hans Niemann exhibited a very beautiful collection of miscellaneous plants.

Cultural certificates were awarded as under: To Mr. Jinks for Dendrobium nobile, especially good; to Mr. Cypher for Dendrobium thyrsiflorum and Cattleya citrina; to Mr. E. Cooper for Dendrobium densiflorum; and to Mr. G. Barnes for his collection of masdevallias. A first-class certificate was granted to Mr. Latham for Gymnogramma Lathami, a robust growing species with bold and extremely elegant fronds. First-class certificates were granted to Mr. H. Niemann for Nephrolepis Bausei, Caladium Baroness J. de Rothschild, and Selaginella grandis, all of which are now well known.

GROSVENOR GALLERY EXHIBITION.

It is a peculiar advantage of the system that is now so thoroughly established at the Grosvenor, that the visitor is not bored by an interminable procession of mediocrities, the good grain is not encompassed by immeasurable heaps of chaff. The total of contributions to the present exhibition runs to 379 only, but very few lovers of pictures would ask for more, except, perhaps, under a guarantee that augmentation of numbers should not tend to the lowering of the average quality. This is, beyond doubt, the best spring exhibition in the whole of the Grosvenor series, and will be remembered for many reasons.

Probably the finest bit of work on show anywhere amongst the new pictures is Mr. Alma Tadema's portrait of a lady (67), in the west gallery, and it is interesting beyond its extraordinary merits, because we are unaccustomed to the portraiture of this master of what perhaps may, with propriety, be called classical *genre*. The minute elaboration, the exceeding realism and solidity of the work, and what we will venture to call intensity of finish, all lend their aid to the simple effectiveness of a complete and beautiful harmony in tones of green; it is a new revelation. There are many portraits here, and Mr. Frank Holl is in great power; while Sir Coutts Lindsay, Mr. W. B. Richmond, and C. E. Hallé divide honours in presenting phases of the human face divine. Mr. Burne Jones contributes a noble work in his own peculiar style. "The Morning of the Resurrection" (96) fixes attention by its solemnity, and takes hold of the memory by its power of exposition. The Lord has risen from the tomb, while yet the angels remain on guard, and is encountered by Mary Magdalene, who mistakes him for the gardener. The scheme of colour is worthy the special attention of such as can appreciate the general design of this sublime masterpiece. A lively scene is presented by Mr. Orchardson in his domestic story of "Master Baby" (31), which is painted

with his usual care, and shows capital modelling, but probably will not prove so generally acceptable as the slightly sarcastic and very picturesque studies by which he is best known. Only two studies of the nude appear in this collection; one is an ambitious work, by Mr. R. Barrett Browning, founded on an incident in the legendary story of Joan of Arc. It has the demerit of presenting the wondrous maid as an example of common-place humanity, and the impression it makes on one is that much power has been wasted. A much more pleasing, in fact, a delightful picture, is that called "Œnone" (74), by Mr. P. H. Calderon, which, perhaps, is faulty in the long softly-curved line of the left side of the figure, but is a most effective work of its class. Near by is the delightful "Kiss from the Sea" (81), of Mr. Hamilton Macullum. A rough fisherman carries a merry girl through the surf, while another throws a handful of water in her face, waking the merriment of the company of fishing folk in the boat that is the centre of the episode.

Of landscapes there is an agreeable variety. Mr. Keeley Halswelle appears to advantage in a pair of large works in cold grey tone, "Scaur Na Gillean, Skye" (35) and "Isles of Lock Maree" (228). Mr. Alfred Parsons will please many with "In a Cider Country" (122), which is possibly too green; and Mr. W. S. Jay will please a few with his "Autumn Memories" (176), which is certainly too yellow. A companion to this carroty thing will be found in the third gallery at the Academy, called "October Glows" (222), and it proclaims the painter to be a follower of the Prince of Orange. A sweet bit of quiet truth is Mr. E. H. Fahey's "Filby Broad" (175), with masterly steely lines of shallow water; and perhaps sweeter is Mr. Edgar Barclay's "Break of Day" (196), showing the mower at work amidst a drenching mist. Flower pictures are not conspicuous. Mr. Waterhouse contributes "A Flower Market" (104); a stony bit from an old Spanish city, with picturesque women and heaps of daffodils and violets, reminding one of Tadema, but not to be regarded as an imitation, or as anything but an original and honest piece of work. The "Hawthorn" (218) of J. Fitz Marshall is a meritorious trifle.

Replies to Queries.

Man-eating Tree.—E. L.—The story appeared in *Gardeners' Magazine*, March 13, 1875.

A. S., Camden Road.—Your fern is Cyrtomium falcatum. Its bad condition is the consequence of being kept too dry and too warm.

Orchids.—Beginner.—Considerable experience is necessary before much success can be achieved in purchasing and starting newly-imported orchids. As experience of orchid culture is wanting in your case, we would advise you to purchase well-established plants and to begin with showy kinds obtainable at a cheap rate.

Eucomis.—Young Gardener.—As the bulbs have been in the same pots two years a shift into others of larger size will be a decided advantage. Shift them into pots one size larger without the disturbance of either roots or bulbs, and use a compost consisting of turfy loam four parts, and well-rotted manure, leafmould, and sand one part each.

Celosias.—K.—Celosias raised from seed sown now will be the most suitable for decorative purposes during the autumn and the early part of the winter. Cultivators very frequently fail to ensure satisfactory results in consequence of their sowing the seed in March or early in April with the seed of cockscombs and other greenhouse annuals required for decorative purposes during the summer.

Camellias.—G. F.—It is not too early to remove camellias from under glass, for we are not safe from frost until quite the end of the month, and a very moderate frost would suffice to seriously injure the young shoots. Generally speaking camellias should be taken out of doors about midsummer, and remain in the open for ten or twelve weeks, according to the character of the weather in September.

Herbaceous Plants.—Amateur.—In raising herbaceous plants from seed it is advisable, when the seed is to be sown in the open, to make the sowing between May 15 and June 15, to afford the plants time to acquire strength before the autumn. Seed of very choice kinds should be sown in pans or shallow boxes, and be placed in a shady position, and covered with squares of glass, or be put in a frame, as may be the most convenient.

Beet.—B. A.—The main crop of beet should be sown at once, for if there is a much longer delay the roots will not attain a size sufficient to be of much service. Such varieties as Dell's Crimson and Pine Apple Short-top are the best for supplying the table during the winter, but for the latter part of the summer and early in the autumn the Egyptian Turnip-rooted will be found useful.

Cinerarias.—F. B.—The least troublesome way of obtaining a crop of offsets from the plants that have been selected for propagation will be to plant them in a shady border. This should be prepared by having a liberal addition of sand. Plant rather deep, and supply with water when necessary. The pots containing the cinerarias may be plunged in a bed of cocoanut fibre refuse or some other loose material, and be then filled quite level with the rim with fine, sandy soil. But when kept in pots more frequent attention is necessary than when planted out.

Shading Vineries.—H. S. M.—Grape vines ought not to be shaded at any stage of growth, for it is impossible for them to ripen their wood or bring their fruit to perfection unless they enjoy uninterrupted light and full exposure to the sun. The scorching of the leaves of which you complain is the result of insufficient ventilation. If you ventilate the houses freely and supply the vines liberally with water the foliage will not be injured by the most brilliant sunlight. It is important to commence ventilating early enough in the day to ensure the foliage being dry by the time the sun shines with full power on the roof.

Planting Roses.—W. J.—Roses in pots may be planted at the present time with the full assurance of their quickly becoming established. The beds should receive a good dressing of half rotted manure, and be then dug over to a depth of about twelve inches, unless the soil has already undergone the needful preparation. In the latter case it will be simply necessary to break down the surface before proceeding with the planting. The plants should be put two feet apart each way, and receive a liberal watering immediately they are planted to consolidate the soil about the roots. The space between the roses may be filled with asters, stocks, and other plants not likely to grow vigorously as to deprive them of light and air. Both new and old roses can be obtained in pots and in a suitable condition for planting out.

Correspondence.

FLORAL SOCIETIES' SHOWS.

In your report of the late Auricula Show at Manchester, you remark—"It is a great pity to exhibit the auricula too early, with its flowers too young to expand fully." It is, indeed, a pity to exhibit flowers at unsuitable dates, when they have either not attained or have passed their best. Exhibitors, however, are powerless. "Their's not to reason why," &c.

The date of a show, which depends so much for its success on the season, is fixed long previously, without the least reference to the most primary condition of the whole matter.

Why the date should be fixed so long beforehand, or why when it is subsequently seen to be a mistake nothing should ever be done to correct it, is one of those mysteries unintelligible to those outside the sacred circle of committees of management.

Last year what may be called a new departure was taken in fixing the date of the National Carnation and Picotee Society's show a week later than usual.

The effect was to make it impossible for many to exhibit who would have done so, while to the actual exhibitors it increased their trouble and anxiety tenfold.

After tending plants for a twelvemonth beforehand, one naturally likes to show at one's best, which would have been easy last year at the usual date of the show, about July 22, but as it was many of us were with difficulty able to show at all. The additional week of hot sun and drying east wind, together with the inroads of that most destructive insect, the "busy bee," made frightful havoc with our flowers.

Notwithstanding the experience of last year, the late date is to be repeated for this season.

The natural result is to place the amateurs at an immense disadvantage with the trade and professional growers, who, with their thousands of plants, have always blooms to show when the smaller stock of the amateur is long exhausted. M. R.

Clapham, May 8, 1886.

TRADE CATALOGUES.

James Veitch and Sons, 544, King's Road, Chelsea.—*Novelties for 1886 and Plants in General.—Soft-wooded and Bedding Plants.*

James Dickson and Sons, Newton Nurseries, Chester.—*Plants for Stove, Greenhouse, and Conservatory.—Bedding Plants, Dahlias, &c.*

William Burley, Tower Chambers, London Wall.—*Electric and Domestic Inventions.*

G. Dawson, Highgate Hill, London, N.—*Horticultural and Iron Church Buildings.*

John Hiscock, 107d, Queen's Road, Peckham.—*Vegetable and Flower Seeds.*

Thomas S. Ware, Hale Farm Nurseries, Tottenham.—*Dahlias, Hardy Florists' Flowers, &c.*

William Potten, Sissinghurst, Staplehurst, Kent.—*Geraniums, Fuchsias, Chrysanthemums, &c.*

J. Backhouse and Son, York.—*Supplement to Catalogue of Alpine and Herbaceous Plants.*

E. G. Henderson and Son, Maida Vale, London, W.—*Special offer of new, rare, and beautiful Plants.*

Obituary.

Recently, at Seaforth Hall, Liverpool, Mr. James Muspratt, the eminent chemist and promoter of alkaline and other industries in Lancashire and Flintshire.

Markets.

COVENT GARDEN.

Fruit.

Apples ..... per ½-sieve	2s. 6d.	to 4s. 6d.
Apples, American, per bar.	10s. 6d.	,, 21s. 0d.
Cobs, Kent... per 100 lbs.	35s. 0d.	,, 50s. 0d.
Grapes ..... per lb.	5s. 0d.	,, 7s. 6d.
Lemons ..... per case	8s. 0d.	,, 9s. 0d.
Pine-apples, English, per lb	1s. 0d.	,, 1s. 6d.
Pine-apples, St. Michaels, each.....	3s. 6d.	,, 6s. 0d.
Strawberries .....per lb.	2s. 0d.	,, 5s. 0d.

Vegetables.

Artichokes, Globe, per dz.	2s. 6d.	,, 3s. 6d
Asparagus, English, per 100	4s. 0d.	,, 6s. 0d
Asparagus, French, per bun.	3s. 6d.	,, 7s. 6d.
Beans, French ....per lb.	1s. 0d.	,, 1s. 6d.
Beet ..... per doz.	1s. 0d.	,, 2s. 0d.
Broccoli, Sprout. per bush	3s. 6d.	,, 4s. 6d.
Carrots ..... per bun.	0s. 4d.	,, 0s. 6d.
Cauliflowers .....per doz.	2s. 6d.	,, 3s. 0d.
Cucumbers ..... each	0s. 8d.	,, 1s. 0d.
Endive ..... per doz.	1s. 0d.	,, 1s. 6d.
Garlic ..... per lb.	0s. 4d.	,, 0s. 6d.
Herbs ..... per bunch	0s. 3d.	,, 0s. 4d.
Horse-radish .... per bun.	3s. 0d.	,, 4s. 0d.
Lettuces, Cabbage, per doz.	0s. 9d.	,, 1s. 6d.
Lettuce, Cos .....per doz.	1s. 6d.	,, 2s. 6d.
Leeks.....per bun.	0s. 3d.	,, 0s. 4d.
Mint, Green .....per bun.	0s. 8d.	,, 0s. 9d.
Mushrooms ..... per basket	1s. 0d.	,, 2s. 0d.
Onions ..... per bushel	4s. 0d.	,, 5s. 0d.
Onions ..... per bunch	0s. 4d.	,, 0s. 6d.
Parsley ..... per bun.	0s. 4d.	,, 0s. 6d.
Radishes ..... per doz. bunch	0s. 6d.	,, 1s. 0d.
Rhubarb .....per bun.	0s. 4d.	,, 0s. 6d.
Small Salading .. per pun.	0s. 3d.	,, 0s. 4d.
Spinach ..... per bushel	3s. 0d.	,, 4s. 0d.

Vegetables—*continued.*

Tomatoes ..... per lb.	1s. 0d.	to 1s. 6d.
Turnips ..... per bunch	0s. 4d.	,, 0s. 6d.

Cut Flowers.

Abutilons....per doz. bun.	1s. 6d.	,, 2s. 6d.
Anemones.....per doz.	3s. 0d.	,, 4s. 0d.
Acacia, French ..per bun.	1s. 0d.	,, 1s. 6d.
Azaleas ..per doz. sprays	1s. 0d.	,, 1s. 6d.
Bouvardias ..... per bunch	0s. 6d.	,, 1s. 0d.
Callas .....per doz.	3s. 0d.	,, 4s. 0d.
Carnations, per doz. blms.	1s. 0d.	,, 2s. 0d.
Eucharis, per doz. blooms	5s. 0d.	,, 6s. 0d.
Gardenias, per doz. blooms	2s. 0d.	,, 4s. 0d.
Heliotropes, per doz. sprays	0s. 6d.	,, 0s. 8d.
Lilac, French ....per bun.	3s. 0d.	,, 5s. 0d.
Lily of the Valley, per doz. sprays	0s. 9d.	,, 1s. 0d.
Marguerites, per doz. bun.	4s. 0d.	,, 6s. 0d.
Mignonette, per doz. bun.	4s. 0d.	,, 6s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d.	,, 0s. 8d.
Roses .....per doz. blms.	2s. 0d.	,, 2s. 6d.
Roses, Tea ..per doz. blms.	1s. 0d.	,, 1s. 6d.
Spiræa .....per doz. bun.	5s. 0d.	,, 6s. 0d.
Tropæolum ..per doz. bun.	2s. 0d.	,, 2s. 6d.
Tuberoses .....per doz.	1s. 6d.	,, 2s. 0d
Violets.....per doz. bun.	1s. 0d.	,, 1s. 3d
Violets, de Parme, per bun.	3s. 0d.	,, 4s. 0d.
Violets, Czar ....per bun.	1s. 0d.	,, 2s. 0d.

BOROUGH AND SPITALFIELDS.

Potatoes.

Regents ..... per ton	75s.	to 100s.
Magnum Bonum ..... per ton	65s.	,, 85s.
Scotch Champion .... per ton	55s.	,, 75s.
Victorias ..... per ton	70s.	,, 95s.

"SPRING LEAVES."—In the warm genial climate where Tea is grown, the early Spring leaves of the plant burst forth with a vigour and luxuriance unknown in colder regions; this early growth yields the richest juices, and tea of amazing strength, combined with a most delicious flavour and aroma, is obtained therefrom; being carefully selected from the early Spring growth, and shipped free from all adulteration, Horniman's Tea (in packets) commands an enormous sale in England and abroad. The same reliable good quality, at the same fixed price, is always secured in every City, Town, and Village in the Kingdom, by purchasing of Horniman's Agents. 6,000,000 packets sold yearly. See list of Agents in all papers, and at Railway Stations.—[Advt.]

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
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ROYAL HORTICULTURAL SOCIETY.
SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS: Fruit and Floral, at Eleven a.m., in the Conservatory; Scientific at One p.m., in the Lindley Library, on TUESDAY next, MAY 25.
SHOW OF POT ROSES, AZALEAS, &c.
N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

ROYAL HORTICULTURAL SOCIETY.
GREAT PROVINCIAL SHOW AT LIVERPOOL,
JUNE 29 to JULY 5, 1886.
GREAT EXHIBITION of IMPLEMENTS, GARDEN STRUCTURES, TOOLS, and APPLIANCES in the WAVERTREE PARK.
Schedules and full particulars as to space, &c., may be had on application to the Superintendent, Mr. A. F. BARON, Royal Horticultural Society, Chiswick, London; or to Mr. J. RICHARDSON, Botanic Gardens, Liverpool.
NOTICE!—Entries close June 12th.
Applications for Advertisement Space in the Official Catalogue should be made at once to Adams and Francis, Advertising Agents, 59, Fleet Street, London, E.C.

ROYAL BOTANICAL AND HORTICULTURAL SOCIETY OF MANCHESTER.
The GRAND NATIONAL HORTICULTURAL EXHIBITION of 1886 will open at THE GARDENS, OLD TRAFFORD, on FRIDAY, JUNE 11, at Two p.m. Entries close on June 4. Schedules may be had from the undersigned,
Royal Botanic Gardens, Manchester. BRUCE FINDLAY.

ROYAL AQUARIUM, WESTMINSTER.
The Strawberry Fête on July 9 and 10, and the Show of Table Decorations, on August 20 and 21, are unavoidably WITHDRAWN for this season.
Ealing, W. R. DEAN.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, MAY 25.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.; Exhibition of Pot Roses and Azaleas.

Auction Sales for the Ensuing Week.

TUESDAY, MAY 25.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
TUESDAY, MAY 25.—Messrs. Protheroe and Morris, at the Childs Hill Nursery, N.W.; Bedding Plants.
WEDNESDAY, MAY 26.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Carnations, Picotees, Plants, &c.
WEDNESDAY AND THURSDAY, MAY 26 AND 27.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.
FRIDAY, MAY 28.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.
Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.
ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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The Gardeners' Magazine.

SATURDAY, MAY 22, 1886.

COMMITTEES OF THE ROYAL HORTICULTURAL SOCIETY are of such importance in the routine of the Society's work that whatever tends to augment their efficiency deserves, and if judiciously proposed, would obtain serious attention. It is known that from year to year the council spare no pains to secure for their committees the best men available; and every year a certain number are removed from the lists to make room for new men who may bring with them new ideas and freshness of energy while not wanting in the peculiar experiences that qualify them for the appointment. The attendance books testify that when busy times occur the men are at command for earnest work, the numbers falling off only when it is known there will be nothing to do, as may happen perhaps with the Floral Committee in December and the Fruit Committee in February. What may be called the traditions of the several committees are of necessity continuous, but they are also, of necessity, periodically discussed by the new comers, which is a great advantage, as it provides the rubbing that prevents rusting.

The work of the committees is subjected to much criticism, which upon the whole is beneficial. As the members of committees are not always of one mind themselves as to the work before them, it is but reasonable that lookers on, whom we will suppose to be competent persons, should occasionally question the justice of their decisions. The critics, however, are apparently often forgetful of the fact that they are themselves fallible beings, and therefore may be quite mistaken in their criticisms; while the decisions of fifteen men will generally outvalue the opinions of individuals who, as a matter of course, see the subject from one point of view only. It strangely happens at times that criticisms of the work of the committees are founded on sheer ignorance or misconception of the fundamental principles of action. Not long since the certificating of Centropogon Lucianus raised a storm of objections; and quite lately Beaumontia grandiflora has passed amid some frowns from the outside. It is said these are old plants, and cannot with propriety be recognized as subjects for such distinctions. The rules provide that an old plant may be certificated when it has acquired new and special interest, and is thought worthy of distinction as desirable for cultivation. Now, whatever may be said for or against this rule—of which we heartily approve—we may with perfect propriety demand of those who object to it a clear definition of a new plant. When the definition is before us we will enter into particulars, but we decline the honour of making any attempt at present to frame a hard and fast rule that might prove fatal to the critics, and would assuredly restrict injuriously the action of committees. As regards the working rule, it may be seen in print, and if the critics are unacquainted with it the fault is their own, and adds to the interest of their fallibility. When, in accordance with that rule, the committees certificate worthless things, whether flowers, plants, or fruits, there will be good cause for such objurgations as now chiefly serve to illustrate the incompetency of those who utter them. The weak point in committee work is not in what is done so much as what is not done. Occasionally good things pass without notice, and when they come up again obtain the attention formerly denied them, and perhaps the distinction that was hoped for in the first instance. It is here that improvement is needed, but no rules will effect it, and possibly no criticism will avail. But the passing of a good thing from A and its recognition when presented by B is calculated to beget a complete misapprehension of the spirit in which the committees work. In large committees personal partialities and mere eccentricities have no room for action; they cannot with any effect assert themselves; but in small committees they may become triumphant, and for this reason we have always maintained that the genuineness of committee work depends as much on the numbers operating together as on the talents and experiences of the several individuals. Small accidents often determine important events. We see a plant or fruit, as the case may be, put upon the table and obtain a certificate on the instant and by acclamation, and we see another discussed and dismissed, though perhaps a good thing of its kind. The power of vision of fifteen men is no greater than the best pair of eyes in the party. Many a good thing does not appear as such when first presented, but it may—to use a serviceable expression—"improve upon acquaintance." Thus the rose known as White Baroness was inspected and dismissed: it was again inspected and certificated. The committee operate under a sense of responsibility, and the verdict of twelve or fifteen competent men so given is something different in value to the opinion of one who takes an adverse view and has no responsibility. The disappointed exhibitor is the plague of judges everywhere, because he can always command the sympathy of people who are in the like case, although we must do exhibitors the justice of saying that as a rule they are true philosophers, and recognize in a manful way that in every race there must be losers as well as winners.

It is impossible to forget in this connexion the case of the chiono-

doxa. It came on the table and obtained no reward. It came again and secured honours. The committee acted with its customary caution, taking time to consider the claims of the new comer, and being, certainly, less familiar with it than the honourable gentleman who pressed it on their attention. One immediate result of their hesitation was a small storm of objurgations, insinuations, and denunciations; and some of the persons who indulged in this game ought to have known better because of their schooling in first principles, which, we regret to say, the men who play at omniscience in newspapers are not always well grounded in. Another though distant result was a division of the Floral Committee, which proved a dismal failure, and was repaired at the first opportunity.

There is now growing a desire for further experiments, and division is again spoken of as possible. We shall hope the council will be firm so far as to avoid alienating the best available talent, but the council must have freedom somewhere on the safe side of such a contingency. It is easy to begin dividing, but where will you stop while professing respect for the logic of public business? If you divide the Floral Committee you must have sections for florists' flowers, stove plants, ferns, alpines, and so on. And those sections must be again divided in the interests of auriculas, carnations, chrysanthemums, exotic and native ferns, and so forth. The Fruit and Vegetable Committee must be divided in the special interest of peas, potatoes, peaches, rhubarb, gooseberries, grapes, pines, and perhaps cranberries. The Scientific Committee will need sections for malformations, aberrations, fertilizers, and fungi. The logical consequences of division are altogether too dreadful for serious contemplation; one can but close the review with fireworks and fun, because the beginning is so easy and the ending so impossible. But while we must admit that the committees are fallible and, in common with all committees and corporations, make mistakes; we are bound to notice that while in the general scheme of committee work, floriculture and pomology have honourable representation, botany is left out as a vagrant, and is but dimly recognized as remotely pertaining to the knowledge of plants. The R.H.S. is in want of a botanical committee to revise nomenclature, to adjudicate on plants that interest collectors only, and to assist in all matters that demand botanical knowledge. By the addition of such a committee to the series of working agencies the three existing committees would be strengthened, for there would be a court of appeal on matters that none of the three committees are fully competent to handle. The Scientific Committee, which is now the unsatisfactory source of botanical authority for the society, would, under the arrangement proposed, gain time for increased attention to the geology and geography and chemistry of horticulture, subjects that have hitherto obtained only casual notice.

National Tulip Show will be held in the Botanical Gardens, Manchester, on Saturday, June 5.

Linnæan Society anniversary meeting will be held at Burlington House, on Monday next, May 24, at three p.m.

Lewisham Floral Society.—Summer show, June 30 and July 1; Chrysanthemums, November 12 and 13.

Mr. James Child, late of Garbrand Hall, Ewell, has been engaged as head gardener and bailiff by W. B. Hawkins, Esq., Houndswood, St. Albans.

Royal Aquarium.—Strawberry Show announced for July 9 and 10, and the Show of Table Decorations, August 20 and 21, are both withdrawn from the programme of the season.

Mr. W. Thomson, foreman of the Chiswick gardens of Royal Horticultural Society, has been presented by the employés with a handsome timepiece on the occasion of his marriage.

Metamorphoses of Insects will form the subject of a lecture by Mr. Fisher at the meeting of the Bedford Park Natural History and Gardening Society to be held this (Saturday) evening.

Mr. Lewis Castle's Treatise on Orchids having run out of print, a new and enlarged edition is announced for publication at 171, Fleet Street.

A Great Boiler Contest is arranged for in connection with R.H.S. exhibition at Liverpool, June 29 to July 5. The conditions are set forth in a paper, which may be obtained from Mr. A. F. Barron, R.H.S. Gardens, Chiswick.

The Plunging System of garden decoration, worked out at Stoke Newington and described in detail in the *Floral World*, from 1858 onwards, is now adopted for some special positions in the practice of M. Laforcade, head gardener to the city of Paris, and is reported on in *Revue Horticole* as a quite new idea.

Orchid Market.—At the recent sale of orchids in flower at Stevens's Rooms the following prices were realised for a few of the more important lots, Cymbidium Lowianum bearing five spikes 36 guineas, Odontoglossum vexillarium remarkable for the dark colour of the flowers, 24 gs., and Dendrobium Falconeri 15 gs.

Marianne North's Paintings of Plants and their Homes, which make a most delightful exhibition in the Royal Gardens, Kew, will acquire new interest in consequence of the admirable "Descriptive Catalogue," by Mr. W. B. Hemsley. This has been considerably enlarged and is now republished in a fourth edition, price 4d.

Mr. J. W. Silver, late head gardener to the Right Hon. Lord Trevor at Brynkinalt, Chirk, has taken the Norbury Nurseries, South Streatham, from the executors of the late Mr. John Parker. The business will be carried on under the style and title of John Parker and Sons.

Chadborn and Coldwell offer a series of prizes to be competed for by persons who use their Patent Excelsior Seed and Manure Drill. These prizes range in value from ten pounds (£10) to thirty shillings. Particulars may be obtained direct from the firm at 223, Upper Thames Street.

A Plant Label of the most admirable quality has been forwarded by Mr. J. Pinches, of 27, Oxenden Street, London. It combines strength with lightness and legibility, and shows the name of the plant in raised bright letters on a black ground, the letters being of a non-oxidizable alloy and therefore we assume likely to maintain their useful brightness. The exceeding simplicity of the thing adds to its usefulness, and, we suppose, reduces the cost.

Tuesday next will be a great day at South Kensington, the entries of pot roses and azaleas for the exhibition being sufficient to ensure a fine display; and Mr. Ware, of Tottenham, intends once more to prove that hardy flowers possess some powers of persuasion.

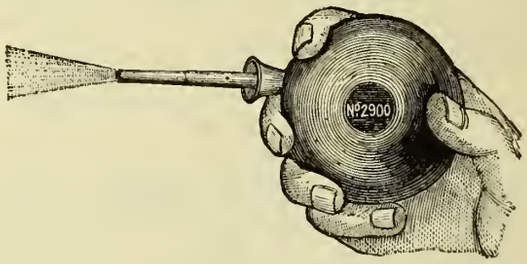
Herbaceous Calceolarias are now in their full glory, and contribute a fine element both to the home stage and the public flower shows. Messrs. Kelway and Son, of Langport, have favoured us with samples of the strain grown by them for seeding purposes, and they are certainly grand in form and of endless variety of colours.

Messrs. Sutton and Sons have in the Edinburgh International Exhibition a large display of seeds in export boxes. These are so constructed that they can be opened and closed again for inspection *en route* without interfering with their protective character as regards the vitality of the seeds. With these are models of fruits and roots set out in a way to illustrate the progress in horticulture and agriculture of the past half century.

Woolhope Naturalists' Field Club, having brought the publication of the "Pomona" to an end, are now engaged on the production of their "Proceedings" since the year 1877. "The Flora of Herefordshire," which was to have been undertaken by the late Dr. Bull, has been assigned to the Rev. Augustin Ley. We learn from the *Athenæum* that the members and their friends have presented to Miss Ellis and Miss Bull, the successful illustrators of the "Pomona," cheques for one hundred guineas.

The Glazing of Pictures is generally objected to, and would not be resorted to in the case of water-colours save from necessity. An extreme example of the injurious effect of glass as a medium through which to view a picture is afforded by Messrs. Ward and Co.'s great jungle group in the Colonies. This effective scene is in the predicament of the comet that a man said must be viewed "edgeways," for a view from full front is impossible, because of the reflections in the glass, and the consequent mixing of a crowd of chimney-pot hats with the palm trees and parrots that are intended to look like life.

A Patent Powder Distributor claims attention as a trade article, and as it is "sold everywhere" very few readers will need to know that the patentees are to be found at 2, Arthur's Buildings, Peter's Lane, E.C. We shall briefly say of it that it is invaluable, and now that any one may obtain it for a shilling the question will arise—



How have we managed to do without it so long? We confess to having used bellows to distribute powders in the gardens, the aviary, and elsewhere. There can be no limit to the use of such a thing, and it brings tobacco powder into use for keeping down green fly in a way that entitles the inventor to something more substantial than a dry vote of thanks.

Exhibition of Tulips at Haarlem.—Within the past few days there has been opened in the Nursery Grounds, Kleinen Houtweg, Haarlem, Holland, of E. H. Krelage and Son, a splendid exhibition of late tulips in flower, which will last probably to the end of this month, perhaps far into the month of June. In a spacious tent two show beds of tulips are planted, containing all the best old Dutch sorts of late tulips (Byblomens, Roses, and Bizarres), 700 bulbs in each bed, all of different varieties. The tent is decorated with miscellaneous flowering and ornamental plants and makes a splendid show. By a gallery with this tent is connected another, containing the collection of Flemish late tulips (byblomens and roses only), bought last year by M. M. Krelage, at Lille, from Mr. Jules Lenglart, the last good collection there existing. Here are again two beds arranged, each containing 840 varieties to correspond. Probably never before has an exhibition of late tulips on so large a scale been seen at the same place. In 1885, after more than twenty-five years' rest, Messrs. Krelage again for the first time opened their tulip show, which is now repeated in a much more perfect style than formerly, and indicates a most welcome revival of interest in the glorious flower.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 16.

The Channel Islanders formerly great cider drinkers—Orchards were extensively planted—Several hundred years ago no cider consumed in the islands—Quantity exported—Price of cider now and in the past—The orchards in a wretched condition forty years ago—Sorts formerly grown—Great destruction of sparrows—Difficult to give a correct list of varieties of apples at present cultivated—List of best apples recommended by the local Horticultural Society.

At one time the Channel Islanders were probably the largest producers of cider in the world; that is, on a given extent of ground. It is doubtful indeed whether the quantity manufactured did not actually exceed that of any other country, not even excepting Normandy.

Quayle, in his report to the Board of Agriculture, 1812, speaking of Jersey, states that one-fourth of the arable land was occupied by apple trees, and of late the export of apples and of cider has been steadily on the increase. The crop is of course extremely varied in quantity; one tree sometimes produces a hogshead of cider; and the general average may be stated to be from eight to twelve hogsheads per vergée of land." * The same writer, quoted by H. D. Inglis,† shows that Guernsey was no less fond of the favourite drink, for though the quantity of orcharding in the island was much less in proportion than in Jersey, the quantity of cider manufactured was equal; but little, if any, was exported. "Several hundred bushels of apples are annual exported. This island has long been famous for its cider, the common beverage of the country people."

How long back this continued to be case we have not been able clearly to ascertain; but, at any rate, in Queen Elizabeth's time (1533-8) we are told there was so little cider made in the islands that the inhabitants were necessitated to apply to her for leave to import yearly from England, custom free, 650 tons of beer.‡ Mr. C. Le Quesne § remarks that in more remote times the drink of Jersey was mead, called *vittoé*, and that apiaries abounded. We may take it for granted that the same state of things existed in Guernsey.

Cider continued to be the chief product of the islands (at any rate of Jersey) until quite recently. Some fifty years ago a company was set on foot for the manufacture of cider, but the speculation was afterwards abandoned. Even as late as 1840 we read that the quantity of orchard land was very great, and "that apples are considered to be among the most productive crops. Apples are indeed," continues the writer, "considered entitled to the first place, and then follow potatoes, lucerne, and wheat."

But this is no longer the case. Ardent spirits have to a large extent been substituted for the milder beverage brewed from the apple, though a great deal of cider is still drunk by the peasantry in all the islands, and there is scarcely a farmhouse without its cider. The liquor continues to be exported,‖ but to nothing like the extent it was. Indeed, the cider trade is virtually extinct.

The price of cider varies very much, as it is dependent on the crop of apples, and that, again, on a capricious spring. One and a-half quarters, or twelve calots, of apples go to make one hogshead of cider; as 38 lbs. make a calot, this is 456 Jersey pounds of apples. At the average price of cider, say £2 a hogshead, this gives one penny per pound for the apples. Cider has been as low as 10s. a hogshead. The present price of apples is £1 a quarter, but they have been as low as 4s. a quarter.¶ The average price was formerly £1 per hogshead, and never more than 30s.

Getting into conversation with an intelligent old Jersey man, we were told that apples were first exported from the island about seventy years ago in small sailing vessels. Speaking of the orchards a hundred or more years back, as his father had known them, he said that the fields were then smaller even than now, and the hedges usually planted with apple-trees as a protection against the wind. Even some forty years ago the orchards were in such a bad condition that most of the trees were half rotten, and were planted so closely together, and had grown to such dimensions, that it was no unusual thing for the men and women to gather the fruit of a whole orchard without once descending to the ground; at any rate, it was not necessary for them to descend. They would crawl along from branch to branch, throwing the apples to the ground as they proceeded, and afterwards shovelling them into the carts and carrying them away to the cider press or to the ships for exportation.

The apples grown at that period were of a very inferior description. When John Jacobs wrote his "History of Guernsey," the apples held in the highest esteem were the Romeril, the Noirloit, and the Grosamer. That was more than fifty years ago. A very bitter apple, called the Lamé, was at one time the favourite cider apple, though at present the Coccageé carries off the palm for that purpose. The Romril (a very large sweet apple) and the Noir Benit are still grown, though not principally for cider. The latter, being a fine keeper, is in demand in St. Helier's.

Mr. Inglis, previously quoted, in his interesting work remarks that "the cultivation of apples for the table and kitchen is receiving greater attention every year." "Some good sorts of apples," he says, "have been brought from America by John Savery Brock, Esq.; other sorts have been sent from England by grafts from members of the Horticultural Society, and a great many trees annually arrive from France. The island itself has produced a seedling or two of an excellent sort of golden pippin called Mollet's, after the name of the gentleman who raised them from the golden pippin seed. But were I to enumerate all the various sorts of apples cultivated here it would be making too bulky an article for this work. I have in my garden more than forty different sorts of apples."

It may be interesting to the naturalist to state here that some time before this the States of Guernsey had allowed to the nine country parishes premiums for the destruction of sparrows, which were giving trouble in the orchards and wheatfields, and that they had expended in one year £72 5s. 8d., an enormous sum, as it is well observed, for a district of not more than twenty-four square miles. The Bailiff remarked on this subject: "What would persons in England think if they had to pay in the same proportion nearly £400,000, and that in the nineteenth century, when naturalists inform us that those birds do more good than harm in destroying grubs and insects." "Of course," adds the chronicler, "the good sense of the States did not allow the premiums for the destruction of the sparrows to be continued."*

Professor Ansted, speaking of the many varieties of this fruit grown in Jersey and Guernsey, says the names of the sorts in Jersey, Guernsey, France, and England are so little alike that an enumeration could only lead to confusion. One list forwarded to him contained the names of no less than sixty English varieties and twenty-five French. As many as fifty-four named sorts are known in Guernsey as having been grown in the island in the same family for several generations.

As we have furnished a list of best pears we will give a similar list of apples, as recommended by the Horticultural Society of Jersey to be grown, and which are grown, we believe, with scarcely an exception, and certainly include the choicest varieties in the islands—

Cornish Gilliflower.	Flower of Kent.
Pearmain.	Calville Blanche.
Ribstone Pippin.	Golden Reinette.
Golden Russet.	Court Pendu Plat.
Royal Russet.	Lord Suffield.
Court of Wick Pippin.	Reinette d'Angleterre.
Mère de Ménage.	Poltimore Seedling.
Reine des Reinettes.	Golden Noble.
Lord Derby.	Reinette de Caux.
King of Pippins.	Reinette de Canada.
Cox's Orange Pippin.	Cockle Pippin.
Dumelow's Seedling.	Old English Codlin.
Hawthornden.	Blenheim Orange.

* Rev. Philip Falle (*An Account of the History of Jersey*, 1885) quotes a Mr. de Samarez's way of guessing at the quantity throughout the islands. He allowed one vergée of orchard, *i.e.*, three-quarters of an English acre to every house, one with another, and two tons of cider to a vergée. The houses (to make a round sum) he computed at 3,000, though there were then more, and the number is since increased. So he concluded the whole quantity to amount to 6,000 tons or 24,000 hogsheads.

† The Channel Islands, 1835.

‡ "An Account of the History of Jersey," by Rev. P. Falle.

§ "The Constitutional History of Jersey," 1856.

‖ Four hundred gallons were exported last year from Guernsey, and rather less from Jersey. "One hundred thousand gallons of cider a year is more than an average yield for Jersey" (*vide* "The Channel Islands," by T. Ansted, 1862) It is much less than that now, as the old cider orchards are being weeded out every year.

¶ "The Channel Islands and Islanders," by D. F. S., 1882.

* The *Guernsey Star* made the following remarks on the above. The payment of seven-eighths of a penny for every sparrow's egg brought to the constables amounted as above stated. Admitting that three-fourths of this sum were paid for sparrows, and the remaining fourth for eggs, the result will be the destruction of 17,280 sparrows and 34,570 eggs.

THE VEGETARIAN'S GARDEN.

Amongst the agreeable reminiscences I have enjoyed in my chimney corner during the holidays one came out prominently and amusingly, and I resolved to forward a brief note upon it to my much-loved Magazine. We had on the table a dish of salsify served as "vegetable oyster," according to a receipt our cook derived from your "Household" department. It caused us to discuss the merits of various vegetables that are rarely seen or heard of, and our general verdict was that, as a rule, we could very well do without those rare and curious things, for it is often difficult to grow them and impossible to cook them; and at the end of the story it might prove that they were not worth eating. Now, for example, people who live in the country and have ample supplies of vegetables from the garden have not the least idea of the value of the common cabbage to a Londoner. Provided the cook is equal to her work, there is no vegetable that can be so well relied on all the winter through as bunch greens which you call "coleworts" and "collards." All other things are expensive, and more or less difficult to obtain, or they are coarse, and therefore not suitable for a good table. Now and then the Cornish broccolis are obtainable at a reasonable price, and as the year opens we get seakale cheap. But potatoes and collards are the only articles the greengrocer can supply for everyday use at a fairly cheap rate—whatever else is used, whether of vegetables or roots, is of a somewhat exceptional nature. But, as remarked above, we were revelling in salsify which had been boiled in milk and then fried and served as "vegetable oyster," and the conversation naturally turned upon rare and curious vegetables, and I called to mind the dinners I have occasionally eaten with my friend Mr. ——, who ranked amongst the lights of the vegetarian world. I do not pretend to any leaning towards what is termed a "bloodless diet," but I can be content with a vegetarian dinner when it is flavoured with the conversation of a friend, and in the way of a change affords a certain amount of amusement. At the table I speak of I have had very many delicious as well as curious dishes, and now and then one that was more curious than delicious. But the best amusement in connection with them was the walk round my friend's garden, for it was a small one and a very strange one, because in it were grown many edible plants, but not any such as we, in common parlance, term "vegetables." My friend had to purchase these, but he obtained a number of good things from beautiful flowers, and on one

occasion he compiled for me a list of things that might be grown for ornament and also be made contributory to the dinner table. The list includes a number of subjects not commonly known to be edible, and I daresay will amuse some of your readers, for, after all, even if vegetarianism is not in favour useful knowledge is always worth having, and one might some day have to consider about the possibility of making a meal off a bed of scarlet geraniums or a houseful of chrysanthemums. During the siege of Paris, perhaps, some of the notes that follow might have been very useful; however, I will not speculate, but proceed to report on my friend's floral vegetables, arranging them in alphabetical order.

Alexander (*Smyrnium olusatrum*).—This umbelliferous plant is blanched and eaten as celery. It is occasionally met with as a vegetable on the Continent, but as such appears to be unknown in this country. The seed is sown in April, and the plants are put out at a foot apart when large enough to transplant.

Angelica (*Angelica archangelica*).—A coarse but handsome plant, very cheerful in its light green hue in the early days of summer. It is blanched and eaten as celery, and the stalks are candied for a sweetmeat. This really appears worthy of attention, although I have never seen it except in the garden of my friend. Turning to Deakin's "Florigraphia Britannica," I find the following interesting note upon it:—

"It is probable this is not a native plant, but introduced from the garden, where it is cultivated for the sake of the stalks, which contain a warm aromatic flavour, with a degree of pungency; and when candied with sugar, form a pleasant sweetmeat agreeable to most persons; it is used as a carminative, and is thought to be little inferior to ginger as a grateful stimulant and stomachic. The root possesses the same properties, but in a stronger degree, and is used for the same purposes as the stem, and also in the preparation of some of the most esteemed liqueurs. It was formerly used as a medicine, and admitted into the pharmacopœia; but in Iceland, Norway, Lapland, and Siberia, it is more esteemed than with us; the natives prepare it as an article of diet, and to flavour other food. The young shoots are either eaten candied or raw, with bread and butter, and at one time it was supposed to be possessed of anti-pestilential powers, and tended greatly to lengthen the span of life, for which purpose the Laplanders and Norwegians are said to masticate it in the manner of tobacco."

Artichoke (*Cynara scolymus*) and Cardoon (*Cynara cardrenculus*).—These handsome plants are well know, and need no praise. It is astonishing, however, how useful the second of the two may be made by judicious management as an ornamental plant.

Asparagus (*Asparagus officinalis*).—This may be grown in clumps amongst shrubs and herbaceous plants, and when in a prosperous condition is extremely handsome. A moderate and profitable cutting of the stout rising shoots does not in the least detract from its beauty. Therefore it really may be generally grown as an ornamental plant, and of all the vegetables in the world one should have fresh from the garden, it is asparagus.

Orach (*Atriplex hortensis*).—This handsome weed makes a capital spinach if the tops are taken when growing vigorously. The purple orach that was largely used in bedding displays a few years ago is as good a spinach as can be desired in summer, but is useless when pushing into flower. There is an extremely beautiful plant of this family, the name of which I have lost; it is of weedy growth, but very delicately powdered with carmine-coloured dust, which renders it at once pleasing and interesting. This also is a delicious spinach. [The plant referred to is *Chenopodium atriplicis*, a beautiful annual when at its best, but as compared with the many good things at our command scarcely worth a place as an ornamental plant.]

Amaranthus.—All the species of amaranthus are, I believe, edible; but the best of them is *Amaranthus oleraceus*. My friend tells me that the common Love Lies Bleeding (*A. caudatus*) is a delicious vegetable when cooked in the way of spinach.

Beet of several kinds may be used as decorative plants, those with purple leaves being remarkably fine. The gorgeous Chilian beet may be used as a vegetable in common with the rest. Generally speaking, however, the leaves of beets, though available as spinach, have an earthy flavour, and even the green "spinach beet," which is the best for the purpose, is inferior in flavour to real spinach. As regards the uses of the roots of the beet, I need not say much; but I will recommend sliced beet to be eaten with vinegar and pepper as an imitation mushroom, and also to be fried as fritters.

Borage is at least beautiful and has the flavour of cucumber, but what anchorites can want with it I cannot imagine, because (from my point of view), the best use for it is to flavour a cool cup containing awful things of the alcoholic persuasion.

Borecole does not rank amongst ornamental plants, but my friend grows the variegated sorts in several fine characters, and has a special fancy for the Chou de Russie as a specially beautiful plant, which it certainly is.

Tomatoes command universal sympathy, and they are great in the garden I have now before me—I mean great as regards importance, as well as regards size of fruit. I was amused at the success attending cultivation in open beds, the plants being put out from pots in June, and coming into bearing soon after, trained to short stout poles. All the fruits that show are allowed to swell to a certain size and are then thinned, the thinnings, about the size of walnuts, being used for pickling. The removal of these greatly benefits those allowed to remain to ripen, and the crop is declared to be one of the most interesting and profitable.

Vegetable Marrows are thought much of as handsome adornments of a broad border, where they make a great display, but only a few fruits are allowed to ripen. One sort only is grown, and this is changed from year to year for the sake of amusement. My friend said he preferred, above all, the Custard Marrow and Hibberd's Prolific. The last-named he tells me has been "improved," but the improvement has spoilt the appearance of the fruit, and brought in a lower tone of quality. A true type of Hibberd's surpasses in quality all other marrows.

Maize is in high favour. The seed is sown in the open ground in clumps of three to five seeds, quite three inches deep. The plants make a strong growth, and the cobs are cooked when "milky," and are served in the same way as asparagus. Parley Parlatore.

NEW NOTES ON BEDDING OUT.

By J. Macdonald.

The warm, genial weather that we are now having, and the rapid growth that is being made by bedding plants of all descriptions, serve to remind us that in a very short time hence active measures will have to be taken in filling the flower beds with their summer occupants. In many places the spring flowering plants have been so late in coming into bloom that it will not be possible to proceed with the work of bedding out so early as usual without destroying some of the spring flowers whilst in the full flush of their beauty. Some of my friends are asking with reference to this matter, Shall we wait until the spring flowers have lost their beauty, or shall we clear the beds to enable us to put out the summer bedders at the usual time? The question is a rather important one, and requires careful consideration. When the question has been addressed to me I have suggested that there should be no undue haste in breaking up the beds, or any very great delay in putting out the plants intended for the embellishment of the flower garden during the summer season. Under the most favourable atmospheric conditions the English summers are very short, and when the bedding out is not completed by the end of the first week in June it is practically impossible for them to contribute to the attractions of the garden for any length of time. I would suggest that the best course where the beds are occupied will be to break up a few beds, commencing with the least attractive, and at once replant them, and so proceed until they have all been planted. This will be far better than, as is usually done, making a clean sweep of the spring bedders, and preparing the whole of the beds before the refilling of any of them is commenced. In many places where the position is exposed and the soil naturally wet and cold the winter has committed such havoc that the appearance of the garden will be materially improved by the digging over of the beds and the burying of the remnants of the plants with which they were filled in the autumn.

In referring to the question of bedding out, too much stress cannot well be laid upon the importance of having the plants strong and well hardened when transferred to their summer quarters to maintain the plants in a progressive state, and to have them sufficiently inured to bear full exposure without injury is no light task with so many other matters requiring attention. But whatever time and attention may be devoted to the work will receive an ample return. The various hardy bedders, so extensively used in mosaic and other bedding, should now be fully exposed, and the plants still in frames ought to be at once removed from them. It is also essential to expose such subjects as zonal pelargoniums, ageratums, verbenas, and petunias as much as possible without subjecting them to the effects of frost. I have long made it a practice to remove these and other classes of a similar degree of hardness from the frames by the middle of May to make room for coleus, alternantheras, and other of the more tender bedders which ought now to be removed from heated structures, and be gradually hardened. The plants removed from pits which, like the zonal pelargoniums, are injured by a few degrees of frost, should be placed in blocks where they can be readily protected with the aid of mats or canvas. To protect our large stock we make temporary covers by tacking mats to light frames of wood. These, we find, keep off the frost most effectually when placed about one foot above the tops of the plants. I find it better to stand the bedders in an open position, with the covers over them at night, than to place them in draughty corners, for cold winds do them as much harm as a slight frost.

With reference to the best means of hardening off bedding plants, it must be said that in many gardens sufficient appliances are not provided for properly preparing them for full exposure. As the result of this insufficiency of accommodation, the stock is frequently either kept longer in heated structures than is good for the plants, or transferred from warm houses to some place totally unsuitable, either as regards the amount of light or the warmth. In the one case they are drawn up weakly, and in the other they are subjected to a change so great that they receive considerable injury. The most suitable places in which to harden off bedders are cold pits or frames. They may be placed in these structures at the end of March with perfect safety, or as soon after that period as they are large enough. The advantages of pits and frames are very great, for if the glass is covered at night with mats the plants will be kept quite safe from frost, whilst in bright warm weather the lights can be drawn off during the day, provided, of course, the stock is sufficiently advanced to bear the exposure. Plants hardened in this way will be in the best possible condition for bedding out when the time arrives. Where pits and frames are not available it will be necessary to keep the bedders longer in the houses, and the last week before they are brought out all the air possible should be admitted to prepare them as far as practicable for the change.

The preparation of the beds is a very important part of the management, and it must be borne in mind that it is useless to expect plants that are put into a soil that has been previously exhausted to prove satisfactory. In the case of beds or borders that have been occupied with such spring flowers as myosotis, wallflowers, and pansies, it is necessary either to give the beds a dressing of well rotted manure or

leafmould, or to remove a portion of the old soil and replace it with fresh. Deep digging is also essential, as it is the only means of guarding the plants from injurious effects of a long drought. I have many times observed that such strong rooting subjects as pelargoniums will grow and flower better when planted in a deeply stirred staple without any assistance from the watering-pot, than they do when the soil is shallow, and the water supply liberal. The beds in the garden under my charge are trenched up two spits deep every year, either in the autumn or spring, and I am quite satisfied that I get a better display of flowers than those who do not dig up their beds deeply. There is also a considerable saving in the labour of watering, for as the roots are able to strike down some distance below the surface they are beyond reach of drought.

Planting in wet weather should be avoided when practicable, for if the soil is wet when the beds are planted it will be sure to become lumpy, and otherwise unfavourable to the free extension of the roots. In sandy, well-drained ground planting may commence much sooner after a heavy rain than where land is naturally heavy; but in every case it is better for the future well-being of the occupants of the beds that the surface should be rather dry than otherwise.

Looking back over more years than one cares to mention, I have no hesitation in saying, with reference to the time of planting, that I have gained nothing, but more often have been a loser by beginning too early. After so many years' experience I have come to the conclusion that even in the most favourable parts of England it is best not to begin to bed out until May 20. I am also persuaded that those who reside in less favourable districts will do well to wait a week or ten days after the date mentioned. The English climate is so changeable that tender plants are often exposed to such sudden variations of temperature that when bedded out before the time mentioned they are frequently crippled for the remainder of the season. The result of my experience is that it is better not to be in too great a hurry to bed out, and to thoroughly prepare the plants for the change by hardening them off as advised above.

SHORT NOTES FOR SMALL GARDENS.

By the Vicar's Gardener.

Peaches and Nectarines.

Throughout the district in which I reside the crop of peaches and nectarines on open walls promises to be a good one, but then so far we have not been visited with more than three degrees of frost during the current month, whilst near London the frost has, I understand, been much more severe. For the most part the trees in this district are not protected in any way, yet I have seen plenty of fruit on such varieties as Stirling Castle, Dymond, Barrington, and Violette Hâtive. As regards a selection of out-door peaches it is doubtful whether a better one than these varieties would form could be made. The most promising nectarines are Elruge, Hardwick Seedling, and Pitmaston Orange. As regards the health of the trees, the winter dealt kindly with the young wood for none of it has been injured; but there is the usual quantity of blistered leaves, especially in gardens where the soil is rather heavy. Where the staple is lighter there is less blister, but the wood is not so strong. I would, however, rather deal with blister on trees that are growing in a strong soil than on those in a poor one, because by attending to the roots as well as the branches a vigorous growing tree will soon outgrow any ill effects of blister. By giving the roots a few good soakings of rather strong liquid manure after a few days' dry weather, and then laying a mulch of rotten dung on the surface to check the evaporation of the moisture the tree will soon show that it is receiving the proper treatment by the increased vigour in the branches. As a matter of course all blistered leaves should be picked off as fast as they appear, and where there is any green fly on the leaves it must be eradicated without delay. The safest remedy to use is soft soap dissolved in warm water at the rate of half an ounce to one gallon of water, and if one application does not destroy the pest a second must be made with a rather stronger solution. The best preventive of future attacks of green fly is to keep the trees well syringed with clear water. At first the leaves will not bear the full force of the garden engine, but as soon as they can bear it without being bruised against the wall they should have the full force of the stream. If the syringing is regularly followed up, green and black fly and red spider will be abolished, as they cannot exist under the cold water system. The evening is the best time for washing the trees.

Cherries on Open Walls.

Cherry trees are very liable to the attacks of the black fly, and when that occurs the same remedies should be adopted as recommended for peach and nectarine trees when they are infested with the same pest. If there are not any black fly now a good washing with the garden engine twice a week will in all probability keep them away altogether. But the engine is powerless against the maggots which sometimes infest the leaves and eat holes in them. The only way of destroying the maggot is by picking. This can only be done by a careful examination of the leaves that have the appearance of being closely folded together or curled up, and gathering those which are infested with the pest and burning them. The Morello cherry often suffers severely from an insufficiency of root moisture, especially when growing on other aspects than the north. Where this is likely to occur loosen the soil over the roots and give the ground a good soaking of water, and then place a thick layer of long litter on the surface to keep the roots cool. If we should have a long period of dry weather it will be necessary to draw the litter on one side, and give a soaking of water, repeating it two or three times during the summer. There is no time during the whole season of growth that this cherry requires so much root moisture as it does after the fruit is stoned. The size of the fruit depends entirely on this. If the soil is dry about the roots the fruit will be small, but every soaking of water will be of assistance and fine large fruit will be the result. There should be no delay in having the young growth laid in. In the case of old trees in vigorous health it is not necessary to lay in all the young shoots, but a sufficient number must be retained to furnish fruit for next year, for it is on the young wood that the fruit is produced.

Fruit Trees in Pots.

Peach, nectarine, and fig trees growing in pots now require an immense amount of labour, for the quantity of water they want is surprising, especially to the uninitiated. Our peach and nectarine trees have had water twice a day, and the fig trees three times, and these supplies have only just kept the leaves from flagging. Figs must have plenty of water when grown in pots, ,or the fruit will drop. All our fruit trees in pots have a soaking of liquid manure twice a week. If we have not any liquid made from animal manure we give them soot-water, made by placing one peck of soot in thirty gallons of water, allowing it to stand ten days before using it. Soot-water is a very gentle stimulant for all kinds of plants. Cultivators of fruit trees in pots must not allow the roots to suffer from an insufficiency of water, and to reduce the labour of watering I like them to be plunged to the rim of the pots in the border. Then if they have a good soaking of water at ten a.m. and another in the evening, they will take no harm in the brightest weather. Next in importance to affording them sufficient root moisture is the necessity for keeping the foliage free from insect pests. All kinds of fruit trees grown in pots under glass are very liable to be attacked by red spider, and the only way of keeping them clean is to regularly syringe them every evening, and to keep the surface damp to ensure a liberal degree of atmospheric humidity. From this time until the fruit begins to ripen the house in which our trees are growing is thoroughly syringed every evening at six o'clock, and then shut up close for an hour, and it is a rare occurrence for us to see any red spider on the leaves. The fact is, the pest does not like the evening bath it has when the air in the house is confined and saturated with moisture. I suppose they go to drier quarters.

Tomatoes in Pits or Frames.

Bedding plants are now removed from the pits and frames, which many may with advantage devote to the production of tomatoes. I can strongly recommend the use of frames for such a purpose, as it renders a crop more certain than when the plants are grown in the open. A barrow-load of fairly good soil will serve for one tomatoe plant, and bottom heat is not required. Obtain a few builders' laths, and make a trellis to which to train the growth, and fix this about nine inches from the glass. Then put out one strong plant underneath each light, and as the growth progresses train out sufficient growth to cover the trellis, cutting away the other. The roots will require a fair supply of water. The lights should be tilted at the back with a wedge of wood, little or much, according to the temperature. The frame must be closed at night, and during bright weather the leaves should be sprinkled with water when the lights are closed for the evening.

MOTH ORCHIDS.

A few of the Phalænopsids never lack praise, but there are some we seldom hear of, and belonging to the "neglected" class are *P. sumatrana* and *P. Parishi*. Why these two species should not be more frequently seen is to me a mystery, for they both possess peculiar attractions. I wish to call attention to them now because they are in flower, and therefore to make a few remarks respecting them will be seasonable. At one end of my East Indian house *P. Parishi* has a corner, and though its fairy-like flowers are small they want neither beauty nor fragrance. It is growing in a shallow pan, and has a light position. During the growing season water is supplied liberally, in fact it revels in moisture, although, of course, it must be given judiciously. Care is taken in potting to elevate the plant two or three inches above the rim of the pan, and the latter is well crocked, so as to ensure perfect drainage, as without that the plant will speedily come to grief. I noticed it at the Primula Conference, and was gratified to see it exhibited in good form. The flowers are produced in profusion, and boast of bright and pleasing colours. The reflexed sepals and petals are pure white, while the lobed lip is violet, and vibrates at the slightest breath of wind. The other moth orchid but little seen is *P. sumatrana*, which is also a small grower, and it is grown in company with *P. Parishi*. It receives the same treatment, and when well cultivated is sure to reward for the care and attention necessary to have it in fine condition. The flowers appear now, and are noticeable for their bright and distinct colouring. The colours are decided, especially in the sepals and petals, which are blotched with rich brown on a yellowish ground. The lip is narrow, inclined to curve, and striped with crimson, except at the front, where it is white and downy. Not only are the flowers attractive, but the same may be said of the leaves, which are broad, deep green, and almost rest upon the soil. I find that this succeeds either in a shallow pan or basket, but I prefer the former.

C.

Substitute for Boxwood.—Sir Villiers Lister calls attention to the following passage in Mr. H. Romilly's "Western Pacific and New Guinea" (Murray), p. 136. "The Trisbands. . . are exceedingly rich islands, and produce various sorts of wood not met with elsewhere, unless perhaps it be on the mainland of New Guinea. There is an extremely hard white wood which I have never seen except from the Trisbands. It looks almost like ivory when polished, and should be of service for cabinet making."

BREEDER TULIPS.

AT the table of the Floral Committee, on the 11th instant, a series of breeder tulips appeared, and obtained serious attention. I happened to pass the table at the time, and noted that two or three members of committee took the measure of the petals and looked within the cups, and quietly dismissed them as of no account. Some short time afterwards I found these discarded tulips, and there were amongst them two dark flowers that might pass as promising for colour, and probably it was those that were the subject of special scrutiny. But the committee did well to abstain from any recognition, for the whole series wanted size and substance, and more especially breadth of petal. Given fine form and proportions, breeders cannot be too large, for the process of breaking reduces them but does not make perfect in form those that are not perfect in the first instance. The kind of petal that marks high quality you have shown in the right-hand figure in your issue of 1885, page 677, from one of Mr. Samuel Barlow's magnificent flowers. In such we have commanding power, and probably greater vigour of constitution, than was known in tulips of the "good old times," for the published figures do not, as a rule, show any such breadth and substance. I shall soon have a magnificent display of rectified tulips, as well as of gigantic breeders, that will justify all I have said in praise of the flowers at the reference above cited. Now that tulips are in season, and there is ample time for the late varieties, I particularly wish your readers to look out for what are called "roses" in the tulip world. They are flowers feathered and flamed in shades of blush, rose, scarlet, and crimson, on white grounds. Their splendour is such that it is in the nature of a miracle we do not see them in every garden. Probably their exclusion is due to the prevalence of a notion that they are costly and troublesome, while, in truth, the unnamed sorts cost almost nothing, and all they require is to be planted and left alone. However, they may be found by those who will seek for them, and when found they will be made note of as among the most glorious of cheap flowers for an English garden.

It is my duty now to thank you for the note appended to my paper published November 21 last year, and more especially for the admirable figures. I much like the quaint idea of Mr. Harrison Weir in making clumps of late tulips of several kinds. How mad we all are (or seem to be) to have clumps of one colour, as though our horizon were bounded by the fundamental idea of the bedding system! I propose a new watchword—Show tulips for common borders in endless variety.

TULIPA.

[We have selected for illustrating the suggestive paper of "Tulipa" two examples of the noble strain of breeder tulips our esteemed friend Mr. Samuel Barlow has succeeded in establishing at Stakehill. The flowers shown are characterized by great breadth and noble proportions. One of them is in the first stage of change from the breeder to the rectified form. The figures are from sketches by Mr. Alfred Slocombe.]

BREEDER TULIPS OF THE ROSE SECTION.

Calls at Nurseries.

MR. B. S. WILLIAMS'S EXHIBITION OF ORCHIDS.

THE magnificent exhibition of orchids which Mr. B. S. Williams is now holding in the Victoria Nurseries serves to show in a very marked manner the great resources of the establishment, the richness of the collection in varietal forms, and the highly picturesque effect these flowers are capable of producing in association with palms, ferns, dracænas, and other plants characterised by eleganoe of outline or nobility of aspect. It affords, moroover, an opportunity seldom offered for the full enjoyment of the wealth of colour and the diversity of form displayed by the flowers. The house in which they are arranged is spacious, the temperature and atmospheric conditions such as not to cause the slightest feeling of oppression, and the association of the several classes under the same roof enables the general visitor to appreciate the beauty of the flowers and the specialist to institute comparisons in a manner hardly possible when the plants are in the houses in which they are grown. As briefly indicated last week, the exhibition is being held in the large structure immediately beyond the offices, and the effect on entering the house from either end is surpassingly rich and beautiful. Entering by the door at the upper end, there is on the right a forest of tree ferns, palms, dracænas, aralias, and anthuriums, fringed with orchids, as is well shown in the accompanying illustration. On the left is a broad belt of orchids, relieved by palms and ferns, and overhead are suspended orchids and ferns in baskets, which enhance in no small degree the beauty of the scene. Very attractive to the general body of visitors is the large tree stump on which are disposed in a very natural manner a considerable number of orchids, with more or less pendent racemes of flowers, and it moreover is useful as indicating to visitors the way in which those plants

grow when at home. Amongst the dracænas which assist in the formation of the background are several very large and superbly coloured specimens of Dracæna Lindeni, one of the most distinct and handsome of the numerous forms now in cultivation. The specimens of Anthurium Scherzerianum well merit attention for their remarkable development and the sharp contrast their brilliant scarlet spathes presents to the soft shades of colour of the orchids. As giving some idea of the extent of the exhibition, it appears advisable to add that the house is one hundred feet in length by twenty-two feet in width.

ORCHID EXHIBITION HOUSE IN THE VICTORIA NURSERIES, UPPER HOLLOWAY.

Cattleyas are so abundant and include so many fine forms as to constitute a very important part of the display. C. Mendeli is well represented, and chief amongst the several fine forms are C. Mendeli grandiflora, which has flowers of exceptional size, with pure white sepals and petals, and a broad labellum of an exquisite shade of rose, and C. Mendeli superba, which is distinguished by the depth of colouring of the labellum. C. Mossiæ also musters in strong force, and comprises several varieties deservedly held in high estimation by orchidists, notably C. Mossiæ Rothschildiana, a magnificent form, the flowers very large, the sepals and petals bright rose pink, and the labellum, which is very long and elegantly frilled, is marked with a large amethyst blotch, and has a rich orange throat. C. Mossiæ marginata is distinguished by its fine labellum, and C. Mossiæ aurea, of which the labellum is of a deep golden hue, marked with purple. One of the gems of the collection is the rare C. Morganiæ, the flowers of which are about equal in size to those of a good form of C. Mossiæ, and of the purest white, the labellum delicately painted with rose. Amongst other species are C. citrina, bearing a profusion of its rich golden tulip-like flowers, C. Lawrenciana, C. Skinneri, the rich purple flowers of which produce a fine effect, and C. Warneri, so well known and highly appreciated for the rich colouring of its flowers. Of the species last mentioned and C. Mossiæ there will be a marvellous display a little later on, for in the Cattleya houses we noticed several hundred spikes in various stages of development.

Lælias are not less noteworthy than the cattleyas, chief amongst them being the fine old Lælia purpurata, of which there are numerous superb varieties. One of the first to attract attention is L. purpurata alba, bearing flowers with pure white sepals and petals of great breadth; L. purpurata bella, a distinct variety, bearing exquisitely coloured flowers, the sepals delicate rose, the petals bright rose veined with purple, and the labellum crimson-purple shaded marone; L. purpurata Williamsi, one of the finest of the many good forms, and highly esteemed by cultivators for exhibition because of its effectiveness. The flowers are very large, averaging five inches across, the sepals and petals delicate rose, and the labellum rich purplish-crimson; L. Russelliana is closely allied to L. purpurata, and possesses a distinctness and beauty that never fails to be appreciated by connoisseurs. The flowers are about equal in size to those of the species last mentioned, the sepals and petals broad and delicately tinted with lilac, the labellum rose-lilac; the specimen now in bloom is considerably in advance of the type, the colouring being much clearer. L. Elegans is represented by several large specimens, all of which have flowers considerably above the average, some being especially effective in colour. As in the case of the cattleyas the lælias will form a great feature of the exhibition until its close, judging from the immense number of spikes of L. purpurata that are being produced in the structure chiefly devoted to this fine species.

Odontoglossums are now in perfection, and their graceful racemes that are met with at every step contribute in no small degree to the beauty of the display. Of the well-known and universal favourite, O. Alexandræ, there are over a hundred examples, and, as they are all more or less good, they admirably illustrate the great beauty of the species and the remarkable diversity in the markings of the flowers. The other species represented comprise O. vexillarium, amongst which there are several very beautiful forms; O. cirrhosum, an exceedingly elegant species; O. gloriosum, O. triumphans, O. citrosmum, and its charming rose-coloured variety; O. hastilabium, a tall growing species, handsome in appearance, and distinct in character. O. Halli leucoglossum, O. luteo-purpureum, O. Pescatorei, of which the varieties are particularly good; and O. polyxanthum, a comparatively rare species, bearing large flowers blotched with red, on a ground of the deepest gold.

Oncidiums comprise three species of special merit. There are O. concolor, the bright yellow flowers of which judiciously distributed through the exhibition house are singularly effective; O. Marshallianum, an exceptionally fine species, too well-known to need description; and O. tetracopis, a bold growing species, producing branched spikes about ten feet in length, with large handsome flowers effectively coloured, yellow and chesnut red.

Masdevallias include the well-known M. Harryana, in great variety. The flowers ranging in colour from the richest sanguineous red to the most delicate lilac. M. ignea and M. Veitchiana grandiflora, a gigantic form of this brilliant coloured species, bearing flowers between six and seven inches in length. Of the last mentioned there is a specimen with upwards of twenty flowers.

Cypripediums are so numerous that the several kinds would form a rather lengthy list, but it must suffice to say that C. albo-purpureum, C. barbatum in variety, C. selligerum, C. candatum, C. superbiens, C. superciliare, C. Swanianum, C. vernixlum, and C. Warneri are especially worthy of attention, both for their high development and the beauty of their flowers.

Phalænopsis and Vandas are both highly attractive, notably the latter, which have long formed an important feature of the collection in these nurseries. Vanda suavis, V. insignis, and V. tricolor are all represented by numerous specimens, and amongst those of the species last mentioned is the rare Dalkeith variety so highly esteemed for the rich colouring of the flowers. The Phalænopsis comprise P. amabilis, P. grandiflora, and P. Schilleriana.

Dendrobiums, of which there is a fine display, comprise D. chrysotoxum, D. Deari, D. densiflorum, D. infundibulum, D. Jamesianum, and D. thyrsiflorum.

In addition to the foregoing there are many other species that should not fail to receive attention, particularly Cœlogyne Massangeana, of which there is a large, finely-flowered specimen.

It must be added that the attractions of the nurseries at the present time are not limited to the orchid exhibition. There is a very bright display of miscellaneous plants in the magnificent winter garden, and in the showhouse the amaryllis house is gay with colour, numerous fine varieties being in bloom. The specimen heaths, with which the New Holland house is well furnished, bristle with flowers; the rhododendron house is very attractive, and, in addition, there are the numerous houses devoted to ornamental-leaved plants and ferns, and the nepenthes house, the last-mentioned being especially interesting.

PRIMULAS AT LOW MOOR SEED GROUNDS, WANTAGE.

During the past four or five seasons our readers have been informed of the progress in primula cultivation of Mr. W. Caudwell, of the Ivies, Wantage. With the view of ascertaining how the subjects under his care have been affected by the drought of 1885, and the long winter just concluded, we made a journey to Wantage on the last day of April. The general result of our observations may be described by stating that a close scrutiny of the individual flowers revealed a smaller development in point of size, while the leaf-blades were wanting in green, owing, no doubt, to the continuance of easterly winds during sunshine, a state of things not favourable to any kinds of primulas and least of all to such as may be regarded as the lowland group. We saw indeed a wealth of bloom which had been in force for a full mouth, and with softer winds and some rain it was likely to continue two or three weeks longer. Specially noticeable were the batches of gold polyanthus with orange markings; nor were the cream, primrose, and white shades less attractive, while the shades of red, crimson, chocolate, purple, lilac, lemon, brown, marone, and intervening shades of the primroses were altogether attractive. The developments of last year's seedlings presented nothing remarkable in the way of colour save a very fine primrose of a bright rosy-crimson with a golden eye, but as Mr. Caudwell has discontinued naming the cream of the new developments we can only refer to the colour or other characteristics of anything special.

Last season a good quantity of seed was harvested and sown, many thousands of the seedling plants were being put out at the time of our visit; of these, an unusually large number of the gold-laced, hose-in-hose polyanthus and coloured primroses, in strong plants, which should give a return commensurate with the trouble bestowed in their culture. Of the hose-in-hose forms there appears an almost endless variety of colours and shades; in some we noticed that the calyx and the corolla were not strictly correspondent, the calyx in some cases being marked with stripes while the corolla was not marked. That a packet of polyanthus seed produces cowslips, oxlips, primroses, and the various forms of the polyanthus, need not surprise ordinary growers, for here (where more than ordinary care is taken to keep each section separate) you may find nearly every form developing in each seed patch. For such a riotous tendency to variation Mr. Hibberd's recent paper on the auricula must have prepared many who were not familiar with the facts.

In our walk round we plucked a few flowers at random as possessing attractions. Amongst them were a hose-in-hose polyanthus of large size, deep crimson, fine orange eye, flat limb; a pale gold, carrying a fine cluster of blooms on the top of a stout scape; a primrose-gold, very choice; a deep crimson, flaked white; and a pure white with thrum eye, profusely bloomed. Of self-coloured polyanthuses, very rich in colour were a primrose yellow, large, with rich orange rays; a very dark crimson-marone, bright golden-orange eye; a purplish-magenta, large flat corolla, bold eye; a sulphur-yellow, deep orange centre, cupped, and drooping in habit; a creamy white, rays of two shades of orange; a pure gold, phlox eye, segments serrated, bold circular flower; a pale yellow, smooth circular outline, golden centre; a bright gold, cup-shaped tube, rounded lobes, fine thrum eye; and a dark crimson with yellow eye. Of gold-laced there were several good forms, one or two in addition to being correctly laced had a shade of gold dust over the body colour. Of fancies, in addition to stripes, flakes, and spots, there appeared to be an endless suffusion of mixed colours. The galligaskins were very curious and beautiful; one, a very dark crimson, and a pure primrose, seemed worthy of a name. But it is the coloured primrose on the pure primrose stalk that seems the primary ambition of the painstaking proprietor to secure, and also a race of dark coloured flowers; and, although a long stalk may be preferable, we noticed not a few in this section with a very dwarf habit.

Mr. Caudwell, we learned, carries on the work with the view of securing seed, for which there is an ever-increasing demand, and in addition to the primula family he cultivates the cream of herbaceous plants and the popular sections of annuals. At Low Moor there are upwards of two hundred varieties of roses grown as bushes to produce wood for "budding." Of these, the tea-scented varieties have been severely cut down (nearly to the ground-line) by the long-continued frosts, although American, Afghan, and Japanese roses have scarcely been affected.

Among the seedlings raised in quantities here are double and single pyrethrums, Asiatic poppies, pansies, French marigolds, zinnias, asters, &c. At the Home Nursery, Wantage, the glass structures are filled with rose trees which furnish a supply of cut blooms for the northern markets from Christmas to May. One other interesting department is the collection of ivies in about sixty varieties. W. G.

TOBACCO CULTURE IN HOLLAND AND BELGIUM.

Abridged from the *Times*, April 29, 1886.

The great tobacco belt of America is between 35 deg. and 40 deg. N. lat., but in Europe we have seen tobacco—of an inferior quality of course—grown even north of Stockholm. The climate necessary for the profitable growth of the tobacco plant must be characterized by at least two or three months of hot summer weather, with an absence of storms of wind, rain, or hail, but an abundance of dew and even mists; gentle rains also do no harm if they are not too copious and are associated with a high temperature. One hail-storm is sufficient to destroy the crop, and a gale of wind is destructive to the extent to which it breaks the leaves of the plants, for a broken or a perforated leaf is absolutely worthless.

Putting aside what was done centuries ago, before the power of steam was discovered, and before the manufacture of Bessemer steel was perfected (these being the two most potent engines of foreign competition), it will be useful to glance at the cultivation of tobacco in the Netherlands at the present time. This is not restricted by the Excise, and if it were so profitable a crop as has recently been asserted no doubt the area devoted to its production would have been largely increased during the prolonged agricultural depression, which has been as severely felt in the Netherlands as in England. But the agricultural statistics give a precisely opposite picture of what has taken place, as will been seen by the following figures:—

Years.	Hectares (2½ acres each) of tobacco grown.
1851-60	1,760
1861-70	1,711
1871-80	1,676
1881-82	1,298
1883	1,248

Taking the last year, 1883, we find that there were 900 hectares of tobacco in Gelderland, 255 in the province of Utrecht, three in North Brabant, and a quarter hectare in Limburg. Not a patch of tobacco is recorded as having been grown in the maritime provinces of Zeeland, North Holland, Friesland, or Groningen. This fact, even more than the gradual diminution in the acreage after a succession of wet seasons, ought to be a convincing proof that tobacco cannot be grown profitably in a sunless atmosphere of mist or in a rainy season or climate.

The land for tobacco must be rich naturally, but whether clay or sand predominates in its composition is quite a secondary consideration. In the Netherlands it is usual to grow tobacco year after year on the same land, and to manure it heavily every year with sheep dung, which is carefully collected for the purpose. But to prepare land in the first instance for the growth of tobacco it is essential to add to its natural fertility by giving it a heavy dressing of farmyard manure, which is ploughed in during the autumn. The land is then marked out into squares of about a tenth of an acre each, and these small plots are bounded by live fences about 6 ft. high, consisting generally of haricot or other runner beans. Inside the squares the land is set out in flat-topped ridges about 18 in. wide, separated by furrows a foot wide. These precautions, in addition to ordinary drainage, are necessary, because the tobacco plant cannot stand much moisture at its roots—nor wind nor much rain above ground. The depth of the furrows, or the height of the ridges—whichever expression may be preferred—must vary with the tenacity of the soil and the average rainfall of the district during the growing period. But if tobacco is sensitive to wind and rain it is also impatient of scorching heat; therefore, as one of our friends remarks, to grow tobacco to perfection in the Netherlands, each plant requires the protection of an umbrella—but *à l'impossible nul n'est tenu.*

The seed is sown in frames on hot beds, oiled paper taking the place of glass, which would cause the young plants to be burnt up during a burst of sunshine. The beginning of April is the general time of sowing, and a daily watering must be given. Towards the end of April a heavy dressing of sheep

dung is applied to the land, and soon afterwards, when the young plants have three or four leaves, and are otherwise vigorous enough, they are planted out on the ridges from 16 in. to 24 in. apart. Thick planting gives a greater weight and thin planting a better quality; in the end it is the quality which pays the Dutch cultivator, not the quantity. In dry weather the young plants must be watered; but, in wet weather, if they cannot be covered over the crop is either spoiled or very much deteriorated in quality. It need scarcely be added that continuous and most careful weeding is an absolute necessity.

As soon as the first flower-bud appears the growing stem must be nipped off by the finger and thumb, and the same process must be continually applied to the side shoots from the axils in order to prevent their development. In fact, the whole strength of the plant must be diverted into and concentrated in from 12 to 16 leaves. When the flatness of the surface of the leaves begins to be broken by bubbles, and their rich green to be interspersed with a yellow sheen, the leaves are ready to be gathered for curing.

The curing process may be learnt practically, but can scarcely be described verbally except in outline. The leaves are taken to a barn closed on all sides by louvre shutters. After the leaves are partially withered they are hung in pairs on wire lines, like an inverted letter V, not too close together. The access of air, wind, sun, and moisture is regulated by opening and shutting, raising and lowering, the appropriate shutters.

One of the most successful tobacco fields which we saw in the Netherlands was a portion of a reclaimed peat bog, measuring about 40 acres. The land had been very carefully prepared and ditch-drained, and was worked on the Dutch system of continuous tobacco-growing; but the broad ridges of one year, carrying two rows of plants, became the equally broad trenches of next year. The estimated value of the sheep dung used was £10 per acre per annum. The leaves were harvested by plucking them two or three times, the leaves of the first picking possessing the best quality. The persons who do the work get half the proceeds in payment for their labour, which includes all acts of cultivation, as well as sowing, weeding, harvesting, and drying. The owners of the land find manure, seeds, frames for raising the plants, implements, and the barn for drying the leaves. Each barn is designed to dry the produce of about six acres, and there are seven for the 40 acres or so which are annually cropped with tobacco. At each end of the barn is a cottage for the labourers, and two men, with their families, are considered enough to get through all the labour for the six acres placed under their charge. Under this arrangement the same two men always work together, cultivate the same land, use the same barn, and divide half the crop (or its value) between them. To reduce the foregoing items into a profit and loss account is rather a speculative proceeding, because so much hinges upon the price obtained for the tobacco. Taking a fair yield of 15 cwt. at an outside price of £2 per cwt. for first-rate quality gives a total of £180 for six acres. Against this must be put £60 for manure, at £10 per acre, the wages of two skilled men (putting their wives and children aside) for a whole year, which, at only 15s. per week, each comes to nearly £80, and by adding nothing to pay for the help of the wife and family it leaves less than £7 per acre to cover rent (about £3 to £4 per acre), taxes, interest on buildings and capital, expenses of marketing, and farmer's profit.

The cultivation of tobacco in Belgium differs in some respects from the Dutch practice, and chiefly as being less carefully attended to. For instance, the seeds are sown in a hot-bed facing south, but, instead of a frame "glazed," so to say, with oiled paper, a covering of straw is used. During sunshine this is removed and is replaced before sundown. Not until the beginning of June is it thought desirable to prick out the plants, but in Belgium it is thought best not to repeat tobacco on the same land until after an interval of three years. Curiously enough, it is stated in an official document that if tobacco follows tobacco two or three times in succession the leaves gain greatly in quality but lose in weight. This appears to be the consideration why the Dutch adopt what the Belgians avoid, because the latter aim at quantity, while the former aim at quality. Under the Belgian system tobacco is generally taken after a corn-crop, but never after clover, in consequence of the liability of clover-lea to become infested with wire-worm.

The crop of tobacco on the best land varies from a little over a ton of cured leaves to nearly two tons, and the price varies from 7s. to nearly 40s. per cwt. It has been officially stated that in the canton of Grammont a hectare of land produces about 2,800 kilogrammes of tobacco (say 22¼ cwt. per acre), which is sold for 2,632f. (about £42 per acre). Against the total of 2,632f. (£105 5s. 6d.) we have the following expenses: Manure, to convert the land into a kind of hot-bed, £61 8s. 9d. (1,536f.); labour, £24 0s. 9d. (601f.); and rent and other expenses, £10 8s. 9d. (261f.); leaving a profit, including interest on capital, of about £10 for the 2½ acres of land which a hectare measures. It should be added that the canton of Grammont is one of the best tobacco-growing districts in Belgium, and that the enormous expenditure on manure is necessitated by the fact that the tobacco is taken after a series of exhausting crops, such as rapeseed, oats, barley, rye, or maize.

ORCHIDS IN FLOWER.

This is the season for orchids; they are now in full beauty, and every house devoted to these plants should glow with colour. To mention all the species and varieties that flower now would require a volume, but the most interesting and attractive will be pointed out.

Cattleyas of several kinds are flowering, and one of the most attractive, although comparatively scarce, is *C. Skinneri*. This is found growing upon high trees in Guatemala, and is named by the natives of those regions the "Flower of St. Sebastian." The flowers are medium in size, quietly coloured, and produced on an erect scape; the sepals and petals are of a soft rosy purple hue, and the lip is of a similar colour, but relieved with white at the base. The gorgeous *C. Mendeli* is in full feather at the present time, and its richly coloured flowers compel admiration. To discourse further upon its merits is unnecessary, as it is well known. Another member of this genus that demands notice is *C. mossiæ*, which is the "King of Cattleyas," and a favourite with all who appreciate flowers of vivid colouring and commanding appearance. This grand orchid was introduced from La Guara in 1836, and there are numerous varieties, many of them far surpassing the type in beauty.

Odontoglossums are making a pleasing display. A species of distinct and attractive appearance is *O. citrosmum*, which bears large waxy flowers in long pendulous racemes. In colour the flowers vary somewhat, occasionally being white, and in a variety named *O. citrosmum roseum* they are of a rosy hue, and have a pleasant odour of lemon. This interesting species was introduced from Guatemala. *O. cariniferum* is a plant of free growth, and has flowers of a brown and white hue. A charming orchid is *O. Œrstedi*, and we may say the same of the chaste *O. pulchellum*, which bears pure white flowers of delicate fragrance. A contrast to the Odontoglots previously mentioned is *O. vexilliarum*, which ranks amongst the finest of the genus. As an orchid for exhibition it is invaluable, and no collection is complete without it. Resembling this species in appearance and habit is *O. Roezli*, which is too well known to need description. The elegant racemes of *O. cirrhosum*, with its beautifully-spotted flowers, are now enlivening the orchid house, and we can scarcely have too many. *O. Alexandræ* is in perfection, and there are innumerable varieties of this popular species, some being marvels of beauty. We must not omit to mention the magnificent *O. Pescatorei*, which bears at this season very ornamental flowers in branching racemes. The sepals and petals are pure white, sometimes shaded with rose, and the fiddle-shaped lip blotched with rose and yellow on a white ground.

Oncidiums blooming now include some of the most interesting members of this genus. A beautiful species with quaint and richly-coloured flowers is *O. cucullatum*, and one that deserves the attention of amateurs, as it is of easy culture. The brightly-coloured flowers of *O. Batemanianum* appear now, and add greatly to the interest of the collection. The lip in this species is of large size and of an intense yellow hue. *O. macranthum* is a magnificent species of vigorous growth, and has large pseudo-bulbs and deep green leafage. The spike attains a great length and supports numerous flowers of large size, frequently measuring four inches in diameter. The broad, fleshy, and round-shaped sepals and petals are yellow, tinged with a reddish purple colour; the lobed lip is also of leathery texture, and has purplish brown lateral lobes, while the middle one is yellow. *O. auriferum* has small flowers of a yellow and pale brown hue. It is interesting though not striking. Two members of this genus must not be passed over, for at this season they are in full beauty. One is *O. sarcodes*, a handsome Brazilian orchid, producing a branching panicle profusely clothed with richly coloured flowers. The sepals and petals are blotched with brown on a showy yellow ground, and the lip is of a similar hue. The other is *O. concolor*, noticeable for its distinctness and large primrose yellow flowers borne in pendent racemes.

Cælogynes flowering now are not numerous. In the orchid house at Kew *C. corymbosa* may be seen in condition. The waxy flowers are pure white, saving the narrow lip, which is banded in the centre with yellow. Not only are the flowers chaste and pleasing, but they diffuse a strong spicy fragrance. *C. ochracea* is a small grower, with flowers of a similar hue to the last mentioned, and it is worth the attention of orchidists.

Dendrobiums are always welcome, and we have several splendid species and varieties that bloom at the present time. Gaudy and beautiful is *D. aggregatum majus*, of dwarf growth, and with rich orange-coloured flowers. One of the most striking orchids in the Kew collection for some weeks past has been *D. Dalhousianum*, and in several instances it was interesting to note that the flowers had a decided tendency to doubling. A species bearing exquisitely delicate flowers is *D. transparens*, which is in bloom now. *D. mesochlorum* may be seen at Kew, and it is noticeable for its elegant habit and beauty. The flowers are of quiet colouring, being white tipped with lilac, and the lip is of a greenish hue at the base. It is grown in a basket, and when suspended from the rafter has a graceful appearance. *D. Williamsoni* merits attention. The flowers might be described as coarse, but they are bold and showy. In size and appearance they resemble those of D. Dalhousianum, but in colour are quite distinct. The sepals and petals are white, the latter being broad, while the serrated and comparatively small lip is coloured with a yellow blotch at the base. *D. tortile roseum* is a beautiful dendrobe, and a facsimile of the type in every respect, saving that the flowers are pale lilac, except the spoon-shaped lip which is creamy yellow. *D. Bensoniæ* has white sepals and petals, and a lip blotched with black at the base and with yellow in the centre.

Vandas are justly popular, and the flowers of the stately *V. suavis* are scenting the orchid house with their powerful but delicious perfume. This species and *V. insignis* are in full beauty, but there is another member of this group that deserves mention, and that is *V. cristata*. This has small flowers with greenish sepals and petals and a thick scaly lip, yellowish white at the front and enlivened with deep crimson at the base.

Other orchids flowering now include *Phalænopsis sumatrana*, *P. Parishi*, *P. amabilis*, *P. Schilleriana*, *Epidendrum vitellinum majus*, *E. bicornutum*, *Masdevallia Shuttleworthi*, *M. Lindeni*, *M. Chelsoni*, *Eulophia Krebsi*, *Cattleya citrina*, *Cypripedium barbatum*, *C. barbatum giganteum*, *C. selligerum*, *C. concolor*, *C. conchiferum*, *C. Leeanum*, *Leptotes bicolor*, *Lælia purpurata*, *Ærides Fieldingi*, *Saccolabium curvifolium* and *Sobralia macrantha*.

Horticultural Papers and Politics.—A correspondent has favoured us with a cutting from the *Irish Farm, Forest, and Garden* of May 15, from which we learn that the paper inquired after in our paragraph at page 5 of last week is the *Covent Garden Gazette*. This paper has discovered "what Ireland really needs." It is not Home Rule; it is not an improved breed of potatoes; it is not a new religion, nor is it three acres and a cow. No; the remedy for Ireland's wrongs is declared to be fruit culture!!! We must be just to the *Covent Garden Gazette* by quoting its exact words, and here they are: "Fruit culture in short." The Irish paper says the other paper "knows nothing at all about it."

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Azaleas not yet done growing keep moist and shaded, but beware not to push the growth too far, as unless they are well ripened and rested there will be few flower buds formed. There is not much danger of that however just yet, except with those forced early. Plants that are leggy are likely to throw out shoots along the stems if laid on their sides.

Climbers in free growth look best when left a little to themselves, but some tying and training must be done, and the cultivator must have an eye that the rods intended for future flowering are not unduly shaded by disorderly growths. There is a happy medium between training climbers in a severely artificial manner and leaving them to sprawl about and choke themselves, which medium course it should be the aim of the gardener to discover and encourage.

Heliotropes make rapid growth on hot walls, and are very useful to fill up blanks. Petunias may be used in the same way, to run up to five or six feet. Rich soil and plenty of water are requisite if such a free growth is required.

Pelargoniums of the show and regal classes now require much attention. See that stakes and ties are in order to keep the plants in the required form as they come into bloom, and remember that the fewer ties the more credit is due to the cultivator. This is such an important matter that varieties with a sturdy habit should always be preferred, unless there are some very strong inducements to select weak growers. Give shade as the plants show flower, and keep the whole stock as cool and airy as possible, avoiding damp and cold draughts.

Petunias left over from the bedding and double varieties struck in spring will now want shifting, to make specimen plants for autumn bloom in the conservatory.

Fuchsias must be well shaded, well watered, well ventilated, and with a cool, moist bottom. Plants from spring cuttings will be useful in five and six inch pots, to keep the houses gay, in company with balsams and other summer flowers.

Plants in Flower comprise azaleas, chorozemas, hedaromas, decorative pelargoniums, pimelias, and statices.

STOVE AND ORCHID HOUSE.

Orchid House.—Shading the structures devoted to orchids must have careful attention, for the plants must not be exposed to the direct rays of the sun or be deprived of light in dull weather. As the sun has now acquired great power, it is necessary to shade rather early in the day when the sun is shining brightly. A liberal degree of atmosphere humidity must be maintained by sprinkling the walls and stages, and by pouring water upon the floors.

Stove.—All free growing plants requiring more root space should be shifted without delay, and a light, rich compost employed. Gesneras and gloxinias must be carefully screened from the sun, as a very short exposure is sufficient for the disfigurement of the leaves. Achimenes must also be shaded in bright weather, but they ought to have a position near the glass to ensure a short-jointed growth. The syringe must be used freely on all plants that are not in bloom.

FLOWER GARDEN AND PLEASURE GROUNDS.

Auriculas will want occasional fumigating; keep them in a cool place on a hard bottom, and pour water amongst them on the ground surface to cause a moist air. An old light may be rested on pots over them during storms, otherwise let them have the benefit of all showers.

Asters may now be turned out in the places where they are to bloom; make the ground rich, and choose showery weather. If the place is infested with snails, plant a few small lettuces behind the back row, which may be pulled up as soon as the asters are well rooted. Those to flower in pots to have a good shift and cold frame.

Annuals of quick growth sown now will bloom late for succession. Nemophilas never make a better effect than from sowings in June, in moist, shady places. Asters and balsams to be planted out during moist, dull weather.

Cinerarias may now be earthed up, to promote the rooting of the suckers. Throw away all seedlings of inferior quality, and propagate only the best. They require a cool, shady place while making suckers, which are to be removed as soon as rooted. Sow seed for next year, and pot off rooted cuttings.

Dahlias planted out to be staked before the roots extend. Plant out all that are in pots at once; they will do better in the ground now than with any more nursing. The shoots of dahlias may be bent down so as to render very short stakes sufficient.

Hollyhocks.—Stake at once, and tie in as soon as the stems are tall enough, and frequently look at the ties to see they do not cut their swelling stems. Heavy manuring in the first instance is preferable to watering with liquid manure, but in poor soils liquid manure may be used abundantly.

Pansies.—Take cuttings of the best, look over seedlings, and root out and destroy all inferior ones. Sow again for autumn bloom.

Roses.—Briers intended for budding to have attention as soon as it becomes necessary, to cut away weak, ill-placed shoots, and shorten in the strong rambling shoots on which buds are to be entered. If cut in soon, as may be needful, both to strengthen the shoots to be worked and make room between the rows for the operation, they will break before budding time, and the sap will flow freely when it is wanted.

FRUIT GARDEN AND ORCHARD.

Apricots to be thinned, young shoots nailed in, caterpillars destroyed, and water engine used smartly if any sign of fly, which rarely troubles them.

Wall Trees to be nailed in and the shoots thinned as they grow, that there may be no crowding of unnecessary wood. Shoots that run away with undue vigour to be cut clean out to the base, unless in positions where much needed, in which case shorten them back.

Search among raspberries occasionally in the morning for snails, which take shelter on the stakes and among the side shoots. If large fruit is required thin the blooms at once and give liquid manure. Disbud and nail in. Pot trees to have plenty of water, and if weakly in their new growth pretty strong doses of liquid manure at intervals of at least a week each. Pinch, regulate, and where fruit shows thick thin it out.

KITCHEN GARDEN AND FRAME GROUND.

Celery to be got into trenches as fast as the ground can be made ready by the removal of other crops. Take up each with a ball, and do not injure a single leaf. Hoe over those that are established in trenches to break the surface that has been hardened by watering.

Plant cucumbers, gourds, tomatoes, and capsicums as soon as the season is sufficiently advanced; the soil should be rich, and for tomatoes a sunny aspect must be chosen.

Salad Plants should have a shady position, or they may run to seed.

Peas and beans.—It is best in sowing at this time of year to depend on the earliest sorts, as they are soon off the ground.

Sow succession beans, marrow peas, lettuce, Portugal cabbage, cauliflowers, Walcheren broccoli, stone turnip, and turnip radishes.

Notes of Observation.

STRAWBERRIES.

Having formed a good collection of strawberries for the purpose of testing the earliness and other qualities amongst both new and old sorts, I have gone over the plantations to-day for the purpose of making a note of the earliest to flower, and here give the names in the order in which they have commenced to bloom: 1, Black Prince; 2, King of the Earlies; 3, Auguste Decaisne; 4, The Captain. Which will be the first to ripen its fruit time alone can tell, but it is not difficult to conjecture with strong probability of proving right in the end. J. C. Clarke.

PANSIES AT BATH SHOW.

It has long been conceded that the western city has enjoyed a distinguished reputation in the cultivation of the choicer selected forms of the pansy, and pansies are generally well shown at the early summer exhibitions. At the recent show in the Sydney Gardens Mr. F. Hooper, Widcombe Hill, Bath, had in the class for twenty-four distinct varieties a prime lot of well-defined blooms, which had been cut from plants wintered in frames. The beds in the open were entirely devastated in the course of last winter by the frost and snow, which has been a great loss to the young spirits who are aiming to carry out the style of growth achieved by their late father. Among the best blooms in the stand were Lovely Ann, blush-shaded white, violet-purple blotches; Mr. S. Tredwell, rosy pink, rich dark blotches, broadly margined with white; Mrs. Douglas, large white, shaded on the back of petals with pink, dark blotches, good; Wonder, light rosy purple, edged white; The Rainbow, claret crimson, amber yellow edge; Julia, dark purple blotches, well-defined belt of primrose, fine form; Mrs. Robinson, velvety claret blotches, shaded pink, white wire edge, grand form; Queen of Yellows, golden yellow, large and fine; Major Skrine, first-class in every point, mulberry crimson edged white; Ida, solid dark maroon blotches, golden margin, fine eye, large and smooth; Lady Carrington, crimson shaded, with bronze belting; Thomas Ware, bronzy crimson, large, and of good substance: King of the Pansies, large solid blotches, sulphur-yellow edge, top petals purplish crimson, a thorough good flower; A. J. Way, solid rich maroon blotches, each petal edged primrose, well defined, a novelty; Mrs. E. H. Wood, deep orange, edged rosy purple, large; Mrs. Shirley Hibberd, primrose, large rich blotches, fine; and Mrs. Mitchell, French white, large purple blotches, a grand flower. For twelve, Mr. H. Hooper, who was first, had, in addition to seven above described, finely-finished flowers of Alice, pure white, large solid blotches, very smooth petal; Mrs. A. Lloyd, creamy white, large velvety purple blotches, yellow eye; Miss Franklyn, dark maroon blotches, purple margin edged white, a beautiful form; Bob Lowe, purplish plum margin, solid marone blotches, smooth and of good substance; Fred Perkins, creamy violet, rich velvety blotches, banded by rosy crimson; Maritana, deep reddish crimson, dark blotches, large and smooth; and Bayard, shaded violet blotches, bright pink margin. W. G.

GYMNOGRAMMA LATHAMI.

Of the many beautiful plants which had a place in the exhibition house in the gardens of the Birmingham Botanical Society on the occasion of the recent orchid show there was not one possessing greater interest than the fine specimen of Gymnogramma Lathami. This handsome fern was raised in the gardens of the society by Mr. Latham, the able curator, and is said to have originated as a hybrid between G. schizophylla, so well known for its finely cut fronds, and G. decomposita, a distinct species by no means wanting in beauty. The plant exhibited was well developed and the fronds were about eight inches in length and of a proportionate breadth, the rachis being very dark green and the pinnæ, which are as finely divided as those of G. schizophylla, are of a very brilliant shade of green. It bears a strong resemblance to the last mentioned species, but the fronds are stouter and more erect. G.

FORTUNE'S YELLOW ROSE.

The freedom with which this rose flowers when planted in the border of a cool house is surprising. The point of every shoot has a bud upon it, and as scores of the flowers open simultaneously the plant makes a grand show. But it is when in the bud state that the rose is the most charming, as the outside of the petals is tinged with a coppery red hue, which gives them a singularly striking appearance in contrast with roses affording other colours. We prune this rose as soon as it goes out of flower, and in doing this we thoroughly thin out the growth and shorten back the shoots which are left. After this we do not touch it again until the following year. Every shoot cut off in the winter is a loss of a flower bud. It is much to be regretted that this rose only produces one crop of flowers in a year. J. C. Clarke.

CHRYSANTHEMUMS FOR BORDERS.

Your valued correspondent, Mr. C. H. Payne, has given the names of several chrysanthemums he had found to stand the past severe winter; I plant a few out every year, and have found the following most useful. They include Early, Midseason, and Late Aigle d'Or, Antonelli, Chromatella, Madame Desgrange, Trevenna, Dr. Sharp, Elaine, St. Michael, Hermine, Gluck, Golden Beverley, La Africaine, Mrs. G. Rundle, George Glenny, and Mr. Dixon.

Marston Hill, Fairford. G. Price.

PEARSON'S ZONAL GERANIUMS.

As mentioned in the report of Bath Show, Messrs. J. R. Pearson and Sons exhibited a collection of zonal pelargoniums, staged in neat bouquets to show their effectiveness for bedding or decoration purposes. The bulk of the varieties exhibited were remarkable for size of flower, circular outline, and brilliancy, but it would have given a greater opportunity of inspecting the general character of the varieties had they been shown as individual trusses. The collection, which added a charm to the cut-flower section of the show, was greatly admired and received due acknowledgment at the hands of the judges. The following varieties we considered deserving of mention, viz.: Cato, rich vermilion; Zeno, scarlet, suffused magenta; Lynette, magenta, suffused rose, Lady Chesterfield, salmon, suffused orange; Tristram, crimson scarlet, bold white eye; Miss Hamilton, blush white; Lord Chesterfield, magenta; Alex. Albrecht, rich glowing scarlet; Aspasia (new), purest white; Amy Kohn, rosy magenta; C. H. Swinstead, vermilion; Mrs. Gordon, scarlet, magenta shaded, fine white eye; Plutarch, brilliant scarlet, white eye; Mrs. Holford, salmon; Octavia, rosy magenta; Mrs. Lord, dark crimson; Orestes, pure rose; Raphael, scarlet, rose and magenta shaded; Nelly Thomas, crimson; Mrs. Miller, dark crimson; and Omphale, palest salmon. W. G.

THE LABURNUM.

Cytisus Laburnum.

English gardens are so often planted with evergreen shrubs that they afford no proper scope for flowering trees. To see these last in their best state in the later days of spring we must visit those parts of the continent of Europe that are too cold for evergreens, and are, therefore, freely planted with deciduous trees, many of which, to their changes of leafage—golden in spring, deep green in summer, and fiery in autumn—add glorious displays of beautiful flowers. Two amongst the many appear to be constant companions; they are the laburnum and the lilac, which flower simultaneously sometimes, but usually the lilac is in advance of the laburnum.

Why do we despise common things? It must be because they are common, and the great mass of mankind has no definite principle of action, and therefore frequently commit the error of confounding rarity and cost with beauty and pleasantness. But let that pass; we have now before us one of the loveliest trees of the garden and woodland, and we will take advantage of the fact to talk about rarities. Have you seen, dear reader, a tree known as "Waterer's Laburnum?" No, you have not. Surely thus far, then, life has given you less than your due of delicate delights. Oh, the beauty of it! with its golden ringlets, vastly larger than those of any other laburnum, and presented in such profusion as to outdo the popular name of the tree as "golden rain," for this one produces a golden cataract, or torrent—call it what you will, but take measures to see it, if you would not end your days in botanical, horticultural, and arboricultural darkness!

And have you seen the laburnum that produces golden leaves as well as golden flowers? You have not. Well, the case is dreadful, because the tree is a fact; and although not so good a fact as the one mentioned in the preceding paragraph, because the golden-leaved laburnum is a troublesome tree to grow, still it is one abounding in interest, and for the critical lovers of trees it has some very special attractions.

And have you seen Adam's Laburnum? Whether it was known in Eden is not for the writer of this to say, nor is it with certainty discoverable in the wonderful title-page of Parkinson's "Paradisus." The book name of this tree is *Cytisus Adami*, and as it appears by its name to date from times when cross-breeding was not invented (for Adam was before Jacob, you will perhaps remember), it is ugly enough to take us back to the beginnings of things. This Cytisus is the offspring of a cross between the yellow laburnum and the purple cytisus, and it produces yellow and purple flowers, the juxtaposition of which in the same tree is ludicrous, because the purple appears as a dirty red, and is accompanied with leafage different to the proper laburnum. Every lover of interesting trees should plant one or two examples of Adam's Laburnum, to afford special interest in a walk round the garden.

This hybrid originated in Paris in the nursery of M. Adam, in the year 1828. It is naturally a vigorous variety, making erect shoots that sometimes attain a length of six to nine feet in one season. In point of beauty it has but little to recommend it, and this accounts for its comparative rarity. But we must repeat that it is one of the most interesting trees, for it sports naturally into two kinds of growth, as though striving to regain its parental characters, one branch reverting to *Cytisus Laburnum*, while another has the character of *C. purpureus*, and a third, perhaps, in a strange way combining both, and making a quite ridiculous appearance in consequence. Loudon cites the late Mr. Rivers as having first observed these vagaries in the Jardin des Plantes (Gardeners' Magazine, 1836), and afterwards saw the same eccentric behaviour in trees at Sawbridgeworth.

All the laburnums are good, and, as a matter of fact, there are not many. But in places where a variety of flowering trees is a matter of importance, the English and Scotch laburnums should be planted in about the same proportion, as the last-named flower later than the others, and thus prolong the fall of golden rain. And in such places Waterer's Laburnum should have a place for its exceeding beauty, Adam's for its oddity—aye, and if you will, for its ugliness. It is certainly an absurd thing, but its history is a sort of biological romance.

It is a great departure from strict rectitude of conduct here to drag in two of our laburnums' relations, but it must be done in the interest of the English garden. A grand relative of the laburnum is the rose acacia, *Robinia hispida*, a glorious tree, with rich and abundant leafage, and huge racemes of lovely rosy-purple flowers. Yet another is the Judas tree, *Cercis siliquastrum*, with kidney-shaped leaves, flowers of a fiery carmine-toned crimson, that spring from the old as well as from the young wood, and in autumn seed-pods that are curiously twisted and strangely coloured, in tints of rosy-purple mixed with bronzy-green. The Judas trees in the Jardin des Plantes, Paris, are renowned for their historical interest—many of them having been planted by Buffon—and their wondrous beauty, for at a certain time every year they are as mountains of rich smouldering fire; and as we admire them we feel convinced that it is only their association with a hypocrite that prevents them bursting into an honest flame. But it is somewhat of a wonder that the indignation of the association——but let us return to practical matters.

The laburnum will grow in any soil, but a sandy loam is best for it. And it will grow in any situation, but a warm, sheltered, and partially-shaded situation is best for it. Hence it is that laburnums in the front line of a shrubbery generally flower more freely than laburnums exposed to "a' the airts." Another point of importance is that the laburnum is a good fence for a garden against hares and rabbits, for they will eat, eat, eat of its tasty foliage, and hurt nothing else until the laburnum is consumed. And, happily, if they nibble down the laburnum, and apparently extinguish it, the stumps will justify the words of Job, that "though a tree be cut down, yet through the scent of water it will bud and bring forth boughs like a plant" (Job xiv. 7—9). For every year the laburnum will make an effort to grow, and should the hares and rabbits be excluded for only one season, the strong rods will make nice trees, and laburnum wood may be reported on, if needful, by Dunsinane, or any other inane. There is yet another use for the laburnum and that is to furnish wreaths for the heads of the beauties who make balls and ballad concerts possible. Artificial flowers are wonderful productions, but, as compared with natural flowers, the best of them are—well, let that pass. But for a golden ringlet a raceme of laburnum is superb, and it is also perishable. The spray should be cut at the moment it is wanted, and not a moment before; generally speaking, it can be cut as easily and safely in the dark as in the daylight. Then it will, if skilfully mounted, maintain its freshness for fully three hours, which should or should not be sufficient. On that delicate point we offer no opinion; it is enough that we deal with the blissful vegetable, and continue ignorant of the temperature of the ball-room, and the trials the spray of laburnum may be called upon to suffer.

Should any readers of this indulge the thought that our "golden-rain tree" is employed by us to make golden rain only, we advertize them they are quite mistaken. Why, there is no better wood in the world to supply skewers for cats' meat, pegs for table games, handles for knives, boxes and sounding-boards for musical instruments, and smallish planks and veneers for beautiful bijou furniture. Read your Martyn's "Miller," and all the rest will be unfolded. This discourse is of the skimming order, to secure for the reader the cream of the subject, and leave to others the celestial range of the Milky Way.

The laburnum is a native of the south of Europe, but is quite hardy in these islands. In commerce it is a tree of no great importance, for the seeds are of no value; and although the wood is useful, it is not a subject of any special consequence. The poets have not been profuse in their praises of its beauty, for the sufficient reason, perhaps, that the tree was introduced to this country only some three hundred years or less ago. It is not ancient enough to have obtained a place in the observations of the old poets. Finally, the laburnum is a good shelter tree, and where cheap shelter is required it will pay to grow laburnums from seed for the purpose. W.

The Weather has compelled attention by the succession of striking phenomena causing loss of life and great destruction of property simultaneously in Europe and America. While in Madrid a barometric depression has brought havoc that in its way is unprecedented, in this country great floods have followed a succession of storms of rain and snow. We have been enabled to warn our readers of the probability of such events. In our issue for March 6 (p. 127) we remarked "when February runs out with conditions of drought, a cold wet spring is brought—perhaps remotely—into the category of probabilities," and in our issues for May 8 and 15 (pp. 259 and 265) we spoke of great changes apparently imminent, and of a nature to place the fruit crops in jeopardy. It is now likely we may secure in the coming season a substantial hay crop, and growth is proceeding in a fairly satisfactory manner everywhere in farm and garden. The fruit crops, however, have certainly suffered a considerable thinning, but that the prospect of a great production of stone fruits and apples is in any serious degree diminished we are not at present prepared to say. What is called the "stoning" period will show the extent to which the incipient crop has been prejudiced by drought in the first instance and subsequently by frost At present, certainly, there remains sufficient reason for anticipating fruitful year.

Exhibitions and Meetings.

ROYAL BOTANIC SOCIETY, FIRST SUMMER SHOW, May 19.

The first of the two great summer exhibitions of the Royal Botanic Society for the current year was held on Wednesday, and in all but the weather, which was eminently unfavourable, proved a great success. All the varied and attractive features for which the May shows of the society have long been remarkable were developed to their fullest extent, and there were not wanting others that were comparatively new and so rich in interest as to materially enhance the attractions of the great gathering. Stove and greenhouse plants in bloom, and remarkable for the beauty of their foliage, were admirably shown. Roses were exceptionally good, and azaleas and pelargoniums were considerably above the average, and produced a brilliant display of colour. But the great feature of the exhibition was that formed by the orchids, which were contributed in such large numbers and magnificent condition that there was a general concurrence of opinion that it was the best display of those plants that has been produced at the exhibitions of the society during the past twenty years. With reference to the arrangements, it will suffice to say that the wealth of material at command was turned to the best account by Mr. Coomber, and that the scene within the tent was such as not to be soon forgotten by those who had an opportunity of being present.

Orchids were so numerous as to fully occupy the bank usually devoted to them and the greater part of the grassy slope immediately above it, and included a large number of large superbly flowered specimens. There were four classes for collections of twelve each, two of which were set apart for *bonâ fide* specimens and two for plants made up or otherwise at the discretion of the exhibitor. In the amateurs class for twelve, in which there was no restriction as to the number of plants in a pot, Mr. J. Douglas, gardener to F. Whitbourn, Esq., Great Gearies, Ilford, was first with one of the best groups seen at Regent's Park for some time past. It comprised two good specimens of Cattleya Mossiæ, on one of which there were upwards of thirty finely developed flowers; a fine C. Mendeli; two specimens of Odontoglossum Roezli, about two feet in diameter, and solid with bloom; O. Alexandræ, O. citrosmum roseum, O. vexillarium, of which the specimen was exceptionally good; Cymbidium Lowianum, with two spikes, bearing in the aggregate nearly sixty flowers; Dendrobium Wardianum, and Oncidium ampliatum majus. Mr. F. J. Hill, gardener to H. Little, Esq., The Barrons, Twickenham, was second with a collection of large well-bloomed specimens, chief amongst them being Odontoglossum hystrix, Aerides Fieldingi, Cattleya Mossiæ, C. Mendeli, Dendrobium densiflorum, D. thyrsiflorum, Lycaste Skinneri, and Lælia purpurata. Mr. C. J. Salter, gardener to J. Southgate, Esq., Streatham, was third with a beautiful group, in which were exceptionally fine specimens of Masdevallia Veitchiana and Odontoglossum polyxanthum. Mr. J. Douglas also had the premier award made in his favour in the amateurs class for collections of twelve, to consist exclusively of *bonâ fide* specimens. All the examples were more or less good, but special mention must be made of Dendrobium Wardianum, Odontoglossum Roezli, O. Roezli alba, and Oncidium ampliatum majus. Mr. S. Cooke, gardener to De B. Crawshay, Esq., Rosefield, Sevenoaks, and Mr. W. May, gardener to F. C. Jacombs, Esq., Amhurst Park, Stamford Hill, were placed equal second. The first-mentioned staged two superb varieties of Odontoglossum Alexandræ, and from Mr. May came fine examples of Odontoglossum Ruckerianum, O. gloriosum, Masdevallia Harryana, and Cattleya Skinneri.

There was a spirited contest in both classes in which the competition was limited to trade growers. In the class for twelve, made up or otherwise, Mr. J. Cypher, Cheltenham, was first with excellent specimens of Cattleya Skinneri oculata, Dendrobium thyrsiflorum, D. crystallinum, Lælia purpurata, Vanda suavis, and other well-known species. Mr. H. James, Lower Norwood, was a very close second, with a collection in which there were a huge densely flowered specimen of Cattleya Mendeli and a fine example of the attractively coloured C. Warneri. Mr. Cypher and Mr. H. James were first and second also for twelve *bonâ fide* specimens, and especially good in the collection from the first-mentioned were Saccolabium præmorsum, C. Mossiæ grandiflora, Lælia purpurata, and Dendrobium thyrsiflorum. Messrs. H. Low and Co., Upper Clapton, exhibited a group comprising numerous examples of Cattleya Mossiæ, and Odontoglossum Alexandræ. The award of the small silver medal was made to the firm. Mr. T. Banks, gardener to E. Gotto, Esq., Hampstead, was awarded the large bronze medal for a group of nicely flowered Odontoglossums. Mr. White, gardener to Mrs. Watson, Redlees, Isleworth, exhibited a large finely developed specimen of Cattleya Mossiæ bearing upwards of sixty flowers. This was the finest *bonâ fide* specimen cattleya in the exhibition, and well merited the award of the bronze medal.

Stove and Greenhouse Plants in bloom were represented in first-class condition. In both classes set apart for nurserymen Mr. J. Cypher occupied the first place, with specimens remarkable alike for their size and the profusion with which they were flowered. Especially deserving of notice in the two collections were Pimelia spectabilis, P. Hendersoni, Anthurium Scherzerianum densifolium, an excellent variety distinguished by its compact habit, Clerodendron Balfouriana, Erica depressa, E. Cavendishi, Hedaroma tulipifera, Dracophyllum gracile, and Anthurium Scherzerianum Cypheri, a distinct variety with very large and finely formed spathes; Mr. H. James was second in both classes, and Mr. J. Mould, Pewsey, Wilts, third, both staging collections evincing high-class cultural skill. Mr. W. Chapman, gardener to J. Spode, Esq., Hawkesyard Park, Rugeley, maintained the high position he has occupied so many years by taking first place in the two classes in which the competition was limited to amateurs. Chief amongst the specimens forming his two collections were Erica profusa, Ixora Dixiana, a beautiful hybrid with orange coloured flowers, I. coccinea, well furnished with its noble trusses, Tetratheca hirsuta, Anthurium Scherzerianum, and Hedaroma tulipifera; Mr. S. Rann, gardener to J. Warren, Esq., Handcross Park, Crawley, was a very close second with superbly flowered specimens; and in the class for ten the second award was made in favour of Mr. G. Wheeler, St. John's Lodge, Regent's Park.

Roses in Pots constituted a highly attractive feature, for they were considerably above the average both in the number and excellence of the specimens. For nine Messrs. Paul and Son, Cheshunt, were first with huge densely flowered bushes of Charles Lawson, Edouard Morren, Beauty of Waltham, Céline Forestier, Centifolia rosea, Cheshunt Hybrid, Comtesse de Serenye, Magna Charta, and Madame C. Joigneaux; Messrs. G. Jackman and Son, Woking, was second with splendidly flowered specimens a size smaller than those staged by Messrs. Paul. There was a strong competition in the open class for twenty plants, and in this Messrs. Paul and Son were again first, staging medium sized specimens of Violette Bouyer, Madame Gabriel Luizet, Edouard Morren, Souvenir d'un Ami, Perfection de Monplaisir, Glory of Cheshunt, Cheshunt Hybrid, Céline Forestier, and La France; Mr. C. Turner, Slough, was second with plants of medium size and remarkable for their ample foliage and finely developed flowers; Mr. W. Rumsey, Waltham Cross, was third with rather small but well bloomed plants. Mr. Perry, Cheshunt, contributed a neat group to the amateurs class for six. Messrs. W. Paul and Son, Waltham Cross, Herts, staged—not for competition—a beautiful collection of specimen and cut roses, and were awarded the silver medal. Mrs. Harry Turner, Langley, Slough, presented a box of beautiful blooms of Maréchal Niel rose, and was awarded the bronze medal.

Pelargoniums produced a bright display of colour, and did credit to the exhibitors. At the head of the competitors in the trade class for six large-flowered varieties was Mr. C. Turner, with huge densely-bloomed specimens of Claribel, Prince Leopold, Maid of Honour, Amethyst, Kingston Beauty, and Gold Mine; Mr. J. Cypher second. In the corresponding class for amateurs, Mr. D. Phillips, gardener to R. W. Mann, Esq., Langley, Slough, was first with specimens of medium size and finely flowered; Mr. J. Hill second. Mr. C. Turner was first also in the trade class for six fancies, staging specimens of exceptional merit of The Shah, Ellen Beck, and other well-known varieties. Mr. D. Phillips, who had the premier award made in his favour in the class for six fancies, in which the competition was limited to private growers, staged specimens of great excellence, Delicatum, Roi des Fantaises, Vivandiere, and Mrs. Porter being particularly good.

Azaleas and Heaths were both good, and contributed their share to the attractions of the show, the first-mentioned being especially bright. For six, and also for twelve, azaleas, Mr. C. Turner was first with magnificent specimens of Jean Vervaen, Cordon Bleu, Apollo, Comtesse de Flandre, Mrs. Turner, Madame Cannaert d'Hamale, Chelsoni, and Duc de Nassau. Heaths were especially well shown by Mr. J. Cypher and Mr. Mould, and included good specimens of Erica Lindleyana, E. ventricosa magnifica, and E. Victoria Regina.

Fine Foliage Plants were sufficiently numerous to form a pleasing relief to the brilliant colours of the azaleas and other flowering plants. Mr. H. James was successful in taking first prize in the nurserymen's class, staging in his collection the noble Anthurium Veitchi, and an especially good specimen of Cycas revoluta; Mr. Cypher, second. Mr. Rann occupied the post of honour in the amateurs class with a collection of exceptional merit, and comprising two richly coloured specimens of Croton Prince of Wales, and C. albicans. Mr. R. Butler was a capital second.

Alpine Plants were shown in rather large numbers, but they failed to produce a very pleasing appearance in consequence of the unsatisfactory condition in which many of the plants were staged. Messrs. Paul and Son were first with a collection in which Saxifraga Camposi, S. muscoides purpurea, Phlox Nelsoni, P. setacea Vivid, Arnebia echioides, and Pulmonaria dahurica. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was second with a collection in which were good pans of Gentiana verna and G. acaule. Mr. J. Douglas, third.

Miscellaneous Collections constituted a very important part of the exhibition. Mr. B. S. Williams, Upper Holloway, contributed a very beautiful group of flowering and ornamental-leaved plants in which orchids predominated, and was awarded the large silver medal. A medal of like value was awarded to Messrs. J. Laing and Co., Forest Hill, for a large group, in which begonias, orchids, and caladiums were conspicuous. From Messrs. E. G. Henderson and Son, Maida Vale, Edgware Road, came an extensive and highly attractive collection of ornamental-leaved plants and orchids, and the silver medal was awarded. An extensive and interesting collection of hard-wooded greenhouse plants was shown by Messrs. W. Cutbush and Son, Highgate, to whom the award of the silver medal was made. Mr. J. James, Woodside, Farnham Royal, near Slough, contributed a group of calceolarias, consisting of specimens about two feet in diameter, and almost solid with bloom. The plants were probably the finest that Mr. James has yet shown, and they attracted much attention. The award of the silver medal was made. Tree pæonies were represented by a large and highly attractive group from Mr. T. S. Ware, who was awarded the large bronze medal, and several certificates for varieties forming part of the collection. In addition to the foregoing, hardy azaleas and rhododendrons were well shown by Messrs. H. Lane and Son, Great Berkhampstead; pelargoniums and cinerarias by Mr. J. Wiggins, gardener to W. Clay, Esq., Kingston; calceolarias by Mr. C. J. Salter, and the St. George's Nursery Co., Hanwell; and hardy plants and flowers by Mr. T. S. Ware and Messrs. Paul and Son. Bronze medals were awarded to the several exhibitors.

A group of new plants and flowers was shown by Messrs. J. Veitch and Sons, Chelsea, in which were examples of Filicium decipens, a bold grown stove plant with pinnate leaves; Pteris Bausei, an elegant hybrid in the way of P. serrulata; Gymnogramma schizophylla gloriosa, a robust growing form of this beautiful species; Aciphylla squarrosa, a dwarf growing shrub with greyish foliage, the leaflets terminating in sharp points, introduced from New Zealand; Lilium longiflorum, one of the best of the lilies for indoor decorations at this season of the year; several of the most beautiful of the Japanese maples; Gloxinia Acme, an erect variety with large finely formed flowers of the most brilliant crimson; G. Jupiter, a very distinct variety with large and handsome erect flowers, the limb marked with a sharply defined band of purple, and the throat thickly spotted with rose-purple; several hybrid rhododendrons; a series of varieties of Anthurium Scherzerianum with light spathes, of the type represented by A. Scherzerianum Rothschildianum; and plants and cut flowers of the beautiful variety of Rosa lucida, introduced by the firm a short time since, under the designation of Rose Button.

Novelties were exhibited in rather large numbers, and a considerable proportion received the distinction of a certificate. Botanical certificates were granted as under:—

To Messrs. J. Veitch and Sons, for

Phœnix hybrida.—A very handsome palm with gracefully arching dark green leaves, the leaflets of great length and closely set.

Ulmus Dampieri aurea.—A distinct variety of this elm, with greenish yellow foliage, and likely to prove a valuable addition to the list of trees with golden leafage.

Rhododendron Brookianum.—A handsome species with neat foliage, and producing in large trusses handsome flowers of a pleasing light buff-yellow.

To Mr. B. S. Williams, Upper Holloway, for

Lælia bella.—A handsome form, with large flowers, resembling in general character those of L. purpurata; the sepals are pale rose, the petals rose shaded purple, and the labellum purple crimson.

L. Russelliana.—A very distinct and beautiful form of the L. purpurata type; the sepals and petals tinted light rose, and the labellum marked with lilac-rose.

Oncidium tetracopis.—A beautiful species in the way of O. macranthum, producing long branched spikes of large, finely formed flowers, attractively coloured chesnut red and yellow.

To Mr. J. Douglas, Great Gearles, for

Aeranthus Leonis.—A now well-known orchid allied to the angraecums, and bearing white flowers.

Cattleya Mossiæ Silvia.—A distinct and beautiful variety, the sepals and petals of great breadth, and of a bright rose-pink colour; the labellum very large, and attractively coloured with orange.

Odontoglossum vexillarium Silvia.—A variety of great beauty, distinguished by the large size and fine form of its flowers and the brilliancy of its colour, which is an effective shade of rose pink.

To Messrs. H. Low and Co., Upper Clapton, for

Cattleya Mossiæ splendidissima.—One of the very finest of the many good varieties of this beautiful species. The flowers are of immense proportions, the sepals and petals very bright pink-rose, the labellum of great breadth, and richly-coloured crimson and orange.

To Messrs. F. Sander and Co., St. Albans, for

Odontoglossum Ruckerianum marginatum.—A pleasing variety, of which the flowers are marked with a marginal band of delicate rose.

To Messrs. E. G. Henderson and Son, and Mr. B. S. Williams, for

Alocasia regina.—A very distinct and handsome species, with stout cordate leaves of a rich bronzy-green colour, shaded silvery grey.

Floricultural certificates were granted as under:—

To Mr. T. S. Ware, for the undermentioned tree pæonies:—

Lord Macartney.—Brilliant carmine crimson; flowers large and semi-double.

Madame de Vitry.—A noble flower of a pleasing lilac hue. Quite double, and fully nine inches in diameter.

Carolina.—Delicate blush shaded carmine at base of petals.

Fragrans maxima plena.—Flesh pink, carmine in centre.

To Mr. P. Ladds, Bexley Heath, for

Pelargonium Queen of Whites Improved.—An excellent single zonal, producing noble trusses of finely formed pure white flowers.

To Messrs. J. Laing and Co., Forest Hill, for

Begonia Incendie.—A double variety, neat in habit and free in blooming; the flowers of medium size, perfectly double, and of a brilliant scarlet hue.

B. Queen Victoria.—A single variety, bearing large and perfectly circular flower of a rich red hue.

To Messrs. J. Veitch and Co. for

Rhododendron President.—A beautiful hybrid, the flowers produced in large trusses, of good form, and of a pleasing yellow hue suffused with rose.

Rosa lucida, Rose Button.—A charming rose with elegant leafage, and bearing a profusion of small bright pink flowers.

THE MAKING OF A BOG GARDEN.

A paper read by Mr. George Paul at the Meeting of the Horticultural Club, Tuesday, 11th inst.

Given—you have a piece of squashy, water-charged bog land, on which you dare not tread for fear of going in over your shoetops, worthless except to produce a few rushes, and maybe an alder or willow stub—Can it be made into an attractive garden? Yes; but it takes two or three years to do it, to get rid of its old indwellers and fully establish the newcomers, and to find out what will and what will not do, for I do not think we know very much about the likings of moisture-loving hardy plants.

The Site.

My experiment was tried at High Beech, and this is how the bog garden was made. The site was one of those depressions which are found on the Bagshot Sand hilltops, upon the Wimbledon, Epping Forest, and Hampstead Heathlands. Between two ridges of raised ground and on the falling slope occur spewy springs issuing from the higher ground above, and soaking down the hollow, widening and gathering moisture till the water issues in a small rill at the bottom of the decline. Droseras, Ivy-leaved Campanula, and other native bog plants are found with the sphagnum and rushes in the wet springy ground.

The successful growth of Sarracenias and Dionæa first led to carrying out the idea more fully. There are many hardy plants which from the want of the continuous moisture of such a site, and which they enjoy in their native haunts, do not succeed year after year in the ordinary herbaceous or garden border; a hot summer comes and they are not—to instance some Calthas, the double sorts of the glorious Marsh Marigolds now brightening our Lea Marshes, Sarracenias, Primroses from Himalayan bogs, Spiræas, and others. The idea was to show these plants in their natural way, and so to see them in their full beauty.

How Best to Use the Site—Requirements.

The chief thing to do was to husband and use thoroughly the water running into and accumulating in the bog. A temporary deep drain was made right up the centre, and the work was done in a dry early autumn, allowing the men to move on the surface. This, husbanding the water, was done by forming beds following the circular shape of the depression, and so made that the upper set received all the issuing spewy springs that could be found issuing from the surrounding banks on to the surface of the bog. A two and a-half feet wide bank of clay was then put in and trodden firmly on the lower side of the beds defining the beds and keeping the moisture in them until allowed to escape.

A second series of beds was a foot lower. A third a few inches below this, and one bed of this series had all the peat removed until the clay which (except here and there where water oozed up through clayey sand) formed the bottom of the bog, was reached, thus making a small pond to receive the overflowings from the upper beds. A fourth series of beds received the overflow from the pond and upper beds, as well as one or two independent springs from the sides, and eventually the water ran off into the brook or ditch in a small clay-lined channel built across the, so to speak, miniature valley.

The small difficulties I had to overcome were in making the clay walls to the beds. Towards the sides of the hollow a firm bottom was found, but when the bottom was springy the water simply oozed up through the clay and does so more or less still, but the dams or walls do their work—that is, they keep the moisture in the several levels well. They act also as paths to let you walk in comfort about the space (which, by-the-by, is sixty feet square), the chief thing to make a bog garden useable and enjoyable in all weathers and seasons. But the paths at first did not answer, for you found yourself up to the knees in miry clay. A surface crust of gravel and cement concrete was tried, but the water sponged up through it, the clay swallowed it; so something had to be done to keep the clay down and get a safe path.

The foreman suggested, and a wood clearing close by furnished, the remedy. For the spewy places some small beech trunks were split in two, laid round side downwards along the paths, and short split branches (smaller) were laid across them, making corduroy paths two and a-half feet wide. A little gravel between the logs keep them in place; they are a perfect, comfortable, and lasting path, and keep the clay down and in place. I forgot to say that from each series of beds water above a certain level flows in small drain pipes into the next level, enabling the height of the water in each bed to be regulated.

In the middle of one or two of the largest central beds an upright post is driven, the top just on the surface, to receive the one end of three split trees, and so allow every plant in the bed to be reached. So far we have gained control of the water, enlarged and retained the full boggy space, and have means of moving comfortably about the moist area.

Preparing the Beds for Planting.

Owing to enlarging the area there was not sufficient peaty material, foreign peat and leaves had to be furnished to make one foot and a-half of good soil in each bed. Small rills drawn with a hoe to the mouth of the overflow pipe allow the bog to be controlled, a stroke of the hoe retains moisture, or allows the surface and crowns of the plants to be kept dry or raised out of the water. The beds are subdivided by small peat banks, on which plants liking their toes or root extremities in water, but their crowns to live in drier regions, are fixed.

The chief enemies have been the principle of the "fittest surviving," in the shape of the rushes and water-loving grass striving to resume possession—an occasional and timely weeding conquers this—the Liverwort tries to surface the whole, to the detriment of the smaller plants, such as Soldanellas, Violas. It wants a careful, and now and again, scratching away. The birds, tempted by the loose peat surface, after hoeing or weeding, come and scratch for food, and some smaller winter-resting plants, such as Dionæas, Droseras, Pinguicula, are apt not to be forthcoming when looked for next spring. Just a word as to full exposure to sunlight. The spaces is open, except for a slight shade in the shape of a row or two of six feet Hollies to the south, but my experience is that moisture at the roots, few plants object to this. In this the garden differs from Mr. Wilson's interesting experiments at Wisbey, where many of the plants are under, or shaded by overhanging trees. In other ways our experiments differ, besides it is not every one who can devote a wood to gardening.

The Plants.

Of the plants first put in the bog many died. The water supply of the several parts was unknown; some were drowned, some were too dry. The best survivors of the first plantations are—Calthas, double forms, the monstrous, the Palustris plena, and the later dwarf and double form. Of the Sarracenias, purpurea flowers and seeds freely about. S. Drummondi is the next hardiest. S. flava, S. rubra, and S. psittacina seem to live, but get weaker after each winter. I am sorry that some interesting hybrids sent me by Mr. H. Veitch and Mr. Wrigley have not survived. The white Pilewort is a splendid plant in the bog. Lobelia syphilitica and the American Osmundas flourish well together. On an extreme jutting out into the small pond Saxifraga cordata flowers gloriously, the golden Lysimachia has to be restrained, or would cover the surface. The striped Viola and V. pedata, Ranunculuses, including the beautiful little one, Parnassifolius, thrive. Dondia Epipactis, Valeriana Phu aurea, the Trollius, and more especially the varieties of American Cowslip, Dodecatheon Jeffreyanum, and others are quite at their best.

Of the taller-growing plants the Thalictrums, Achillea Ptarmica fl.-pl., the American Liatris, Lysimachia clethroides, Lychnis of sorts, Gentiana pneumonanthe and macrophylla thrive freely. Pyrola rotundifolia, the Mandrake with its curious two-legged roots, Pyrola rotundifolia, Trientalis europæa. On the slightly raised banks the Arctic bramble and the R. Chamæmorus have established themselves, and fight where they join for supremacy with the American cranberry from the Wisbey wood. Droseras, Dionæa, and Pinguicula have been disturbed this winter by the birds. Orchis foliosa seems to rejoice in a water-teeming bed, and is there quite hardy. No doubt other orchis would succeed.

Primulas have a bed to themselves, forty or fifty of the Alpine and Himalayan kinds were planted, but probably from the want of limestone or from not having been planted on shaly slopes charged with water, only the following have survived and thriven. P. japonica and denticulata are becoming the self-sowing weeds of the garden. P. rosea and its large-flowered variety, P. Wulfeana, the varieties of minima, P. viscosa nivalis, and P. glutinosa need also shade; P. villosa and Stuartii; Munroi needs the moistest place. A large bed is given up to Spiræas, such as Aruncus, palmata, and japonica, they are mixed with the American lilies of the pardalinum type, which attain six to eight feet. Mr. Bull's Astilboides and the white form of Palmata thrive apace.

The Zebra and corkscrew rushes need to be kept in bounds. Of Irises, I took counsel with Professor Foster; the stronger varieties of Iris Kæmpferi are at home in the wet bog, but occasionally a sort disappears in winter. They seem quite at home in the clay banks of the rill.

I should occupy too much time if I gave all the failures; the result of the experiment has appeared to be a success. If my remarks lead some others to make a trial in this direction I shall be glad. So many have more experience than I have had. Will they tell us something about it?

TRADE CATALOGUES.

B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, N.—*New and General Plant Catalogue.*

Wood and Ingram, Huntingdon.—*Select Catalogue of Bedding Plants, Carnations, Chrysanthemums, Dahlias, &c.*

"SPRING LEAVES."—In the warm genial climate where Tea is grown, the early Spring leaves of the plant burst forth with a vigour and luxuriance unknown in colder regions; this early growth yields the richest juices, and tea of amazing strength, combined with a most delicious flavour and aroma, is obtained therefrom; being carefully selected from the early Spring growth, and shipped free from all adulteration, Horniman's Tea (in packets) commands an enormous sale in England and abroad. The same reliable good quality, at the same fixed price, is always secured in every City, Town, and Village in the Kingdom, by purchasing of Horniman's Agents. 6,000,000 packets sold yearly. See list of Agents in all papers, and at Railway Stations.—[Advt.]

Correspondence.

CURATORSHIP OF KEW GARDENS.

It has been my expectation, and probably the expectation of many besides myself, to hear something further as to the curatorship of the Royal Gardens, Kew. From your columns I learned that Mr. John Smith, after a long term of honourable service, had, by reason of ill-health, retired, and there the record stopped; we know not who is curator *pro tem.*, or who is to be the permanent officer. At the risk of making a mistake I shall, in the public interest, record my opinion that an important appointment such as this should be the subject of public competition. It may be in the power of a Government Department to make an appointment and defy criticism. The appointment so made may be good or bad, but an appointment made in a more public manner carries with it a guarantee of at least a right endeavour by the adoption of what may be called an exhaustive process. It is impossible to know of the best men for such posts by private inquiry merely, or by the workings of personal influence, while of vested rights—if there are such—there is absolutely nothing to be said save that it should be a primary virtue to ignore them. For the management of Kew Gardens a man of large experience and high talent is required. A "practical" man he must be in the fullest sense of the term as commonly understood. The two Smiths, whose talents have been bestowed on these noble gardens were masters of their business, and cannot be succeeded by any second-rate man without serious damage to the gardens and to botany. Of courtesy, right feeling, and accommodativeness of spirit we may find examples in plenty, but of the kind of talent now wanted there is really not much at command, and scarcely outside the ranks of experienced head gardeners is it to be found for either love or money. The management of these gardens includes the management of land and trees and men, a prophetic perception of the relations of the public interest to the requirements of science, and a spirit superior to party feeling and personal prejudice. I confess that in respect of the appointment that must be made I am in fear, and the subject is one that demands the sympathetic attention of the general public. With this I send my card, and, as honesty is the only policy, I sign myself,

A Possible Candidate for the Appointment.

FIXING DATES OF FLOWER SHOWS.

Your correspondents "M. R." in his remarks at page 278 on the dates of the exhibitions of the National Auricula and National Carnation Societies indicates very clearly that he has not had much experience in the practical management of floricultural societies. He asks why the dates are arranged so long before hand, and why they are not altered when found by the course of events to be unsuitable? In the first place it is necessary to fix the dates early in the year to enable cultivators to make their arrangements, and to give the executive an opportunity of securing the services of first-class men for making the awards. To alter the dates when the time for preparation has well nigh expired is decidedly objectionable, because it upsets the calculations of growers, and places those who are taking the necessary steps to accelerate or retard their flowers at a considerable disadvantage. There is yet another point to be considered. When a date is altered there is a possibility of losing the services of those engaged for awarding the prizes, and experiencing a difficulty in securing others equally qualified to act. It frequently happens also that when one date is abandoned it is not easy to find another that is really suitable without clashing with other shows. When the exhibitions of one society are held in conjunction with the meetings of another body, as in the case of the National Auricula Society, the difficulties arising from the alterations of dates are of course materially increased. It would for example have upset the arrangements of the R.H.S. for the southern section to have deferred its exhibition for a week, and it would have been hardly fair for the northern section to have held its show apart from the spring gathering of the Manchester Royal Botanical Society, seeing that the latter contributes a considerable proportion of the prize fund. The dates should of course be fixed as nearly as possible to the time known to be the most suitable for the district in which the exhibition is to be held. I agree with "R. M." that the date of the exhibition of the National Carnation Society was last year fully a week too late for the southern growers, and I regret very much that the mistake is to be repeated this year, the date being July 27. The committee appear to have trimmed their sails to catch the northern growers, or in other words they have made the arrangements with a view to enable the growers in the north to compete. No one will rejoice more than myself to see a goodly contingent of flowers from the north, but it is no part of the business of the committee of the southern section to specially provide for them or indeed to take them into consideration. The committee should alone consider the requirements of the southern growers and fix the exhibition for a date on which they can show at their best, for the northern growers have an exhibition of their own, which also should, as a matter of course, be arranged to suit them, and not cultivators resident in the neighbourhood of London.

X. Y. Z.

The Blessed Twenties should rank in importance with the word Mesopotamia, and for the metropolis and district are the best possible in a run of years for the several subjects they have become associated with. For Jan. 20, late-flowering Chrysanthemums and Fruits; Feb. 20, Cyclamens, Primulas, forced Bulbs; March 20, Crocuses, Snowdrops, Hyacinths, Early Tulips, &c.; April 20, Auriculas, Primulas, Daffodils; May 20, Orchids, pot Roses; June 20, Pelargoniums, Pyrethrums, cut Roses; July 20, Carnations, cut Roses; August 20, Gladioli, Asters, Phloxes; September 20, Dahlias, Gladioli, early Chrysanthemums, Fruits; October 20, Chrysanthemums, Dahlias, Fruits; November 20, Chrysanthemums, Cyclamens, Primulas, Fruits; December 20, Berries, Chrysanthemums, Poinsettias, Fruits. To follow such a plan from year to year is, of course, impossible; but the nearer we keep to it the hotter, save in the single exceptional case of cut roses, which must every year be provided with a date determinable by the character of the winter and the weather of the spring. It is better to be in the wrong by a few days early or late than defer fixing the date until so near upon the time as to shut out a number of the best exhibitors.

Number Twenty.

I was rather amused at the remarks on this subject at page 278. "M. R." says, "One naturally likes to show at one's best, which would have been easy last year at the usual date of the Carnation Show, about July 22, but as it was, many of us were with difficulty able to show at all. The additional week of hot sun," &c., &c. "M. R.," of Clapham, could not keep his flowers until July 28, 1885. Now I want a straight answer to a plain question. If "M. R." of Clapham, could not keep his flowers until July 28, how did Mr. M. Rowan, of 36, Manor Street, Clapham, manage to keep the splendid blooms with which he took the principal prizes at Oxford, in Mr. Dodwell's garden, on August 4, 1885? Mr. M. Rowan took first prize for the best twelve dissimilar carnations; and he had the best carnation and picotee in the show. "M. R.," of the G.M. and Mr. Martin Rowan may not be the same, but they both hail from Clapham, and the coincidence is interesting.

Scrutator.

ORCHID NOMENCLATURE.

Mr. B S. Williams had, on Wednesday, certificated at the Royal Botanic Society's exhibition an orchid under the name of Lælia bella. We think, however, this name cannot stand, for if you refer to the *Gardeners' Chronicle*, vol. 21 (1884), p. 174, you will find one of our hybrids there described under this name by Professor Reichenbach.

This is again an instance how confusion in nomenclature may easily occur when people will name their own plants, and, in justice to ourselves, we shall be glad if you will make some note in your issue of Saturday about this point, as Mr. Williams' plant is not the same as ours of course.

King's Road, Chelsea, S.W. James Veitch and Sons.

Replies to Queries.

Cucumbers.—B.—Your cucumber plants are suffering from insufficient warmth, and it will be advisable to increase both top and bottom heat. The plants having been in full bearing for a considerable period, a top dressing of rich soil should be applied to the bed when the plants are again in full growth.

Warts on Vine Leaves.—J. S., Park Hill, Croydon.—The excrescences on the back of the vine leaves indicate a plethoric condition of the vines, probably caused by the maintenance of a close, warm, and moist atmosphere. To prevent their further development, slightly reduce the atmospheric moisture and increase the ventilation.

Disas.—B.—A cold frame in a shady position will be the most suitable position for the disas until they are coming into bloom, when they may be placed in the conservatory. They require a liberal supply of water at the roots and a humid atmosphere.

Peach Trees.—P. M.—As the border of the peach house is in an impoverished condition, supply the trees with liquid manure alternately with clear water, until the fruit begins to ripen, when it should be discontinued. Provided the border is not kept excessively moist, the liquid manure will not affect the flavour of fruit, as that is influenced more by the light and air than by the nutrients placed at the disposal of the trees.

Mildew on Peach Trees.—I have an orchard house here which has been erected just two and a-half years, filled with young peach trees, which are planted against the back wall, and also grown as standards. No artificial heat is employed, but plenty of air is admitted. Last year (the first of the trees bearing) I gathered over two thousand good-sized ripe fruits. This year I have already thinned out upwards of five thousand fruits, and I really think that there are more than five thousand left on the trees. But mildew has set in upon the fruit and some very few of the young shoots, and I trouble you with specimens of the fruit and beg the favour of your advising me by saying whether I can do better than using powdered sulphur. The trees are remarkably healthy in all other respects.

Minehead, Somerset. Thomas Ponsford.

[The most effectual remedy for mildew is dusting the foliage and fruits with flowers of sulphur. The application to be repeated at intervals as may be necessary. Ventilate freely in genial weather.—Ed. *G.M.*]

Obituary.

On May 5th, Mr. F. Croxford, gardener to Mrs. Domage, Albury House, Surbiton, aged 71 years. Mr. Croxford will be long remembered for his ardent attachment to the chrysanthemum and his useful labours in connection with the Stoke Newington, South Essex, and Surbiton Chrysanthemum Societies.

On the 16th inst., at 98, Chaussée de Courtrai, Ghent, M. Ambroise Verschaffelt, the founder of the nurseries now in the occupation of the Compagnie Continentale, and of the monthly periodical *L'Illustration Horticole*, aged 61 years. For some years past he has suffered from a painful malady.

Markets.

COVENT GARDEN.

Fruit.

Apples ..... per ½-sieve	2s. 6d.	to	4s. 0d.
Apples, American, per bar.	10s. 6d.	,,	21s. 0d.
Cobs, Kent... per 100 lbs.	35s. 0d.	,,	50s. 0d.
Grapes ..... per lb.	4s. 0d.	,,	5s. 0d.
Lemons ..... per case	8s. 0d.	,,	9s. 0d.
Pine-apples, English, per lb.	1s. 0d.	,,	1s. 6d.
Pine-apples, St. Michaels, each	3s. 6d.	,,	6s. 0d.
Strawberries .....per lb.	2s. 0d.	,,	4s. 0d.

Vegetables.

Artichokes, Globe, per dz.	2s. 0d.	,,	3s. 0d.
Asparagus, English, per 100	2s. 0d.	,,	5s. 0d.
Asparagus, French, per bun.	3s. 0d.	,,	5s. 0d.
Beans, French ....per lb.	1s. 0d.	,,	1s. 6d.
Beet ..... per doz.	1s. 0d.	,,	2s. 0d.
Carrots ..... per bun.	0s. 4d.	,,	0s. 6d.
Cauliflowers .....per doz.	2s. 6d.	,,	3s. 0d.
Cucumbers ..... each	0s. 4d.	,,	1s. 0d.
Endive ..... per doz.	1s. 0d.	,,	1s. 6d.
Garlic ..... per lb.	0s. 4d.	,,	0s. 6d.
Herbs ..... per bunch	0s. 3d.	,,	0s. 4d.
Horse-radish .... per bun.	3s. 0d.	,,	4s. 0d.
Lettuces, Cabbage, per doz.	0s. 8d.	,,	1s. 0d.
Lettuce, Cos .....per doz.	1s. 0d.	,,	2s. 0d.
Leeks.....per bun.	0s. 3d.	,,	0s. 4d.
Mint, Green ...per bun.	0s. 4d.	,,	0s. 6d.
Mushrooms ... per basket	1s. 0d.	,,	2s. 0d.
Onions ..... per bushel	4s. 0d.	,,	5s. 0d.
Onions ..... per bunch	0s. 4d.	,,	0s. 6d.
Parsley ..... per bun.	0s. 4d.	,,	0s. 6d.
Radishes ... per doz. bunch	0s. 6d.	,,	1s. 0d.

Vegetables—*continued.*

Rhubarb .....per bun.	0s. 4d	to	0s. 6d.
mall Salading .. per pun.	0s. 3d.	,,	0s. 4d.
Spinach ..... per bushel	2s. 6d.	,,	3s. 0d.
Tomatoes ..... per lb.	0s. 9d.	,,	1s. 0d.
Turnips ..... per bunch	0s. 6d.	,,	0s. 8d.

Cut Flowers.

Abutilons....per doz. bun.	1s. 6d.	,,	2s. 0d.
Acacia, French ..per bun.	1s. 0d.	,,	1s. 6d.
Azaleas ..per doz. sprays	1s. 0d.	,,	1s. 6d.
Bouvardias ... per bunch	0s. 6d.	,,	1s. 0d.
Callas .....per doz.	3s. 0d.	,,	4s. 0d.
Carnations, per doz. blms.	1s. 0d.	,,	1s. 6d.
Eucharis, per doz. blooms	3s. 0d.	,,	5s. 0d.
Gardenias, per doz. blooms	2s. 0d.	,,	3s. 0d.
Heliotropes, per doz. sprays	0s. 6d.	,,	0s. 8d.
Lily of the Valley, per doz. sprays	0s. 9d.	,,	1s. 0d.
Marguerites, per doz. bun.	4s. 0d.	,,	6s. 0d.
Mignonette, per doz. bun.	4s. 0d.	,,	5s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d.	,,	0s. 8d.
Roses .....per doz. blms.	1s. 6d.	,,	2s. 0d.
Roses, Tea...per doz. blms.	1s. 0d.	,,	1s. 6d.
Tropæolum ..per doz. bun.	1s. 6d.	,,	2s. 0d.
Tuberoses .....per doz.	1s. 6d.	,,	2s. 0d.

BOROUGH AND SPITALFIELDS.

Potatoes.

Regents .....per ton	75s.	to	95s.
Magnum Bonum .....per ton	65s.	,,	80s.
Scotch Champion ....per ton	55s.	,,	70s.
Victorias .....per ton	70s.	,,	90s.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 6d. and 1s.—[Advt.]

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.temp. avrg. of 10 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	Deg.			1886
30	S	*Rogation Sunday.*	3 53	2 44	8 2	2 38	4 15	11 34		8 30	8 59	57·9	Lælia Schilleriana	Brazil.	150
31	M	Canton taken, 1811.	3 52	2 36	8 3	3 5	5 24	Midnt.	0 22	9 25	9 47	58·1	,, Xanthina	Guatemala.	151
		June.													
1	Tu	*Nicomede.* [commenced, 1780.	3 51	2 27	8 4	3 39	6 36	0 43	1 4	10 8	10 29	58·4	Oncidium ampliatum majus	,,	152
2	W	● New Moon, 1h. 55m. after. Gordon Riots	3 51	2 18	8 5	4 15	7 46	1 25	1 48	10 50	11 13	58·6	,, bifolium, &c.	Brazil.	153
3	Th	*Ascension. Holy Thursday.*	3 50	2 8	8 6	5 1	8 50	2 7	2 28	11 32	11 53	58·8	Schomburgkia tibicina	Honduras.	154
4	F	Countess of Blessington died, 1849.	3 50	1 58	8 7	5 57	9 48	2 49	3 10	—	0 14	59·2	Trichopilia coccinea	Peru.	155
5	S	*Boniface, Bishop.*	3 49	1 47	8 8	7 0	10 37	3 32	3 54	0 35	0 57	59·4	Acineta Humboldti	Mexico.	156

ROYAL HORTICULTURAL SOCIETY.
GREAT PROVINCIAL SHOW AT LIVERPOOL,
June 29 to July 5, 1886.
GREAT EXHIBITION of IMPLEMENTS, GARDEN STRUCTURES, TOOLS, and APPLIANCES in the Wavertree Park.
Schedules and full particulars as to space, &c., may be had on application to the Superintendent, Mr. A. F. Barron, Royal Horticultural Society, Chiswick, London; or to Mr. J. Richardson, Botanic Gardens, Liverpool.
NOTICE!—Entries close June 12th.
Applications for Advertisement Space in the Official Catalogue should be made at once to Adams and Francis, Advertising Agents, 59, Fleet Street, London, E.C.

ROYAL BOTANIC SOCIETY GARDENS, REGENT'S PARK.
WEDNESDAY, June 9, EXHIBITION OF PLANTS, FLOWERS, AND FRUIT.
Tickets and Schedules of prizes to be obtained at the Gardens only.
Entries should be sent in as soon as possible.

ROYAL BOTANICAL AND HORTICULTURAL SOCIETY OF MANCHESTER.
The GRAND NATIONAL HORTICULTURAL EXHIBITION of 1886 will open at The Gardens, Old Trafford, on FRIDAY, June 11, at Two p.m. Entries close on June 4.
Schedules may be had from the undersigned,
Royal Botanic Gardens, Manchester. Bruce Findlay.

Exhibitions and Meetings for the Ensuing Week.

Wednesday, June 2.—Reading Horticultural Society.—Summer Exhibition.
Wednesday, June 2, to Tuesday, June 7.—Bath and West of England Agricultural Society.—Meeting at Bristol.
Saturday, June 5.—Royal National Tulip Society.—Exhibition at Old Trafford.

Auction Sales for the Ensuing Week.

Wednesday, June 2.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Carnations, Picotees, &c.
Wednesday and Thursday, June 2 and 3.—Mr. J. C. Stevens, at 38, King Street Covent Garden; Orchids.
Friday, June 4.—Messrs. Protheroe and Morris, at their Central Sale Rooms 67 and 68, Cheapside; Orchids.
Saturday, June 5.—Messrs. Protheroe and Morris, at the Tivoli Nursery, Norwood; Bedding and Greenhouse Plants.

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ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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The Gardeners' Magazine.

SATURDAY, MAY 29, 1886.

Schools for Gardeners are unknown as public institutions designed for training men to the gardening craft, but as every garden is a school in some degree, and a certain, or say an uncertain, number are such in an eminent degree, there should not be any great ground for complaint in respect of the training of gardeners. As a matter of fact, there is much ground of complaint, or we should have no excuse for the remarks lately made on the subject or for such as we propose to make now. It is of the profoundest importance that the training of young men in gardens should be thorough, and that the result should be men equal to all average demands upon them, with a considerable proportion equal to demands above the average. Not only must the art be sustained as of importance to the nation, but offices of high trust and with proportionate emoluments will be more and more at the command of gardeners as our colonies expand, and as our Government becomes liberated from contentions that stand sheer in the way of useful work in the development of our vast possessions. India has made profitable employment for not a few of the ablest gardeners of our time. America, in the field of free competition, has for able men honourable and profitable employment; and the world at large may be said to demand horticultural talent beyond the means of supply, so that in many important fields of industry enterprise is checked or is committed to a waste of energy. England has her privileges in respect of all such matters by reason of her colonizing capacity and her immense carrying trade, but privileges are accompanied with duties and responsibilities, and it is by no means certain that, as the case stands, every man can be said to do his duty.

In gardens where premiums are paid, the apprentices have special rights to useful teaching; but they are often left to blunder on in absolute dependence on their own powers of observation and the slow apprehension that attends discovery, in place of the quick mastery of a subject that is one of the fruits of direct instruction. It is the head gardener's duty not only to teach the young men to do this and that, but to give them also the reason why. To do this demands a considerable range of knowledge, which exists nowhere in a concrete form, but is the collective result of reading, observing, and meditating, with the garden for a centre around which nature may be said to revolve. To leave young men to pick up knowledge unaided is a wrong to them, yet many who systematically take premiums do absolutely nothing beyond admitting those who pay them to take a share in the work, and it may be in the buffeting peculiar to the place. The common difference between a native and a foreign workman is that the first has learned his business in a haphazard way and the second in a systematic and methodical way, with a technical school to help with discipline and elementary principles.

It is in the power of gardeners now to accomplish for themselves what for their predecessors was impossible, recent legislative enactments, combined with voluntary agencies, having brought scientific training within the reach of all. The science classes held in connexion with the Science and Art Department at South Kensington are to be found in all the large towns, and those who cannot attend them may qualify for the examinations by reading up in chemistry, botany, and the allied sciences. It will be found that, however remote from a busy centre a garden may be, there are means at the command of such as desire them for improvement in general culture as well as for the special culture that is calculated to fit a man for a responsible position in horticulture. It will not, perhaps, occur to many young men that a training in agriculture is a good preparation for the mastery of horticulture; but such is the fact, for the gardener should be fortified with knowledge of soils, manures, the constituents of plants and the theory of rotation. In the examinations held in May there are sections for botany and vegetable physiology, earnest work in which will prove of the greatest value in after life, both as to the knowledge of first principles that will be gained and the habit of study that will be acquired, for even the will to do a thing needs to be cultivated.

In the suburbs of London gardeners have some special advantages, for a cheap railway ride will place them in contact with such institutions as the Birkbeck, Polytechnic, City of London, King's, and other colleges. These are open to all comers on easy terms, and a subscription of about threepence weekly from October to May suffices to cover the monetary obligations. In such towns as Leeds, Manchester, and Birmingham, the facilities are scarcely less patent than in London. The four metropolitan institutions named above have at the present time about 8,000 students, and we will venture the assertion that in all that number there are not so many as a score of gardeners. In the year 1884 a course of lectures on horticulture was given at the City of London College. There was only *one student* who attended, and he went through the course! It will be said that gardeners obtain such low wages that the luxury of education is beyond their means. Let that be granted, and let it be also granted that low wages will be the lot of all who drone on in the dull groove, while to those who by honest effort will rise out of it, there is the certain prospect of something better, for, bad as times are, the able men succeed in life; the race is to the swift and the battle to the strong. The dullard must live by drudgery; the clever man may do better, and he who combines steadfastness with ability, even in gardening, will do well.

There are agencies beyond number, apart from colleges and other local organizations, in aid of improvement. Not a few of the leaders in science have provided elementary books such as not many years since were prepared by compilers only. The primers published by Macmillan, Collins, and Longmans may be especially commended to the notice of young men as in the nature of schools of good teaching. Take Turner's "Principles of Agriculture," or Hooker's "Primer of Botany," for example, and we seem bound to marvel that things so great in merit, in substance, should be placed within the reach of anyone who can spare a shilling. Nor should the prudent gardener draw the line at these; he should go on, although his means may be narrow and the burden of life a heavy one, for the way of study lightens labour, and a man is worth more in money in proportion as he acquires knowledge and cultivates self-respect. The man who has reached a head place ought not to suppose that his education is finished, for in proportion as he continues to keep himself informed of the progress of science and invention, the better will he be enabled to direct the heads and hands of those for whose training he has become responsible.

Scientific training, apart from the garden, is not to be desired for gardeners. It is in this we often see the weakness of the continental method, for often the men who have been trained in "schools" have but little practical knowledge; and what is worse, they are apt to look down on work and, as far as possible, evade it. We want here, as elsewhere, "science with practice," and if they are to be divorced—which in any and every case is a misfortune—then we say let us have the practice and leave science for such as can command it. A gardener is expected to work in a garden, and there is not much to be got out of a man who can only talk about it, however sound he may be in theory and however many and mighty the technical terms he can use with his tongue without becoming ridiculous.

Bedford Horticultural Society.—Annual exhibition, July 14

Surrey Chrysanthemum Society.—The exhibition is fixed for November 8 and 9.

Cheshunt Chrysanthemum Society will hold its annual exhibition November 12 and 13.

Chertsey District Horticultural Society's annual exhibition will be held at Addlestone on June 17.

Mr. W. Wenman has succeeded Mr. Harris as head gardener at Hickleton, Doncaster.

Mr. J. McLean, who has recently been engaged as head gardener by W. Pearce, Esq., M.P., Wemys Bay, was presented with a gold watch on his leaving his situation at Earnock.

Society of Arts Conversazione will be held, by permission of the Royal Commission, at the Colonial and Indian Exhibition, South Kensington, on Friday, July 16.

Mr. Alfred Smee invites inspection of his garden at Wallington on this present Saturday, May 29. "The Grange," Wallington, became long since classic ground for lovers of gardens.

"Fish Culture" is the title of a new paper devoted to "fish, aquaria, reptiles, amphibia, zoology, botany, &c." It is to be published monthly; 11, Paternoster Buildings, London, and by John Heywood, Deansgate, Manchester.

Societe Royale d'Horticulture de Waas will hold a special exhibition at St. Nicolas from June 27 to July 1, when the gold medal presented by the King of the Belgians will be offered as the first prize for twenty orchids.

Holly Berries are likely to be scarce at Christmas, for the trees show very few flowers, although from the conspicuousness of the whitish bracts at the present time many of the trees appear to the casual eye to be flowering freely.

A Green Primrose was lately found growing wild, and flowers were sent in a fresh state to Kew by the lady who met with it. The growth is altogether normal, the colour being the only peculiarity; this is a bright golden green. This occurrence illustrates Parkinson's green auricula, to which special reference was made by Mr. Hibberd in his paper on the history of that flower.

Lucombe, Pince, and Co., Exeter Nurseries, have entered upon a trial culture of tobacco, having complied with the requirements of the Board of Inland Revenue and obtained the necessary authorization. Mr. Elliott, as representing the firm, expresses an opinion, in respect of tobacco culture, that it is likely to prove of special importance in the county of Devon.

Lily of the Valley excites in a strange way the spirit of emulation amongst the growers of flowers for the markets. We can have no objection to this, but the fact is of some interest, psychologically if not horticulturally. We have now on our table some remarkable growths of lily of the valley kindly forwarded by Messrs. Hawkins and Bennett, of Twickenham. The leaves are of great breadth, the flowers are beyond average size, and the lovelier for their fine development.

Prizes for Collections of Wild Flowers are offered by Messrs. Cassell and Company in connection with the re-issue of Mr. F. E. Hulme's work on "Familiar Wild Flowers." The flowers invited are those figured in Nos. 1 to 20 of the work. They are to be sent in not later than October 31st, 1887. The prizes offered amount in all to 50*l*. It is comforting to observe that in the list of forty subjects there are no delicate rarities.

A Chrysanthemum in Full Bloom formed one of the many attractions of the exhibition of R.H.S. on Tuesday last, May 25. The plant, which was shown by Mr. Easton, of Sunbury, was well flowered, and the blooms were remarkable for their freshness and excellent quality. The variety appeared to be Mrs. George Rundle, but opinions were divided as to the name.

Messrs. Carter and Co.'s Mimulus shown at South Kensington on Tuesday last attracted much attention. They are varieties of a strain called "Queen Mimulus," brought to a high perfection by intercrossing M. luteus with later acquisitions, the result being an endless variety of colours, and many that in their spots and blotches bear some resemblance to gloxinias.

Milk made from glycerine and nitrate of potash is, *they say*, to be supplied to the inhabitants of New York and San Francisco, and it is so good, "they say," that only the bottle-fed baby turns up its nose at it. We should call for three cheers for the baby were it not an outrage on all propriety for a baby to turn up its nose at anything. No; but we will propose, at least, one cheer for the fools who can swallow either the glycerine milk or the yarn that has been dipped in it.

Folkestone Art Exhibition will be one of the more important attractions of the season, as it contains a great collection of pictures of the first importance, and justifying the general description of them as "treasures." For visitors who are in haste it is provided with a branch line from Shorncliffe Station, and for those who have leisure it is open every day, Sundays included. It is a great gain to common sense that in Folkestone now one may spend a few hours amongst works of high art on the only day that for thousands of busy men such a luxury is possible.

Amaryllis reticulata has been but rarely operated upon by hybridizers, although always by its distinctive beauty an inviting subject. At R.H.S. meeting on Wednesday Mr. B. S. Williams presented a novelty in the production of which the pollen of A. reticulata was probably an agent, and the other parent was probably the fine hybrid known as Dr. Masters. This fine thing is of the most perfect form, distinctly reticulated, and richly self coloured a curious shade of vinous red. It is named *Her Majesty*.

Black Jack is the familiar name of the mustard weevil, *Chrysomela* (*Phædon*) *betulæ*, a very destructive green beetle, often a plague in the eastern counties. Miss Ormerod has determined to make a special study of this insect, and asks for the aid of observers. It is a question where the beetles house themselves for the winter, and a greater question, perhaps, how to prevent them attacking the mustard crop, or how to compass their destruction when they become troublesome. Forms embodying the questions may be obtained from Miss Ormerod, Dunster Lodge.

Richmond is likely to accomplish a bright stroke of business and set a good example. The Duke of Buccleuch has put in the market, at £30,000, his estate on Richmond Hill; and the Richmond Vestry, hearing of the matter, immediately met and made an offer of £26,000 for it. Whether the purchase will be effected remains to be seen, but it is a matter of considerable interest, as it would enable the Vestry to extend the walk by the river Thames and to open a view from Richmond Hill to Windsor; it would, in fact, add a very fine feature to the many attractions of Richmond, Surrey.

London is very flowery now with lilacs, laburnums, thorns, and chestnuts. In the early places the chestnuts and lilacs are over, but, generally speaking, they are still fresh and bright, and as the thorns have but just entered the competition they are likely to see the spring merge into summer. The double white thorn may, for the moment, claim to be the most beautiful, and certainly it is beautiful, but there are other claimants in the field, and the richness of the double scarlet and the single crimson is such that we must award them equal prizes, for to "split the difference" at such a time is better than attempting to split a hair. The general aspects of vegetation tell us that recent storms have done much good and but little harm; the freshness of the world is like a new creation.

Boussingaultia baselloides is an interesting South American climber, allied to chenopodium, and therefore a possible candidate for the favours of the cook. It appears to thrive equally well in stove or greenhouse, and is reported in B.M. (3,620) to have stood the winter at Glasnevin in the open air at the bottom of a wall. The small flowers are in lengthy racemes, and, if not showy, make amends by their agreeable fragrance. The tubers produced are alike remarkable for bulk and for the amount of mucilage they contain. At a meeting of the Floral Committee in the autumn of last year Messrs. Carter and Co. presented a specimen, and now we observe they are enabled to offer it in trade to all whom it may concern. It is within possibility that in some parts of Cornwall and Devon it might prove useful as a "potato," and is worth a trial as at least as useful as the Dioscorea battatas.

The Linnæan Society.—On Monday the ninety-eighth anniversary meeting of this society was held at the society's premises, Burlington House, Piccadilly. The chair was occupied by Sir John Lubbock, M.P., and there was a good attendance of members. The chairman delivered a presidential address. The following, as recommended by the council, were appointed to their respective offices for the ensuing sessional year:—President, Mr. William Carruthers, F.R.S.; Treasurer, Mr. Frank Crisp, LL.B., B.A.; Secretaries, Mr. B. Daydon Jackson and Mr. W. Percy Sladen, F.G.S. Five members of the council retired by rotation, viz., Mr. Thomas Christy, Mr. George R. M. Murray, Mr. G. J. Romanes, LL.D., F.R.S., Mr. Howard Saunders, F.Z.S., and Lord Walsingham. To the seats thus vacated the following five Fellows were elected by ballot: Mr. Arthur Bennett, Mr. James E. Harting, F.Z.S., Mr. Albert D. Michael, F.Z.S., Professor St. G. Mivart, F.R.S., and Mr. Henry Trimen, M.B.

DOUBLE FLOWERS OF APPLE AND PEAR.

Correspondents have favoured us with interesting examples of monstrous flowers of apple and pear, of which we have selected two for illustration. In these examples we have duplication of parts without emasculation. There is, indeed, always a tendency to the suppression of the reproductive organs in the process of doubling, and usually the stamens become "petaloid" or actually give place to true petals. But complete suppression of stamens and pistils is by no means so common as is generally supposed, for the rosarian can always obtain seed from the most double of his roses when he sets his mind on the endeavour, and the double-flowering peaches occasionally produce fruit. It will be seen that the double flower of apple springs direct from the old wood without any accompanying leaves or wood growth. Of the pear flower figured, we have seen no examples save the one before us, but we have

DOUBLE FLOWER OF APPLE.

had examples of double flowers of apple, larger than the one here figured, and like it proceeding directly from old wood.

DOES GARDEN PRODUCE PAY, IF SOLD?

To this question two replies can be given—"Yes" and "No"—the whole matter resting with the quality of the goods offered. Thus, if a man grows, say, tomatoes equal or superior to the best market samples, they will fetch a fair price wherever there is a sale for them; but if they are poor in quality and late in season they will not be worth the carriage. The same with all things; early crops of good quality, packed properly, and delivered in good time, will always command their price; but if goods are sent in when the market is glutted then they will scarcely pay carriage, as foreign competition really bars the English producers of many crops in the London markets. Much can be done by Parcels Post, the rates being 3d. for the first pound and 1½d. per pound or fraction of a pound after, the limit being 11 lbs. By this rate it will be possible to send small quantities of fruit or other goods more equitably than at the present rate, and as on direct routes very little delay occurs, there is no reason why the more profitable—*i.e.*, the more expensive ones—should not be forwarded direct to consumers in large towns, without the intervention of the middlemen at all, and at a higher price to the producer and a less one to the consumer. As an instance, part of last year tomatoes were 5d. per lb. to the producer, the retail price in the West-end of London being 1s. per lb., 7d. per lb. being thus taken up by carriage and intermediate profits. Now, under the new rates, 7 lbs. of tomatoes and package, making a total of just under 8 lbs., will be carried for 1s. 1½d., and the box would cost about 3d., or, say, carriage and package, 1s. 6d.; but in quantities the boxes would cost only about 2d. each. Now if 7 lbs. of good fruit were forwarded to the consumer for 5s. he would save 2s., and the producer would gain 1s. 7d., or nearly 3d. per lb. more; therefore it would be to the interest of both parties to adopt this method. It is needless to point out that the private columns of the *Bazaar* and other newspapers would afford a ready method of letting purchasers know where to find what they want, or to make known their wants.

Another class of produce is cut flowers, and being light, these go well by post when packed in living green moss, so that they do not shake about and get bruised. One precaution is needed however. In all cases cut flowers should be properly gummed with flower gum (a special preparation for the purpose), as many things soon drop to pieces. Anyone who has a good taste for mounting bouquets, wreaths, &c., and a good supply of flowers, should be able to make this class of work pay, as there is almost an unlimited demand at reasonable prices, the charges made in large towns generally being excessive.

The growing of small plants scarcely needs comment, but there is still room for more. To succeed, however, it is necessary that the things offered should be properly prepared, *true to name*, and sent in metal boxes, packing the young plants in living or damp (not wet) moss. With a little care in doing one or two particular subjects well a really good thing can be made with a greenhouse; but if too many subjects are taken in hand failure will probably result.

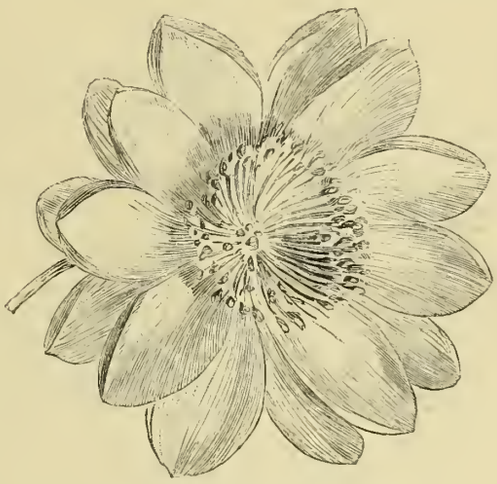
So far, only the private sale question has been considered, as that is the one most suited to amateurs; but in large gardens a more ready sale is necessary, and to obtain this one of three things has to be done—either send to market, sell to a local greengrocer, or make an agreement with some hotel to take the things at current prices. Which pays best can only depend on the class of goods offered, and the skill of the person who sells, but neither will produce so good average prices as supplying consumers direct. In fact, all questions of this character have a great element of chance about them. Thus, a few years back, cabbages were practically unsaleable in London markets, yet truckloads were sent into the north by a Middlesex grower; and, after paying carriage, he got more than the average London prices of previous years. Still it was a speculative business and not fit for every one to embark in. Taken as a whole, however, it is not safe for inexperienced persons to embark capital in the production of garden crops for sale; and while surplus stuff may be got rid of profitably, specially grown crops are very uncertain, and it is better to get only 1 per cent. interest on capital in a sound bank, than to run the risk of losing it. W. J. May.

SUMMER WORK IN PEACH HOUSES.

By J. C. Clarke.

The most important work in peach houses during the summer months is to keep the leaves and branches free from insects, and the roots well supplied with water. With regard to the roots that occupy borders, it is most essential that they get sufficient water. Whether they do so in all cases is very doubtful, for unfortunately the supply of water and the convenience of conveying it to the roots in many gardens are inadequate. Therefore, instead of sufficient water being given to reach the deepest roots, only those which are near the surface have the benefit of it. The consequence of this is that the fruit does not attain so large a size as those which have sufficient root moisture. Every fruit house which has inside borders should either have the water conducted inside the house by pipes, or there should be a sufficient supply in a tank or pond close to the doorway; for when water has to be carried any distance, the inside borders, be they occupied with vines or peaches, invariably have an insufficient supply. It happens always that just at the time inside borders require the most water, the work in every other part of the garden presses heavily on all hands, and the only way to guard against any mishap with the roots occupying inside borders is to get a supply of water conveniently close at hand.

With regard to the branches, green and black fly are often troublesome, and when trees are nailed to walls it is difficult to get the smoke to reach them when the house is fumigated. Nor is it desirable to fumigate peach houses with strong tobacco paper until the wood and leaves become more hardened than they are during the months of May and June. I have known serious injury done to the leaves when a rather strong dose of smoke has been given. It is much the best plan to depend on regular washings from the garden engine to destroy the fly, and if that does not keep them under, a dressing or two of soft soap and water, at the rate of one ounce of soap to one gallon of water, will be effectual. All disbudding of such shoots as are not wanted must be completed forthwith. Only such young growth should



DOUBLE FLOWER OF PEAR.

be left for which there is room on the wall without crowding. When the young growth is thickly laid in one shoot weakens another, because the leaves overlap each other, and then they cannot perform their proper functions, and weakly blossom buds are the result. The thinning of the fruit must now be finished, leaving sufficient to make a crop and no more. I do not believe in allowing more to remain on the tree than is wanted to furnish a crop, under the idea that allowance must be made for some to drop off while the fruit is stoning. The truth of the matter is, if more is left than the tree can sustain, they are bound to come off, because that is Nature's way of obtaining relief. When a peach tree is judiciously cropped and it is well nourished and healthy, it is not often that it loses any fruit during the stoning process. But the thinning out of the fruit must be conducted on rational lines. A young and vigorous growing tree, it should be

remembered, will carry a greater number of fruit in proportion to the space it covers than an old one that has been weakened by bearing heavy crops in previous years. Regard must also be had to the sort of crop the tree bore last year. If it produced a heavy one, the crop should be a lighter one this year. Some attention must also be given to the size of the fruit required. Large peaches are always of more value than small ones, but if the fruit is left too thick on the tree they will be small in size. One peach on a square foot of wall is what is usually allowed for exhibition fruit, but in a general way that number may be increased one third on perfectly healthy and vigorous trees.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 17.

State of the orchards at the present time—More picturesque than profitable—Area under orchards gradually decreasing — Extent of the orchard land cultivated in Jersey and Guernsey—Statistics of apples exported — Prices realized — Packing, frieght, &c. — Peaches and apricots—Plums: Sorts grown — A remarkable plum tree — Figs largely grown in Guernsey—Prices—Some very old trees.

The general condition of the orchards in Jersey and Guernsey is, at the present time, anything but satisfactory, and in particular instances it is absolutely deplorable. But, as we have already intimated, an accelerated improvement is surely taking place. Old orchards are being cleared off the face of the earth, and the ground either put to some other purpose or replanted with a superior class of trees. Yet, as a writer in a local guide book feelingly observes, "something might be said for the owner's desire to conserve these old trees on his patrimony, round nearly every one of which is woven some bit of family history." But it is astonishing how remarkably well many of these decaying old trees bear. Looking at the question in a very unpractical light, they certainly detract nothing from the picturesqueness of the scene. Their knotted and half-rotten limbs, moss covered and clustered about with ivy, some of them lying prostrate and half smothered in the long rank grass, go a long way to redeem the stiffness of the highly cultivated landscape and the trim neatness and regular order which prevail on all sides. In many parts of the islands, particularly in Jersey, as you pass along the lanes and narrow roads, the boughs of these old trees spread over you, and form a beautiful canopy of blossom over your head, and when the blossom fades and as summer wears on the green leaves, richly sprinkled with the rosy fruit hanging in graceful pendants above you, forms a most elegant and refreshing arcade. But there is no doubt whatever that these old trees and old and unprofitable orchards are doomed to speedy destruction, and there is no question also that their substitution for some other crop will be every way to the pecuniary advantage of the islanders.

It is a fact that the area under orchards is gradually diminishing, but as this means, in a great number of instances, the substitution of a large area under worthless trees for a smaller area under trees of a better class, it signifies a gain instead of a loss to the fruit producing capacity of the islands. The following are the latest returns of the extent of orchard land in Jersey and Guernsey, the figures being given for each district separately :—

Jersey.	Vergees.	Guernsey.	Vergees.
St. Helier's	184¼	St. Peter's Port	37
St. Saviour's	551¾	St. Martin's	35
St. Martin's	335¾	Forest	27
Trinity	430	St. Peter-in-the-Wood	45
Grouville	355¾	Torteval	10
St. Clement's	115	St. Saviour's	74
St. Lawrence	283½	St. Andrew's	71
St. Peter's	187	Castel	131
St. Brelade's	56¼	Vale	54
St. John's	189½	St. Sampson's	28
St. Mary's	251¾		
St. Ouen's	118½		512
			3,059
	3,059		
			3,571

It must be recollected that about two and a quarter vergées are equal to an imperial acre.* It must also be borne in mind that the above figures include land planted with all kinds of fruit trees, but the apple largely preponderates. From these figures it will be seen at a glance that Jersey is, even proportionately, by far the most important fruit growing island of the two.

Only the best apples, such as the reinettes (or rennets), pippins, pearmains, and codlins are exported. Of the 12,000 cwt. of fruit sent out of Guernsey last year about four or five tons might count for apples. The yield of the Jersey orchards is about from 150,000 to 200,000 bushels, and the quantity exported is much in excess of that of Guernsey. The crop, however, is valuable, though Mr. Le Cras, of Jersey, assured us that the Ribston pippin is an apple that never fails. Fog and hoar frost are very destructive in some years, and frequently spoil the prospects of a crop, or at any rate of a good crop for several years to come. The seasons generally alternate from good to bad, but large successional crops are by no means uncommon.

Coming next to prices we find that the value of the crop varies considerably, sometimes selling, as Professor Ansted observed twenty-five years ago, at seven shillings per quarter (about 4 cwt. or 42 bushels of 26 gallons), the same quantity in other years being worth twenty-three shillings. Some 12 or 14 years ago the Ribston pippin realized from 3s. to 4s. per dozen for the best, but since American apples have been so largely imported this price has fallen considerably. The commoner sorts will fetch from 1s. 6d. to 2s. and 2s. 6d. the cabot (38 lbs.) In seasons of scarcity the prices would, of course, rule higher, and *vice versa*. The choicest are carefully packed in boxes, and the others in barrels. The through rate to London is 20s., and to Birmingham 32s. 6d. per ton.

The lesser fruits which remain to be noticed are apricots, peaches, plums, and figs.

Not many peaches, and less apricots, are grown for exportation, or, indeed, for any purpose. The varieties of peaches include the *Red Magdalene, Royal George, Grosse Mignonne*, and *Noblesse*. We heard that a speculator in Guernsey was raising several houses purposely for growing these fruits.

Plums, which do exceedingly well, are likely to receive larger attention in the future. The common sorts are mostly grown, such as *Perdrigon* and *Magnum Bonum, Green Gage, Washington*, &c. The better varieties which are recommended as specially suited to the soil and climate of the islands include *Coe's Golden Drop, Jefferson, Kirk's, Bleu de Belgique*, &c.

At Beaumont we were shown a remarkable cherry plum-tree, planted only twenty-five years ago, which has attained the following remarkable dimensions : Height over thirty feet, girth of trunk about seven feet, and the circumference of the branches somewhere about forty feet. These were rough calculations made as we inspected the tree. The tree has never been grafted nor pruned, and bears astonishing crops of fruit.

Of figs, large quantities are grown, mostly in Guernsey, the varieties being the common brown and the Turkey fig.

"The fig is much esteemed, and the tree universally planted. Its growth is healthy and vigorous, and it yields plentiful crops without any culture or care whatever beyond that required to keep the birds from the sweet and luscious fruit, of which they are excessively fond. The purple variety is preferred to every other yet tried, and in the month of September it is brought to market in large quantities, selling as low as three or four pence per dozen. The tree is seldom planted against walls, from which it seems to derive little advantage; the fruit when it ripens not requiring heat so much as a free circulation of air to abstract as rapidly as possible the juices with which it is surcharged in the last stage of its growth. The fig can never be too ripe, and is in perfection when allowed to shrivel slightly on the tree; but those brought to market are seldom in that state, as it renders them much more liable to injury from carriage or handling." *

The climate is evidently admirably suited to this fruit, as it grows everywhere in Guernsey to such perfection. It is not so much seen in Jersey. Grown both as a standard and trained on espaliers, it is to be seen in the gardens in Guernsey with hardly an exception. The late fruit is retailed in the island at a halfpenny each. The earliest ripened fruit realizes from 1s. to 1s. 6d. per dozen; some 20 years ago it readily sold at from 2s. 6d. to 3s. a dozen. Some few are cultivated under glass, and are worth as much as 5s. a dozen.

The fig tree, as is well known, attains to a great age.† Quayle, in 1815, mentions a standard fig tree in the garden of Mr. De Jersey, at Mon Plaiser, Guernsey, which had attained extraordinary dimensions in girth. This tree has since died. The correct dimensions were as follows: Trunk about 2 ft. in diameter: height 20 ft. The branches covered a circumference of about 130 ft. It was supposed to be the largest fig tree in the island, and to have been planted about 1760. Mr. Le Cras, of Jersey, owns a fig tree of the red variety that was planted more than 100 years ago, and still yields good crops of fruit; and Mr. Gosset, of Bagot, in the same island, owns an Ischia fig tree more than ninety years of age, that produces as much fruit now as at any former period.

* The standard of land measure is the old Norman vergée, containing 40 square perches; a perch is 21 by 21 English feet = 441 square feet, therefore a vergée contains 17,640 square feet. An English acre contains 43,560 square feet, and is consequently equal to nearly 2½ vergées. An Irish acre is exactly 4 vergées; while a French *hectare* is 5 vergées and 34 perches.

CHRYSANTHEMUMS.

How they are Grown by an Amateur.

By G. R. Johnson.

At a general meeting of the Surrey Chrysanthemum Society, which took place on the 7th ult., the following paper was read by the secretary, Mr. G. R. Johnson :—In soliciting persons to become members of any chrysanthemum or other floricultural society, the answer you invariably receive is (although they may be ardent admirers of the flower in question), I have only a small garden, and no convenience to grow them. Now to show amateurs what can be done with a small garden and a little judicious management, I will, as a *bonâ fide* amateur, give a description of what little experience I have had, and the way I grow, or attempt to grow, the chrysanthemum.

I have a garden about 30 ft. long and 15 ft. wide, on the north side of which is what I choose to call a greenhouse—a structure 13 ft. by 6 ft. 6 in., and have also a cold frame about 6 ft. by 2 ft. 6 in. ; a small portion of the greenhouse is parted off for propagating purposes, which I heat with a paraffin lamp. In the garden I have a nice little collection of hardy plants, roses, ferns, &c., and then find room for the "mums," of which at the present time I have about one hundred and thirty distinct varieties. I also manage to keep the windows well supplied with a nice assortment of various kinds of plants during the year, and also contrive to grow cucumbers and mushrooms during the summer months, the beds of which afterwards come in handy for potting purposes.

* "History of Guernsey," by J. Duncan, 1841.

† Evelyn speaks of one of great age, which measured seventeen paces in circumference of branches. The fig trees in the gardens at Lambeth Palace were planted by Cardinal Pole. At the deanery of Winchester there is a fig tree which bore fruit in 1623, and figs from it were eaten by James I.

I commence taking cuttings of the "mums" about the second or third week in January (of all the large-flowering varieties), being careful to select nice stuff, neither coarse, stout shoots, nor any that have become drawn. I then insert them in cocoanut fibre in the propagating place mentioned above, with the following result: I get them rooted sooner, and do not lose a single cutting. But if put in soil they are longer rooting and more liable to damp off. The early-flowering and pompones I find do just as well if taken in April or early in May. Taking the chrysanthemums on the whole, they are very prolific, but some few varieties are shy in throwing up cuttings. In most cases these are the best sorts, and seem to want a little artificial heat to bring them on. As soon as the cuttings are well rooted, which would be in about eighteen to twenty-one days, I pot them off in small sixty-size pots, using good soil, clean pots, and giving plenty of drainage. I well mix about one bushel of manure to three of soil and about one peck of silver sand or road-drift, also a small quantity of charcoal. As soon as they commence growing again they are placed in the cold frame, letting them have all the sun and air they can get during the day, and closing them up at night.

About the latter part of April is the best time I find to place them outside, but great care must be taken for the first week or so, as we are liable to sharp frosts; although I put mine outside this year in March, with only a Russian mat to cover them at night, I should not advise every amateur to do the same, as they might not perhaps be able to give them the attention they require. They remain in the small sixties until the roots begin to show through the bottom of the pots; that will be about the first or second week in May. I then shift them into 48 size pots, which are five inches in diameter, using similar soil as before, only a little richer, in which they remain until their final shift. This final shift I generally give about the beginning of July, having stopped them about a fortnight previously. The majority of the pots I use are 24's (8½ inch) and 32's (6 inch); but I have grown a great many in 48's, throwing better blooms in some cases than the plants in larger pots. I have kept them in small 60's on a hard bottom, to keep them from rooting through, until their final shift; and I believe the plants can be grown to perfection in small pots as well as large, if they are properly looked after. I keep the eyes rubbed off so as to let the shoots intended to be left receive the nourishment they require, never letting them know the want of water, as it does the plants harm, besides causing them to shed their bottom leaves.

I have a lively time of it during the summer, hunting for slugs, caterpillars, earwigs, &c., and find that of all the plans for catching them, there is not one so good as going through each carefully by hand. The green fly is very troublesome during mild seasons, but can be effectually kept down by frequent waterings overhead and sprinkling well with tobacco powder. There is always plenty of work to be done after the plants are in their flowering pots, as they continually want tying out and shoots rubbed off, and they require abundance of water. I let them break after the stopping, keeping two or three good shoots on each plant according to the strength, and for exhibition purposes should say one bud on each shoot is quite sufficient, although old exhibitors will sometimes grow but one bloom on a plant.

As soon as the buds are large enough to handle, which would be early in September (I take none before), I single out the most promising ones and pick the others off, using great care, or my season's work might be spoiled.

Amateurs must not think they are going to equal nurserymen or gentlemen's gardeners, although they may have some very good blooms, for the art of growing the chrysanthemum is not gained in a season any more than any craft or trade. As soon as the buds begin to form I commence giving liquid manure about one pint to a gallon of water, gradually increasing the quantity as the plants become accustomed to it, diminishing as the flowers open. But if the plants are well established you cannot hurt them, as they are very voracious feeders. I always use fowls' dung placed in a bag and thrown in a tub of water, and find it better than anything else.

I house my plants about the first week in October, giving them all the air I can to keep the mildew from them, as I have no artificial heat. After all that has been written on this subject, I find the grower must use his own discretion in a great many ways, for if the most successful grower were to transfer his knowledge to paper it would be of no use to amateurs. They might select one or two useful hints, but it is practical experience and not theoretical knowledge they want.

In conclusion, I should advise all amateurs to bear in mind they had better grow one plant well than a dozen badly. Plainly speaking, do not attempt to grow more than you can conveniently look after, especially the first season, or you may be disappointed, and probably lay blame to the plants or the parties who supplied them for that which was no one's fault but your own.

Grouping Plants in Exhibitions is so rarely practised in this country, that it may be said the art is as yet unknown. Therefore we may with propriety record that at the great exhibition, held in the Crystal Palace, May 21 and 22, a system of picturesque grouping was resorted to. It was advantageous for the most part, but singularly disadvantageous to certain exhibitors, whose plants were thereby exposed to view from their weak as well as from their strong sides. Rome was not built in a day, so they say; and it takes time to learn the art of grouping with a view to render an exhibition picturesque as a whole. On the continent it is done leisurely under experienced superintendence.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 6d. and 1s.—[Advt.]

GREENHOUSE PLANTS IN FLOWER.

The greenhouse is now sufficiently gay, for although azaleas have had their day their gay colours are scarcely missed, so numerous are the showy subjects now in flower. We have abundant displays now of heliotropes, hydrangeas, basket daffodils, roses, callas, cinerarias, herbaceous calceolarias, schizanthus, astilbes, various pelargoniums, including more particularly the zonals, a few species of varieties named in previous reports, clematis, and mignonette, to sweeten all, and perhaps gratify those who do not like the odour of heliotrope.

Primulas adapted for the greenhouse comprise *P. Japonica*, now glorious with its pillars of richly coloured flowers, and *P. obconica*, always in flower and always acceptable though far from showy. These should be grown in quantity where display is required at this time of year, as they come in well to fill up spaces between subjects of higher interest.

Pernettyas grown in pots, or carefully potted up from the open ground, make useful greenhouse plants now, as their berries are still bright with colour and above them spread the pretty flowers in dense masses that compel admiration.

Polygalas are not much grown in miscellaneous collections, but our old friend *P. Dalmasiana* is of universal value, and *P. myrtifolia* is equally good, and if there be a difference is the better of the two. It has bold leafage and is a robust grower, making a grand tree when planted out in the border of a cool conservatory.

Hibbertias of several species are now flowering, such as *H. volubilis*, *H. perfoliata*, *H. Readi*, *H. pedunculata* and *H. cistifolia*. A very pretty pot plant is *H. stricta*, of compact habit, the flowers smallish, pale yellow.

Boronias in season comprise the pretty *B. Drummondi*, the fragrant *B. megastigma*, and the useful *B. polygalifolia*. This last is a good grower of neat habit, the flowers usually of a soft lilac colour, but at times they take a reddish tinge.

Aotus is one of the most showy genera now showing flowers, and *A. gracillimus* is in its most splendid trim, the colour being intense orange, the papilionaceous flowers crowded in long thyrse-like racemes.

Aphelexis will assert themselves in May and June, and every respectable collection should include a few of the best for their distinct, bright, and elegant flowers. *A. fasciculatus* in variety, *A. humilis* in variety, and *A. ericoïdes* are now in holiday attire. A particularly useful species is *A. spectabilis*, the habit being well adapted for moderate sized specimens, and the flowers as cheerful as any of this very cheerful genus.

Chrysanthemums of a kind come into the category, and *C. frutescens* is better known as the "French Marguerite" and the "Paris Daisy," than by its proper name, which happens to be quite appropriate. The typical form of this useful plant is undoubtedly the best, and it is also undoubtedly one of the most useful plants in cultivation. The Britishers can now do it as well as the Gaulishers, or say Englishmen have learned to grow it as well as Frenchmen, the last being the true discoverers of its capabilities.

Tremandra and Tretatheca are one and the same, and it is always a lottery under which name you will find them in the books. The mysteries of nomenclature I shall leave our editor to disconrse upon as may seem to him fit; it is my business to record that at this time *Tremandra verticillata* is much admired and the best plant of its class in our collection. It is a most manageable subject and gives us now a delightful display of blue flowers.

Fuchsias are not plentiful in plant houses, but *Monarch*, a long flower of a rich purplish red, and *Vénus de Médici*, a well-known light variety, both trained to the rafters, are now full of their cheerful flowers.

Mimosa is known generally only by that trashy plant *M. pudica*, which is not in flower, and is at any time worth notice only for its sensitiveness, There is nothing in this genus more interesting and useful than *M. marginata*, for while it is a capital pillar and rafter plant to run with such things as Clianthus puniceus and Kennedya coccinea, it has a lot of character in its leafage, and one never wearies of admiring its *originality*.

Scillas do not obtain any special attention, but it would be unwise to ignore them. We have now some nice plants of that *Ornithogalum thyrsoideum* that made a sensation some twenty years ago, and a nice lot of *Scilla Natalensis*. These are useful greenhouse plants, the last-named being quite a rarity. In leaf growth this is not remarkable, and its affinities are with the cape *S. plumbea* of B.R., 1355. The flowers are in a many flowered raceme of a lovely starch blue colour. The figure in B.M., 5,379, is nearly but not quite perfect.

Glory Pea and Lobster claws may be all the same thing, but one must be polite to the old, the gay, the nearly hardy *Clianthus puniceus* which has flowered with more than its customary freedom with us this season. It is not known that this plant makes a nice pot specimen, and very simple training suffices for it, while in flower it is a great gun.

Cytisus are the best substitutes now for the acacias, which are nearly out of flower; and our old friend, *C. racemosus*, is by no means out of colour, though we had plants in flower soon after the turn of the year. But how much better is *C. racemosus superbus*, a hybrid form of fine quality! *C. Canariensis* is better than either, and is quite hardy in a kind climate, though it usually requires the protection of a cool house.

Ozothamnus is a good genus of New Holland composites, whereof *O. glomeratus* is now flowering. It is of neat growth, with roundish leaves, and many heads of smallish white flowers.

SLUGS AND DAHLIAS.

For several years I had great trouble to keep the slugs from eating my dahlias. As a matter of fact, they destroyed some plants for me every year, and this went on until I read in the Magazine that one of your correspondents recommended the planting of lettuce plants between the dahlias, as slugs would eat the lettuce in preference to the dahlias. This I have found to be quite true, for now, as soon as I put out my dahlias, I put lettuce between them, and I save my flowers by this simple means. But I am careful to have lettuce plants large enough and sufficient in number to satisfy them. In fact, I give them something to bite at, and if they have cleared off one lot (which they do if the weather is damp) before the dahlias have grown up out of their reach, I put out some more. After I have provided for my enemies in this way, I can go to bed and forget my dahlias, as I know they will be safe, so far as the slugs are concerned. I found it was not very pleasant after purchasing new dahlias to have them destroyed by these pests of the garden. H. H. G.

A BOWL OF PÆONIES.

In the note on "A Bowl of Tulips," at page 255, mention is made of "a large yellow bowl that I stole from the kitchen." In the case of the tulips the style was altered, for they were shifted into a tazza of noble design. But immediately afterwards I filled the same yellow bowl with pæonies, and they remained as I placed them, the verdict being that nothing could improve the arrangement, the magnificence of the flowers being such that the bowl was practically unseen. Now that the thing appears in a figure much below the scale of nature, the bowl is really visible, and the reason is perhaps that we have no colour to overmaster the eye, or it may be that when we simply admired we saw the flowers from a different angle to that from which they were viewed when the sketch was made. But I do hope my cheap decoration will win some applause, for pæonies are in season, and we can cut bushels without marring the beauty of our upper garden, and as "simplicity is a virtue" I will ask you to give three cheers for the yellow bowl stolen from the kitchen, not forgetting the flowers that ennoble it. W.

HONEYSUCKLES.

The honeysuckle of the ancients is altogether unknown to us, although as the name is applied it appears most appropriate. The Anglo-Saxon *hunisuge* and *hunisuse* are translated *ligustrum*, which in this day is a privet, but in the A. S. day was a primrose. The same with *hunisuccles*, in which we have the sound of the modern word, but with different spelling and a different meaning. The meaning of woodbine, whether applied to honeysuckle or convolvulus, is clear, but the latter is commonly called "bear-bind," because the small C. arvensis binds the stalks of barley together, and the true woodbine is the flowering vine that, like the "female ivy," "enrings the barky fingers of the elm." Oberon called to mind "a bank whereon the wild thyme blows" * * * "quite over canopied with luscious woodbine," an expression that conveys a complete picture that none could have so presented save the bard of Stratford. That there can be no mistake about Shakespeare's plant is proved by the passage in which the "female ivy" is mentioned, for we read—

> "So doth the woodbine, the sweet honeysuckle,
> Gently entwist." (*M. N. D*, iv., 1)

A BOWL OF PÆONIES (Colours various).

BERBERIS STENOPHYLLA.

There are several of the barberries that are so handsome when in flower that it seems almost unfair to make comparisons, but in my opinion the one named at the head of this note surpasses them all, and is worthy of being designated as the best of the whole family. It is not only a beautiful object as a lawn shrub or in the shrubbery border, but it is also an excellent plant to train against walls of moderate height. At the time of writing we have a plant so treated which reaches to a height of eight feet, with proportionate spread of branches, and the wall is literally a sheet of the most beautiful golden yellow. Its being evergreen enhances its value. It is perhaps as a lawn shrub that this plant appears most happy. In Mr. J. Marshall's garden at Belmont, Taunton, there is a grand plant of it in a rather elevated position, and having plenty of room for the development of its branches. The growth arches over in the most graceful manner, and when in flower it is something to see and remember. Every garden should have several specimens of this plant about; all it wants is good soil and plenty of room, and to be left alone. J. C. Clarke.

It justifies its name by a mild imitation of those lianas of tropical forests that strangle and bring to the ground every tree they embrace with their folds. The effect of the constriction may often be seen in the deep spiral grooves in the bark of the tree the woodbine has adorned, the result chiefly of the unequal growth of the tree and the bine, the first expanding faster than the growth of the second will fairly permit. Cowper refers to this—

> "As Woodbine weds the plant within her reach,
> Rough elm, or smooth-grain'd ash, or glossy beech,
> In spiral rings ascends the trunk, and lays
> Her golden tassels on the leafy sprays:
> But does a mischief while she lends a grace
> Slackening its growth by such a strict embrace."
> (*Retirement*, 229.)

The word honeysuckle suggests the odour of the flower, and the busy bee may teach of its appeal to a kindred sense to that of smell. The common honeysuckle is *caprifoly* of old English writers, and *caprifoglio* of the Italians and Spaniards. This is explained by the persistency of goats in searching it out, and accomplishing a certain

amount of climbing to secure a meal of its agreeable leafage. All the honeysuckles are now classed in the genus *Lonicera*, the name being commemorative of Adam Lonicer, of Marpurg, who, in 1551—1555, published a great book on natural history. The common honeysuckle, *Lonicera periclymenum*, is a good type of the genus, and a much valued, though very common British plant. It is scarcely gay enough for the garden, though it is the sweetest of its race, and has produced many interesting varieties, whereof the *Dutch*, the *Oak-leaved*, and the *Late Red* are at once distinct and beautiful. All these come into leaf early, and when established in the wild garden they give a most welcome sparkle of colour to the trees that support them in the early days when the snowdrops first appear. It is

> The first of wilding race that weaves
> In nature's loom its downy leaves.

For horticultural purposes we may dismiss the common honeysuckle, as also its near relations, *L. caprifolium* and *L. xylosteum*, as of quite secondary importance, but nevertheless quite suitable for rough shrubberies and odd purposes where dressy subjects would be somewhat out of place.

The Evergreen or Trumpet Honeysuckle, *Lonicera sempervirens*, is a grand species, native of North America, having roundish oblong leaves and long-tubed scarlet flowers that are inodorous, but make amends by their splendour, for in truth they come near to an imitation of bignonias, and the variety known as *Browni* is conspicuously brilliant. These are of rapid growth, and have a high claim to a good place in every well furnished garden.

Tartarian Honeysuckle, *L. tartarica*, is of bush-like growth, spreading, almost evergreen, and thoroughly hardy. It gives us white (*alba*), pink (*grandiflora*), and fragrant (*fragrantissima*) flowers. These are all worth a place where there is room for a large selection, but where one suffices we should recommend the fragrant flowering, for the habit of the tree is excellent and the flowers appear early. A variety of this same section, known as *Standishi*, has acquired some amount of fame for its early fragrant flowers, but generally speaking the one named above, *fragrantissima*, is the best of the group.

JAPAN HONEYSUCKLE, *Lonicera Japonica* (Flowers white, fragrant).

Japan Honeysuckles run through a considerable range of variations, with a family likeness pervading the several forms. The best known is the golden-leaved *Brachypoda aureo-reticulata*, the beautiful foliage of which is truly unique in colouring. It is admirably figured in Hibberd's "Beautiful-leaved Plants." Not many have seen this in flower, and the reason is that, being a rapid grower and chiefly valued for its leaves, it is systematically cut back every year, and the flowering is thereby cut out of it. The flowers are yellow or reddish, and appear in pairs, diffusing a most delightful fragrance. Near to this, but

having green leaves, is Hall's Honeysuckle, *L. Halleana*, the flowers white changing to yellow, very fragrant, and abundantly produced from July to October. It is a good garden tree. And yet another good garden tree is the Chinese Honeysuckle, *L. japonica*, which, like the rest of this group, is nearly evergreen, and produces a profusion of white or yellowish fragrant flowers in the summer, but the duration of the flowering does not exceed six or eight weeks, which, perhaps, is enough.

The figure shows the habit and general character of the last-named, and also suggests a convenient mode of training half scandent shrubs on stout poles in open borders.

This and other species, though hardy, appear always to need a certain amount of shelter, a circumstance consistent with their woodland habit, for it may be said the honeysuckle is never seen isolated, but in close association with other trees, and usually such as are capable of protecting as well as sheltering it. The need for shelter in part explains its power of embracing, for the scandent forms, of which our native woodbine is an example, have a definite mode of progression from right to left, and their embrace tightens so as to cause deep furrows, which are rarely deep enough to seriously damage their supports, although theoretically directly destructive. The poets have not failed to notice this, as the citations above given show. Milton refers to the honeysuckle as the "twisted eglantine," a mistake altogether unpardonable, when such examples as Chaucer and Shakespeare had given were common property. As regards beauty of expression in reference to the attachment, Chaucer's is inimitable, as the last line in the subjoined quotation will declare. He speaks of those

> —— that weare chaplets on their hede
> Of fresh woodbind, be such as never were
> To love untrue in word, thought, ne dede,
> But aye stedfast, ne for pleasaunce, ne fere,
> Though that they should their hertes all to-tere,
> Would never flit but ever were stedfast,
> Till that their lives there asunder brast.
>
> (*Flower and Leaf*, 507).

Every species and variety of Lonicera is worth having for its beauty. In the foregoing notes the best are named for limited collections and special purposes, but it should be understood there are none that we could put into a category of "rubbishing plants." W.

Notes of Observation.

ADIANTUM PACOTTI.

This comparatively new maidenhair promises to become as popular as the well-known and highly-esteemed Adiantum cuneatum, for on all sides those who have become acquainted with it are increasing their stock as rapidly as possible. It is not surprising that it should have met with so much favour from all classes of cultivators, for both in a small state and in specimen form it is exquisitely beautiful, and the fronds are of great value for bouquets and other arrangements. I know nothing of its origin, but I have very little doubt as to its being a variety of A. cuneatum, to which in general character it bears a striking resemblance. But it differs from that species in the fronds being more compact, and in the pinnules being so closely set as to give to the fronds a dense moss-like appearance. The fronds are also rather darker in colour than the majority of the adiantums, and nicely-grown plants have a singularly refreshing appearance when placed in a suitable receptacle on the dinner table, or in the drawing room. Pacotti's maidenhair is as readily multiplied by means of spores as A. cuneatum, and is now grown largely by some of the market growers in the neighbood of the metropolis for Covent Garden, and it can be obtained at the nurseries at a price which places it well within the means of those who can indulge in the luxury of fern culture under glass.

J. W.

ASPARAGUS TENUISISSIMUS.

This ornamental asparagus has been rather overshadowed by A. plumosus nanus, and it has not of late received the share of attention to which it is so well entitled. In elegance of growth or durability when cut, A. tenuisissimus is not superior, if quite equal to, A. plumosus nanus, but it has the great advantage that, while luxuriating in the heat and moisture of the plant stove, it will thrive in the intermediate house or the ordinary greenhouse. A few plants in ten-inch pots, with their growth trained up the pillars or under the rafters, will contribute materially to the attractions of the structure in which they have a place, and furnish a liberal supply of the feathery sprays for association with cut flowers. W. B.

LARGE-FLOWERED KERRIA.

Visitors to the gardens of the Royal Horticultural Society at Chiswick should not fail to make note of the fine specimens of Kerria japonica fl. pl. grandiflora on the wall which runs along the western side of the lawn. The plants, which are trained to the eastern side of the wall, are at the present time heavily laden with their huge golden flowers, and produce an exceedingly rich effect. The kerrias are admirably adapted for clothing walls that are shaded by adjacent buildings, and it is therefore of some importance it should be known that the variety in question is far superior, both in the size and colouring of the flowers, to the old double form which has had a place in gardens for so many years. It is, in fact, so good that it deserves a shorter and less cumbrous name than the one which the scientists have conferred upon it. F.R.H.S.

MEDINILLA MAGNIFICA.

I have grown this fine stove plant for many years, and have seen a considerable number of specimens at the early summer exhibitions, but it was not until the other day, when at Kew, that I became fully alive to its wondrous beauty. Private and trade growers do not enjoy the advantages of the authorities of Kew in the cultivation of a plant like this, which requires plenty of space when making its growth, and to occupy a position where it can be readily seen from all sides when in bloom. Therefore, when I say that I had not seen the plant at its best until my recent visit to Kew I must not be understood as reflecting on the skill of cultivators in gardens and nurseries. The Kew specimen is about four feet in diameter, and from the points of all the shoots depend large, finely-developed racemes of the pleasing flesh-coloured flowers. It was placed, when I saw it, on a platform fixed in the tank of the house devoted to the Victoria regia, where it stands quite clear of everything and can be readily seen from all sides, thus affording an idea of its massive splendour when carrying its handsome racemes, which it is impossible to obtain from specimens that are crowded up with other plants. Practical Cultivator.

ASPARAGUS-LIKE SMILAX.

As cut flowers and foliage are employed here throughout the year in large quantities for indoor decoration we have had to cast about and hunt up plants that give an abundance of flowers or foliage in return for a moderate amount of attention. We consequently grow a considerable number of plants of which but little is heard because of their cultivation being restricted to a few gardens. I do not propose to trouble your readers with the names of many of these little-known subjects; I shall not, in fact, allude to more than the asparagus-like smilax, Myrsiphyllum asparagoides, which is so useful for various purposes that it should be grown by those who have to produce supplies of flowers and foliage for the embellishment of indoor apartments. The shoots, which rise to a considerable height in the course of the season of growth, are very thin and flexible, and are furnished throughout their length with small ovate leaves of the most brilliant green hue. The slender sprays are unsurpassed for twining round the stems of epergnes and over the handles of baskets, and for trailing over the sides of the various receptacles for cut flowers. The first plants I had were sent me by a friend in America, where it has long been grown in large quantities by market and other cultivators. But it can be obtained from any of the English nurseries where stove plants form part of the stock. The Myrsiphyllum can be readily multiplied by means of cuttings of the young shoots, or division of the root immediately before the commencement of the new growth. Pot culture will answer very well, but when large quantities of the sprays are required they should be grown in a bed in one corner of the stove. G. H.

RAISING AUCUBAS FROM SEED.

Many plants of aucubas are heavily laden with berries this season, and they are now ripe. Those who are interested in them may get a good deal of pleasure by raising young plants from seed, as the whole process is simple, and the only aid required is a cold pit or frame to shelter them during the winter for two years. I prefer to sow the seed as soon as ripe in deep pans or boxes, either of which should be six inches deep, and filled to within half an inch of the top with any ordinary garden soil. The seed should be planted an inch apart each way all over the pan, and be buried about half an inch deep. During the summer the pans may be placed under a shady wall or fence, but during the winter they should be placed in a frame, which must be protected in severe weather. They are not so tender that a little frost will injure them, but they are all the better when severe frost does not reach them. The seed may also be sown in the open ground if a warm corner is selected, but this plan is not so serviceable as the other, for if a hard winter should occur many of the plants will perish. The young seedlings do not come up very regular when sown in the open ground. Some will be up in three or four months, but probably it will be twelve months before the whole of them are through the soil.

In a general way it is best to let them remain in the pans two years before transplanting them, and the month of May is the best time to plant them out. A border should be selected for the plants that is fairly rich and deep, for they are strong-rooting subjects. A layer of dry bracken or long dry litter laid lightly on the plants during severe frost the first winter will be of great benefit to them.

After the third year's growth it will prove a source of much interest to watch the development of the different forms of growth. Some will come with sharp pointed green leaves, while others will be mottled and speckled in a variety of forms. Those with green leaves will for the most part prove to be male plants. These are more vigorous growers and more erect in habit. The female variety is generally the most variegated, and is more spreading in growth. Planted in a good soil from the first, I have had plants two feet high and as much through in five years from the time the seed was sown. Therefore, I do not think anyone can say that the raising of seedling aucubas is either an uninteresting or unprofitable undertaking. J. C. C.

"SPRING LEAVES."—In the warm genial climate where Tea is grown, the early Spring leaves of the plant burst forth with a vigour and luxuriance unknown in colder regions; this early growth yields the richest juices, and tea of amazing strength, combined with a most delicious flavour and aroma, is obtained therefrom; being carefully selected from the early Spring growth, and shipped free from all adulteration, Horniman's Tea (in packets) commands an enormous sale in England and abroad. The same reliable good quality, at the same fixed price, is always secured in every City, Town, and Village in the Kingdom, by purchasing of Horniman's Agents. 6,000,000 packets sold yearly. See list of Agents in all papers, and at Railway Stations.—[Advt.]

FRET BORDERS.

How to Set Them Out and Bed Them.

The name of the designs and patterns which have at different times been used for bedding out may truly be said to be "legion." It is, however, somewhat singular that in their search after novelty gardeners have unaccountably overlooked a class of the most ancient, chaste, and effective patterns known to decorative art.

We say "most ancient" advisedly, for, neglecting any possibly still earlier origin, the "fret" can be traced back with certainty to that mysterious race which in ancient days inhabited that portion of northern Italy called Etruria. The Etruscans were celebrated in the olden world for their artistic and mechanical skill; they were the great bronze founders of antiquity and the inventors of the arch and dome; and were, moreover, renowned as the fiercest foes of ancient Rome in her infant days of weakness. Their march to the beleaguered City of the Seven Hills under their monarch, Lars Porsena, borne aloft in his

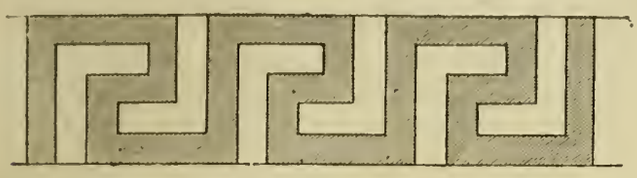


Fig. 1.

ivory car, is described by Lord Macaulay in his most spirit-stirring style of heroic verse.

It is from this origin that the ordinary single fret is generally termed the "Etruscan" fret; but it was the adoption of the pattern by the Greeks, and subsequently by the Romans, that rendered it both historical and popular.

It is a singular fact, moreover, that almost every race use some form of fret. Specimens have even been discovered amongst the ruins of ancient Mexico.

Frets may be single, double, or even more elaborate. They are also sometimes, but rarely, "raking," that is to say, with oblique in place of vertical lines.

Fig. 1 is a single fret, fig. 2 a double one, and fig. 3 a raking fret.

Being essentially geometrical in their outlines, frets are very easily "set out" or designed. A number of equidistant horizontal lines are first ruled, and then crossed by a series of equidistant vertical ones. The proper squares for forming the pattern are then shaded or filled in. Fig. 4 exemplifies this in the case of a single fret, which does not connect.

The setting out of these useful borders in the garden is effected in a similar manner, and is equally easy. First, when the earth of the bed has been sufficiently finely comminuted by raking, &c., the surface is patted smooth with the back of a spade. Then, with the aid of the garden line and the point of a dibble or sharpened stick, the requisite lines are drawn from end to end of the border. It is best to set off the

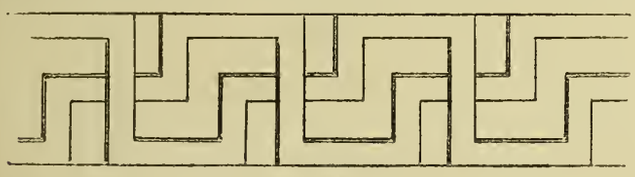


Fig. 2.

distances of the vertical lines at the top and the bottom of the border before scratching them in. This can be done with a large rude pair of wooden compasses, or, lacking these, with a forked stick. When all the lines are drawn, those squares which go to form the pattern should have the earth slightly roughened up with a trowel or a bit of pointed stick. This will enable the gardener to see that his design is right, and to make any needful alteration.

Now, as to the planting. This is, of course, in great measure a matter of taste. We can only offer suggestions on this head. In all cases it is essential that low-growing plants and such as are not inclined to straggle should be chosen for the fret, if the pattern is to be kept neat and effective.

Fig. 1 shows the ordinary single Etruscan fret, which is the simplest, easiest, and, take it altogether, the most effective.

Fig. 2 is a double fret, formed of two single ones intersecting. This can be set out on the same principle as shown in the single one at Fig. 4. Each of the frets may be planted with different flowers, and greater distinctness thus obtained.

Fig. 4 represents the very simple manner in which the single fret (and also the most elaborate and complex one) may be set out. The diagram needs no description.

I.—Cerastium tomentosum for the fret, and Mentha gibraltarica for the ground, will give a nice quiet border.

II.—Lobelia for the fret, Cineraria maritima (kept pegged down) for the ground.

III.—Iresine Herbsti for fret; Golden Feather Pyrethrum for ground.

IV.—(Double fret).—Ajuga reptans for one fret; Golden Pyrethrum for the other; Mentha gibraltarica for ground.

In fact, good effects can be produced by a combination of dwarf plants which will give distinctive solid colours, and may be trusted for neat, compact growth.

W. J. E. Crane.

TOBACCO FOR THE COTTAGE GARDEN.

Tobacco is a very exacting, very delicate, and, in our climate, a very speculative crop. It is true that at one time it was grown to a certain extent in each of the three kingdoms, but such success as the industry attained was due to the circumstance that it paid no duty, or, in other words, was heavily protected. The advocates of tobacco culture at the present day do not ask for any such advantage, but profess to believe that the home-grown plant can compete with the commoner kinds of foreign tobacco on equal terms. This contention, however, cannot be supported by reference to the past history of the industry in these islands. We have to remember at the same time that the public taste has probably become much more fastidious since the time, when tobacco was grown in the Vale of York, and that the chances are much against the home-grown article attaining even the excellence of the commonest sorts now imported. Our correspondent notes as a significant circumstance that tobacco is not grown at all in those parts of Holland and Belgium which offer climatic conditions most nearly resembling those with which English farmers have to deal. The plant requires abundance of sun to develop its virtues, yet, by a combination of sun and moisture it is very easily scorched. The spots which every one has remarked upon cigars are caused by sun-heat acting upon drops of dew. In our climate there is reason to fear that the whole leaf would too often undergo the blanching process. Then the plant is very sensitive to the action of wind, and in the Netherlands has to be protected by fences of French beans or similar quick-growing runners, which intersect the fields at short intervals. Tobacco requires a rich yet light and thoroughly drained soil; and while on all except the finest alluvial soils it needs quantities of manure its quality is deteriorated, unless that manure is chosen with great judgment. Sheep dung is used in the Netherlands at the rate of some ten tons to the acre. But that commodity is not known in the English market, and it may be questioned whether it is procurable in the required quantity except by resort to methods which would seriously interfere with the ordinary routine of English farming. Our correspondent tells us that ordinary farmyard manure is used to prepare the land in Belgium, but he adds—what we might expect—that quantity is aimed at rather than quality. The Cuban growers ruined their tobacco some years ago by resort to violent stimulants, and Eastern connoisseurs instantly detect any application of the kind to the tobacco grounds of the Levant. While tobacco is thus very exacting in matters of soil, climate,

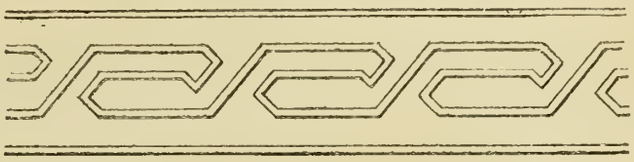


Fig. 3.

and culture, it demands the expenditure of an immense amount of skilled labour. In this country it would have to be sown under glass upon gentle hotbeds. The young plants would have to be transferred to the open ground with as much care as a gardener bestows upon his bedding geraniums, and they would require much more skilful handling to insure their success. During the summer months they must be carefully kept free of weeds, and every flower-bud must be pinched off as soon as it appears. In very dry weather the plants require to be watered, and in very wet weather they have not much chance unless a glass roof can be put over them. It would take a generation to train English labourers to the habits of careful and exact culture required to cope with all these demands.

When the tobacco is grown the battle is only half won. It has to be cured before it is good for anything, and the curing is a process as delicate as the production of a high-class wine. A mistake will ruin the finest tobacco ever grown. No doubt a comparatively rough curing process would be good enough for the best leaves likely to be produced in this country; still, even for very ordinary tobacco, a certain degree of care and skill is quite indispensable. When to all this we add the outlay required for frames, hotbeds, curing barns, and so forth, and take into account the freaks of our extraordinary climate, it will be seen that a farmer could hardly enter upon a more hazardous speculation than the attempt to retrieve his fortunes by tobacco-growing. When the country is covered with happy possessors of three acres and a cow it is possible that they may find it convenient to grow a few tobacco plants in the most sheltered corner of their domains, and to trust to the care and industry of their wives to nurse the delicate things through their precarious existence. Each proprietor may in this way grow enough to keep his own pipe alight through the winter, and, as he will probably know as little of fine foreign brands as of foreign drinks, he may find in his home-grown tobacco as much satisfaction as in his home-brewed beer. Some future Chancellor of the Exchequer may magnanimously remit the duty on cottage tobacco, and so win a niche in the Temple of Fame besides Sir William Harcourt. In that way tobacco growing may become a consi-

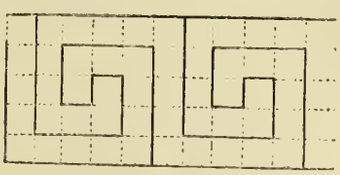


Fig. 4.

derable industry in England, but under present conditions we cannot share the sanguine views of Lord Harris and others, who see in it a resource for the British farmer. Tobacco, however, offers a fair field for enterprising individuals willing to go about the business in the right way. There must be other spots upon the earth's surface presenting the combination of advantages to which Havana owes its revenue and its renown. The discoverer of such a spot who can bring to bear the necessary knowledge and brains ought to make a fortune, since the demand for first-class tobacco far outruns the supply. But, whatever may be done by going where tobacco grows, we fear there is very little money to be made, though it is easy to lose a great deal, by attempting tobacco culture against every possible disadvantage, with the certainty that when the best has been done, the produce will be of the very commonest kind. —*Times.*

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory and Greenhouse Plants require special attention now. Turn out for the summer these that require to be in the open air for the completion of their growth and the ripening of their wood. A great many of these are suitable for decorating banks and odd places about garden seats, or for groups on the terrace, which is a more profitable mode of disposing of them than hiding them away among the sheds and outhouses. Take care in all cases to guard against worms finding entrance to the pots, and top dress at once any that require it.

Celosias now showing flower will be benefited by weak liquid manure occasionally. They are most useful for conservatory decoration, and need the same treatment as cockscombs. Plants required extra fine to have a shift into pots one size larger; use rich light soil.

Cinerarias are generally very mixed as to quality, owing to the too frequent keeping of seedlings that have pleased by their colour, but had no other good quality. Seeing that really beautiful varieties are now readily obtainable, it is a positive waste of time and glass room to propagate any seedlings that have not some decidedly good qualities. We name this now because many gardeners who grow these plants largely for decoration are at this time of year tempted to propagate from whatever old plants they possess, with too little regard for their quality. Every second-rate seedling should be thrown on the rubbish heap as soon as the bloom is over, so as to reduce the work of propagating to a few of the very best. Those to be kept should either be moulded up in the pots or be planted out on a shady border in rich sandy soil, an inch below the level, to induce them to break freely for increase of the stock.

Herbaceous Calceolarias are now in fine perfection, and we have reason to congratulate the breeders of improved forms on the robust habit and beautiful colours that have been produced. Any choice varieties to be seeded should be secured in duplicate, to keep up the varieties from cuttings, as the plants that furnish seed will probably die. Those to be cut from are not to be allowed to ripen a single seed; cut away the flower stems as soon as the bloom is nearly over, and put them in a pit facing north, with the lights off night and day, and the sun kept off by a thick screen of mats.

FORCING AND ORCHARD HOUSES.

Pines must have an abundance of atmospheric moisture. Shut up early and syringe, and pour water on the floor of the house early every morning. Give a little air at night, about two hours after shutting up to water. Use as little shade as possible to fruiting plants. The temperature may go up to 85 deg. for a maximum.

Vinery.—Houses in which the vines are ripening their fruit must be freely ventilated to ensure a full development of colour and flavour. The vines in later houses must receive liberal supplies of water or they will quickly become infested with red spider and other plant pests, and also fail to grow so vigorously as could be desired.

STOVE AND ORCHID HOUSE.

Orchids.—Dendrobiums should be placed in a comparatively light and airy position as they complete their growth, for a thorough maturation of the pseudo-bulbs is essential to the abundant production of flowers.

Stove Climbers require much attention now. A moderate freedom of growth must be allowed, but shoots that interlace are sure to be weakened; so generally an occasional thinning, regulating, and stopping are needful now.

FLOWER GARDEN AND PLEASURE GROUNDS.

Balsams should not be allowed to become pot-bound until they are put into the pots in which they are to flower, as it throws them into bloom prematurely and stops all growth. Therefore, as fast as they fill their pots with roots shift on in rich light soil. Small plants showing bloom-buds should be disbudded and shifted to pots two sizes larger. Never let them suffer for want of water. Keep well aired and in a good greenhouse temperature.

Bedders that are in their summer quarters to have as little water as possible, as it tends to prevent their rooting deep. Hoe over the beds between the plants and pay scrupulous attention to pinching and pegging as required, as on this will depend the beauty of the display as the plants come into full bloom.

Bulbs are frequently lost through inattention at this time of the year. As the leaves decay all those that are usually taken up should be lifted and laid aside in a shady dry place, with earth over them to ripen. They should then be cleared and stowed away, all named kinds with their tallies, so that at the next planting there need be no mixing of colours or regrets for the loss of choice kinds through leaving them in the ground to be chopped up in some digging operation.

Herbaceous Plants out of flower may now be propagated from cuttings. These should be put in a cold frame in a mixture of sand and loam and kept shaded. It is important to secure plenty of such things as Alyssum saxatile, double Wallflowers, Iberis corifolia and I. sempervirens, Aubrietia purpurea, and Dielytra spectabilis.

Pompone Chrysanthemums intended for beds and clumps may be planted out in a piece of well-manured ground in the reserve garden, and the only further trouble they will occasion will be to stop every three weeks till the middle of July. When grown in quantities to make a display after the summer bedders are removed this is the easiest way of all, as they can be lifted in September without losing a leaf by the operation.

Roses.—Gardens newly made may be furnished with roses now as well as at any time of the year. The nurseries supply dwarf plants in small pots at a cheap rate; and these, turned out with care, in ground well dug and liberally manured, will grow with vigour and bloom well in the autumn. In forming a plantation of dwarf roses we would as soon plant in May or June as at any time of the year.

KITCHEN GARDEN AND FRAME GROUND.

Winter Greens to be planted out in showery weather at every opportunity. If only one row can be got out at a time it is a benefit to the seed bed in giving the seedlings more room, and a benefit to the plants in preventing their being drawn. Brussels sprouts more especially to be planted out as quickly as possible.

Lettuces.—Sow two or three different sorts, and plant out on heavily-manured ground. Some should also be sown where they are to stand.

Melons need no shade if the hillocks are of good sound turfy loam and the plants have water when shut up at night. We never knew scorching to happen except through mismanagement. The general causes of ill-health are watering with cold hard water, planting in rich light soil, or keeping them too dry while growing. To ripen the fruit dryness is essential, but while the plants are growing they require plenty of water, warmed by being put in the house every morning for use in the evening; and the soil to fill in with as the hillocks are occupied with roots should be tough turfy loam.

Vegetables in Season comprise asparagus, broccoli, cabbages, cauliflowers, lettuce, onions, radishes, rhubarb, spinach, and turnips from the open quarters; and French beans, carrots, cucumbers, mushrooms, potatoes, and tomatoes from the forcing pit and mushroom house.

BROAD ACRE GARDENS.

It is a simple matter of fact to observant minds that a certain class of house is always in demand in whatever suburb of the metropolis it may be met with; a moderate sized detached house, however plain in elevation, but having say a verandah, a few outbuildings, though only perhaps of wooden construction, and a piece of ground large enough to afford space for real gardening purposes, is some approach, so far as externals can go—to not only a house, but a home—and such (other circumstances from a sanitary and substantial point of view being equal) are rarely ever found without an occupant, but, on the other hand, terraces of houses may be observed, with mimic gardens built in suburban districts, empty in some cases for months and even years together. The first is the work of an owner satisfied with a moderate price for his land, and who in building a house has successfully considered the requirements which make it attractive, comfortable, and homelike; the other is the work of an owner whose one idea was to get the land taken up as speedily as possible, and to squeeze just as much ground rent out of it as possible, and the impecunious builder who covered his ground could only build according to the plan imposed by the owner, who advanced him money for the construction of his unattractive and unsuccessful houses. A convenient style of house, with a broad acre garden and outbuildings, would be a form of residential property which would find immense popular favour.

The difficulty is as to price. As soon as a station is opened the surrounding owners regard their agricultural fields as ripe building lands, and ask prices which are simply prohibitive to any one who would be willing to deal on a liberal scale with occupiers; but if land say a mile from a station could be purchased in bulk at say £50 to £80 per acre, with comparatively ready access to town, Broad Acre Gardens might be proved to be a successful reality.

But land may be purchased at some few miles from a station at even £20 per acre. If such had the necessary residential advantages, and were obtained in a sufficient quantity to enable a body of capitalists to enter upon a sufficiently large enterprise, it would pay them to obtain Parliamentary powers (if necessary) to run a short spur railway or tramway from an existing station to the land. Such railway or tramway might run through the land and take up passengers at small platforms at short intervals, the tickets being given by the guard, as is now done at some parts of England. We were conveyed into Stamford some time back from a neighbouring hamlet under such circumstances.

We have no doubt that if, say, two or three acres of land could be acquired at a price to the tenant which would not cost him more than £5 to £8 per acre per annum, and the house at a reasonable profit on its prime cost, such houses would be in great demand; but the houses must be convenient in design, and must have some outbuildings.

The fact of an outbuilding attached to a house often has determined a person to become its tenant—outbuildings, say, varying in cost from £5 up to £100. We are of course considering the more moderate rentals, such as range from £40 to £100 per annum.

The "three acres" scheme of the Government is not in any way analogous to Broad Acre Gardens, The Government proposition is to provide land for the working man out of which he can make a living, whereas Broad Acre Gardens, though perhaps of the same size, are for the enjoyment of the middle class of the people whose occupations are in large towns, so that they may be able to taste some of the sweets of an approach to country life.

The owners of Broad Acre Gardens would be able to produce their own poultry, eggs, honey, vegetables, fruits, &c., and the larger holders could also produce milk, butter, cream, pork, rabbits, bacon, &c.

Some may ask, Will a Broad Acre Garden pay? to which we would reply, Does a cabinet of old china or costly pictures pay?

Broad Acre Gardens would be a luxury and hobby to those fond of fresh air and country life, as are pictures and objects of *vertu* to those who prefer the grimy streets of towns.

But a further question might be asked. Do market gardens pay? And as it is simply a truism to say that they are amongst the most profitable of cultivations, so we say that, if worked with a view to profit, Broad Acre Gardens would pay too.—*Estates Roll.*

American Forests.—A statement has been prepared for the American Forestry Congress showing the extent of the woodlands in the United States, and the number of acres of forest which are destroyed annually. It would seem that America is by no means so heavily wooded as is generally supposed, and in respect to the porportionate acreage of its forests cannot compare with many European countries. The total area of the United States is 1,856,077,400 acres, and only 440,990,000 acres, or about 23 per cent., are wooded, while a considerable proportion of the timber is in mountainous districts and beyond easy reach. There are 297,650,000 acres of farms, and no less than 1,115,430,400 acres of unimproved and waste lands, old fields, &c., not under cultivation, but devoid of timber. As regards the consumption of timber, it requires no less than 15,000,000 acres, or an area equal to Vermont, New Hampshire, Connecticut, and Rhode Island, to supply the railroads with crossties. The American supply of fuel will, in a single year, clear the forests of 30,000,000 acres of trees. The loss of timber by forest fires was 10,274,089 in 1880, and the loss averages annually about 10,000,000 acres. The cut of timber is 28,000,000,000 feet a-year, which lays bare annually a forest area greater than the State of New Hampshire. Altogether the forests of the United States are decreasing at the rate of 50,750,000 acres annually, which would clear a wooded surface equal in extent to all the New England States, together with New Jersey and Maryland.

Exhibitions and Meetings.

CRYSTAL PALACE SUMMER EXHIBITION, MAY 21 AND 22.

The summer exhibitions at the Crystal Palace have long been remarkable for their extent and general excellence, but the gathering on the above-mentioned dates assumed such immense proportions and was of so high a character throughout, that it surpassed all previous efforts and proved a brilliant success. The display consisted exclusively of contributions to the competitive classes, and as the whole of these were well filled, the collections sufficed to fill the whole of the available space in the naves and the transept. The exhibition was remarkable not less for its exceptional attractiveness than for its magnitude, as on this occasion staging was dispensed with excepting for the pelargoniums, calceolarias, and other dwarf subjects, and the plants were arranged in tasteful groups on the floor. This arrangement was a manifest advantage, for, whilst a more picturesque effect was produced, the visitors had a much better opportunity of examining the collections than is possible when the plants are placed on high stages and in continuous lines. With reference to the disposition of the several classes of subjects represented, it may be of interest to state that the south nave was devoted to the stove and greenhouse plants in bloom, azaleas and heaths contributed to the open classes, and the groups of orchids arranged for effect. The ferns, fine foliage plants, and the stove and greenhouse plants shown in the classes in which the competition was limited to private growers had a place in the north nave, and the transept was devoted to the pelargoniums, calceolarias, orchids, roses, fine foliage plants in open competition, and the cut flowers, which were staged in such large quantities as to form a very attractive feature.

Stove and Greenhouse Plants in bloom were exhibited in large numbers, and produced an exceptionally fine effect. There was a sharp contest for first place in the great open class for nine, and in the result Mr. H. James, Castle Nursery, Lower Norwood, had the premier award made in his favour. The whole of his specimens were of immense size, perfect in colour, and exceedingly well flowered. Especially well represented in the collection were Bougainvillea glabra, Erica Lindleyana, E. ventricosa coccinea minor, and Stephanotis floribunda. Mr. W. Chapman, gardener to J. Spode, Esq., Hawkesyard Park, Rugeley, was second, with a very good collection; and Mr. J. F. Mould, Pewsey, Wilts, was third, with medium sized and nicely flowered examples. There was a keen competition in the amateur's class for six, and at the head of the several exhibitors was Mr. W. Chapman, who had a remarkably good collection, in which were fine specimens of Hedaroma tulipifera, Ixora Williamsi—one of the best of the hybrids, bearing orange red flowers—I. coccinea, and Erica profusa; Mr. Rann, gardener to J. Warren, Esq., Handcross Park, Crawley, was a capital second, the specimens large, fresh, and admirably bloomed, Azalea Leopold I. and Tetratheca ericifolia being especially noteworthy; Mr. Bolton, gardener to W. H. Spottiswoode, Esq., Coombe Bank, Sevenoaks, third, with an admirable collection, in which was a finely developed specimen of Clerodendron fallax, in the cultivation of which Mr. Bolton is very successful.

Orchids have seldom been so well shown at the Crystal Palace as on this occasion, and constituted a feature of surpassing interest and beauty. The most important of the several classes was that for nine, in which several very fine collections were staged. Mr. Catt, gardener to W. Cobb, Esq., Silverdale Lodge, Sydenham, occupied the first place, with large, splendidly-flowered specimens of Dendrobium Bensoniæ, D. thyrsiflorum, Cattleya Skinneri, Odontoglossum citrosmum, O. vexillarium, O. Alexandræ, Lælia purpurata, and Cypripedium Lawrencianum. Mr. H. James was a good second, with a collection of high-class character, the specimens large and superbly flowered, and comprising Lælia purpurata, a superb form, with broad pure white petals, and a very richly coloured labellum, Cattleya Mendeli, bearing twenty-five flowers, Vanda suavis with five spikes, Cypripedium Lawrencianum, and Dendrobium thyrsiflorum. Mr. F. J. Hill, gardener to H. Little, Esq., The Barons, Twickenham, was third, with an excellent collection, in which there was a very fine specimen of Aerides Fieldingi. Three remarkably good collections were staged in the class for six, and in point of merit there was very little difference between them. The judges in awarding the first prize gave too much preference to mere size, and accordingly made the premier award in favour of Mr. Catt, whose plants were rather large, but wanting in finish as compared with the collection staged by Mr. A. Luff, Streatham, to whom the second prize was awarded. The best of the plants in Mr. Catt's collection were Oncidium concolor, Cattleya Mendeli, and Dendrobium thyrsiflorum. Chief amongst those staged by Mr. Luff were Masdevallia Harryana, a rose coloured form of high quality; Cattleya Mendeli, Lycaste Skinneri, and Phalænopsis amabilis. Mr. C. J. Salter, gardener to J. Southgate, Esq., Streatham, was third, with a group in which occurred good examples of Masdevallia Veitchiana and Odontoglossum polyxanthum. The groups of orchids arranged with palms and ferns made a brave display, and at the head of the several competitors was Mr. C. J. Salter, with a very bright and tastefully arranged group, in which Dendrobium Falconeri, C. Mendeli, Cypripedium caudatum, Odontoglossum Alexandræ, and Cypripedium Hookeri figured conspicuously. Mr. H. James was second with a charming collection, and Mr. A. Luff a good third.

Azaleas were represented by several collections, and as the whole of the specimens were of large size and densely flowered, they produced a brilliant effect. In the great open class for nine, Mr. C. Turner, Slough, was first with huge cone-shaped specimens, almost solid with bloom, of Etendard de Flandres, Chelsoni, Reine des Fleurs, Duc de Nassau, Stella, A. Borsig (a useful double white variety), and Duchess Adelaide de Nassau; Mr. H. James was second. For eighteen azaleas Mr. Turner again first, staging finely-flowered half specimens of Roi de Hollande, brilliant scarlet; Mrs. Turner and Madame van Houtte, two beautiful pink varieties; Mdlle. Marie Lefebvre, white; Grandis, bright salmon-red; Cordon Blue, rich purple; Reine des Pays Bas; and Irma, brilliant rosy red.

Ornamental-leaved Plants had liberal provision made for them, special classes being provided for crotons and dracænas in addition to those for mixed collections. Mr. Rann, gardener to J. Warren, Esq., Handcross Park, Crawley, was first for nine, with finely developed plants of Croton Queen Victoria, C. albicans, C. interruptum, Bonapartea stricta (one of the best of the hard-leaved plants), and Dasylirion acrotrichum; Mr. H. James was second, with a capital collection. Mr. Rann was first also in the amateurs' class for six, staging magnificent specimens of Croton multicolor, Encephalartos villosa, Latania borbonica, and Croton Prince of Wales; Mr. W. King, gardener to P. Crowley, Esq., Waddon House, Croydon, was a capital second, staging Asparagus tenuissima, Thrinax elegans, and Phyllanthus nivosus; Mr. Penfold, gardener to the Rev. Canon Bridges, Beddington House, Beddington, was a good third. Crotons and dracænas were both admirably shown, and in both the classes provided for crotons Mr. Bird, gardener to J. A. Canston, Esq., Alleyne Park, Dulwich, occupied the first place. The specimens staged were of medium size and fairly well coloured, and the varieties comprised Weismanni, Williamsi, and other well-known kinds. Messrs. Hooper and Co., Covent Garden and Twickenham, were second for nine, with rather small but superbly coloured examples; and for six the second prize was awarded to Mr. Wakeham, North Dulwich. There were eight competitors in the class for dracænas, the finest collection being that from Mr. W. King, to whom the award of the first prize was made. Remarkably good in the collection were Dracæna auerleyense, D. amabilis, D. Baptisti, and other well-known kinds; Mr. C. J. Salter was second, and Mr. Wakeham third. Caladiums were presented in grand condition by Messrs. J. Laing and Co., Forest Hill, who were first in the open class for nine, the varieties staged being Mithridate, Clio, Madame Fritz Kœchlin, Luddemanni, Leopold Robert, Candidum, Souv. de Madame Bernard, Ferdinand de Lesseps, and Comtesse de Condeixa; Mr. Simmonds, Alverston Hill, Selhurst, second, with rather small but well-coloured and nicely-finished examples.

Show and Fancy Pelargoniums made a marvellous display of colour, for they were well shown by both trade and private growers. The class for eighteen was especially interesting, both for the excellence of the plants and the large number of varieties represented. Mr. C. Turner was first with examples carrying solid heads of bloom ranging from eighteen inches to two feet in diameter. Conspicuous amongst the numerous varieties were Lady Isabel, Formosa, Statesman, Duchess of Edinburgh, The Czar, Lucie Lemoine, Martial, and Gold Mine. Mr. F. J. Hill was second with a good collection, in which was a fine example of George Shepherd, one of the best of the decorative varieties; Mr. Phillips, Langley, Slough, third. In the trade classes for nine show and nine fancy pelargoniums, Mr. C. Turner was first with collections remarkable for the large size and high finish of the specimens. Mr. Hill was first with six show varieties, and Mr. D. Phillips second; and in the corresponding class for fancies these exhibitors changed places.

Calceolarias were considerably above the average, all the classes being well filled and the plants in capital condition. For eighteen Mr. J. James, Woodside, Farnham Royal, was first, with splendid specimens which admirably represented his fine strain. Mr. C. J. Salter was second for nine and first for six, other successful exhibitors being Mr. Luff and Mr. Guyett, Streatham.

Ferns were shown in capital style by several exhibitors. Mr. Rann was first with large specimens of Cyathea Smithi, Gleichenia rupestris gigantea, and Thyrsopteris elegans, a robust growing fern of great beauty. Mr. J. Bolton was second, with a collection evincing cultural skill of a high order.

Roses constituted a highly attractive feature. In competition for the groups of eighteen, Messrs. Paul and Son, Mr. C. Turner, and Mr. W. Rumsey were awarded the prizes in the order of their names. Messrs. W. Paul and Son, Waltham Cross, contributed a beautiful bank of roses in pots and a large collection of cut roses, and were awarded an extra prize.

Groups were fully up to the high average of previous years, and the prizes were awarded to Messrs. J. Laing and Co., Messrs. Hooper and Co., and Mr. H. James in the order of their names.

Bouquets and Table Decorations formed a large feature, which proved very attractive to the general body of visitors. The most successful competitors were Mr. J. R. Chard, Clapham Common, Mrs. Bishop, Mrs. Butcher, and Mr. W. Brown, Richmond, whose arrangements were exceptionally tasteful. Mr. Gibson, Halstead Place, Sevenoaks, Mr. J. Bolton, and Mr. Salter exhibited well in the classes for boxes of cut flowers, and Messrs. Hooper and Co. and Messrs. J. Laing and Co. were first and second for collections of eighteen plants suitable for table decoration.

Apples were admirably shown by Messrs. J. Cheal and Son, the collection comprising about forty-five varieties.

Novelties were not numerous, but those staged were more or less good. The following first-class certificates were granted: To Messrs. J. Laing and Co., for *Charmer* and *Marquis of Stafford* begonias, *Raymond Lemoinier* and *Comte de Germiny* caladiums, and *Lactea* and *Odorata Marie* pæonies; to Mr. J. Wiggins, for show pelargonium *Delight*, an exceedingly beautiful variety, with perfectly circular flowers of a delicate blush colour, the whole of the petals spotted with rose; and to Mr. Bird, for croton *Sunset Improved*.

ROYAL HORTICULTURAL SOCIETY, May 25.—EXHIBITION OF ROSES, AZALEAS, &c.

The exhibition held by the Royal Horticultural Society at South Kensington on Tuesday was devoted chiefly to roses, azaleas, pelargoniums, and orchids, and, as there was a sharp contest for the leading prizes, the conservatory was well filled, and the visitors provided with a very bright and interesting display. Additional interest was imparted to the show by the competitions for the liberal prizes offered by Messrs. Sutton and Sons for cucumbers and melons, and by Messrs. J. Carter and Co. for cucumbers; and by the contributions of apples and other fruits from South Australia.

Roses in Pots constituted a most important and highly attractive part of the exhibition, for, in addition to the collections staged in competition for the prizes, there were several beautiful groups in the miscellaneous class. There was a very strong competition in the class for twelve, the whole of the collections staged being decidedly good, although differing in relative merit. The premier award was made in favour of Messrs. Paul and Son, Cheshunt, who staged medium-sized specimens remarkable for the amplitude and freshness of their foliage and the high quality of the flowers with which they were so liberally furnished. The varieties were Comtesse de Camando, White Baroness, especially good, and proving to demonstration its beauty, distinctness, and adaptability for specimen culture, Celine Forestier, Edouard Morren, Lord Frederick Cavendish, a useful crimson flower, Madame Lacharme, Innocente Pirola, Gloire de Lyon, Comte de Paris, Marguerite de Romaine, and Merveille de Lyon, which has taken a foremost position amongst the light roses. Mr. C. Turner, Slough, was a close second with a group possessing much merit, the plants being comparatively large and superbly flowered. The leading varieties were Camille Bernardin, Innocente Pirola exceptionally good, the flowers very numerous and of excellent quality, Comtesse de Serenye, Caroline Kuster, Marie Baumann, Perfection des Montplaisir, Edouard Morren, Beauty of Waltham, Juno, and Madame Willermoz. Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, Herts, was third with rather small but neatly-grown and finely-flowered plants.

The groups of roses contributed to the miscellaneous class were of high quality, and proved immensely attractive. Messrs. William Paul and Son, Waltham Cross, staged a magnificent collection of roses in pots and in a cut state, and were awarded the silver Banksian medal. Especially good amongst the specimen roses were Professor E. Regel, a bright carmine flower, of good

quality; Madlle. Emilie Fontaine, an excellent hybrid perpetual, the flowers of good form, and of a brilliant crimson hue, the outer petals bright purple, producing a very pleasing contrast; Lady Sheffield, one of the many good roses introduced by the firm; Duke of Teck, a now well-known hybrid perpetual variety, with flowers of a brilliant crimson scarlet hue; Madame Fanny de Forest, a beautiful white rose; Ulrich Brunner fils, Queen of Queens, and Masterpiece. Twelve boxes of cut roses were shown by the firm, comprising finely developed blooms of Countess of Rosebery, Madame Victor Verdier, Captain Christy, Violette Bouyer, La France, Madlle. Marie Rady, Madlle. Levet, Baroness Rothschild, Rêve d'Or, Crown Prince, Charles Lefebvre, and Niphetos. Messrs. Paul and Son presented a very attractive group of specimen roses, and were awarded the silver Banksian medal. The varieties included John Stuart Mill, Centifolia rosea, Merveille de Lyon. Perle des Jardins, La France, Rubens, Dupuy Jamain, Madame Cusin, and Sunset. In addition to the foregoing, Messrs. Paul and Son had some beautiful standard specimens of Mignonette and Pacquerette, two charming polyantha roses, bearing pink and white flowers respectively. Mr. W. Rumsey contributed a collection of cut roses, and was awarded the bronze Banksian medal.

Azaleas were admirably shown, and the brilliantly-coloured flowers did not fail to attract the notice of the visitors. Mr. Charles Turner was awarded the first prize for twelve, staging densely-flowered and highly-finished specimens of Cordon Bleu, one of the most distinctly coloured of the numerous azaleas at present in cultivation; Roi de Hollande, bright orange scarlet; Bernhard Andreas alba, a beautiful variety with semi-double flowers of the purest white; Mrs. Turner; Comte de Chambord, delicate salmon pink; Mdlle. Marie Lefebvre, Duchesse Adelaide de Nassau, and Grandis. Messrs. H. Lane and Son, Great Berkhampsted, contributed a large and brightly coloured group, and were awarded the silver Banksian medal.

Pelargoniums were good throughout, and produced a brilliant display of colour. In the class for eighteen Mr. C. Turner was first with specimens of medium size, and almost solid with bloom. The principal varieties were Rosetta, Mons. Demorlin, Mrs. Ashby, Emperor of Russia, Roi Leopold, Madame Thibaut, Duchess of Bedford, Amethyst, Rosy Morn, Triomphe de St. Mandé, Comtesse H. de Choiseul, Grand Lilas, Gold Mine, Duchesse de Morny, Decorator, and Maid of Honour, all of which are first class in their respective lines of colour. Mr. F. J. Hill, gardener to H. Little, Esq., The Barons, Twickenham, second with rather small but well grown and densely flowered specimens. Amongst other good varieties represented in the collection was George Shepherd, a comparatively new and little-known decorative variety, compact in growth, and bearing a profusion of rich orange scarlet flowers with small dark blotch on the top petals.

Orchids had two classes provided for them, and several interesting collections were staged. Mr. Hill was successful in taking first place in the amateurs' class for twelve, staging good specimens of Cattleya Mendeli, C. Mendeli grandis, C. Mossiæ, C. Skinneri, Aerides Fieldingi, Dendrobium Dalhousianum, D. densiflorum, D. thyrsiflorum, and Lælia purpurata. Mr. A. Luff, gardener to R. Hyatt, Esq., Streatham, was second, with a capital collection, in which occurred well-developed specimens of Lycaste Skinneri, Masdevallia Harryana, and Phalænopsis Luddemanniana. In the corresponding class for nurserymen, Mr. H. James, Castle Nursery, Lower Norwood, was first, with a collection in which were Cypripedium Lawrencianum, Cattleya Mossiæ, C. Mendeli, Dendrobium Jamesianum, Anguloa Clowesi, and Odontoglossum Pescatorei. Mr. Cummins, gardener to H. A. Smee, Esq., The Grange, Wallington, staged a beautiful group of Cattleya Mossiæ, in which there were several exceptionally fine varieties, and was awarded the bronze medal.

Calceolarias were not well shown in the class specially provided for them, as there was but one collection, and that was awarded the second prize. But to the miscellaneous class Mr. J. James, Woodside, Farnham Royal, contributed a collection of thirty specimens, which were so large in size, finely flowered, and high in quality, as to produce a rich display and surprise not a few of the visitors. The award of the bronze Banksian medal was made to Mr. James.

Tree Carnations were admirably shown by Mr. C. Turner, to whom the first prize for these flowers was awarded. The whole of the plants forming the collection were, it is hardly necessary to say, in capital condition, the flowers being plentiful and well developed. Pride of Penshurst, Enchantress, Negro, Seraph, and Rufus comprised the best of the named varieties represented. In the collection also were several very promising seedlings.

Hardy Flowers were contributed to the miscellaneous class by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, and Messrs. Barr and Son, 12, King Street, Covent Garden. Mr. Ware, who was awarded the silver-gilt Banksian medal, staged a collection of plants and cut flowers which sufficed to fill a broad stage extending one-half the length of the conservatory, and produced a beautiful effect. The collection was particularly strong in iris and tree pæonies, and comprised good specimens of the spring-flowering phloxes, Dodecatheon splendidum, Disa grandiflora, Polæmonium Richardsoni, and Ranunculus aconitifolius plenus. The irises comprised some good examples of Iris Fieberi, a distinct and beautiful species of dwarf growth, and bearing rich violet-purple flowers. Messrs. Barr and Son, who were awarded the silver Banksian medal, contributed large gatherings of pæonies, iris, and scillas.

Cucumber and Melon Prizes offered by Messrs. Sutton and Sons were keenly contested, and very materially enhanced the interest of the show. In competition for the prizes for a brace of Sutton's Imperial, Scarlet Invincible, or Hero of Lockinge melons, Mr. Lockie, Oakley Court, Windsor; Mr. H. W. Ward, Langford Castle; and Mr. G. Malcolme, Willington Hall, Tarporley, were first, second, and third respectively, with well-ripened fruit of Hero of Lockinge. There were six competitors in the class for a brace of Purley Park Hero or Sutton's Improved Telegraph, and the awards were made in favour of Mr. Lockie, Mr. W. Robins, Hartwell House, Aylesbury, and Mr. J. Neighbour, Bickley Park, all of whom staged the first-mentioned of the two varieties.

Cucumber Prizes offered by Messrs. J. Carter and Co. were contested very keenly, there being six entries, and the fruits staged very closely matched. The prizes were offered for a brace of Carter's Model, and Mr. Lockie was first with fruits about eighteen inches in length, and perfect in finish. Mr. C. J. Waite, Glenhurst, Esher, was second, with a very fine brace; and Mr. J. Neighbour, who was third, had fruit of good quality.

Floral Committee.

Present: Mr. J. O'Brien in the chair; and Major Lendy, Rev. W. Wilks, and Messrs. Shirley Hibberd, H. M. Pollett, W. Bealby, R. Dean, G. Paul, J. Dominy, J. Douglas, E. Hill, H. Bennett, A. Perry, H. Ballantine, J. Hudson, J. Walker, H. Herbst, H. Canuell, W. B. Kellock, W. Holmes, H. Turner, and T. Baines.

Messrs. J. Carter and Co., High Holborn, exhibited a collection of mimulus which admirably represented their superb strain of these flowers, which is remarkable for the huge size, fine form, and the rich colouring of the blooms. From Messrs. Hooper and Co., Covent Garden, came a basket of Empress petunia, a free-blooming variety with medium-sized double flowers of a bright rose colour.

Several orchids possessing much interest were submitted, and on three first-class certificates were conferred. Mr. West, gardener to Major Lendy, Sunbury, contributed a specimen of the scarlet-flowered Saccolabium curvifolium, bearing twenty racemes, and a large gathering of flowers of Lælia purpurata and Cattleya Mossiæ, the spikes of the first-mentioned bearing six or seven flowers each. Mr. B. S. Williams, Upper Holloway, exhibited Lælia purpurata Russelliana, one of the most distinct and beautiful of the several varieties of this fine species. Mr. F. J. Hill exhibited Cattleya Mendeli Masterpiece, a large-flowered form of the species; and Messrs. Laing and Co., Forest Hill, S.E., staged a well-bloomed example of the exquisitely beautiful Dendrobium Devonianum.

New show and decorative pelargoniums were contributed by Mr. C. Turner, Mr. J. Wiggins, gardener to W. Clay, Esq., Kingston-on-Thames, and Messrs. J. and J. Hayes. The varieties submitted by Mr. C. Turner were Magnate, a large and handsome show flower, the lower petals bright pink, the top marone, and the throat pure white; and Mandarin, a medium-sized show flower of good form and a brilliant crimson hue with dark top. Amongst the varieties shown by Mr. Wiggins were Delight, a charming light show flower, certificated at the Crystal Palace on the Saturday previous; and Fire Queen, a decorative variety, with flowers of a brilliant scarlet hue. Messrs. E. H. Krelage and Sons sent several show tulips.

Fruit Committee.

Present: Mr. T. F. Rivers in the chair, and Messrs. J. E. Lane, H. J. Veitch, G. T. Miles, W. Denning, T. J. Saltmarsh, J. Woodbridge, W. Warren, J. Burnett, T. B. Haywood, P. Crowley, H. Weir, R. D. Blackmore, G. Bunyard, and A. W. Sutton.

Apples of remarkably fine quality were exhibited by Messrs. Eyles Bros., Mr. A. Pascoe, Mr. Devenport, and Mr. S. A. Buchaly, of South Australia. Messrs. Eyles Bros. sent also a basket of fine quinces, and Mr. Buchaly sent several large, well-coloured and richly-flavoured Black Prince grapes. From the Commissioner of South Australia came three huge Uvedale's St. Germains pears weighing 2 lbs. 12 ozs., 2 lbs. 14 ozs., and 2 lbs. 15½ ozs. respectively, and very richly coloured. Messrs. J. Veitch and Sons sent fruit of Prince Bismarck and Sandringham apples to show their keeping qualities. Both were in an excellent state of preservation, the last-mentioned especially so.

Novelties.

The novelties submitted to the Floral Committee comprised a few subjects possessing considerable interest. First-class certificates were granted as under:—

To H. M. Pollett, Esq., Fernside, Bickley, for

Odontoglossum vexillarium Sunrise.—One of the most distinct and beautiful of the several forms of this handsome species that have had certificates conferred upon them. The flowers are of average size; the labellum deep rose-pink, the petals rose-pink margined with white, and the sepals white.

To Mr. B. S. Williams, Upper Holloway, for

Amarylis Her Majesty.—A handsome variety, remarkable for its fine form and distinctive colour. The flowers are rather above the average in size and of superb form; the colour is a rich shade of vinous crimson, and extends to the base.

Houlletia odoratissima antioquensis.—A fine variety; the sepals and petals very broad and of a rich crimson colour, the labellum pure white.

To Mr. T. S. Ware, for

Pæonia Madame Laffay.—A fine addition to the list of tree or Moutan pæonies; the flowers are of enormous size, measuring fully ten inches in diameter, and perfectly double; the colour bright pink, deepening to carmine in the centre.

To Mr. C. Turner, Slough, for

Pelargonium Purpurea.—A show variety, bearing flowers of comparatively large size, but rather weak in the top petals, the lower petals bright rose pink, the top marone with narrow margin of rose; the throat pure white and clearly defined.

To Messrs. H. Cannell and Sons, Swanley, for

Gloxinia Miss Cannell.—A superb erect variety; the flowers of immense size and grand form, the colour delicate lavender, the limb marked with a broad band of purplish blue.

To Messrs. F. Sander and Co., St. Albans, for

Cattleya Mendeli Duke of Marlborough.—A very fine variety of this beautiful cattleya, with flowers of very large size and superb form; the petals and sepals are of a delicate blush colour, and the labellum brilliant amethyst-purple.

To Captain Vipan, for

Vanda cærulescens Vesta.—A pretty variety; the sepals and petals white, the labellum purplish rose.

NORTH OF SCOTLAND HORTICULTURAL SOCIETY.

The members of the North of Scotland Horticultural Society held their usual monthly meeting on the evening of Friday, 21st inst., in the hall of the Christian Institute, Aberdeen. There was a good attendance, Mr. Peter Harper (Duthie Public Park), president, occupied the chair. Mr. J. Taylor, Clashfarquhar, read an able and interesting paper on "The Action of Light on the Colour of Flowers." He showed in an interesting manner how the sun's rays affected the colour of flowers and also fertilization. Discussion followed, and a hearty vote of thanks was awarded the author of the paper. Mr. Farquhar, Fyvie, read a short paper on "Peas," dealing mainly with their cultivation. He gave a brief sketch of the history of the pea, and compared some of the numerous varieties. In conclusion, he touched upon the best modes of preserving the plant from the attacks of insects, vermin, and game. Mr. Farquhar was awarded the thanks of the meeting for his interesting contribution. A number of blooms were exhibited, and, on the recommendation of the committee, a cultural certificate was awarded to Mr. Hay, Westburn, for two beautiful cinerarias. The thanks of the members were also accorded to Mr. A. Robson, Aberdeen, for a capital collection of tulips; to Mr. A. Grigor, Fairfield, for a collection of cut flowers; and to Mr. James Scott, Deemount Road, for boxes of geranium blooms. A cordial vote of thanks to the president for his conduct in the chair terminated the proceedings.

Correspondence.

FLORAL SOCIETIES SHOWS.

"X Y Z" says that my late remarks indicate that I have not had much experience in the practical management of floricultural societies. They not only indicated, but expressly declared this and my consequent desire for information.

"X Y Z" gives a number of reasons for fixing dates so long in advance, all, no doubt, more or less cogent. But the greater the necessity we are under in this way, the more need for the exercise of care and a due regard to what experience teaches in the matter. I quite understand that difficulty exists in altering anything once determined, but a mistake of a whole week in the height of summer is one so seriously threatening the successful issue of a year's work that it would seem worth at least the effort to try to retrieve it.

The average date for showing carnations here in the south being, as your correspondent "No. 20" points out, and as is well known, about July 20, and as the experience of the year before last gave reason to expect that we were at last in for a break of warm, and therefore early seasons, it seems a needlessly risky thing to change the date of the Carnation Show to a week later than formerly. There may, of course, be good reason for this, and in such case we must submit to the inevitable; but first may we not inquire—"Is it inevitable?"

That the southern society should lay itself out for exhibitors from the north at the end of July I cannot understand. This would be simply to neglect the substance for the shadow; to cripple exhibitors here without helping our northern friends in the slightest.

If it is desired, as it should be and must be, to swell the contingent of exhibitors, there is an ample field for recruiting among the many who now grow carnations about London alone. But to make the show a week later than formerly is the way to curtail, and not to increase, the number of exhibitors and the consequent importance of the show.

And now, sir, I come to "Scrutator," and here I ought, perhaps, to begin by seriously assuring the more suspicious among your readers that there is not, as has been suggested by some waggish friends of mine, any collusion between him and myself to give my humble doings the "bold advertisement" they have received from him. No, sir, "Scrutator" is a gentleman quite "unbeknown to me," who, with remarkable penetration, has discovered what was never intended to be concealed. "Scrutator" wants a "straight answer to a plain question." Says "Scrutator" in effect, "Here, you precious humbug, you pretend you could not keep your flowers till the 28th July. How did you manage to keep the splendid blooms with which, on the 4th August, you went and did so-and-so?"

"Scrutator" is evidently not a gentleman to be trifled with, but there is a charming simplicity about his question which reminds one irresistibly of that inquiry of a late revered monarch, as to how the apples ever got into the dumpling. Would my excellent "Scrutator" be surprised to hear I did not keep the blooms at all—they "growed!" As "Scrutator" is of an inquiring turn, I may tell him that though the bulk of our plants are in flower by a certain time, there are generally a few that are later than the others—commonly also here and there successional blooms on some of the earlier plants. It is, of course, upon the main army that we rely to fight our battles, but last year in my case it was all but routed before the day of trial—a "betwixt and between" date, when the main force was nearly exhausted and the laggards and stragglers had not yet come up. A week later these latter were got together and made the "stand" to which "Scrutator" has so flatteringly referred.

But this was a fluke. A neighbour of mine who, together with greater experience and skill, had a larger stock of plants than mine, would have gone to Oxford also; but when the time came he had no blooms worthy to take. Such is the fortune of war at these precarious dates.

Clapham, May 22. M. R.

In your issue of the 22nd two rejoinders to the grievance set forth by "M. R." at page 278 are made, but no reply. "X. Y. Z." rides off on an assumed ignorance, which he imputes to "M. R." of the practical management of Floricultural Societies, asserts "it is necessary to fix the dates long beforehand to enable cultivators to make their arrangements, and to enable the executive to secure the services of first-class men for making awards." Then he objects that "to alter the dates when the time for preparation has well nigh expired is objectionable, because it upsets the calculations of growers," and "when a date is altered there is a possibility of losing the services of those engaged for awarding the prizes, and experiencing a difficulty in securing others equally qualified to act."

"Scrutator" seems to think that an endeavour which he makes to identify "M. R.," Clapham, with Mr. M. Rowan—an identity I do not suppose would be for one moment questioned—sufficiently answers the complaint, and he asks "if 'M. R.' of Clapham could not keep his flowers until July 28th, how did he manage to keep the splendid blooms with which he took the principal prizes at Oxford in Mr. Dodwell's garden on August 4, 1885?" "Scrutator" is scarcely accurate in his facts, and not at all pertinent in his question.

"M. R.'s" complaint is that small growers, subject solely to seasonal influence and destitute of the advantages of large establishments, suffer a great injury when dates out of harmony with an average season are chosen, and that the grievance is accentuated when in an exceptional season any alteration of an ill-advised and unsuitable date is refused.

I take the liberty to say the grievance is very real, very temperately set forth, and is wholly untouched by "Scrutator" or "X. Y. Z." I know not who "Scrutator" may be, but he displays strange ignorance of the character of the carnation bloom. It would much simplify matters if writers on questions so distinctly resting upon facts and the ability accurately to observe and faithfully record, would give their names. In many cases this would sufficiently rebuke such effusions, and probably in others prevent the troubling of the floricultural public with vain imaginings.

But this being withheld, I will presume to enlighten "Scrutator" on a matter of fact as to the flowering of the carnation. In a season of average condition, the main flower—almost invariably the best, always the largest—attains its full development in some ten days from its first showing colour, and will maintain this development some two or more days, as the means of preservation may be more or less perfect. Then as it wanes, the subsidiary buds obtain development, attaining their greatest beauty in four to six days thereafter. Then the flowers remain until their collapse. Therefore, it may well be that an exhibitor who bewailed the loss of his better flowers on July 28, might compete in good form on August 4. But "Scrutator" simply evades, he does not answer, "M. R.'s" complaint.

"X. Y. Z.'s" lecture on the assumed ignorance of "M. R." is equally beside the question. That question is, shall flowers exceptional for their beauty, subject in the mighty majority of cases solely to seasonal influences for their period of development, chosen for special exhibition, and the objects necessarily of twelve months of watchful attention and loving care, be subject to that exhibition upon a date suitable for their production in the greatest possible perfection for the largest possible number, or shall they be produced at an unsuitable day, merely because some person or persons have nominated such a day?

"X. Y. Z.'s" assumption that men competent to make intelligent awards may be found ready, at certain dates, to lend themselves to attend and make such awards, but that these same men would not endeavour to recast their arrangements when seasonal influence had demonstrated the unsuitability of the day first chosen, is the merest trifling with intelligence. Competent men, gifted with the power to perceive development in beauty, and to guide competitors by the intelligence and integrity of their awards in the road most promising of success, will make great sacrifices of time and means to serve their fellows and see their flowers under reasonably favourable conditions, but such men would be the first to turn from a show maimed and crippled by an unwisely selected date or clogged by evil rules.

Well, I shall be glad to obtain an answer to a very plain question. Who is responsible for this work? The exhibitors were not consulted, who were? And yet another question—Who is responsible for the reduction of prizes, which, while retaining the classes where Slough and Great Gearies are paramount, takes from the classes hitherto held to be exclusively for the amateur upwards of thirty-five per cent. of their former value, and, substituting an entirely different set of conditions, though absurdly irrelevant, open the door for Slough and Great Gearies to enter in every class save one, and, saving that class only, to monopolise every first and second prize offered?

Sir, the fathers who founded these special meetings, of whom I, alas! almost alone remain to speak, went upon very different lines, for they well understood their work. Theirs were no proceedings in holes and corners—all was in the open. The arrangement of prizes, the date of exhibition, the appointment of judges, all rested on the general voice, and so tenaciously did they hold a successful display, sustained by the largest number, to be a primary condition precedent, that twice from abnormal seasonal conditions the show was postponed until the following year.

All this is altered. The National Carnation and Picotee Society has been dominated by the possessors of two large collections, and is, with an almost cynical effrontery, manipulated for their advantage. How long is this to last? Disaster will come of it—great evil to floriculture. How long will gentlemen whose names are used to cover this action remain quiescent?

Stanley Road, Oxford, May 25th, 1886. E. S. Dodwell.

THE BOG GARDEN.

Mr. George Paul, in his interesting account of his experiments, asks that others who have worked in the same direction should give notes. My first bog bed was on the Wilson raft, which floated in a tank five feet deep; having different levels, it accommodated the requirements of the different plants until, being then of wood, it got waterlogged and sunk till only the most thirsty plants were at home. This raft was figured in several of the garden papers, but as I am writing away from home I cannot give references. Afterwards an engineer made me a metal raft floated by galvanized iron tanks, but he did not give floating powers enough, so it is only the much water-loving plants that at present do well on it. In 1878 I took possession of Oakwood, where there is natural bog from quite deep wet to just moist black soil. This part of the wood is in shade, and some plants have gone on well till now, but I agree with Mr. Paul that most bog plants should be in sun. In my artificial bog they are so. For some time past I have found the most satisfactory way of growing bog plants is at the sides of ponds. We make the sides in a gentle slope, so that you can plant right to the water's edge or any height up the bank according to requirements. In our oldest pond the surface of the water is covered with Aponogeton distachyon, water lilies, &c., then come Pingniculas, various species of Sarracenias, the beautiful Gentiana Bavarica, Primula farinosa, &c., and a little above Gentiana pneumonanthe, then Trientalis europea in light peat; then Gentiana acaulis in rich loam, and so forth. We have planted Iris Kæmpferi as a sedge to one pond from the water's edge upwards. I hope Mr. Paul will continue to report results with different plants. There is room for many workers, and some plants take many experiments before they are made quite at home.

Heatherbank, Weybridge Heath. George F. Wilson.

The Weather has been variable, occasionally troublesome, but, on the whole, seasonable and beneficial. The great promise of plums and cherries is in a considerable degree diminished, and of pears there are so few that they do not come into any general reckoning. But the end of the story is likely to be a good plum crop, a very heavy cherry crop, a fair apple crop, and a sufficiency of bush fruits. It is not beyond the range of the data to speculate on a plum conference as a sensation of the useful kind for the year 1886. As for wheat and potatoes, they may be considered made for the season, for if no more rain falls until harvesting these useful things will not suffer. Our great want now is sunshine, and we say with sorrow that we see no proper promise of settled weather at present.

"Reichenbachia" is the title of a new and—judging by No. 1, now before us—noble work on orchids projected by Messrs. F. Sander and Co., of St. Albans, Herts. It is to be published monthly, at 7s. 6d., each part to contain four coloured plates, the size 21 in. by 15 in. This is an important undertaking, as the great orchidophile whose name it bears will assist in its production, and the text will be in English, French, and German. We have now three illustrated serials devoted to orchids, the "Lindenia" of Compagnie Continentale, the "Orchid Album" of Mr. B. S. Williams, and the "Reichenbachia" of Sander and Co." Assuredly the new venture comes before us with a splendid promise of success, and the proprietors liberally offer to send out sample copies that may be returned by those who decline to purchase them.

AMERICAN HORTICULTURAL PAPERS.

Considering the number and variety of horticultural papers published in America, there should be much activity in the gardening world there. And in truth it is so; but the difference in what may be termed popular taste in the States and in this old country is almost as strongly marked as the difference in the relations of men to the land that sustains them. We are contracted in views and habits as regards land because it is a costly article; on the other side larger views prevail, and there is scope for greater enterprises. There is, however, much healthy horticultural life in the American States, and it is probable that horticulture is advancing at a greater pace than any other of the domestic arts, and such might be reasonably expected, for it is but a transition of degree from the farm to the garden, and it often happens there, as here, that it is a difficult matter to draw a sharp line between them.

We have to thank our many friends on the other side for their generosity and constancy in forwarding their several papers, of which a great heap is now before us. If we do not often acknowledge their favours, the explanation, at east, is on the face of the matter, for the claims upon our space must be seen by all to be continuous and heavy, and, of course, our home horticulture is a matter of primary concern from its largest to its smallest features. It is possible—we indeed think it likely—that we pay less attention to American papers than we should even with respect to our own interests only. Some short time since we explained why those papers should have, generally speaking, a secondary place in any broad comparison, in the fact that they are mostly bound up with trade interests other than those that belong strictly to the domain of journalism. All the English papers devoted to horticulture are in respect of the trade in seeds, plants, &c., "independent," while it will be scarcely unjust to say that, in the same sense of the term, none of the American papers are independent. To many readers the distinction appears unimportant, and to a few, perhaps, to the disadvantage of the English papers. Well, there is always room for differences of opinion; for our part, we would be content to say that a paper tied up with a trading house cannot do justice to the subject at large, and therefore it is that seedsmen and nurserymen in this country have wisely abstained from embarking in horticultural journalism. But, on the other hand, we are bound to confess that in the American papers there are but few signs of the shop that lies behind or on one side of the literary business. We could not say of any one of the papers now on our table that it is a mere puffing machine, or even in part a puffing machine, or even, in "dim perspective," an indicator of the whereabouts of "the best" for those wanting to buy seeds or plants.

Meehan's Gardeners Monthly, edited by Thomas Meehan, is published by C. H. Marot, 814, Chestnut Street, Philadelphia. It is a good paper of what may be called the old-fashioned type, of which the "Florist" and "Floral World" are examples, both superseded by weekly papers in this country. To praise it would be a mild imitation of "gilding refined gold," and we forbear, for it is enough to say that it caters for many tastes, takes large views of things, and brings to all questions sound knowledge and good judgment, for the editor is a master of the business who has seen much of the world.

Vick's Illustrated Monthly is published by James Vick, seedsman, Rochester, N.Y., and owes its success to the ability and judgment of the late Mr. James Vick, whose lamented death, May 16, 1882, was recorded in these pages June 17 of the same year. This may be described as a pretty paper; there is a touch of elegance in every page both in the matter, the manner, and the visible finish, the most important part of which is the coloured plate that accompanies every number.

The American Garden is a monthy paper, edited by Mr. Hexamer, and published by E. H. Libby, Greenfield, Mass, and New York and Chicago. This paper is somewhat elementary in its treatment of horticultural subjects, and often, as we think, is too much indebted to European papers, but it is a good miscellany, and is fairly well illustrated.

The American Florist makes a rather strong show of what may be called English taste. As a substantial paper it is likely to influence American horticulture in a very definite manner. It is published fortnightly by the American Florist Company, Chicago.

The Ladies' Floricultural Cabinet is a monthly published at 22, Vesey Street, New York. It is not of the class that we should speak of as robust papers. With gardening it combines housekeeping, and occasionally a thrilling romance or a description of the latest fashion in dresses varies the monotony of peat, loam, and leaf-mould.

The Floral World is a monthly published at Highland Park, Illinois. It differs greatly from the monthly of the same name that was published in London from 1858 to 1876. It is, in fact, somewhat sentimental and somewhat too miscellaneous if compared with its prototype. We shall scarcely do it an injustice if we say that it is not exactly like a herring, inasmuch as it appears to be characterized by a total absence of the thing called a backbone.

TRADE CATALOGUES.

Viccars Collyer and Co., Leicester.—*Summer List of Specialities.*

Follows and Bate, Dutton Street, Manchester.—*Lawn Mowers, Water Engines, &c.*

Supports for border and pot flowers are much wanted in every garden. It is easy to advise the use of "sticks and ties," and numberless are the contrivances adopted to lessen labour and economize material in providing supports. When the work is well done it often results in the diminution of the beauty of the flowers, for the end of much "niggling" is apt to put them in the attitude of Grenadiers standing at "attention," each man appearing to be attached to an inflexible rod of steel. Messrs. Williams Brothers and Co., of Pershore Street, Birmingham, have produced a series of supports in brass wire that we commend to the attention of all who can by any possibility be interested in this matter. Perhaps the state of the pyrethrums now flopping about in many a garden may suggest that, in respect of keeping flowers the right way up while growing, our arrangements are as yet not quite perfect. We suspect Messrs. Williams's wires, in some instances, are a trifle too light, but that is a matter easily amended, and is a question of finance, at least in part. The point of importance is to get a good system.

PHYSIOLOGICAL SELECTION.

By G. J. Romanes.

At a meeting of the Linnæan Society Mr. G. J. Romanes read a paper "On Physiological Selection: an Additional Suggestion on the Origin of Species." Considered as a theory of the origin of species, natural selection encounters three cardinal difficulties: First, it cannot explain sterility between species, or the primary specific distribution; secondly, it cannot explain many among the secondary specific distinctions, or those trivial details of structure which, while serving to distinguish one species from another, present no meaning of a utilitarian kind; thirdly, natural selection must always be so heavily handicapped by the swamping effects of intercrossing upon any new variation that, unless such intercrossing is in some way prevented, we may reasonably doubt whether natural selection alone could change one *species* into another in more than a very small percentage of cases, although, when intercrossing is prevented by the bar of sterility between species, natural selection may afterwards produce genera, families, orders, and classes. In view of these considerations the author contended that the theory of natural selection has been misnamed a theory of the origin of species. It is, in truth, a theory of the origin of adaptive structures, and, if unassisted by any other principle, could not effect the evolution of species. The only other principle that could here assist natural selection would be one that might mitigate the swamping effects of intercrossing. This may be done by geographical barriers shutting off a portion of a species from the rest, and allowing that portion to develop an independent course of varietal history without intercrossing with the parent form. It may also be done by portions of species migrating, changing habitual stations, &c. But it may also be done by what the author calls physiological selection, or in virtue of a variation taking place in the reproductive system in the direction of sterility (whether absolute or partial) with the parent form, without impairment of fertility within the varietal form. For instance, the season of flowering or of pairing may be either advanced or retarded in a portion of a species, when all the individuals in that portion (or new variety) would be absolutely sterile towards the rest of the species, while completely fertile among themselves. They would thus start on an independent course of variated history. Sundry other causes (both extrinsic and intrinsic) may determine this particular variation in the reproductive system; and wherever it does occur it must give rise to a new species to record the fact. The proof of its occurrence is furnished both among our domesticated varieties and in nature. It explains the sterility between species, the frequent inutility of other specific characteristics, and entirely escapes the difficulty from intercrossing. It therefore relieves the theory of natural selection from all the disabilities under which it lies in consequence of having been improperly formed to pose as a theory of the origin of species.

INDUSTRIAL PROGRESS OF THE UNITED KINGDOM.

At a recent meeting of the Statistical Society Mr. C. Booth read a paper on this subject. He said during the last thirty years England has changed from a population about half agricultural and half manufacturing to one in which manufacture is double of agriculture. This change has been accompanied by an enormous increase of population, so that altogether support has been found during this period in other ways than the tilling of the soil for a new population of 8,500,000 souls. Mr. Booth calculated the influx into the towns from rural areas at 441,000. The pressure of population had not, as was generally supposed, been most in the large towns, an analysis showing that it is the smallest towns which have had the largest proportionate increase. The actual nett influx into London and the nineteen chief towns was considerably less than 150,000 for the ten years, whilst their normal increase was 950,000. The growth of the population of Scotland has not been quite so large proportionately as that of England, but the same changes and increasing prosperity are noticeable. In Ireland, on the contrary, since 1841, not only has there been a decrease in the total population of 3,000,000 out of 8,000,000, but the numbers of those employed in productive industry have decreased in still larger proportion, those engaged in the production of raw material (agriculture, fishing, and mining) having declined from 62·7 to 50·5 per cent. of the employed population, and those in building and manufacture from 21·1 to 15·8 per cent.; whilst the corresponding increase showed itself either in the poorest forms of labour, as petty dealers, casual labourers, or in domestic servants, or else in the Government service, especially in the police force. In 1841, 604,000 persons were enumerated as employed in the spinning, textile, or dyeing industries of England and Wales; at the same period 696,000 persons (92,000 more than in England) were returned as so employed in Ireland. In 1881, 962,000 persons were so returned in England; in Ireland only 130,000 (not one seventh of the number), and the decline in numbers had been continuous. During the same period England and Scotland had added nearly 200,000 to the number of workers in machinery and tool making, whilst Ireland has found a new opening in this direction for barely 1,000 persons. For such facts as these no compensation whatever is offered in any other direction, even flax and linen manufacturers showing no exception to the general decline.

Redemption of Tithes.—The Select Committee of the House of Commons appointed to consider the law relating to tithes have had referred to them four Bills dealing with the subject—namely, a Bill "to amend the law relating to extraordinary tithe in respect of any special cultivation of land, and to make reasonable compensation to the present tithe owners," introduced by Messrs. Norton, Knatchbull-Hugessen, and Pomfret; a Bill brought in by Mr. Bolton, Sir John Lubbock, Mr. Borlase, and Mr. Thorold Rogers, "to amend the Tithe Commutation Acts as to extraordinary tithe rent-charge on hop grounds, orchards, fruit plantations, and market gardens, and to provide for fixing the capital value thereof, and the redemption of the same;" a Bill backed by Mr. Brookfield and Dr. Farquharson, "to commute extraordinary tithe rent-charge, and otherwise to amend the Tithe Commutation Acts;" and the Tithe Rent-Charge Recovery Bill, introduced by Mr. Stanley Leighton. At the commencement of the proceedings Mr. [illegible]ton said that, as they were to consider the question of extraor[illegible]y tithe first, there were practically only two Bills before the Committee—his own and Mr. Bolton's, Mr. Brookfield having consented to the Committee working upon Mr. Norton's Bill, and Mr. Stanley Leighton's measure dealing only with the payment of the ordinary tithe by the landlord. After some discussion Mr. Bolton's Bill was adopted by the casting vote of the chairman.

Replies to Queries.

Hydrangeas Deformed.—W. C.—The plants have suffered from a check, and probably will soon regain a normal character and give satisfaction. The leaves appear to be slightly below average size, which would suggest that an increase of fluid food would be of advantage.

Primula Sieboldi.—T. Smith.—A cold pit will be the best place for the plants until the end of the month, when they should be removed to a cold shady position out of doors or be planted in a bed of light rich soil where they will receive a moderate amount of shade.

Calanthes.—F. Jackson.—The plants of Calantho vestita and its several varieties should have a position rather near the glass until they have completed the season's growth, and be screened from the direct rays of the sun. They will require rather liberal supplies of water until the growth is completed, when it must be reduced.

Chicory.—B. G.—The ordinary large-rooted is the most delicately flavoured, and therefore the best for salads. Sow the seed early in June, in rows about fifteen inches apart, and thin the plants to about six inches apart in the rows. The soil must be moderately rich to ensure full-sized roots. The New Red-leaved is not so elegant as the Large-rooted, which is of a delicate cream colour when nicely blanched.

Raising Perennials from Seed.—K.—All the hardy perennials, with the exception of those of which the seed is very small, may be raised from seed sown now in open beds, and if the seedlings are transplanted they will acquire sufficient strength to bloom satisfactorily next year. Small seeds should be sown in pots or pans and be placed in a frame.

Azaleas.—I have three very nice azaleas just finished blooming, and as they are getting very straggling in appearance will you kindly tell me through the medium of your columns, which I always read, the proper mode of treatment—whether I should keep them in or out of the greenhouse, and if I may cut them; if so, how far back, and when.—E. S.

[You have a golden opportunity for renewing the azaleas. Cut them in to a good form, removing no more wood than is necessary for the purpose. Then keep them rather close until they break freely, when they must have light and air to keep the new growth short and stout. When the season's growth is completed re-pot them, giving them one size larger, with the aid of fresh turfy peat.]

Fuchsias.—S. S.—The specimens required for exhibition at the end of June should not be stopped after this date, as it is essential they should then be fully in flower. Supply at intervals with liquid manure, and bear in mind that frequent doses of stimulants of a moderate degree of strength are decidedly more beneficial than an occasional dose of great strength.

Sulphate of Ammonia.—"No Name" sends samples that we cannot afford time to examine, and on the value of which, therefore, we have nothing to say. Sulphate of ammonia is usually employed at the rate of half an ounce to a gallon of water, but we prefer to dilute to twice that bulk. For chrysanthemums that have filled their pots with roots, however, it may be given at the rate stated.

Planting Vase.—F. M.—We do not care to suggest the planting of any bed, vase, or basket, because the style that pleases "A" may displease "B," and neither "A" nor "B" might be able to command the plants recommended. Your smallish vase might contain a few Fuchsias, with such things as Nierembergia filicaulis, Convolvulus mauritanicus, dwarf blue Lobelia, and ivy-leaved Pelargoniums.

Cheap Edgings.—"Rumex" may find a common brick on edge as cheap as anything, and tolerably substantial if well laid. The cheapest live edging, perhaps, would be Festuca glauca, as any quantity could be raised in one season from seed. A plank on edge and a line of ivy to be kept cut in when growing freely makes a capital edge, but requires room. It is singular that we should be asked for a cheap edging, and no particulars given of the size or situation of the garden for which it is required.

Lantanas.—R.W.—Lantanas make very effective beds on warm dry soils, but are not well adapted for outdoor culture in the northern districts, or on soils that are naturally wet and cold. The plants must be strong when bedded out. Those raised from autumn struck cuttings are always the best. The following twelve varieties will form an excellent collection: Aurora Boreale, Bouquet Blanc, Diademe, Distinction, Globe d'Or, Golconda, La Favorita, La Neige, Magenta King, Mine d'Or, Ne Plus Ultra, and Rayon d'Or.

Grape Vines.—J.W., Bristol.—The vines have been kept too close and moist and to check the injury that is being done to the leaves you must increase the ventilation and reduce the atmospheric moisture.—J. G., Stamford.—Your vines are suffering from a severe attack of mildew, owing, we believe, to their having been kept too cold and wet. It will be advisable to increase the temperature and ventilation and to dust the foliage with sulphur. The hot water pipes should also be painted with a mixture of sulphur and water.

Names of Plants.—T. W. S., Morpeth.—Your two orchids are Cypripedium barbatum and Thunia Marshalliæ.—J. Burrows.—1, Ferula campestris; 2, Acanthus spinosus; 3, Chelidonium grandiflorum; 4, Rheum palmatum.—R. R.—1, Welsh polypody (Cambricum), quite distinct from the Irish (semilacerum) Both are varieties of P. vulgare.—Constant Reader.—1, Pyrus sorbus; 2, Cratægus crus-galli.—W. Parker.—1 and 2 are forms of Selaginella denticulata, the tooth-leaved lycopodium. The fern is Pteris cretica albo-lineata.

Winter Flowering Begonias.—M. S.—The finest plants are obtained by striking the cuttings at the end of March or the beginning of April, but it is not too late to propagate a stock required for winter blooming. When the propagation is delayed until this late period the best course will be to strike the cuttings in small sixties, three in each, and then shift them on without separating them. Exception must be made in favour of B. semperflorens and its varieties which have leaves of so large a size that it is advisable to grow them singly.

Genistas.—Amateur asks how to increase them. Very much depends on what they are; for single-flowering genistas are easily increased by sowing seeds, but the double-flowering kinds must be increased by cuttings. As regards propagating genista and cytisus are on the same level, and, as a rule, they produce seed in great plenty. The larger kinds that have peculiar characters, such as Waterer's laburnum and the yellow leaved laburnum, must be grafted on seedling stocks. The beautiful double genista tinctoria is easily multiplied from summer shoots, taken off when about half ripe and shut up in a cold frame.

Books.—R. H.—Mr. Elwe's work on lilies is probably to be obtained from Mr. Quaritch, 15, Piccadilly, and the price will be about £7. For "Puydt on Orchids" try the same house; this will cost 30 to 40 shillings. J. Ewing.—Mr. Heath's edition of "Gilpin" is a selection, and will probably suit your purpose, as it is well done; but the genuine "Gilpin" forms a set of twelve octavo volumes. The fifth edition—the only one at hand—is dated 1802. Hibberd's "Garden Favourites" has long been out of print, but may be occasionally obtained second-hand. R. Baxter.—1, "Brown's Forester" (Blackwood); 2, "Manual of Coniferæ (Veitch); 3, "Hogg's Fruit Manual" (171, Fleet Street). "Vitis" must hunt the second-hand booksellers for the works of Hoare and Speechly.

Heliotropiums.—B. W.—These free growing and delightfully fragrant half-hardy plants are equally suitable for cultivation in pots for indoor decoration and for growing in the open beds and borders. They are particularly useful for decorative purposes when grown in five-inch pots, and a successional supply of plants should be maintained for the conservatory. It is also advisable to plant them rather largely in the mixed border for the supply of cut flowers. When planted out almost any soil will suit heliotropiums, but for those in pots a rather rich compost should be provided, one prepared with fibrous loam, old hot-bed manure, leaf mould, and sand being the most suitable. The best for pot culture are Albert Delaux, Fleur d'Eté, Heliose Dallesalle, President Garfield, Roi des Noirs, Swanley Giant, and White Lady. The most effective for bedding are Diana, Duchess of Edinburgh, Jersey Beauty, Morceau, Mrs. Lewington, Roi des Massifs.

Ornamental Asparagus.—H. G.—The most beautiful of the ornamental asparagus are A. falcatus, A. plumosus nanus, and A. tenuissimus, all of which require the temperature of a stove or an intermediate house for their successful cultivation. They can all be increased by division of the roots in the spring, and the first and last can also be readily multiplied by means of cuttings. These should be struck in the spring with the assistance of a brisk bottom heat and a close humid atmosphere, and be potted off singly as soon as nicely rooted. They require a mixture consisting of loam, peat, leafmould, and sand, and should have rather liberal supplies of water during the season of growth, the soil to be maintained in a moderately moist condition at other times. Asparagus decumbens, which has long had a place in English collections, thrives in a greenhouse, and, although less beautiful than the above mentioned, is very elegant in appearance, and certainly worth growing by those who, less fortunate than yourself, have no stove in which to grow plants.

Roses for High Walls.—F. H., Middlesex.—The tea-scented roses would thrive against the wall on the western side of your residence, but as the wall you wish to clothe is fifteen feet high it will be necessary to select varieties of robust habit, and to provide them with a border of moderate size that has been liberally enriched with some suitable fertilizer. The border should be at least three feet in width and two feet in depth, and if the soil is unsuitable replace it if practicable with a compost consisting of fibrous loam four parts and half rotted stable or farmyard manure one part. You can obtain strong plants in pots, and put them out at once, or you can wait until October or November and obtain plants from the open quarters. It will, however, be preferable in your case to plant now, and examples in five inch pots will be better than those in large sixties. The varieties which are the most likely to succeed in the position are Belle de Bordeaux, Gloire de Dijon, Madame Berard, Mdlle. Blanche Durschmidt, Maréchal Niel, and Reine Marie Henriette.

Golden-leaved Bedders.—J. N.—The number of plants with golden leafage really suitable for bedding purposes is not large, but it comprises several that are so effective as to be essential in the planting of both beds and borders. To have the several kinds in the highest state of development the stock should be renewed annually by means of cuttings or division, according to the character of the growth, to plant rather close together, and to avoid a soil so rich as to promote a very luxuriant growth. With reference to the annual propagation, an exception must be made in favour of the variegated coprosma, which produces a better effect in the second and third years than in the first. The following are all good, and can be strongly recommended: Alternanthera paronychoides aurea, very rich in colour and highly effective in association with the dark-leaved forms; Coprosma Baueriana variegata, Dactylis elegantissima aurea, Fuchsia Golden Fleece, Golden Feather, Herniaria glabra aurea, Lonicera aurea reticulata, Lysimachia nummularia aurea, useful for cool moist borders; Mesembryanthemum cordifolium variegatum, Spergula pilifera aurea, Sedum acre elegans, and Thymus citriodorus aureo-marginatus.

Cannas.—S. Smith.—Cannas comprise the most useful plants we have with ornamental leafage that are adapted for the embellishment of the flower garden during the summer months. They appear to the best advantage when grown in masses by themselves, but they present an effective appearance when associated with flowering and other plants in the mixed border. It is in all cases advisable to have strong examples, and the best course in starting them is to so divide the roots that each portion will have two or three crowns, and be just large enough to be put into a five-inch pot. Starting them in a very high temperature is not desirable, as examples six or eight inches in height that have made their growth in a cool house make a far more vigorous growth than those which have been drawn up to double the height in a stove or vinery. The beds and borders in which they are planted should be liberally enriched with stable or farmyard manure, and during periods of dry weather an occasional supply of water will afford material assistance. The best are Auguste Ferrière, Chatei discolor, Edouard Morren, Ehmanni, Excelsa, Zebrina, Gloire de Lyon, Henri Vilmorin, Jean Sisley, Maréchal Vaillant, Nigricans, Noutoni, Zebrina elegantissima.

Caladiums.—J. B.—In the cultivation of these attractively coloured plants it is necessary to employ a compost consisting of fibrous loam, leafmould, and sharp silver-sand, and to supply liberally with water. They ought to have a light position within a short distance of the glass, and be screened from brilliant sunlight. The practice obtains in many places of growing caladiums in a dense shade, the result being indifferently coloured foliage, and stalks so weak and spindling as to be unable to support the leaves when the plants are moved about. The most suitable temperature during the season of growth is 70 deg., and when at rest the corms should remain in the soil and have a place in the stove where there is no risk of the soil becoming saturated by the drip of plants on the stages. The following comprise the finest varieties at present at the command of cultivators: Albo-luteum, Anna de Condeixa, Argyrites, Amænum, Anna de Condeixa, Auguste Carpentier, Aurore Boreale, Baroness James de Rothschild, Bellone, Candidum, Cardinale, Comtesse de Condeixa, Elsa, Ferdinand de Lesseps, Gérard Dow, L'Aurore, Luddemanni, Madame Lemoinier, Madame Marjolin Schéffer, Madame Mitjana, Mithridate, Mons. d'Halloy, Ornatum, Princess of Teck, Rubrum metallicum, Souv. de Lille.

Capsicums.—Young Gardener.—Good crops of capsicums may be produced out of doors in districts in which the tomato may be successfully cultivated without the aid of glass, provided care is taken to select a warm, sunny position, and to put out strong, well-established plants. A south border is decidedly the best, and examples in five inch pots are preferable as they soon come into bearing after they are put out. The fruits should be gathered as they ripen, and in the autumn, when frost is apprehended, pull the plants up and suspend them in some dry, airy structure. The most advanced green fruits will then ripen, and be available for culinary purposes.

Sizes of Pots.—"Amateur" will find the case clearly stated in the "Garden Oracle." A six-inch pot is a 32, and no calculation will alter the fact. And, moreover, calculations are not applicable, for the figures have no necessary arithmetical relationship, or, if any, it is to an imaginary or arbitrary quantity called a cast. The potter takes a lump of clay, and out of that he makes a certain number of pots, in one case thirty-two, in another forty-eight, &c., &c., the larger the number the smaller the pots. Your trouble arises from your assumption of arithmetical principles of a kind that do not belong to the case. A 54 pot (54 to the cast) measures 4 inches across; a 48 pot (48 to the cast) measures 4½ inches across; a 32 pot (32 to the cast) measures 6 inches across, &c., &c. Chiswick standard is adopted, because the rule of a well-known public garden admits conveniently of universal appreciation.

Law.

ALLEGED INJURY TO NURSERY STOCK BY SMOKE.

The case of Andrews *v.* Great Eastern Railway Company, tried in the Queen's Bench Division of the High Court of Justice by Mr. Justice Field and a special jury, was brought to a close on Monday, the 24th inst. The plaintiff, who is a nurseryman, seedsman, and florist, at Temple Mills Lane, Stratford, sought to recover damages from the defendants for injury alleged to have been done to his plants and consequently to his business by smoke from the company's locomotive engines through negligent management at their shunting ground near to his premises. Mr. Crump, Q.C., Mr. Cock, Q.C., and Mr. Crispe were counsel for the plaintiff; while Mr. Moulton, Q.C., and Mr. Douglas Walker were for the defendants. The defendants denied negligence and injury, pleading that if the plaintiff had suffered any damage it had arisen unavoidably in the carrying on of the company's undertaking and in the exercise by them of the powers conferred and the duties imposed upon them by Act of Parliament. A considerable amount of evidence having been given on both sides, the learned Judge summed up, and the jury took some time to consider the matter. The result was a verdict for the plaintiff—damages £500; and his lordship gave judgment for the amount, with costs.

Literature.

The May-day number of the *Ladies' Gazette of Fashion* indicates that the trade in personal fineries and the fancies that belong to the objective life of "society" is in a somewhat prosperous state. It contains two plates of fashions and heaps of advertisements and papers on window and balcony gardening.

Cornish Magazine and Devonshire Miscellany. Edited by E. W. Crofts. A great penny monthly devoted to West of England antiquities, agriculture, folk-lore, and miscellanies ought to find a great and glad public for its appreciation. We observe with pleasure that the grave question mooted in our last Christmas number of the geography of King Arthur has been taken up in it, and the Cornish antiquaries will no doubt be able to say something to the purpose. The paper is published by W. H. Luke, Bedford Street, Plymouth.

Obituary.

On April 25, at Cullen, Mr. John Petrie, formerly of the gardens, Gordon Castle, Dundas Castle, and Cullen House, aged 92½ years. This veteran began life as a gardener in 1809, and continued in the honourable craft about fifty-seven years.

Markets.

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Pine-apples, St. Michaels, each	3s. 6d.	„ 6s. 0d.
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Vegetables.

Artichokes, Globe, per dz.	2s. 6d	to 4s. 0d.
Asparagus, English, per 100	2s. 0d.	„ 5s. 0d
Asparagus, French, per bun.	1s. 6d.	„ 6s. 0d.
Beans, French ....per lb.	1s. 0d.	„ 1s. 6d.
Beet .....per doz.	1s. 0d.	„ 2s. 0d
Cabbages .....per doz.	1s. 6d.	„ 2s. 6d.
Carrots .....per bun.	0s. 4d.	„ 0s. 6d.
Cauliflowers .....per doz.	2s. 6d.	„ 3s. 6d.
Cucumbers .....each	0s. 4d.	„ 0s. 6d.
Endive .....per doz.	1s. 0d.	„ 1s. 6d.
Garlic .....per lb.	0s. 4d.	„ 0s. 6d.
Herbs .....per bunch	0s. 3d.	„ 0s. 4d.
Horse-radish .... per bun.	3s. 0d.	„ 4s. 0d.
Lettuces, Cabbage, per doz.	0s. 8d.	„ 1s. 0d.
Lettuce, Cos .....per doz.	1s. 0d.	„ 2s. 0d.
Leeks.....per bun.	0s. 3d.	„ 0s. 6d.
Mint, Green .....per bun.	0s. 3d.	„ 0s. 4d.
Mushrooms ...per basket	1s. 0d.	„ 1s. 6d.
Onions .....per bushel	4s. 0d.	„ 5s. 0d.
Onions .....per bunch	0s. 4d.	„ 0s. 6d.
Parsley .....per bun.	0s 3d.	„ 0s. 4d.
Radishes ...per doz. bunch	0s. 6d.	„ 1s. 0d.
Rhubarb .....per bun.	0s. 4d	„ 0s. 6d.
Small Salading .. per pun.	0s. 3d.	„ 0s. 4d.
Spinach ..... per bushel	2s. 6d.	„ 3s. 0d.

Vegetables—*continued.*

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Bluebells .. per doz. bun.	0s. 9d.	„ 1s. 0d.
Bouvardias ...per bunch	0s. 6d.	„ 1s. 0d.
Callas .....per doz.	3s. 0d.	„ 4s. 0d.
Carnations, per doz. blms.	1s 0d.	„ 1s. 6d.
Eucharis, per doz. blooms	3s. 0d.	„ 5s 0d.
Gardenias, per doz. blooms	1s. 0d.	„ 3s. 0d.
Heliotropes, per doz. sprays	0s. 6d.	„ 0s. 8d.
Lapageria, per doz. blooms	1s. 0d.	„ 2s. 0d.
Lilac.....per doz. bun.	4s. 0d.	„ 6s. 0d.
Lily of the Valley, per doz. sprays	0s. 9d.	„ 1s. 0d.
Marguerites, per doz. bun.	4s. 0d.	„ 6s. 0d.
Mignonette, per doz. bun.	3s. 0d.	„ 6s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d.	„ 0s. 8d.
Pelargoniums, per doz. trusses	0s. 8d.	„ 1s. 0d.
Roses .....per doz. blms.	1s. 6d.	„ 2s. 0d.
Roses, Tea..per doz. blms.	1s. 0d.	„ 1s. 6d.
Stephanotis per doz. sprays	1s. 6d.	„ 2s. 6d.
Tropæolum ..per doz. bun.	1s. 0d.	„ 2s. 0d.
Tuberoses .....per doz.	1s. 0d.	„ 1s. 6d.

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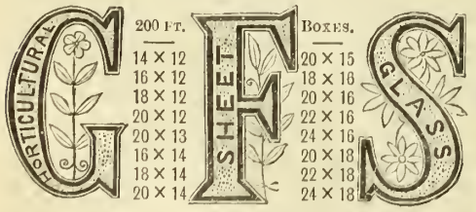
Jersey Rounds, New ..per cwt	9s.	„ 12s.
Malta Kidneys, New ..per cwt.	12s.	„ 18s.
Malta Rounds, New ..per cwt	10s.	„ 15s.

Exportation of Fowls from Italy.—Formerly the greater part of the fowls sent to Marseilles was furnished by Gascony and Languedoc; now Italy supplies the greatest number, and chiefly Lombardy. Italian fowls also are sent to Spain. Every Friday a specially-constructed live poultry truck arrives at the Marseilles railway station. It is of similar dimensions to an ordinary covered goods truck, and contains about 3,000 fowls in 108 hen-coops. The truck consists of nine tiers of cages, twelve to each tier, and each capable of holding thirty fowls. Being well ventilated and kept scrupulously clean, and supplied with an abundance of fresh water and millet seed, the fowls from Milan and even Venice arrive at Marseilles in the best possible condition of health, and large numbers are likewise forwarded to Spain.

Floral Spoliation.—Mr. Shirley Hibberd's complaint that our favourite wild flowers (the primrose in particular, perhaps) stand in great danger of being exterminated appears to gain credence from a recent case which came before the Tavistock magistrates, in which the Rev. William Gill took proceedings against two lads for wilfully and maliciously doing damage to certain primrose plants. The fact was elicited, in the course of the hearing, that localities that formerly bore the primrose in abundance have become, in consequence of the political uses to which the flower is now being put, completely barren. The *Globe* rather ridiculed Mr. Hibberd's fears so far as the primrose was concerned; but though the primrose is extremely hardy and obstinate of growth, it is doubtful how long it will survive the wholesale ravages which are being carried on in its haunts all over the country. It is a great pity that flowers should be used as political badges. We have absolutely no sympathy with the primrose league, any more than the proposed white rose league. Putting politics aside, the innovation is a bad one in execrably bad taste, and the sooner our political dames hit upon some other artifice and decorate themselves and their converts with something else than wild-flowers the better it will be, for more reasons than one.—*Cornish Magazine and Devon Miscellany.*



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1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
6	S	**Sunday after Ascension.**	3 48	1 37	8 9	8 10	11 18	4 18	4 41	1 19	1 43	59·6	Acrides crispum	India.	157
7	M	Reform Bill passed, 1832.	3 47	1 26	8 10	9 25	11 52	5 5	5 29	2 6	2 30	59·7	,, maculosum	Bombay.	158
8	Tu	Alexandra Palace burnt, 1873.	3 47	1 14	8 11	10 42	Morn.	5 56	6 25	2 54	3 21	59·9	,, M'Morlandi	India.	159
9	W	☽ First Quarter, 7h. 27m. morn.	3 46	1 3	8 11	11 58	0 24	6 54	7 25	3 50	4 19	60 0	,, nobile	,,	160
10	Th	Crystal Palace opened, 1854.	3 46	0 51	8 12	After.	0 52	7 56	8 29	4 50	5 21	60·1	,, odoratum	,,	161
11	F	*St. Barnabas.* Hilary Law Sittings end.	3 45	0 39	8 13	2 27	1 17	9 6	9 41	5 54	6 31	60·2	,, roseum	,,	162
12	S	Oxford Trinity Term begins.	3 45	0 27	8 14	3 40	1 45	10 13	10 47	7 6	7 38	60·4	Angulos Clowesi	Columbia.	163

ROYAL HORTICULTURAL SOCIETY.
GREAT PROVINCIAL SHOW AT LIVERPOOL,
JUNE 29 to JULY 5, 1886.
GREAT EXHIBITION of IMPLEMENTS, GARDEN STRUCTURES, TOOLS, and APPLIANCES in the WAVERTREE PARK.
Schedules and full particulars as to space, &c., may be had on application to the Superintendent, Mr. A. F. BARRON, Royal Horticultural Society, Chiswick, London; or to Mr. J. RICHARDSON, Botanic Gardens, Liverpool.
NOTICE!—Entries close June 12th.
Applications for Advertisement Space in the Official Catalogue should be made at once to Adams and Francis, Advertising Agents, 59, Fleet Street, London, E.C.

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NOTICE.—Entries close JUNE 21.

ROYAL HORTICULTURAL SOCIETY,
SOUTH KENSINGTON, S.W.
NOTICE.—COMMITTEE MEETINGS, Fruit and Floral, at Eleven a.m., in the Conservatory; Scientific at One p.m., in the Lindley Library, on TUESDAY next, JUNE 8.
SHOW OF ORCHIDS, &c.
N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

ROYAL BOTANIC SOCIETY GARDENS,
REGENT'S PARK.
WEDNESDAY, JUNE 9, EXHIBITION OF PLANTS, FLOWERS, AND FRUIT.
Tickets and Schedules of prizes to be obtained at the Gardens only.
Entries should be sent in as soon as possible.

LEWISHAM and DISTRICT FLORAL SOCIETY.—GRAND SUMMER EXHIBITION, in the Grounds of RIVERDALE, LEWISHAM, S.E., WEDNESDAY, JUNE 30, and THURSDAY, JULY 1, 1886, will be opened by Lord and Lady Lewisham. Band of the Royal Horse Artillery. £5 offered for the best 48 Cut Roses; also Second and Third Prizes. These and various others are open to all comers.
For Schedules, &c., apply to the Hon. Secretary, Mr. HENRY DRAKE, 39, Court Hill Road, Lewisham, S.E.

TUNBRIDGE WELLS HORTICULTURAL SOCIETY.—The SOCIETY'S TWENTY-FIFTH ANNUAL GRAND FLOWER, FRUIT, and ROSE SHOW, and MUSICAL PROMENADE, will be held in the PUBLIC HALL, HIGH STREET, and CALVERLEY HOTEL GROUNDS (behind the same), on FRIDAY, JULY 2, 1886. Schedules of Prizes, and every information connected with the show, may be obtained of the undersigned, to whom subscriptions and donations may now be paid.
26, Parade, Tunbridge Wells, May 18th, 1886. E. F. LOOF, Secretary.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, JUNE 8.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.; Exhibition of Orchids.
WEDNESDAY, JUNE 9.—ROYAL BOTANIC SOCIETY.—Summer Exhibition.
THURSDAY, JUNE 10.—SOUTH ESSEX HORTICULTURAL SOCIETY.—Annual Exhibition.
FRIDAY, JUNE 11.—MANCHESTER BOTANICAL AND HORTICULTURAL SOCIETY.—Opening Day of Great Whitsun Exhibition.

Auction Sales for the Ensuing Week.

MONDAY, JUNE 7.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
WEDNESDAY, JUNE 9.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Plants, Picotees, Carnations, &c.
FRIDAY, JUNE 11.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
WEDNESDAY AND THURSDAY, JUNE 9 AND 10.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

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Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.
ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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The Gardeners' Magazine.

SATURDAY, JUNE 5, 1886.

THE LIVERPOOL EXHIBITION OF THE ROYAL HORTICULTURAL SOCIETY has been well provided for in respect of a place and a programme, and it appears to be generally understood that Liverpool will do its duty by enlisting for the affair a sufficient amount of local sympathy and influence. The schedule is fashioned on the established model of a summer show. The prizes begin with £25, £15, and £10 for class 1, comprising 12 stove and greenhouse plants; and thence it progresses through plants, flowers, fruits, decorations, vegetables, implements, boilers, and cottagers and artizans' productions. The boilers in competition will be subjected to a series of trials, in respect of which a special series of conditions and regulations have been framed, which, of course, those who are specially interested will take care to obtain. But there are three distinct features in addition to what may be termed the regulation classes, and they appear to us peculiarly interesting.

"Horticulture on Board Ship" is likely to obtain but few illustrations, yet it must be admitted that the class is a most proper one for an exhibition in Liverpool, more especially when promoted by the society that does or should seek every means to render horticulture serviceable to mankind. It is not much that those who go down to the sea in ships can do in the way of gardening, but there are horticultural captains in the world, and we shall hope that some of them may find the means of showing what may be done to bring the beauty and use of living vegetation to the mitigation of life on the ocean wave. We have seen cabin windows and saloon skylights made gay with tropæolums, and we have tasted green-pea soup "grown on board ship." This being a curiosity of marine cookery and horticulture combined, we shall perhaps be doing our readers a service by saying that the receipt for its preparation was published in the "Garden Oracle" for 1859. The soup is made from green pea-meal, and is embellished with the green tops of young peas sprouted for the purpose on a piece of felt or in a box of mould. The mere mention of the thing will suggest a considerable range of horticultural endeavour, and also of experiment for the curious in such matters. There is something to be done in obtaining sprouts from mangels, turnips, onions, and chicory roots; in growing small seeds for salads; and in forcing seakale, rhubarb, and, possibly, asparagus. In the way of decorative plants, all who move about the world have become accustomed to ferns and palms as giving the charm of living greenery to life on ship-board; but flowers of all kinds are reckoned troublesome, and when it ceases to be possible to obtain fresh supplies from land they soon disappear, while many ferns and palms bear severe trials unhurt and prove themselves very hardy navigators. We have had lists innumerable of plants for conservatories, dinner-tables, and gas-lighted festivities, but not many of the kinds that have proved the most serviceable on board ship.

Another important feature—which, like the last-named, may fail of its due effect, though thoroughly legitimate—is the section for the "Literature of Gardening." The class is so set out in seven sections as to include almost every kind of horticultural literature; and class 4 appears particularly promising, for it invites "books illustrative of the History of Gardening and Botany from the earliest times to the end of the 18th century." As a means of advertising current books and papers, the literature section will probably be turned to account, and in that way will be useful. But we should hope to see a display of those books of the glorious ancients that we are compelled to refer to and quote from in our historical disquisitions, comprising the sixteenth century botanists and the seventeenth century gardeners. It would be a revelation to many lovers of plants, who have not dabbled in books over much, to see the figures in Clusius, the Plantin Dodoens, the original black-letter Turner, and the series of noble folios comprising the works of Gerard, Parkinson, Bacon, Ray, Salmon, Hill, Dillenius, Miller, Evelyn, Hanbury, and Batty Langley. The literature of horticulture is but confusedly reflected in the books of the present day, for a very large proportion of them are made of skim-milk a tenth time skimmed, then largely diluted, and finally adulterated with bad brains that have been spoiled in the shop. The "blessed ancients" were the victims of delightful superstitions, and had most original and independent notions of nomenclature, and by the aid of belief in all they heard and conviction of all they saw they made books that the world

will not willingly let die, and it does amaze us occasionally that thus far no one has had the courage to produce a good fac-simile of the immortal "Paradisus." Well, for the first time, perhaps, in this country, books are brought within the compass of a flower show, and we remind our excellent friends, the learned editors, that the shop will open at Liverpool on the 29th of this present month of June.

The section for technical and decorative art and architectural drawing should make a field for the young men. Will they show their appreciation of it? We shall probably see some good drawings on terra cotta, some endurable water-colours in which gardens and garden plants will appear, and of chromos and decorative panels the business men will probably provide good examples. But shall we see many serviceable plans of gardens and garden structures, of conservatories and practical decorative works, that may be described as containing money *in esse* or *in posse?* Well, we can afford to wait and see. But the mention of the "flower painting on china," in connection with plans for serious work, reminds us of the sweet little lady who could make lovely panels that nobody could use, and draw delightful designs applicable to nothing, but could not make a cup of beef tea or boil a potato; no, not were it needful to save the life of a father, a mother, a sister, or a brother.

But pessimism is not in our line at all, and we shall return to our customary optimism at the first opportunity, and, in fact, will proceed to do so at once by anticipating for the Liverpool show a complete and brilliant success. We would, indeed, screw up the barometer for the occasion, but the instrument being in London might not exercise a proper influence on the weather of Liverpool, and so, this time at least, we will allow events to unfold in accordance with the decrees of fate and the laws of nature. But the weather ought to be fine, and we shall invite all our readers to complain if it is not.

Ensilage Commissioners have completed the task assigned them. They establish the point that is so agreeable to the wishes of all, that ensilage affords a substantial augmentation of our food resources. On some questions that have been raised they are divided in opinion, but on the primary question there appears to be nothing more in the way of question to be said. In certain cases, and under certain conditions, green food may be stored with the certainty that it will prove acceptable to stock, and prove peculiarly serviceable in winter and spring, with but a small diminution of its original nutritive power, which is at least in some part compensated by its increased digestibility. The silo is a sort of cooking-pot, and as cooking of food by fire lessens the labour of the human digestive system, so storing and the inevitable fermentation that accompanies it promotes the digestion and assimilation of the product when appropriated as cattle food. The chief use of ensilage probably will be for dairy stock, and it will greatly aid in the production of milk, cream, and butter during the long winter in which pasture is deficient and the exposure of dairy cattle unsafe. The main question being disposed of on the basis of abundant and authoritative testimony, those who are especially interested may be left to work out the smaller problems, for these must find solution in experience, and no formal inquiry can be expected to deal with them in a satisfactory manner. There is one matter of considerable importance that should be noted by all, and it is that while green fodder may be stacked like hay to make a store above ground the system does not produce so good a material as a silo below ground. As might be expected the atmosphere deteriorates all of the bulk it can act upon, and consequently there is formed around a stack a sort of deep crust of stuff that is comparatively worthless. It is a great matter to have the case in favour of ensilage entirely made out, for it enlarges the choice of material for winter feed and it renders us, at least in some degree, independent of hay-making weather. But granting the value of ensilage we are of opinion with Mr. Martin Sutton that the value of sweet hay is not seriously diminished by the invention of the silo.

For Plucking a Bunch of Lilac Flowers Nicholas Long was fined five shillings at Worship Street Police-office a few days since.

Professor Morren's Bromeliads have been, by purchase, transferred to the Royal Gardens, Kew.

Orchids are to be conspicuous in the exhibition of R.H.S. on Tuesday next, and will probably draw a large following. It is anticipated that many interesting and important novelties will be placed before the Floral Committee.

Messrs. Webb and Sons, of Wordsley, Stourbridge, exhibit extensive collections of seeds at the Liverpool International and the Bath and West of England Exhibitions. At the Liverpool show they have put down some grass lawns from seeds, and the brightness of the turf delights all beholders.

Royal Botanic Evening Fete, June 30, is provided for in a schedule of prizes for various floral decorations. It is announced that "misunderstandings" have occurred, and exhibitors are therefore desired to pay attention to the regulations. The time for completing exhibits has been extended to three o'clock.

Southampton Horticultural and Hants Beekeepers' Association will combine their forces in Westwood Park, July 31, when the Princess Beatrice will distribute the prizes. The combined exhibition will continue open on the following Monday, which is Bank Holiday.

Horticultural Club will meet at 1, Henrietta Street, Covent Garden, on Tuesday next for the usual monthly dinner and discussion. The subject selected for discussion is "Variation," to be introduced by Mr. C. T. Druery.

Clematis montana may be called the plant of the week in London. It is every year a wonder in its way, but this year it seems to vie with the wistaria in the endeavour to surprise one. Wherever it has been allowed freedom it is now delightful, but where it is "kept in order" it may be described "as nothing particular."

Stove Plants flowering at the present time at Kew comprise: In the Lily house Bougainvillea spectabilis; in the Begonia house Clerodendron speciosum and C. Thomsoni; in the Victoria house Medinilla magnifica and Æchmea splendens. The greenhouse is very gay, and the orchid house contains, as usual, a lot of good things.

Chiswick Gardens of R.H.S. will have many features of interest as the season advances. The extensive collection of potatoes sent over by Messrs. Vilmorin-Andrieux to the potato exhibition at South Kensington last autumn have been planted out near the vinery; and on the ground usually occupied by trial peas there is a collection of varieties of tobacco.

Gaceta Agricola, published monthly at Madrid, is a substantial review of agricultural and horticultural progress. In the number for May, now before us, is a full programme of the horticultural exhibition now in progress in Madrid, with some important original papers on grape vines and their fermented juices. The publisher is Manuel G. Hernandez.

Victorian Plants are of necessity interesting at the present time to a larger public than they appeal to in ordinary. We have been favoured with proof sheets of Baron Von Mueller's monograph on Victorian plants, which is in small octavo, copiously illustrated, the figures comprising both pictorial and analytical presentments, admirably rendered in black and white. For scientific purposes this will be a work of the first importance.

Royal Gardens, Kew, are now gay with rhododendrons, thorns, and alpine flowers; and the great cage wistaria, near the Temple of the Sun, is in perfection, and has never made a better appearance than now. In the houses are a few interesting plants. Mr. George Nicholson has been appointed Curator in the place of Mr. John Smith, who recently resigned; and Mr. Watson, who has had long service in the botanical department, will take the office vacated by Mr. Nicholson as Assistant Curator.

Floral Decorations in vast numbers, and of every conceivable design and character, have been sent to New York for the decoration of General Grant's grave. Not only were contributions sent from the most remote parts of the States, but from Mexico and from Europe, and we may reasonably suppose that China would have contributed had it been possible, because the Chinese minister at Washington was directed by the Emperor to attend the Decoration Day services.

Water Supply.—The *City Press* states that the New River Company have for some two or three years been sinking a well near the reservoirs on their own land in Hornsey for the purpose of obtaining an additional supply, rendered necessary by the ever-increasing consumption of water. The new well will supply two million gallons a-day, the result being highly successful. But it will be feared by many that the proximity of this new well to a dense population is in itself an evil, and one that will rapidly intensify as the metropolis extends.

Flower Throwing is the newest sport of the fashionable world of Vienna. At the great fête initiated by Madame Pauline Lucca, there was a procession of carriages decorated with flowers on about ten miles of roadway, the spectators numbering about half a million. The occupants of the carriages pelted each other with flowers, and this sport cleared the vehicles of their floral adornments, and was regarded as a new and delightful institution in the interests of innocent fun. The "respectable" roughs that indulge in horse play on the Derby Day may take a hint from the respectable gentry of Vienna, whose "throwing" is not prohibited by the police.

Thorns in Flower referred to in the paper by "W." are so open to general observation that special references are scarcely needed. But it may be useful to remark that while the double scarlet, on account of its splendour, has become exceedingly popular, the single crimson, a very rich and refined style of tree that produces an abundant crop of ruddy berries in autumn, is comparatively scarce. A fine specimen of the weeping form is now in flower on a lawn adjoining the succulent house in the Royal Gardens, Kew. The thorns clothed with ivy, to which "W." refers, were figured in G.M., December 28, 1872. The Glastonbury thorn was figured in G.M., December 21, 1878.

Rooks and Woodpigeons are promised a hard time, for in many parts of the country active measures are in progress for reducing their numbers. It seems necessary to man that he should be always on the look out for something to kill, and fashion apparently comes into the reckoning. The fashion of sparrow killing appears to have had its day, and we have failed to obtain the statistics we had hoped for from the Wirrall Sparrow Killing Club, which appears to have collapsed. The killing of woodpigeons may be justified by some telling arguments, but the rooks present to our consideration a mixed question, and there will be much division of opinion as to whether the man who destroys them is advantaged in any way and is entitled to be regarded as a friend or a foe to his country.

Exhibitions and Meetings.

READING HORTICULTURAL SOCIETY, JUNE 2.

THE first of the two summer exhibitions of the Reading Horticultural Society was held on Wednesday, and as the attendance of visitors was large, and the competition for the prizes very keen in the leading classes, the results were highly satisfactory to all concerned. Orchids, stove and greenhouse plants, pelargoniums, rhododendrons, and other plants usually exhibited at this season of the year were contributed in large numbers, and in a condition that did credit to the cultural skill of the respective exhibitors; and of fruits and vegetables there were excellent displays for so early in the summer.

ORCHIDS were presented in greater numbers and better condition than for some years past, and proved highly attractive to the general body of visitors. There was a very keen competition in the class for three, and Mr. Pound, gardener to G. May, Esq., Caversham, was first with excellent specimens of Aerides Fieldingi, bearing four superb racemes, Vanda suavis, and Dendrobium suavissimum, one of the finest specimens of this handsome species yet placed upon the exhibition stage. Mr. James, Castle Nursery, Norwood, was second with good specimens of Cattleya Mendeli, Anguloa Clowesi, and Odontoglossum Pescatorei. Mr. Baskett, gardener to W. J. Palmer, Esq., Reading, was third with Cattleya Mossiæ, Cymbidium Lowianum, and Cypripedium barbatum. Mr. Woolfield, gardener to A. Palmer, Esq., Reading, also exhibited well in the class, and was awarded an extra prize. In competition for the prizes offered for a specimen orchid, Mr. Parham, gardener to H. J. Simonds, Esq., Caversham, was first with a magnificent example of the exquisitely beautiful Vanda teres, bearing upwards of thirty flowers.

STOVE AND GREENHOUSE PLANTS in bloom were not perhaps quite so numerous as on some previous occasions, but there were sufficient to form a strong feature, and the whole of the specimens were highly meritorious. The post of honour in the class for nine was occupied by Mr. H. James with large, fresh, and densely-flowered specimens of Hedaroma tulipifera, H. Hookeri, Statice profusa, Anthurium Scherzerianum, Erica affinis, E. ventricosa coccinea minor, Bougainvillea glabra, and Dracophyllum gracile. In the class for six the premier award was made in favour of Mr. F. Mould, Pewsey, Wilts, who staged medium-sized and densely-flowered specimens of Amphelexis macrantha rosea, Erica tricolor Wilsoni, Statice profusa, and Pimelia diosmæfolia; Mr. Parham was second with a collection in which there was a superbly-flowered specimen of Francisea calycina major and two good vincas. Mr. Armitage, gardener to N. Clarke, Esq., Reading, contributed a neat group to the class for four. The single specimens were particularly good, and equal prizes were awarded to Mr. Baskett and Mr. Parham. The first-mentioned staged a large specimen of Clerodendron Balfouriana, clothed with foliage and flowers to the rim of the pot and perfect in finish. Mr. Parham contributed a large and superbly-flowered example of Dendrobium Devonianum; Mr. H. James was second with a good aphelexis.

ORNAMENTAL-LEAVED PLANTS were plentiful and good. For six, Mr. H. James was first with a group, in which occurred exceptionally fine specimens of Alocasea Lowi, Cocos Weddelliana, Cycas revoluta, and Dasylirion acrotrichum; Mr. Monld was second, and had, amongst other good things, Croton Queen Victoria and C. augustifolium, in a high state of development; Mr. Parham, who was third, presented richly-coloured examples of Croton majesticus and C. Weismanni. In competition for the prizes for palms, which were remarkably good, Mr. Parham and Mr. H. James were first and second respectively.

ROSES constituted a very pleasing feature, both specimens and cut blooms being staged in capital style. Mr. Lockie, gardener to the Hon. G. O. Fitzgerald, Oakley Court, Windsor, was successful in occupying the first place in the class for six roses in pots, the specimens of large size and well furnished with foliage and flowers. The varieties were Oxonian, Thomas Mills, La France, Etienne Levet, and Marquise de Castellane. For four roses in pots Mr. Baskett and Mr. Tranter, Upper Assenden, Berks, were first and second respectively, both having specimens representing high-class cultural skill. The principal prizes for cut roses were awarded to Mr. Goodman, gardener to C. Hammersley, Esq., Bourne End, and Mr. Tranter, both of whom contributed excellent blooms.

GLOXINIAS were simply magnificent, the whole of the plants in the winning collections being of immense size and superbly flowered. Mr. Baskett was first with plants bearing from forty to fifty blooms each, the individual flowers being very large and of grand form. Mr. Farey and Mr. Parham were awarded equal second prizes, the examples from the first mentioned being remarkable for the number of the blooms, and those from Mr. Parham were distinguished by the high quality of the individual flowers.

PELARGONIUMS AND CALCEOLARIAS were both well represented, and produced a brilliant display of colour. Mr. Ashby, gardener to W. Fanning, Esq., Whitechurch, was first for nine pelargoniums, with full-sized and splendidly-flowered specimens of Spotted Gem, Duchess of Edinburgh, Triomphe de St. Mandé, Rob Roy, Prince Leopold, Bridal Bouquet, Claribel, and Prince of Pelargoniums; Mr. Sumner, gardener to J. H. Millard, Esq., Reading, was a close second, with plants rather smaller than those forming the first prize collection, but with rather better foliage and large flower trusses. In the collection occurred two very fine varieties raised by the exhibitor, and respectively named Bertie Millard and Florrie Millard. Mr. Mayne, gardener to Miss Moone, Reading, was third. The successful exhibitors of herbaceous calceolarias were Mr. Baskett, Mr. Dockerill, and Mr. Farey, gardener to C. Stephens, Esq., Woodley Hill, all of whom staged collections that admirably represented Messrs. Sutton's strain of these showy flowers, and did credit to their cultural skill.

AZALEAS AND CAPE HEATHS were fairly represented, and the several collections contributed their full share to the many attractions of the exhibition. Mr. Lockie was successful in taking the premier awards for nine and six azaleas, and Mr. Mould occupied the first place in the class for six Cape heaths.

RHODODENDRONS, which were shown in groups to occupy about one hundred and twenty square feet, were splendidly flowered, and produced a display of colour which proved immensely attractive. The first prize was awarded to Mr. Turton, gardener to J. Hargreaves, Esq., Maiden Erleigh, and the second to Mr. Ashby, the collections differing but little in relative merit.

GROUPS ARRANGED FOR EFFECT were rather above the average, and formed one of the most attractive features of the show. In competition for the groups to occupy a space not exceeding twelve feet by ten feet, Mr. Parham was first with a very tasteful arrangement; and Mr. Sumner was an excellent second. The awards in the class for small groups were made in favour of Mr. Pound, Mr. Balchin, gardener to B. Simonds, Esq., Reading, and Mr. Mayne.

FERNS AND SELAGINELLAS were rather variable in quality, but on the whole were decidedly good. To the class for six ferns Mr. Pasham contributed grandly-developed specimens of Cibotium Schiodi, Davallia Mooreana, D. dissecta, Gymnogramma chrysophylla, Thamnopteris nidus, and Alsophila australis; Mr. Booker, gardener to R. Tomkins, Esq., and Mr. Day, gardener to J. C. Cooper, Esq., Calcot, also contributed neat collections to the class. The first and second prizes for collections of fifteen ferns and selaginellas were respectively awarded to Mr. Dockerill and Mr. Parham, both of whom had collections consisting of plants remarkable for their freshness.

FUCHSIAS were not well represented, for the cultivators in the Reading district show too much favour to plants of great age. Mr. Lockie contributed good specimens to the class for four, and was deservedly awarded the first prize.

CUT FLOWERS, arranged for the table and otherwise, were, as usual, exhibited in large quantities, and proved highly attractive. For hardy flowers, in collections of twelve bunches, Mr. Sumner was first with a beautiful box, Mr. Phippen second, and Mr. Tranter third. In the corresponding class for stove and greenhouse plants, Mr. James was first, and Mr. Goodman and Mr. Ross were second and third. Pansies were admirably shown by Mr. Lawrence, Caversham, and Mr. Shrimpton, to whom were awarded the first and second prizes in each of the two classes provided for these flowers. The leading prizetakers in the several classes for vases arranged for the dinner table were Miss Adams and Miss Phillips. Mr. Phippen was first for a bridal bouquet; and Mr. Ellott, gardener to J. Hibbert, Esq., Braywick, had the premier award made in his favour in the class for button-hole bouquets.

FRUIT was rather plentiful, and on the whole of high quality. Mr. Turton, Mr. Maher, Yattenden, and Mr. Ashby were the successful competitors in the class for two bunches of black grapes, each exhibitor contributing Black Hamburgh. The prizes for two bunches of white grapes were awarded to Mr. Ashby, Mr. Baskett, and Mr. Maher, all of whom had Foster's Seedling. Mr. Mortimer, Farnham, was first for strawberries with an excellent dish of Sir Joseph Paxton; and Mr. Goodman was second with the same variety. Mr. Ashby and Mr. Turton were first and second for a dish of peaches, the varieties being Early Ascot and Early Beatrice. Mr. C. Ross, Welford Park, Newbury, exhibited a large, well-ripened fruit of Moscow Queen pine, and received the compliment of a high commendation.

VEGETABLES were of high quality throughout, and formed one of the most important features of the show. Mr. Lockie was first in the class for a collection of vegetables, in which occurred six excellent melons. The vegetables were of themselves sufficient to justify the award of the first prize, and the melons were not counted by the judges in making their award. But these fruits ought not to be allowed to be shown in a collection of vegetables, whether the latter are good or bad, and it was a mistake to admit them on this occasion. The whole of the vegetables were good, the brace of Royal Windsor cucumber being especially so; Mr. Booker and Mr. Goodman were second and third respectively. In competition for a dish of round potatoes Mr. Lockie was first with an excellent sample of Dean's Snowball, a valuable early round of recent introduction; and Mr. Ashby was second with Sutton's Early Eclipse. Mr. Lockie was first also in the class for a dish of kidney potatoes, staging Cosmopolitan in excellent form; Mr. Ashby second with Goldfinder.

MESSRS. SUTTON AND SON'S PRIZES for cucumbers, early peas, and potatoes were contested with much spirit, and materially enhanced the interest of the exhibition. There were ten entries in the class for a brace of cucumbers, and Mr. Lockie was first with a fine brace of Sutton's Purley Park Hero, a recently-introduced variety, of great excellence. Mr. Hermon was second with the same kind, and Mr. Waite, Esher, was third with Tender and True. For two dishes of potatoes, Mr. Lockie, Mr. Ashby, and Mr. Balchin were first, second, and third respectively with Sutton's Eclipse and Sutton's Ringleader. The class for three dishes of early peas was well filled, and Mr. Goodman was first with Sutton's Ringleader, McLean's Little Gem, and American Wonder. Mr. Balchin was second with American Wonder, William I., and Sutton's Earliest Blue.

The arrangements were well carried out, and reflected much credit on the administrative abilities of the members of the executive.

Calls at Nurseries.

MESSRS. H. CANNELL AND SONS, SWANLEY.

As at all other seasons of the year, the extensive nurseries of Messrs. H. Cannell and Sons are rich in attractions, and it matters not to what classes of plants the visitor devotes special attention he will not fail to find plenty to interest him, or to add largely to his stock of knowledge, both as regards their cultural requirements and the relative merits of varieties. In the open quarters devoted to the hardy herbaceous plants, which have for some years past formed a strong feature of the Swanley Nurseries, there is a galaxy of beauty, the plants in bloom representing a large number of classes, and ranging from the stately Oriental Poppy, with its huge gaudy flowers, to the dwarf growing Glacier Pink, which for freedom of flowering and delicacy of colouring has not, perhaps, an equal amongst the plants hardy enough to bear the vicissitudes of an English winter. But the richest display of colour out of doors is that produced by the violas, which are now at their best, and prove to demonstration their high value for enhancing the attractions of the flower garden at this season of the year. Within the well-furnished houses, which have of late multiplied at such a rapid rate that it would be hazardous to guess their number, are a series of displays comprising show, fancy, regal, and zonal pelargoniums, begonias—which have six or seven houses wholly devoted to them—achimenes, gloxinias, and herbaceous calceolarias. The cinerarias have been remarkably good, but they are now past their best, and beginning to ripen their seed. Cyclamens and primulas are of course now out of bloom, but cultivators of these flowers will probably make note of the large extent to which those two important classes of flowers are grown, and the heavy crops of seed that are being ripened in the five or six houses set apart for the old plants.

REGAL AND DECORATIVE PELARGONIUMS have long received special attention at Swanley, and the collection is probably quite unsurpassed, for there is hardly a variety worth growing that is not well represented. One of the first to arrest attention is Lily Cannell, an exceedingly beautiful regal sent out by the firm last year. It has a compact habit, is very free in blooming, producing large trusses of finely-formed flowers of a rich reddish crimson, with white throat and margin, and a marone blotch on each of the top petals. Volonte Nationale alba is one of the most recent, and certainly one of the most valuable, additions to the regal varieties. It is equally as dwarf and free in flowering

as the normal form, and the flowers are pure white, with small light rose spot on the top petals. For the supply of cut flowers it has, perhaps, no equal. The following, which are as yet but little known, can be strongly recommended for their distinctness, excellent habit, and attractive colouring. Gloire d'Orleans, in the way of Triomphe de St. Mande, but with rose lake flowers; Hamlet et Ophele, delicate mauve with marone blotch on the upper petals; Wilhelm von Dracke, rosy red, with marone spots on petals; J. B. Say, pale lilac, with small dark blotch on the top petals, dwarf and free; Claude Bernard, brilliant rose with white margin, and dark blotches on the top petals; Mons. G. Demoulin, rosy crimson, with white throat and margin, and dark blotch on the upper petals; Decorator (Braid), blush with dark blotch on top petals; Edward Perkins, rosy crimson, very fine and showy; Gold Mine, brilliant scarlet, with dark top petals; Black Prince, marone, with narrow lake, margin very distinct and useful for contrasting with the light flowers; and Duchess of Albany (Bull), bright rose purple, with dark top, very fine. Madame Thibaut, Volonte Nationale, and Rosetta are so good that they should have a place in the smallest collection, whether grown for the decoration of the conservatory or for competitive purposes.

Zonal and Ivy-leaved Pelargoniums comprise all the new and old varieties worth growing. Chief amongst the new zonals are Poète Nationale, from the seed bed of M. Lemoine, the flowers, which are produced in huge trusses, are salmon, shading to lilac at the margin, and with white centre; Sarah Bernhardt, bright orange, with pale pink margin; Toussaint L'Ouverture, rich purple magenta, a capital addition to the varieties of the Ferdinand Kauffer type. Two new double varieties must be mentioned, and these are Louis van Houtte, a dwarf growing variety producing a profusion of finely formed flowers of a rich rose-carmine hue; and M. Jamain, a very pleasing variety, the flowers of a delicate blush pink, reminding one of the pleasing colouring of the apple blossom. Especially noteworthy amongst those sent out by the firm last year are Mr. H. Cannell, a very large flower of grand form, the colour brilliant scarlet, shaded rose on the lower petals; Swanley Gem, bright rosy salmon, with white centre; and Kentish Fire, brilliant crimson, a free blooming variety, distinguished by the large size and high quality of the flowers. Good pink zonals abound, but the four best appear to be Edith George, very deep in colour; Edith Little, pale pink; Mary Caswell, blush pink; and Mrs. Strutt, bright pink, free in blooming, and of good habit. Mention must be made of Ida Walter, a very fine scarlet variety in the way of John Gibbons, which it surpasses in freedom of flowering and the quality of the flowers.

Begonias are grown in such large quantities as to surprise even those who are familiar with the magnitude of the operations of the firm. Seedlings suffice to wholly occupy three or four of the hundred feet houses, and an immense area is devoted to the named varieties. Louis Buchner and Worthiana, two scarlet varieties, bearing double and single flowers respectively, are grown in immense quantities. They have an excellent habit, and produce a profusion of medium-sized scarlet flowers, which are not injured by the roughest of weather. One of the most popular of the double varieties is Rosamonde, which has a vigorous habit, and the large rose-coloured flowers are produced in a remarkably profuse manner. Winter flowering or shrubby begonias also receive a large share of attention, and chief amongst the many good varieties grown are Nitida, which blooms during the greater part of the year, producing huge panicles of blush-coloured flowers; and Semperflorens gigantea rosea, a robust growing variety, bearing flowers of a bright rosy red colour, and singularly effective.

Herbaceous Calceolarias present an exceptionally attractive appearance, for the plants evince cultural skill of a high order, the flowers are of superb quality, the colours rich and diversified.

Violas are now in perfection, and produce a display of surpassing richness. All the good varieties have a place in the collection, but special mention must be made of the following, which are highly meritorious, and well suited to the requirements of those who, owing to want of space, are compelled to be content with a very limited number of varieties: Beauty of Norton, light purple, very free and fine; Champion, creamy white, one of the best for massing; Chelsea Belle, violet-blue, the best of its colour; Countess of Kintore, deep blue, shading to lavender; and Yellow Boy, deep golden yellow. The show and fancy pansies are also in capital order, and the frames devoted to these flowers are remarkably interesting and attractive.

Carnations must be mentioned for the purpose of referring to the Pride of Penshurst, which has taken a foremost position amongst the yellow perpetuals, and Mrs. W. Bright, a new variety, now being distributed by the firm, which promises to become equally as popular as the first-mentioned. It has a similar habit, and the flowers, which are of large size and produced very freely, are of a bright yellowish fawn, a hue now regarded with much favour.

Tea Roses in pots occupy several of the houses that during the autumn and winter are devoted to the chrysanthemums, and as they are blooming very freely the delicate hues of their flowers afford a welcome relief to the eye after feasting on the begonias, zonal pelargoniums, and the many other plants producing flowers high in colour.

Gladiolus pudibundus is now so rarely seen that it may be proper to record that there are some clumps of it in flower in the heath house at Kew. And near it are some clumps of the well-known and ever-welcome G. Colvilli, which is certainly one of the most useful flowers of its season.

The London Parks.—After Mr. Labouchere had carried against the Government his motion concerning the expenditure on the London parks, a Bill on the subject was promised by the Ministry. This Bill has now been introduced by Mr. H. H. Fowler, M.P. The parks and buildings which it is proposed to transfer from the Commissioners of her Majesty's Works to the Metropolitan Board of Works are Victoria Park, Battersea Park, Kennington Park, Bethnal Green, Westminster Bridge, and the Chelsea Embankment. In future the maintenance of these parks, &c., is to be paid for, not out of the revenue of the country, but out of the consolidated rate of London, and no part of the metropolis is to be entitled to any exemption from the portion of the rate that is required for defraying the cost. The extent and limits of the transfer are to be defined by agreement between the Commissioners and the Board, subject to an appeal to the Privy Council. In default of an agreement selecting some other date, the time for the transfer is to be the commencement of next year. The original vote was commented on in our issues for March 20 and 27.

HARDY PLANTS IN FLOWER.

Hardy plants now flowering comprise so many good things that a full list would be of questionable utility, and perhaps not clearly distinguishable from a trade catalogue. But a few subjects deserve special mention, as having claims to attention apart from the vast array of subjects that "speak for themselves." In this last category we have now the dashing Primula japonica, which makes a showy colouring on a border or rockery. There are innumerable species and varieties of pæonies, iberis, saxifragas, iris, arabis, anemones, and any number of miscellanies, while the hardy ferns are so fresh in their new growth that when flowers satiate we may cool our eyes by turning to the osmundas and athyriums and their kindred, all now in their brightest dress and resolved on mocking the emeralds that are much talked of but rarely seen.

Rhubarbs are handsome enough in the kitchen garden, and the flower heads when showing like red buttons are sufficiently beautiful for a place on the table, although seldom seen there. For the shrubbery and wild garden the two most distinct species are *Rheum officinalis*, which is truly grand in a large clump, and *R. palmatum*, the best variety of which is the one named *tanguticum*. This has the handsome sharp-lobed leaves of palmatum combined with a more free growth, and the spike of purplish-red flowers rises to eight or nine feet, forming at the present time a conspicuous and beautiful object.

Euphorbias are not of a highly attractive class, but a fine object when suitably placed is *Euphorbia palustris*, of which there are several forms, the dwarfest being the best. It is now a dense mass of greenish yellow inflorescence, at once curious and beautiful.

Polygonums of the best kinds, such as *P. Brunoniana* and *P. vaccinifolium*, are but just beginning to show their flowers, while of such giants as *P. sachalinense* and *P. cuspidatum* we will be content to record that they still have a place on the face of the earth. But *Polygonum alpinum* should be made note of as a particularly useful plant to cut from for decorative purposes, as it makes a nice mound of white flowers, that may be likened to the favourite astilbe that everybody grows, although in truth less elegant than our so-called feathery spiræa.

Valerians may be looked for in chalk pits now, but even there, where *Centranthus ruber* and *Valeriana officinalis* are amongst the first flowers that appear on new cuttings, we shall not find the equal for beauty as a garden plant of *Valeriana tuberosa*, with its compact heads of rosy blush flowers and lively leafy plant, or *V. montana*, which has pure white or pale pink flowers, as circumstances may determine.

Bedstraws are galiums, but all galiums are not bedstraws. Such names are full of historical significance. Time was when in this populous and prosperous isle ladies of rank knew somewhat of straw as an aid to horizontal repose, and we will now publicly thank God that they, in common with ladies of no rank whatever above that, perhaps, of honest women, know absolutely nothing of straw whatever, except, perhaps, as materials for bonnets. For certain purposes in large work—as, for example, we will say, in the Duchess's garden at Belvoir Castle, or the great parterre at Clivedon, or in the geometric scheme at Heckfield, uses may be found for such a plant as *Galium cruciatum*, a sort of "flowers of sulphur" that nobody need be anxious about for a bijou rockery.

Restharrows are not in flower, but we shall soon have a show of colour on the wild liquorice, *Ononis arvensis*, of which there are two useful forms, the pink and the white; and the spiny *O. campestris* will presently show its flowers, and *O. arvensis*, one of our native beauties, will quickly follow. In the days o' lang syne we used to visit Streatham Common to obtain a few nice specimens of the last-named for the herbarium; now perhaps we might whistle as well as look for it, and all in vain. However, we have on the rockery *Ononis rotundifolia*, a pretty herbaceous plant of smallish growth, now crowned with a diadem of pretty pink flowers, that quietly invite us to forget the world where promises are plentiful and performances few. This species has no spines, and is decidedly herbaceous.

Geraniums sound well, however gay or gloomy they may look. Of the well-known kinds we shall say nothing. Please make note of *Geranium pusillum* as an insignificant beauty that should have a place in every garden where choice plants find favour. It is a neat leafy plant at this time, dotted with tiny blue or purple flowers that may be most properly likened to a sprinkling of gems. A showy plant is *G. Wlassovianum*, a compact, dwarfish, leafy imitation of G. pratense, of which it may be regarded as the Siberian form; the flowers are of a pale lilac or rosy-tinted starch blue colour. *G. sylvaticum* is well known, and needs no praise; the flowers are a full-toned blue purple. The melancholy G. phœum is a good plant now nearly out of flower in London.

Ramondia gives trouble; it is quite as troublesome as Onosma taurica, which very few can propagate. The best place for *Ramondia pyrenaica* is on the face of a rockery where chinks occur with a good body of soil behind, with an aspect away from the sun. The plant likes a damp root hold, a dry bed for its leaves, and shade for its flowers without being overshadowed. It is now in perfection, and is worth a little extra care on the part of the manager of a good rockery. For what may be called rough and ready gardening it is of no use whatever.

Anemones are conspicuous by reason of their variety and beauty, but the only one we feel bound to make note of now is the very distinct and beautiful *Anemone polyantha*, a bold leafy plant with large white flowers in which the stamens are arranged in a remote resemblance to an example of engine turning. If the comparison is objected to we shall fall back on the star. Yes, the stamens are as much like a star as Hamlet's cloud was like a whale.

Potentillas are not as yet plentiful, but a very cheerful and thoroughly useful rockery plant is *Potentilla canadensis*, very neat in growth, and showing abundance of pretty yellow flowers.

Bluets belong to the incognatas. A beautiful little rockery plant is *Houstonia cærulea*, of which there are blue and white varieties. Provide for those shady cool nooks with peaty soil, and you will rejoice in your possessions.

Meadow Rue is the familiar name of a tribe of plants of which *Thalictrum aquilegifolium* is now a conspicuous and beautiful representative. It is, in fact, exquisitely beautiful, and though common to a certain few who move much amongst plants it is unknown to the world at large. *T. minus* and *T. tuberosum* are equally desirable for their distinctive beauty.

Odontoglossum vexillarium, at Great Gearies, Ilford, may now be seen with 289 flowers. The specimen is in every way genuine, having been grown on from one rootstock for ten years.

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 18.

Culture of Tomato for market—Astonishing quantity raised—Statistics—Size of the houses—A magnificent spectacle—Sorts grown and cultural treatment—Forced and unforced fruit—Prices obtained—Melons grown in the open and under glass—Prices, &c.—Strawberries—Outdoor culture falling off—Strawberries under glass—Very profitable to grow.

Considering that twenty years ago the tomato was a fruit so little esteemed, and in thousands of gardens altogether unknown, it is not surprising that the history of this fruit in the Channel Islands dates back only a very few years. In markets where the tomato was formerly sold by the hundredweight it is now consumed by the ton, and the demand for this fruit is so large and so steadily on the increase that there appears no probability nor possibility of glutting the markets with good, well-grown fruit.

The intelligent Channel Islanders were quick to see in what direction the demand lay, and finding how large a sale there was, and was likely to be, for tomatoes, they commenced forthwith building suitable houses in which to raise them in large quantities. In Guernsey and Jersey there have been already erected scores and hundreds of costly glass-houses for the culture of this popular fruit, and every year more are being built. In all the houses, too, intended for grapes, it is usual the first year while the vines are coming on to utilize the glass for tomatoes. Looking at the newness of the trade, the figures which we are able to furnish of the exports of this fruit from Guernsey alone are simply astonishing, and clearly demonstrate with what energy the islanders are engaging in this the latest branch of the market gardening trade. They show also at what a surprising rate the trade is progressing, and when we consider that the fruit has not yet been made as cheap as it might be, and that the resources of the island in this direction might be indefinitely developed, we gain some impression of the importance of the business and of the immense importance which it may ere long acquire. The quantity sent out of the island during the last three years was as follows :—

1882	21,633.
1883	44,600.
1884	52,600.

The above figures stand for "packages" or baskets, each containing about 25 lbs. Thus reducing the number of pounds contained in the figures for 1884 (viz., 1,315,000), we may get at the total quantity in tons, which would be a little over 587, a rather less bulk than that of the grapes exported during the same year. An immense quantity is also sent from Jersey, and the home consumption in both islands is large, so that we should not, we believe, be overstepping the mark if we were to estimate the total quantity grown annually in the two islands at 1,000 tons.

Some of the structures raised for the culture of this fruit are very large. Several in Guernsey measure over 500 ft. in length. In Jersey, Mr. Bashford, the grape grower, has a house more than 600 ft. long, containing about 3,000 plants. The spectacle as we saw it last July was magnificent in the extreme, the thousands of bright scarlet fruits, which hung in immense clusters from the whole length of the roof and from top to bottom of the plants, being brilliantly set off against the green foliage of the leaves, and presenting a luxuriant picture of tropical vegetation and fructification. Mr. Bashford has already planted over 7,000 plants, and contemplates running up more houses for this purpose every year.

The sort which he grows principally is a hybrid of his own, being a cross, we believe, between the Conqueror and Earley's Defiance. It is certainly a very handsome fruit, firm and compact, and finely coloured. The plants are raised from cuttings and from seed, the latter plan being the one usually adopted, though each grower has his favourite method of raising stock. When from seed, the sowings are made in January, March, and April, so as to ensure a succession. In due course the plants are put out into good rich soil in rows 3 ft. apart and 2 ft. in the rows, and later on are secured to upright stakes, and usually permitted to grow to a height of seven or eight feet. Some train them against wires and allow them to run up ten or twelve feet—that would be the plants in the centre of the house. They require, of course, an abundance of water; some apply liquid manure. The after treatment is similar in every respect to that followed elsewhere.

Those planted out in April will begin to yield full grown fruit at the base by the end of June, and a succession will be maintained as the fruit matures further up the plant, and by the later plants coming into bearing. In heated houses the very earliest will begin from the beginning to the end of April. When the fruit begins to "turn," it is plucked and laid on narrow boards in the house, fully exposed to the sunlight, where it ripens in a few hours and is ready to pack for the market. Each plant will yield from twelve to twenty pounds. The yield of a house measuring 500 ft. in length may be estimated at from ten to twelve tons.

The very earliest—those raised in heated houses—have realized as much as 5s. per pound, but the price usually begins at 2s. 6d. per pound and falls to 6d. The unheated crops commence at 1s. 3d. per pound.

We will speak next of the melon, a fruit which is successfully cultivated under glass, and is receiving so much attention that several growers are erecting houses purposely for its cultivation. A very enterprising company in Guernsey is going to commence in this line during the present year (1886), and, by the way, the manager told us that it is contemplated to build houses for the cultivation of early cucumbers.

"Many varieties of the melon," says Jacobs,* "ripen without glass; the Roman melon is even raised in Jersey without the assistance of the hand-glass, and is cultivated there in large quantities." But this is no longer the case. For all market purposes it is raised only under glass.

The plants are set out in May and June, and are ready to crop in from six to seven weeks' time. In Guernsey we saw some very handsome fruit, finely netted, and weighing from two to three pounds each. Some weigh as much as seven pounds each. The very best fruits realize 2s. 6d. each, but the average price is 1s. a-piece.

Strawberries, again, are grown somewhat extensively under glass, and the quantity is on the increase.

Looking first for a moment at the outdoor culture of this fruit, we find that the strawberry is not a stranger on the island. A writer just previously quoted says: "There is a species of strawberry peculiar to Guernsey which should be mentioned as being two or three times the size of the largest of the others; but what it gains in appearance it loses in quality, for the flavour is not to be compared either to the Scarlet, the Turkey, or the Carolina, the two last of which are mostly cultivated. There have been lately introduced into the island some new sorts called the Rosebery and the Downton, and in the year 1824 the Hermaphrodite, Hautbois, the Wellington, and other sorts were sent to me by J. R. Neame, Esq., a member of the Horticultural Society."

Speaking of the Carolina, or old pine, we are reminded that in more than one work treating of Guernsey this strawberry, "which in England is seldom grown for sale, as it does not in most localities bear so well as many other kinds," should here have been remarkable for its very superior fruitfulness and delicacy of flavour. This variety, in consequence, was the only one cultivated for market, where, in the height of the season, it was brought in such quantities as to cost sometimes only 2d. to 1½d. per pound. It was frequently planted in orchards, and bore fine late fruit even under the shade of the apple trees. Other sorts were seldom grown in Guernsey excepting for private use.

At this time Elton Pine, Keen's Seedling, and the Hautbois were also grown. "I have myself," said a Jersey gardener to us, "sent away as many as 500 quarts in one week, and I was not a large grower." The same intelligent man told us that rather less than twenty years ago the Goliath strawberry was extensively grown in that island, the fruit fetching £5 cwt. Four years later the Trollope's Victoria was largely grown. "This was a fine fruit, but did not bear transit sufficiently well to export." The cultivation of this berry in the open has fallen off considerably of late years, owing, said our informant, to the difficulty in packing, and to the extension of the early potato trade. Still, some fruit grown thus is still exported, and a large quantity is consumed in the island (Jersey). The best sort grown is the British Queen, though other sorts, such as Victoria, Dr. Hogg, &c., are also grown. Prices begin at 2s. the quart and fall to 6d. per quart.

Mr. Bashford, of Jersey, is the largest raiser of this fruit under glass. So far, he has 8,000 plants in pots, or had when we were there, and we understood him to say that in the course of another year he would have increased the stock by as many again.

The plants are renewed every year. The pots containing them are removed into the houses, which are moderately heated, in January, and placed close to the glass, so as to get the full benefit of the sunlight.

The earliest of the fruit is ready to gather in March, and always commands a high price. Some of the berries weigh fully two ounces each, and have realized as much as half-a-crown apiece. They are despatched to Covent Garden in shallow boxes, each box containing one layer of fruit, and weighing about two pounds.

* History of Guernsey, 1830.

THORNS.

The white thorn is now flowering in all the southern counties, and as the bloom passes in the south it will appear in the north, until towards the end of July it will touch with summer snow the most northerly regions in which the common thorn finds a roothold. It is hardy enough, indeed, for every part of the British Isles, but is not often seen in the far north owing often to the absence of a suitable soil, and in places where it abounds it is often of stunted growth, and much gnarled and twisted, by the combined effects of much wrestling with the wind and having to live on short commons. So far as the observations of the writer go, the present season is somewhat poor in hawthorn bloom, but the garden trees are mostly as flowery as ever, and the double sorts are at the present time in magnificent colour.

A botanical garden list of thorns would run to a considerable length, but a small proportion of the whole number should satisfy for garden and woodland purposes, these being, of course, the most distinct and showy, irrespective of special characters that only botanists appreciate. They have one good quality, that almost any soil will suit them; and yet another, that town smoke does not seriously affect them. These qualities, combined with their exceeding beauty both of leaf and flower, render them garden trees *par excellence*; there are, in fact, no garden trees that surpass them in usefulness, and not many that equal them, all points considered. But from the present point of view there is not much to be said about them, and we shall probably render this paper the more acceptable if we briefly mention the best of the race for decorative purposes.

The Common Thorn, *Cratægus oxyacantha*, takes its name from the hardness of its wood and the sharpness of its spines. Of its exceeding beauty and many uses it would be waste of words in this place to speak, but one use suggested by the late Mr. Forsyth may be worthy of mention. He proposed the use of the young leaves cooked as spinach. On the strength of his recommendation we tried them,

and here solemnly record that the flavour did not cause any kind of rapture, or diminish our delight in real spinach. There are about thirty varieties of the white thorn recorded in the books; very few of those are of less beauty than the common form, and a fair proportion do certainly exceed it in beauty, or so at least it appears in the esteem in which they are held. As we know nothing of absolute beauty, comparisons determine our choice, and the varieties of thorns afford entertainment for those who can compare them, for in a peculiar sense of the term they constitute a group of the most beautiful of hardy trees. In its commonest form its chief characteristic is picturesqueness, which age augments, and even accident and mutilation occasionally vary not disadvantageously, for, as it is almost impossible to kill a thorn, it survives the most cruel usage, and will often acquire grotesqueness of character as the consequence of great injuries.

The most venerable and picturesque thorns near London are in Earl Darnley's park at Cobham, where they "creep," as it is termed, owing to prostration by storms, movements of the soil, and injuries inflicted by animals, one of those being, perhaps, the animal called man. A remarkable group of old thorns may be seen on the right of the road from Ventnor to St. Lawrence in the Isle of Wight, and they appear to singular advantage in the autumn when their scarlet berries shine amid dense wreaths and bosses of common ivy which has so densely covered them that many of the trees appear from a moderate distance as consisting of ivy only, save for the glow of the berries attesting that the thorns still live, though burdened with the growth of a riotous parasite. Not less interesting, though differing from either of the aforementioned examples, are the old thorns scattered on the hills above the Vale of Troutbeck, where in the month of July may be seen the thorn in sportive mood, for the flowers on some of the trees are of the purest white, others tinted with rose, with ruby red, and with shades of pink and purple. The variations in all cases are not far removed from white; there is no strongly coloured self-red or rose amongst them, but not a few are exceedingly beautiful in their rosy and creamy shades.

Glastonbury Thorn is *Præcox* of the books. It is a good garden tree, for if favoured with a sheltered spot on a dry soil it shows its green leaves at the turn of the year, and will occasionally flower in January. It is very distinct in leafage, having large stipules, and the colour of the leaves being a peculiar tone of light green, while in respect of flowers and berries it agrees nearly with the type. It is an "interesting" tree, and that is a great point in its favour, but being a little tender in constitution it is not suited for unkind climates.

Weeping Thorns have never been conspicuous in gardens, but there may be half a-dozen varieties entitled to be so designated. Loudon (Arb. et Frut. ii. 832) describes two named respectively *pendula* and *reginæ*, the last being also known as "Queen Mary's Thorn," and figured from a tree in the garden of Mr. Cowan, of Edinburgh. The present writer is under bond to be practical, and proceeds therefore to name two fine weeping thorns of the most proper garden character, and they are a weeping form of the common white, and a similar or much more weeping form of the common crimson, and there are no finer trees of their class for a garden. The first bears the catalogue name of *Oxyacantha pendula*, and in respect thereof it must be said that it grows symmetrically, having none of the absurd ways of the weeping beech and weeping ash, while as regards leafage and flowering it does not differ at all from the common thorn, unless it be in a tendency to form what are termed "adventitious buds," the consequence of which is a growth of "birds' nests," as often occurs in the common birch. This tree displays its flowers well in consequence of its form. but it is in no way so decidedly pendant as the two eccentric trees named in comparison with it. To sum up in a word, it is the common white thorn touched slightly with the grace of the birch tree. A more decided weeper is the variety known as *coccinea pendula*, a most free growing, rich, and finely finished tree, that makes a grand comparison to the weeping form of the common holly on a spacious lawn. It has single flowers, of a rich crimson colour, and these are succeeded by scarlet berries.

Scarlet and Crimson Thorns may be classed as single and double; in respect of colour the differences are not many. The finest of all the single thorns probably is the one catalogued as *Punicca*, but many inferior forms of it are to be met with, and therefore when the selection is a matter of importance it would be well to see the trees in flower before purchasing, although at well managed nurseries the inferior sorts are cleared out as soon as they declare themselves, and the interests of buyers are protected at every step. This crimson thorn is fine in its double state as *Punicca pleno*; it is, in fact, exceedingly rich when in a sunny, dry position, as it then ripens its wood well and flowers in the most delicious style, as though emulating a fountain of crushed strawberry. But a finer thing, if close comparisons must be made, is the double scarlet, *coccinea pleno*, more especially when isolated so as to enjoy light all round and so placed as to ripen its annual growths perfectly. The colour is not scarlet, but a full-toned carmine, which becomes scarlet in a strong light, and so floriferous is the tree that we occasionally meet with examples that remind us of those exhibition azaleas that have so many flowers to show that they cannot afford to allow their leaves to be seen, and that we first place in the winning lots as perfect and then (privately) denounce as wanting the pleasant relief of a reasonable proportion of greenness. There are rosy, blush-tinted, and pale red varieties, which those who want them may find without difficulty; the business now is to "spot" the spotless things that are pre-eminent for beauty. And this compels us to make a paragraph for the

Double White Thorn, the book name of which is *Oxyacantha plena* or *multiplex*, a lovely thing that is now in perfection in all the counties south of Trent, but is nowhere (perhaps) so flowery as it ought to be, a circumstance rendered curious by the fact that the high coloured double thorns are about as gay as usual. This double white is sometimes a pure white, and a perfect rosette of the most finished form; but it may be seen occasionally with a touch of pink, and dying off reddish, while in this case the flowers are usually looser than in the pure white form, and as compared with the best style of the variety wanting in finish. The difference is the result of conditions only, not of the occurrence of a spurious variety, for there is but one, and its differences represent only the circumstances of its growth.

Tansy-leaved Thorn is good of its kind, the leaf woolly and of a grey tone of green, the flowers white, produced in plenty. Of this *Cratægus tanacetifolia* there are some half-dozen varieties, of which the one named *glabra* is the best, though, perhaps, the least characteristic, for it shows less of the grey tone than the type.

Parsley-leaved Thorn, which is *Cratægus apiifolia*, gives one most beautiful variety, suited for a good place in the garden. It is called *C. a. minor*, the leaves much fringed at the edge, the growth that of a low bush, or, when grafted standard high, a half weeping tree.

Pinnate-leaved Thorn deserves more praise than space can be found for here, and a full history of the variety would be interesting. It is of somewhat spreading growth, exceedingly leafy, the leaves long and deeply cut, so as to appear pinnated, the colour a brilliant golden green, the flowers white. There is not a more cheerful tree in the world, and as regards its vivid green colour it is remarkable. Its catalogue name is *Cratægus pinnatifida*.

Pyracantha or Fire Thorn is so well-known as an evergreen species, bearing immense crops of fiery berries, that it might without harm be omitted from this list. All that needs be said of it now is that we have no finer wall shrub for the southern counties, and when managed with a little care it makes a free bush, or even a handsome standard. For collectors and for large plantations the more desirable kinds are *C. crusgalli*, *C. punctata*, *C. macrantha*, *C. nigra*, black fruited; *C. flava*, yellow fruited; *C. azarolus*, rather tender, very distinct; *C. mexicana*, *C. coccinea*, scarlet fruited, a fine tree for London parks; *P. pyrifolia*, also a good park and arboretum tree; and *C. orientalis*. For a rockery spacious enough to accommodate trees and shrubs there is a suitable variety of C. oxyacantha, named *semperflorens*, because it shows a few flowers in autumn. It is of small growth, with small leaves, and at this time is very gay with snow-white flowers. And for a similar purpose *C. o. oxyphylla* is worthy of mention, as it is a gay little tree of excellent habit. W.

DISBUDDING AND WATERING CHRYSANTHEMUMS:

By J. Mardlin, Finsbury Park, N.

After the plants have been made safe from the winds by being staked and tied, they should be allowed to grow unchecked with one stem until they break naturally; and in the meantime they must have attention every few days, and all later shoots be pinched out as they make their appearance.

In the course of the month of June they will break and produce three or four shoots and a bud, which is known as the "June break" and "June bud." The bud must be "taken," or in other words pinched out, and the secondary shoots be allowed to grow without check until the next bud is produced. If the blooms are required for exhibition purposes the shoots may be thinned, the number of shoots to be regulated by the character of the variety and the size of the pot occupied. On the other hand, when the plants are intended for the decoration of the conservatory all the shoots should remain. Some cultivators recommend the cutting down system, but, after giving it a careful trial, I am fully persuaded that the old system, under which the plants are not subjected to a check at any stage, is decidedly the best. I believe that when a plant is cut down its best flowers are cut away. I am also convinced that, no matter how tall a variety may be, it must grow unchecked to ensure substance in the blooms.

The crown or terminal buds should be taken, but in some cases they will be too early. For instance, that well-known variety, Mr. Bunn, ought to make a second break, as when the plants do this the blooms are of better quality and come in about the right time. In the case of Queen of England and the several varieties that have originated as sports from it, the crown bud will give much the best bloom. The crown buds are the best also for Princess of Wales, Mrs. Heale, Prince Alfred, Lord Wolseley, Lady Harding, Mrs. W. Shipman, Princess Beatrice, and Jardin des Plantes. If Refulgens is allowed to break a second time the flowers produced will have large yellow centres, and be of very little value. The crown buds are best for Japanese varieties. If the buds are taken too early they will be hard and not come out so freely as could be desired. When the bloom buds appear several shoots will push from immediately below them, and these must in due course be removed. There must, however, not be any hurry in removing them, as they must not be taken out at so early a stage as to incur a risk of injuring the stalk of the flower bud. They should, indeed, be left until they are long enough to be readily nipped off with the finger and thumb. The wood, I would add, must be well ripened to ensure good blooms; but it must not be too ripe, or the buds will be so hard as not to expand freely.

The question of stimulants must now be considered, and, in referring to this point in the culture of chrysanthemums, I would strongly advise growers to use them with caution. The best liquid manure for those flowers is, according to my experience, that prepared with sheep manure and soot. Three bushels of sheep manure and one peck of soot, added to a hogshead of water, will make an excellent liquid. If used twice a week the plants will make a strong growth, and produce splendid foliage of the darkest green. A liquid stimulant, prepared by dissolving sulphate of ammonia in water at the rate of half an ounce to the gallon, will afford the plants material assistance if applied once a week in addition to the other liquid

manure advised. When the drainage from a stable, or from a heap of stable manure, can be obtained, it will not be necessary to use the ammoniacal mixture. Stimulants will not be required until the pots are well filled with roots, and their use should, in all cases, be commenced by giving them to the plants in small quantities. Rain water should be used when obtainable, both for supplying the plants and the preparation of liquid manure.

The varieties vary in their requirements in the matter of root space, and also in the number of blooms they are able to bring to perfection. The following varieties produce the finest blooms when grown in nine-inch pots, and have three flowers each, namely, the several forms of Queen of England and Empress of India, Mrs. W. Shipman, Lady Hardinge, Mr. Bunn, and Nil Desperandum. The following should be grown in nine-inch pots, and have two or three blooms, according to the strength of the individual plants, namely, Princess of Wales, Mrs. Heale, Princess of Teck, Hero of Stoke Newington, Prince Alfred, and Lord Wolseley. Venus and White Venus should have ten-inch pots, and be allowed to carry three or four blooms; and Princess Beatrice should be grown in pots ten inches in diameter and carry four blooms. Ten-inch pots are the most suitable for the undermentioned Japanese varieties, which should be allowed to carry the number of blooms specified: Comte de Germiny, four blooms; Elaine, four blooms; Madame C. Audiguier, four blooms; Fair Maid of Guernsey, four blooms; and Mdlle. Lacroix, three blooms. The following are best grown in nine-inch pots: Golden Dragon, two or three blooms; Meg Merrilies, three blooms; Alba plena, three blooms; Criterion, two or three blooms; Val d'Andorre, three blooms; and Jeanne Delaux, three blooms.

MUSHROOMS.

By J. C. Clarke.

We always experience more difficulty in keeping up a supply of mushrooms from the middle of June to the middle of August than at any other period of the year. This is owing to the natural temperature being in excess of what the mushrooms require, and the difficulty of having the fermenting materials sufficiently moist and otherwise in a condition to provide a suitable temperature for the beds. The only way we can overcome the difficulty is to make the beds, which are expected to be in bearing at the above-mentioned time, in a cool shady place. The north side of a high wall or building is, perhaps, the best place. A shady place under trees is not objectionable, providing there is some means of preventing the drip from the trees falling on the beds.

In forming beds at the present time the fermenting materials should be prepared with rather more care than is necessary during the winter, because the moisture in the materials dries up more quickly during the summer months. We find it best to limit the selection of fermenting materials to about an equal part each of horse droppings and good tree leaves. The straw litter from the stables quickly parts with its moisture at this time of year, and unless the materials are fairly moist the heat does not last long enough to cause the spawn to run freely over all parts of the bed. At other times we only shake out the long, dry litter as it comes from the stables, and find, when the manure is well prepared, that it answers the purpose as well as when the bed consists wholly of droppings. Much depends on the character of the fermenting materials as to how deep the beds should be at this time of year. If the material is likely to retain its heat for about three weeks, a depth of fifteen inches will suffice. But in a general way, when the beds are open, a depth of eighteen inches is not too much, and a bed six feet in width is likely to answer better than one that is narrower.

During the spring and autumn mushrooms can be successfully grown in sheds, cellars, or any other outbuilding where an average temperature of about 55 deg. can be maintained. Sometimes in mild winters we have been able to obtain fairly regular supplies when the beds have been made up in close warm sheds. Much, however, depends on the position and aspect of the building, as well as on the character of the weather. In warm, closed sheds, with a southern aspect and well sheltered, provided the weather is mild for two or three weeks after the beds have been spawned, a fair supply of mushrooms may be expected. We have also grown them under stages in an ordinary greenhouse during winter, and although such a plan involves a good deal of trouble to take the materials in and out of the house, it is more certain than growing them in sheds, as the temperature of a greenhouse during the winter is suitable for mushrooms.

Where a continuous supply of mushrooms is required during the winter a properly constructed and heated house must be provided, and then, except during the very hottest weather, there will be no necessity to resort to any other plan. With a proper mushroom house I prefer to confine the selection of materials to droppings only, as then, if the bed is from ten inches to twelve inches deep during the autumn and spring months, that depth will furnish all the bottom heat required to cause the spawn to run satisfactorily. But from the middle of November to the end of February the beds should be made from fifteen to eighteen inches deep. If the beds cool down too quickly, which they sometimes do when the weather is very severe, it is necessary to use more fire heat to keep up the temperature than is good for the beds that are in bearing. The heat from the pipes is too dry, and mushrooms require a fairly moist atmosphere. With regard to mixing turfy loam with the droppings, as recommended by some, I say by all means use about one-third, if it is to be had. But I know from experience that very few can command a constant supply of loam for this and other purposes, and therefore we have to do without it. But where loam of a suitable nature is to be obtained I would use only droppings with the loam, and free them from every bit of litter. I know I should secure a more lasting heat in the beds, and after all that is the most important point in growing mushrooms. Unless the bottom heat last long enough to cause the spawn to run equally all over the bed the crop will not be satisfactory.

It is the opinion of some growers that the manure for mushroom beds should be carefully dried before the beds are made up, and to that end the material is spread out in open sheds, and much time spent in turning it over; but I am not of that opinion. I like to collect all the material into a heap, either under cover, or where it can be protected from rain. In that condition I like it to remain for seven or eight days, and to turn it over once during that time. It is then in capital condition for use. In forming up the beds I make them as firm as I possibly can by beating the materials with the back of the spade. If the materials should be rather dry than wet I have the bed trodden, as the firmer the bed the longer does it retain its heat. The beds ought to be spawned when the heat goes down to 80 deg. I would rather spawn the beds when the heat is a few degrees higher than below that point. The spawn should be broken up into pieces about two inches square, and laid equally over the bed at a distance of nine inches apart. The pieces may then be pressed into the bed with the back of a spade. When this operation is completed the surface of the bed must be covered to a depth of one inch with some good fresh mellow loam, which must be neither too wet nor too dry, and then the surface can be made smooth by passing the back of the spade over it. As mushrooms grow best in darkness, a layer of rough hay should be spread over the bed as soon as the spawning is finished.

In regard to the after management, when mushrooms are grown without fire heat they do not require much attention, as it is not often the surface wants watering unless the heat in the bed should hold out longer than is usual. However, if the surface becomes dry it must be watered: a little tepid water, applied by means of a pot to which a fine rose has been attached, will be sufficient to make the soil moist the whole depth. With respect to mushroom houses, when fire heat has to be constantly applied to keep up the temperature, the beds require watering more frequently, but it must be given cautiously. Once a day the floor may be lightly sprinkled, to create a moist atmosphere in the house. At no time should the temperature of the house exceed 60 deg., and in a general way if it is three or four degrees less better crops will be secured.

It is most important to secure good spawn, for without it the most careful management will end in failure. I do not wish to suggest that good spawn is difficult to obtain; but what I mean is that the cultivator should secure it from a trustworthy source.

DECORATIVE PELARGONIUMS.

It is quite evident to those who take an interest in pelargoniums and have an opportunity of visiting the public exhibitions and private gardens that the large-flowered "show" varieties have had their day, and will in a very short time hence become things of the past. It is not surprising that the new race of decorative varieties should take their place, for of late years the raisers have proceeded on the assumption that the shape of the flower was everything and the habit of the plant nothing. As the result, a large number of varieties were distributed that were practically worthless, for the most skilful cultivator failed to grow them satisfactorily. If the raisers have been to blame in this matter so also have been those who during the past fifteen years have been entrusted at the several metropolitan exhibitions and meetings with the awarding of certificates. They have not, speaking in a general way, insisted upon plants compact in growth and free in blooming, but have looked to the flowers only; and some dozens of certificates have been awarded during the period above mentioned to varieties of which not more than one bloom was fully developed when they were submitted to the adjudicators. Knowing that large and finely formed flowers were alone sufficient to gain a certificate, and that certificates helped to sell the plants, it followed as a matter of course that raisers should endeavour to satisfy the requirements of committees and judges. Whether the raisers or the judges are the most to blame, the fact remains that the cultivation of the show flowers is almost wholly abandoned in favour of the decorative varieties. If we visit private gardens we find the latter the most prominent, and in the exhibition collections the show varieties do not form twenty-five per cent. of the total. During the past two or three years their numbers have decreased at a more rapid rate than at any other period in their history.

At the various exhibitions held this season I have made notes of the best of the decorative varieties staged, and I send you herewith a transcription of them with the hope that they will prove useful to those readers who have not an opportunity of visiting the metropolitan exhibitions. The varieties of special merit are Gold Mine, brilliant orange scarlet, very free and effective; Annie Hemsley, rose crimson, flowers of good form, and produced in large trusses; Rosetta, rose lilac, invaluable for its distinct colour; Mrs. Ashby, rose-tinted purple and margined with white; Decorator, crimson, with large marone blotch on the top petals; Duchess of Edinburgh, white, with small purple blotch on the top petals, the best of the light varieties; Lady Isabel, rose lilac, very distinct and pleasing; Mons. G. Demoulin, rose crimson, with white throat and margin; Kingston Beauty, white with purple blotch on each petal; Madame Thibaut, white, blotched with brilliant rose pink, very attractive in colour; Comtesse de Choiseul, blush white top, petals feathered with marone; Triomphe de St. Mandé, deep crimson; De Fiance, bright scarlet; Lucie Lemoine, white, slightly feathered; and G. Shepherd, brilliant orange red, with dark spot on top petals, very free and fine. It may be added that the whole of the varieties mentioned have an excellent habit, and are very free in blooming.

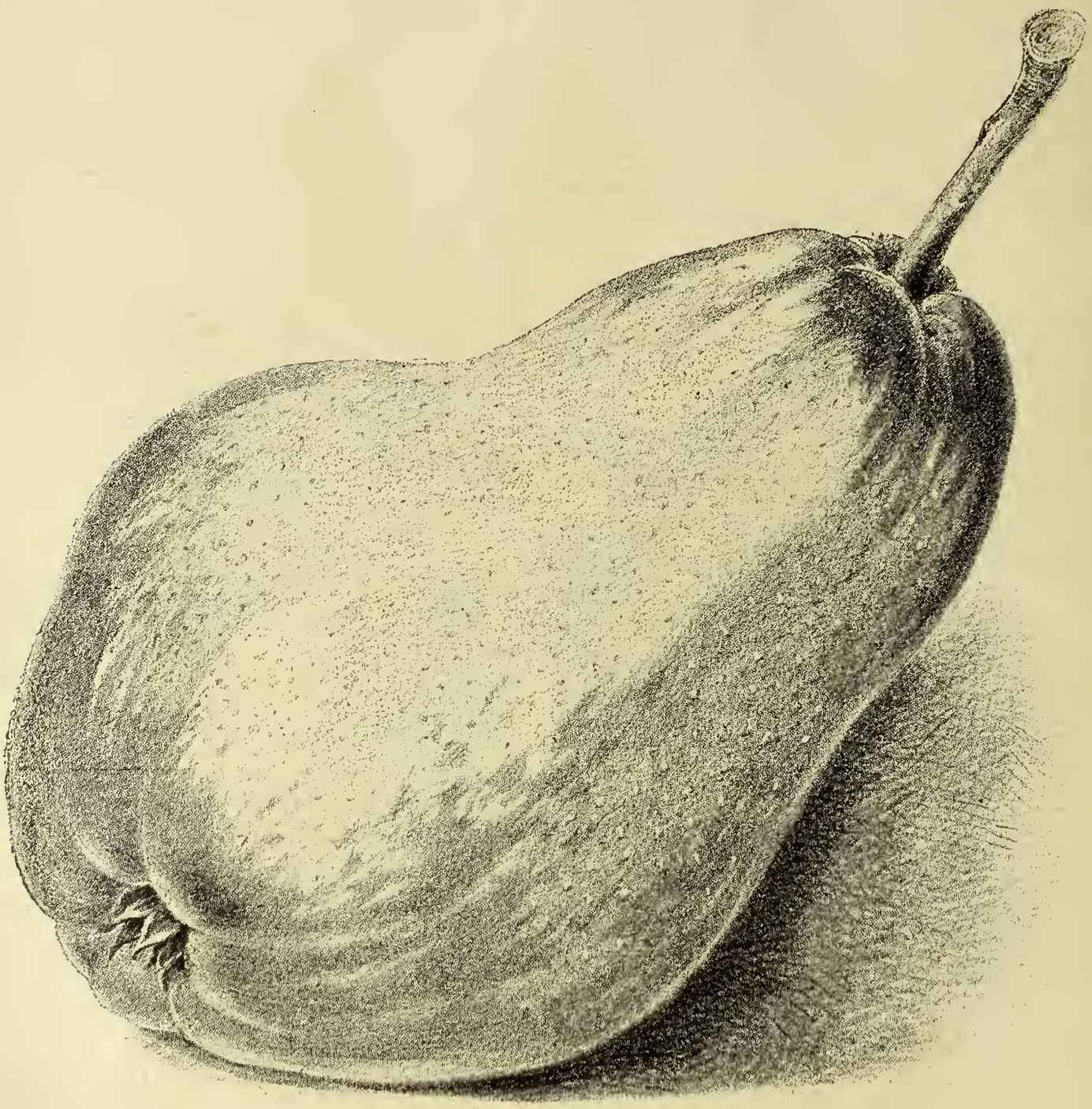
Practical Cultivator.

CONGRESS PEARS.

Uvedale's St. Germain or Belle Angevine.

There is a danger of the British public being persuaded that application must be made to the antipodes for large and handsome pears, and, as common sense occasionally makes cause with forgetfulness, it may be prudent at this conjuncture to invite common sense to keep in close alliance with honest and intelligent remembrance. For why? Well, the daily papers have informed the world of new arrivals in the way of gigantic pears from South Australia, and the horticultural papers have occasionally described and figured gigantic pears from San Francisco as well as from Australia, and the British public has become possessed of an idea that within the boundaries of Britain such growths are impossible. What? Have we not had a Pear Conference, and have not the pages of this infallible G.M. testified to the capabilities of the home empire in respect of the product of pears, as of many other things, that only require "growing" to be what they should be for purposes of astonishment, and also perhaps of usefulness.

"Perhaps!" It is well to bear in mind that we lately had a discussion on "big things," and our coadjutor, "W.," got mauled a little for praising the flavour of some small sprouts. We were reminded of the unfortunate poet who wrote something about the young soul, but found himself in print, saying, "Not for ever in sunny dreams shall the young sprout be wasted." As regards gigantic pears, it should be said that for culinary purposes the larger the pear the better, provided that the great size is not obtained to the detriment of the crop. If one pear delicately stewed is enough for a dish, why groan because you have not two? But if the crop is sacrificed to ensure the production of two or three gigantic samples, there is at least the shadow of a wrong to mankind at large, because the total of food the world would produce is reduced by the hand of man. Now it must be confessed that in the growing of gigantic pears the crop is thinned down in a desperate manner, and the money value of the few giants is proportionately increased. We have seen great pears sold at five pounds (£5) each, and we have heard of, but never seen, three times that sum paid for them.



CULINARY PEAR, UVEDALE'S ST. GERMAIN (Weight 2lb. 3oz.)

The fruit now figured had a place at Chiswick, amongst many such giants, at the Pear Congress of 1885. It was in the remarkable collection of Messrs. Le Cornu, of Jersey, and its weight was 2lb. 3oz. The figure will show that it was in its way a fair sample, being even in growth and well proportioned; and in truth it was a very handsome specimen both in form and colour.

Uvedale's St. Germain is an old pear, raised by Mr. Udal, Udale, or Uvedale, of Enfield, about the year 1720. Bradley, the naughty Cambridge Professor, speaks of it as the Union pear, having a length of eight inches, the sample now before us measuring from the

snout to the tail about an inch less than that, and its weight was 2lb. 3oz. The heaviest sample hitherto brought from South Australia weighed 2lb. 15½oz.; and if heavy pears are the quest, it may pay to go round the globe for a gain of 12½oz. on one specimen. Dr. Hogg says he has ascertained by the old books of the Brompton Park Nursery that it was grown there in 1752, under the name of "Udale's St. Jarmaine," and he adds that he is quite satisfied it is the same as Belle Angevine of the French. Leroy says it received this last cited name from M. Audusson, a nurseryman at Angers, who received it from the garden of the Luxembourg, under the name of Inconnue à Compôte, in 1821. Leroy's figure shows a slightly smaller fruit to our sample, with less character, but the same general form. He devotes two pages to its history, some portion of which rests on a misconception.

Uvedale's St. Germain is a cooking pear of the largest size, and has been grown in England to a weight of 3lbs. It is long, pyriform, rounding boldly at the eye, swelling softly at the bulge, a little curved and swollen on one side next the stalk, which is inserted in a small, close cavity. The skin is dark green at first, changing to yellowish green, with a tinge of brownish red on the sunny side, and a few patches and dots of russet. The flesh is white and crisp, juicy, and "demi-fine." Its season is usually from January to April, but we have often had it on the table in the month of May, and found it excellent. As a dessert fruit it is useless.

BROWN'S MUSK ROSE.

Rosa Brunoniana.

When Mr. T. W. Girdlestone discoursed delightfully on single roses in the "Rosarian's Year-Book," we were reminded of this rose in especial, for near the succulent house in the Royal Gardens, Kew, there is a great lump of it that is allowed to grow naturally, and it runs up high amidst the trees that environ it, and over others spreads its wild arms in the most gloriously riotous irregularity, showing in the month of June a sort of dispersive mountain of flowers. The figure very fairly suggests the beauty of the thing, which, as the small novelists say, "must be seen to be believed, and can be better imagined than described."

BROWN'S NEPAUL ROSE, *Rosa Brunoniana* (Flowers white).

Rosa Brunoniana was so named in honour of Robert Brown. It is in the section of *R. moschata*, from which it differs chiefly in having hairy and glandular leaves, and the leaflets differ in outline. It is a native of Nepaul, whence it was sent by Dr. Wallich about the year 1822. The old branches are stout, armed with hooked prickles, the petioles also have a few falcate prickles, the leaflets are lanceolate, hairy, dull green above, pale green beneath. The small white flowers are in bunches, very small in the bud, which is seated on a smaller

elliptical fruit, which is soon hidden by the reverted sepals. In the mass the flowers are of a creamy colour, owing to the admixture of the yellow stamens with the white of the petals, the general effect being highly picturesque, and justifying all that may be said in favour of the better kinds of garden forms of wild roses.

This rose is figured in Lindley's Monograph, t. 14, in B.M., t. 4,030, and in B.R., t. 829. Although closely allied to R. moschata, it is regarded as a distinct species, as on comparison with the last-named as found in Nepaul, it is seen that the points in which they differ are not representative of climate merely.

Notes of Observation.

A LATE CHRYSANTHEMUM.

At the second of the two May meetings of R.H.S., Mr. Easton, of Sunbury, exhibited a chrysanthemum which was so well bloomed as to excite considerable interest amongst the experts and to surprise not a few of the visitors. The plant in question was growing in a twelve-inch pot, in which it was put in the summer of 1885; was about two feet high, and furnished with eight or ten flowers of good size and as fresh as it is customary to see chrysanthemums at the beginning of November. The name of the variety is a matter of some importance, and it is unfortunate that the exhibitor is not able to give it. Mr. Easton, who grows chrysanthemums largely for the production of cut flowers for sale for decorative purposes, informed me that it cropped up amongst a batch of plants that had been raised from cuttings received from various quarters, and he is therefore not able to say whence it originated. The flowers are very similar to those of Mrs. George Rundle, and several specialists consider it to be that variety, and I am of the same opinion. But as most flowers vary so much from their normal character when out of season, I should not like to speak positively without a fuller examination of the blooms than the time at my disposal on the occasion in question would permit. Chrysanthemums are hardly wanted at the end of May, but it is desirable that it should be placed on record that a plant bearing flowers of good quality was shown at that time. This was, I understood, the fourth crop of flowers the plant has borne. It bloomed in January, and was then cut down and put on one side for propagating purposes, but instead of a crop of suckers rising from the base the shortened shoots made a second growth, which in due course produced flowers. Since then it has produced two other crops of flowers, all of which have been of average size and good quality. As the whole of the laterals are furnished with buds, the plant will continue in bloom throughout the summer unless it is cut down to within a short distance of the surface of the soil. It will be interesting to know how far the example in question will maintain its perpetual character next season.

G. G.

EARLY VEGETABLE MARROWS.

It is very commonly supposed that it is quite impossible to send to table vegetable marrows in advance of those produced by plants put out at the end of May without the aid of glass in some form. In some gardens where vegetable marrows are required for as long a period as possible it is the practice to devote a frame to them and remove the lights early in June, when more space is required, and allow the vines to extend over the sides. In other places the plants are put out under hand glasses, which are allowed to remain until the growth is so far advanced as to render their removal necessary. Both these practices are good, and I have nothing to say against them. But there are many cultivators who would like to obtain early supplies that have neither hand glass nor frame available for the purpose, and it is for the assistance of these that this note is written. I cannot do better than to adopt the practice which prevails in the market gardens in Middlesex. They provide a stock of bottomless boxes eighteen inches square, nine inches deep, and provided with a movable lid. Boxes of this description cost a mere trifle, for they can be made at a very rapid rate by a handy man. The lids have no hinges, and the boards with which they are formed are held together by two narrow strips of wood. The plants are put out in pairs early in May, and protected by the boxes as long as protection is necessary, the covers being removed during the day. Although the wooden covers have the disadvantage of excluding the light when they are put over the boxes, they answer very well, as during May it is not necessary to keep the plants covered. They are, of course, cheaper than glass, as there are no breakages. By the use of boxes of this description there is a gain of from three to four weeks, the plants being now well established and growing vigorously.

Observer.

AMERICAN COWSLIPS.

The American cowslips, as the dodecatheons are popularly designated, have been in bloom for some time past, and although our herbaceous borders are well stored with good things, we have nothing to surpass them in beauty. The positions selected for the dodecatheons are partially shaded, and the soil is light and rich, and under these conditions they thrive in a manner that quite surprises many of my friends. The finest of the series is unquestionably D. splendidum, which produces a profusion of bright rosy crimson flowers, and it should be grown rather largely where positions suitable for it can be found. D. Jeffreyanum is of more robust habit than the foregoing, and produces large umbels of rose and yellow flowers. The colour is exceedingly pleasing, and large clumps are very effective. The better known species, D. Meadia, is not perhaps quite so attractive as either of the foregoing, but it nevertheless possesses much beauty, and as it is very cheap and hardy it should be planted rather extensively.

J. E. S.

CERTIFICATING CATTLEYAS.

Will you allow me to suggest that it is a mistake to certificate varieties of Cattleya Mossiæ, C. Trianæ, and other species that vary much, unless they are so very distinct that there is not much likelihood of others similar to them cropping up. But to certificate varieties which only differ from the normal form by having petals and sepals an eighth of an inch wider or a labellum with a slight variation of colour is a mistake. Not long since two varieties of Cattleya Mossiæ were certificated, and in the following week at least a dozen varieties, quite equal to them if not better, were exhibited, and in the case of several other species instances very similar could be mentioned were it necessary to do so.

Orchidist.

POLYANTHA ROSES.

Few subjects exhibited at the spring shows of the Royal Botanic and Royal Horticultural societies have given me greater pleasure than the standard specimens of those two charming polyantha roses, Mignonette and Paquerette. Grown as standards on stems ranging from twelve inches to three feet in height, they are both especially attractive when in bloom, and it is a matter of no small importance, that they are continuous as well as free in blooming. The flowers are produced in large clusters, and as soon as one cluster is past its best another is produced, and practically the polyantha varieties are perpetual flowering. I have not grown them in standard form, but I intend doing so, as standards such as those contributed to the metropolitan shows will, I am quite sure, be admirably adapted for associating with ferns and dwarf palms in the conservatory. Hitherto I have grown them as dwarf bushes in six and eight-inch pots, and have found them exceedingly useful. I have them also planted in the rose garden, where, as edgings to the beds, they are singularly effective, and yield a liberal supply of cut flowers, strong suckers bearing huge clusters in continuous succession. Paquerette and Mignonette, which have white and pink flowers respectively, are the best of the varieties now in cultivation, but Anna Marie de Montravel which has white flowers, Jean Drivon, white tinted rose, and Perle d'Or, nankin yellow, are well worth growing. Floribunda, a new variety raised by Dubreuil, and now being distributed by the English nurserymen, is, from the description given of it in the *Garden Oracle*, likely to prove a valuable acquisition. It is described as producing flowers of the same size as those of Anna Marie de Montravel of a delicate rose colour shaded white, and as being a very abundant bloomer. Those who have seen the variety hold a very high opinion of it. Max Singer, another variety of this season, should also possess considerable value. It has a long branching habit, and the flowers are about equal in size to those of Hermosa and are of a light crimson colour. This variety has been selected from the seed bed of Lacharme, whose roses are usually more or less good, if they do not always prove equal to the expectations of the rosarian.

G. H.

ROSE PROSPECTS.

Unless I am much mistaken, we shall have an exceptionally fine display of roses in the ensuing season, for the trees are making a strong growth, and at the present time present a more promising appearance than they have presented in May for some years past. They were so much tried by the long continuance of cold weather and the keen easterly winds which prevailed until quite late in the spring that I feared the growth would be comparatively weak and decidedly late, but the heavy rains that have recently fallen have afforded them such substantial assistance that they are now growing with a vigour that is truly surprising, and, judging from the strength of wood, the flowers will be above the average in size, and certainly not wanting in fulness. It is, of course, too early to say with certainty that the rose season will be a good one. It promises to be so, and it may not be amiss to remark that, according to my experience, roses are generally satisfactory when the trees have the assistance of a heavy rainfall during the earlier stages of their growth. It is a much greater advantage to them to be liberally supplied with water at the roots in May, when the wood is being produced, than in June, when they are swelling up their buds, because it is impossible to obtain first-class flowers from shoots wanting in strength. Knowing this, I have for some years past commenced watering at the end of April, and continued it throughout the month following, according as may have been considered necessary, but, happily, very little watering has been necessary this season, and the ground is now so thoroughly saturated that they will require but little, if any, assistance to ensure the full development of their flowers. A few of the hybrid perpetuals have their buds in a rather advanced state of development, and from Gloire de Dijon, trained to a wall having a south aspect, we are cutting an abundance of beautiful flowers. The first bloom was cut on May 22, and I have no doubt that the autumn will be far advanced before we shall cut the last flower of the year. We have had introduced of late years a large number of very beautiful tea roses, but I do not know of one that can surpass this fine old variety for out-door culture; certainly none surpass it for hardiness and freedom of flowering.

Viator.

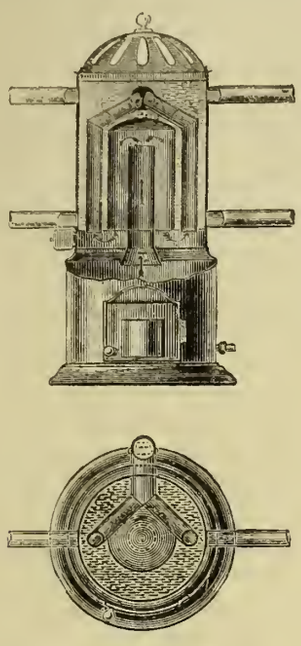
THE BEE SEASON.

It is many years since bees have been so late in swarming in this part of Somerset as they are this season. As I write—on May 26—I have not seen or heard of a single swarm coming out, nor do I observe any disposition on the part of the bees to part company. The weather, too, is dull and showery, so that there is but little prospect of having a May swarm this year, though it is not many years since I had the satisfaction of reporting in these pages the fact that we had several swarms hereabouts before the month of April was out. The losses amongst bees during the past winter were not serious in this part, but the long winter and late spring left the stocks very weak, which I suppose is the reason why swarming is so late.

J. C. Clarke.

TOOPE'S HEATING APPARATUS.

The difficulties experienced by amateurs and others in the heating of greenhouses and other plant structures of small size are so great that we have much satisfaction in directing attention to the appliances recently introduced by Mr. Toope, believing, after a careful examination of them in full work, that they mark a decided advance in the heating of horticultural structures. To ensure a more thorough appreciation of the value of the several inventions, it appears necessary to state that Mr. Toope, who is engaged in a large business widely different from the manufacture of heating apparatus, devotes a considerable share of his leisure to the cultivation of flowering and other plants. He is therefore thoroughly conversant with the requirements of the general body of amateur gardeners who are able to devote a small portion only of their time to the work, and, from the nature of their avocations, are compelled to be away from home at rather long intervals. To enable the amateur to derive the fullest possible degree of pleasure from his greenhouse or other plant



Section of Champion Heater.

structure it is essential that the apparatus employed in heating the house should be comparatively inexpensive, simple in management, and so devised that it can be left without attention for at least ten or twelve hours, and the appliances in question comply with these conditions in a remarkable manner. They are certainly well within the reach of those who are able to indulge in the luxury of a plant house, not costly in working, and they do not involve any of the risk inseparable from heating small houses by a hot water apparatus of ordinary construction. The length of time the apparatus can be left without attention is a great gain, as it relieves the amateur from the necessity of sitting up late at night, or rising early in the morning, as when an apparatus heated by coal or coke is employed, for ensuring the safety of the plants.

The Champion Heater has been designed for heating, by hot water, greenhouses, conservatories, and other structures of small and moderate dimensions, and can be heated by gas or petroleum oil, as may be considered advisable. It can be fixed to a service of hot water pipes arranged round the sides of the house in the usual way, or it can be made portable. In the latter case the pipes are fixed to the right and left, as shown in the accompanying illustration. the length of the piping being regulated by the size of the house.

To many amateurs the portability of the Champion Heater will be a great convenience, as when heated by oil it can be readily moved from one part of the house to the other, or taken elsewhere. When heated by gas it will be simply necessary to disconnect the burners from the supply pipe. Those heated by gas are fitted with one, two, or three specially-prepared burners according to their size, and are provided with an outlet pipe for carrying off the products of combustion. As shown in the section of the heater the gas burner or oil lamp is placed in the interior, and the heat passes up the centre and down to the soot box, when it again takes an upward turn, and the small amount that is not extracted by the water makes its exit with the fumes by the pipe near the top and communicating with the outside air. The heater can be fixed either inside or outside of the structure, but it is perfectly safe to have it inside, as proved by the healthy condition of the whole of the plants in the spacious house in which Mr. Toope has fixed it, amongst them being several choice orchids.

Mr. Toope has also invented a small stove, which has been designated the Little Vixen, for the heating of frames of various sizes. This is constructed on much the same principles as the Champion Heater, but is smaller in size, and the heat passes up the centre, strikes against the water space, and then makes its exit. The Little Vixen is well adapted to the purpose for which it is made, as proved by the excellent work it is doing in Mr. Toope's garden. A highly efficient propagating frame has also been invented by Mr. Toope, and this is heated by the Little Vixen stove, for which it is as well suited as for the ordinary frames.

The several appliances are manufactured by Messrs. C. Toope and Co., 1, Ben Jonson Road, Stepney, E.

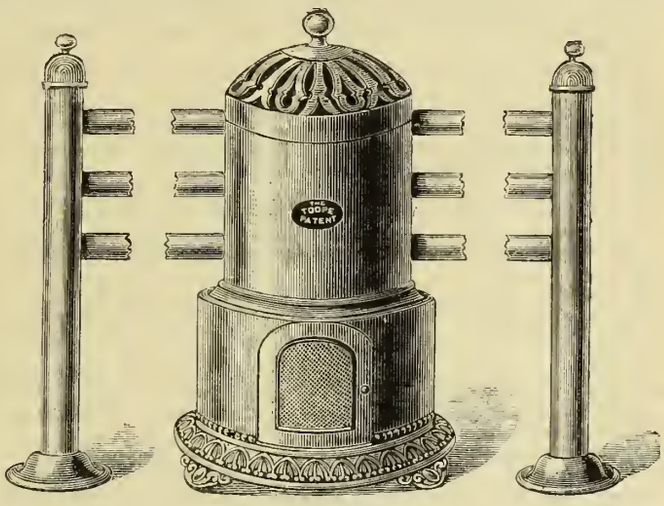
SPURIOUS TEA.—The teas sold by Chinese merchants to foreign countries during the last four or five years have been so generally complained of on account of the adulterating material added to them, that the Inspector General of Maritime Customs, who is an Englishman, has warned the authorities that the tea business of China is likely to be entirely ruined. Good Tea is prepared from young leaves of the early spring growth, which alone yield the strong, rich, and delicious infusion for which Horniman's Pure Tea has for 50 years been so famous. See Local Agents, Chemists, Confectioners, &c., advertised in all papers, and at Railway Stations.—[Advt.]

TRANSMITTING LIVING PLANTS ABROAD.

By R. Lindsay, Curator, Royal Botanic Garden, Edinburgh. Communicated to the Edinburgh Botanical Society.

The method usually adopted in transmitting living plants, particularly where very long journeys have to be undergone, is to pack the plants in Wardian cases, *i.e.*, cases fitted with glass sashes, which, when closed, are nearly air-tight. This is no doubt the best mode of conveying plants safely, provided they are properly attended to on the journey. To do so it is almost necessary for some one who understands the requirements of plant life to take charge of the case, as, when sent without any special attention being paid to them, the results are frequently unsatisfactory. The dangers attending such structures appear to be want of ventilation and shading. The plants contained in them soon become drawn up and weakly in the steamy atmosphere of a close-fitting case, and often arrive at their destination in a dying or dead condition.

One of the most successful importations of plants that I recollect having seen was contained in a small wooden box sent to the Garden from Australia by Baron von Mueller, in 1866. The plants had been over three months on the journey, but were found to be in perfect health on their arrival at the Garden. This result we attributed chiefly to the simple manner in which the case was constructed. It consisted of a rough square wooden box, filled with soil, into which the plants (which had previously been grown in pots) were placed, two narrow strips of wood were nailed on to the sides of the box in an upright position, to which a cross-piece was attached, constituting a handle. The whole was then covered with strong cotton cloth, no glass being used. In vol. viii., p. 482, *Transactions of the Botanical Society*, a description is given of this case by the late Mr. McNab. In July last our associate, Mr. John Buchanan, when returning to Central Africa, being desirous of taking some economic plants out with him to that country, an opportunity was thus afforded of trying an experiment. This was rendered all the more necessary as on previous occasions similar plants sent to Central Africa from the Garden, packed in Wardian cases, although taken every care of on the way out, were found to be mostly dead on their arrival. On this occasion, a case similar to that exhibited was prepared. It is 18 inches long, 12 inches wide, 16 inches deep, has a ridge roof, with a handle fastened on the top for carrying. The main difference from an ordinary Wardian case is in the substitution of cotton blinds for glass sashes. The blinds are nailed to the top of the ridge and tied down with cords to the sides of the case, so that they may be easily rolled up or down as required. The advantage of this method is the admission of sufficient light and air to maintain the plants in a healthy condition; the fine meshes of the cloth act as a shade from strong sunshine, and do not admit so much air as to cause the interior to become quickly dried up. The plants sent on this trial consisted of indiarubbers, several tea plants, cinchonas, and ipecacuanha. They were all turned out of the pots in which they had been growing previously, the balls of soil slightly reduced, and then wrapped up tightly amongst sphagnum moss. The plants were then packed in the case firmly, in an upright position, using sphagnum for filling in the interstices. Thin strips of wood were placed across the balls, the ends of which were nailed to a flange inside the case for that purpose, thus preventing the plants from moving, even if the case was turned on end. After being well watered and allowed to settle for a day, the blinds were tied down and the case sent up to London, where Mr. Buchanan took it in charge. He was eighty-two days on the journey out, and in a letter to Mr. Taylor received in December last, Mr. Buchanan reports that all the plants arrived in a perfectly healthy condition, except the cinchonas, and that he had not given up all hope even of them. I may mention that the cinchonas referred to were not very vigorous plants to begin with; they were the best we had at the time, but were merely



Champion Heater.

young seedlings. It would be well to have this method still further tested, either by having a few plants sent to a distance alone, or at all events in charge of some one less skilful in the management of plants than Mr. Buchanan. For all but very tender plants (where special provision would be required), I think much more favourable results would be attained by the use of a case such as that described, always provided it were placed free from danger of sea water getting through the canvas, than if the usual Wardian case were used.

ANDROMEDA JAPONICA.

This pretty little evergreen shrub should be made note of for the rockery and the front of the peat bed, because of its neat growth and hardy constitution. I have a pretty bed of it in a corner of the American garden, and it is now curiously conspicuous by reason of the bright copper colour of the young shoots, which will keep this colour for some time before they change to the mature tone of green. On a dull day the colour of the new growth is purplish bronze, but when the sun shines brightly the colour is nearly that of a newly-burnished copper kettle. C.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

AZALEAS that were flowered early have now finished their growth, and may be put out to harden. Select for them a sheltered shady position, and stand the pots on bricks or slates to prevent worms getting in.

CALCEOLARIAS of the herbaceous class that are going out of bloom must be cut down if it is intended to keep any of them, as if they are allowed to produce seed they will probably die. When cut down give them a shift into larger pots, or plant them out on a spent hotbed, and take the lights off at night that they may enjoy the dew. When they break freely propagate and destroy the old stools. The most skilful cultivators, however, prefer to grow from seed.

CAMELLIAS need air now night and day, and the swelling of the flower buds should be the signal to cease watering overhead, which may cause the flower buds to start into leaves, and spoil the next season's bloom. Plants that require a shift may have it now, but large shifts should never be practised.

CINERARIA seed to be sown in pans of light rich soil with a sprinkling of very fine earth over. Lay over the pans pieces of glass or damp moss or tiles to prevent evaporation, but keep a watch that the plants are not blanched through keeping the covering on too long. Keep the pans in the shade till the plants are large enough to pot off.

ERICAS and kindred plant are better off in cold pits now, as it is next to impossible to give them air enough in any plant house.

KALOSANTHES require an abundance of water now, as do all succulents that are growing freely. Liquid manure will now do great things, and careful training must be practised if handsome specimens are wanted.

FLOWER GARDEN AND PLEASURE GROUNDS.

ANNUALS.—Sow any of the quick-growing annuals for autumn display. The blue Nemophila blooms beautifully if sown at the end of June; better by far than from spring sowings. Balsams, Asters, and Stocks to be planted out where they are to flower. Sow Brompton and Queen Stocks.

BEDDERS to have every necessary attention to regulate the growth and display the bloom; peg verbenas, petunias, and other trailers as soon as they need it. If the ground is very dry, loosen the surface with the hoe between the plants, and if necessary to water soak the ground well.

BORDER BULBS may be taken up as soon as the leaves are withered, and to ensure a perfect ripening lay them in clumps as taken up without damage to the roots, in a shady place, with a sprinkling of earth over them.

DAHLIAS to be tied up hetimes, or sudden gusts of wind will tear away the best branches from the base. On hot dry soils mulching is needful, and will prevent need of watering.

GRASS LAWNS newly made must not be so closely mown as old turf. But mowing must be performed with regularity, or it is impossible to obtain a uniform velvety green surface. To mow close a well-established turf is to encourage the fine grasses, and kill out the coarse kinds.

PINKS must be supported by neat stakes to keep the blooms from being spoilt by rain and wind. The best way to propagate is by pipings, and now is a good time to secure plenty of them.

FRUIT GARDEN AND PLEASURE GROUNDS.

BUSH AND PYRAMID FRUIT TREES now require attention. Shorten in at once all rambling growths; tie in espaliers while the wood is pliable, as, if they harden out of shape, it will be difficult to train them hereafter. Keep down grub, fly, and American blight by the several remedies at the command of cultivators.

RASPBERRIES when swelling their fruit may, if a few extra large samples are required, have the fruit thinned on the canes, and two or three heavy soakings with liquid manure. But for all ordinary supplies it is best to let them ripen as much fruit as they will. The ground amongst raspberries is now pretty well paved with seedling plants and weakly suckers. Hoe them down—they only rob the fruiting ones of nourishment.

KITCHEN GARDEN AND FRAME GROUND.

BROAD BEANS to be sown again if a late supply is at all likely to be wanted. Top those in flower as soon as a reasonable amount of bloom is expanded.

CELERY to have an abundant supply of water if the ground is dry, as slow growth is ruin to it, and may cause half the crop to bolt. Continue to plant out, using abundance of rotten dung well worked into the soil of the trenches.

CUCUMBERS ON RIDGES may now have the hand lights or other protection removed, so as to benefit by the night dews and showers. It is not advisable to stop them, but a little pegging to cover the beds regularly is beneficial, as creating a greater extent of bearing surface.

LEEKS to be transplanted from the seed bed to very rich ground, and to be earthed up as they grow, to blanch the neck of the bulb. The frequent use of sewage water will swell them to a great size, and with improved quality.

LETTUCE to be sown now where they are to remain. This is a golden rule to prevent bolting when the weather becomes torrid.

SOW Lettuce for succession, Broad Beans, Peas, Radishes, Scarlet Runners, Turnips, Early York and East Ham Cabbage, a few Rosetto Coleworts, and Walcheren Broccoli.

SHOWERY WEATHER brings as much work as drought and sunshine. During a dry heat ply the hoe to kill weeds, and during showers plant out whatever the ground is ready for, and whatever is fit for planting. It may make all the difference between a good crop and no crop at all to seize the right moment for planting out, influence of warmth and wet being so eminently favourable to every kind of vegetation in a young state.

TURNIPS.—As there will soon be a demand for these, it will be well to sow a small breadth in some odd place, so as to secure a few small bulbs in advance of the ordinary autumn supplies. Take especial care to break up and manure the ground first.

VEGETABLE MARROWS.—During warm showers is a good time to plant these out. But they ought first to be somewhat hardened by placing the plants in a sheltered spot for a week. To take them from warm cucumber pits or propagating houses, and plant them direct, is bad practice.

WINTER GREENS of all kinds to be planted out as occasions offer; a few of the forwardest plants of Brussels sprouts should be put out where they are to remain, in deeply-trenched and well-manured ground, to furnish an early supply of buttons, as they are everywhere prized when the summer vegetables are over.

VEGETABLES in SEASON comprise Asparagus, Broccoli, Cabbages, Cauliflowers, Lettuce, Onions, Peas, Potatoes, Radishes, Rhubarb, Spinach, Turnips, French Beans, Carrots, Cucumbers, Mushrooms, and Tomatoes.

HISTORY AND CULTIVATION OF THE AURICULA.

By H. W. NIXON, Honorary Secretary of the Leek Auricula Society.

AT the first exhibition of the Leek Auricula Society an interesting paper on the history and cultivation of the flower was read by Mr. H. W. Nixon, the honorary secretary, to which reference was made in the report of the exhibition in our issue for May 8. We now present the text of Mr. Nixon's paper, obligingly supplied by him, feeling assured that by many of our readers it will be valued, while it constitutes an important contribution to a discussion that has aroused a considerable amount of interest.

Mr. Nixon said: I have been desired to say a few words at this, our first exhibition, upon the culture and past history of the auricula, which forms the leading feature in our show to-day, and something of the qualities that constitute its grace and beauty in the eye of those to whom it is so dear a favourite. I must first of all express regret that we have not a larger and finer collection to introduce to your notice, the very backward spring having deprived us of many charming varieties, which would have helped to enlarge this exhibition. I wish also to inform you that I am largely indebted to the Rev. F. D. Horner, hon. secretary of the National Auricula Society (one of the most successful growers in England) for a great deal of the information contained in this paper. When we introduce the auricula to the public to-day they appear in the nature of a new comer to our flower shows. This is especially true of the exhibition varieties, as they have never to my knowledge been exhibited here before. But in reality the auricula is one of our oldest show flowers, having been exhibited more than 150 years ago. The Rev. F. D. Horner informs me that he has now in his possession, at Kirkby Lonsdale, a venerable sort called Jingling John, shown at Eccles, then a struggling village near Manchester, quite a century ago. But we cannot find the same excellencies of form, colour, and habit in the uncultivated species (from which the auricula may have originally sprung) as we find before us to-day. The Rev. F. D. Horner pointed out to me at Manchester, on Tuesday, a plant of Primula pubescens of the Austrian Alps, side by side with one of the worst cultivated Alpine varieties, and there certainly was but very little difference between them. I also saw the parent of the cultivated polyanthus (the Bardfield oxlip), a little delicate yellow flower, with pale centre. I shall now proceed to divide my subject in three sections, and I hope none of them will be too tedious for your patience. The first shall he upon the derivation and history of the flower; the next upon the auricula from a florist point of view; and the last a very brief touch upon its culture.

The nearest native relatives of the auricula are the *Primula pubescens;* the bird's-eye primrose (*Primula farinosa*), frequently found in the north of England in marshy places on the broken banks of little moorland hills; and also the *Primula scotica* of Sutherlandshire and Orkney. It is not my intention to weary you with the many varieties of plants connected with the primulaceous family. I will leave this part to others much more able to deal with it than myself. Still, all primitive and allied forms are a far remove from the derived flowers of so long a period of culture as extends over 300 years, for Gerard states that prior to 1597 there were auriculas in English gardens. The first advances from the purely wild type were the results of carefully seeding this sportive flower, and nothing can, I think, be more interesting than the raising of seedlings from carefully-fertilised flowers. In glancing at the history of the auricula, there comes the question of its first introduction into England, and there is no doubt, from local tradition and local evidence, its early English home was Lancashire. It is known that Flemish weavers in woollens, driven from their country by persecution, settled about 1570 at Norwich, Ipswich, and in Lancashire villages in the neighbourhood of Rochdale and Middleton. As things of home too dear to be left behind, these refugees brought with them their favourite flowers—the tulip and the auricula. It is no matter for surprise that for about fifty years after this we have no record of auricula culture. These early growers would be looked upon as aliens, and it would lead them to keep their occupations and interests within their own community. But in 1725 we have evidence that the cultivation of the auricula was established in Lancashire. Auriculas were grown abundantly in the Lancashire districts until 1830, when a great change in the habits of the people (who were hand loom weavers) began to take place. Steam power and the factory system were being developed about 1825, and during the transition from hand to power loom weaving, those whose bread "came through the shuttle eye" felt the change severely, and many of them were in the greatest distress. From the hand loom that filled the long windows they could now and again break the monotony of their labour by glances at these favourite flowers. Their shows were held in the room of some old inn, and made a very lively sensation for miles around. What excitement it was for the anxious exhibitors assembled in the room below to wait for the winning plants being sent down from above where the judges were deciding fates! In the later part of the day followed songs and anecdotes and florist gossip, and at "going-home time" the assembly dispersed, with the first prizemen conspicuous by a gleaming copper kettle in hand. Kettles were always awarded for the best flower in each class, and perhaps none was a prouder man that day than he who, as a new beginner, carried the "Colt's kettle" home.

I have spoken up to now only of the auricula in Lancashire, for that is such a representative county in the history of the flower; but fifty years ago we find by old records that almost every district in Yorkshire, Staffordshire, and Cheshire, as well as Lancashire, had a circle of auricula growers. So, too, had many other counties. In Cambridgeshire lived Richard Headly, a renowned florist, and the raiser of one of our best auriculas—the George Lightbody. I could give a list of many of the oldest edged varieties, which were exhibited in 1757—such as *Glory, Incomparable, Freedom, Imperator, Ringleader, Complete, Lord Lee,* and *Colonel Taylor,* raised in 1821, a green edge, which holds its own to-day. In 1846 all other grey edges were outshone by the appearance of Robin Lancashire's *Hero*—a plant of which I have a specimen, but not in bloom. Like many other light mealed greys, it has the power of blooming in a green form. The bloom at the middle life is a beautiful rich silvery grey. It was first shown at Rochdale in 1846, obtaining only the second prize. Robin Lancashire had about eight or ten plants at the time, and in his great grief at being beaten sold all he had for a trifling sum. He afterwards, however, offered a great deal more for them, but could not get them. So that *George Lightbody* and Lancashire's *Hero* stand pre-eminently as the model auriculas.

Some specimens of the self-edged varieties are exhibited for your notice today, also specimens of alpines. The highest form is the shaded petal and the golden centre, which last is not easy to obtain in such flowers that have lilac or any shade containing blue. This section is the hardiest of the auriculas, and those grown in gardens are more or less alpine blood of an inferior strain, but still very beautiful. I will treat upon the Auricula Royal, containing all the edged classes, which constitute the highest and most wonderful development of this flower. The green edge holds the highest rank, and is the only class in which a mealy foliage never occurs. But still you find white edges with green foliage. The edge must be absolutely pure from farina, and you will find the most perfect specimens ever raised in *F. D. Horner* and *Prince of Greens*. The grey edges are those in which a sprinkling of meal-like hoar frost upon the spring grass lies delicately over a green edge without hiding it further than to give a pearly effect as a silver dew crystallised and secured upon it. White edges are exquisitely fair and lovely, and a class very much admired; the whole face of the flower, except the dark velvety ring of ground colour, must lie deep under a snowy meal, usually of finer grain on the edge than in the middle of the flower. Then follows that beautiful consort of the edged classes, the Selfs. This, with its densely-mealed white centre and colour of velvety unshaded and decided hue, is a very different flower from the alpine. A rich golden tube and a dense circular paste are supreme points in a highly bred auricula.

A few words now as to the culture of the florist auricula, and I have done. You know it is not within the province of this paper to give you a complete calendar of cultural operations, but to those who are inclined to grow auriculas and other hardy florist flowers, I would recommend them to obtain Douglas's book upon "Hardy Florist Flowers," in which they will find a very great deal of useful information. But if you cut for your plants a few sods from a pasture which the buttercups will tell you is sound and rich, a little leaf-mould from the woods, a little manure from an old hotbed that grew cucumbers the previous year, and take about equal proportions of each with, say, a little charcoal to keep it sweet and open, and you have all the auricula will care to ask for. Keep their roots well drained, their leaves from wet, a little shaded in hot weather (it being a plant that loves partial shade), and pay attention as to watering, and there is no end to the interest it has in store for the true florist. Even the humblest cottager, pent up in the smoke of a large manufacturing town, will find in this flower a look of joy and contentment after the hard day's toil is over, thriving as though the smoke drifts were but natural clouds, and as though the dry hard shadows fell from waving boughs. If he has his few plants he will see more of nature's features and variety in a frame of auriculas than another who has no eyes for such things will see in a whole landscape. There are stories told of how many of those who loved this flower loved it to the last. George Lightbody, after whom the specimen is named on the stand, in his last illness would have a favourite auricula at his bedside, and plants brought up to see what needed to be done to them. Richard Headly travelled long distances at eighty years of age to see his old favourites exhibited. In conclusion, it is no small thing to say of a favourite flower that it has been the first cause of many true companionships and fast friendships that will endure till all human interests are at an end here for us.

BOILER CONTEST AT LIVERPOOL.

In compliance with requests urged upon us we place before our readers the terms and conditions of the proposed boiler contest in connection with R.H.S. Exhibition at Liverpool. We are assured that, so far from the conditions being of importance to the manufacturers and competitors only, they are of universal interest. Therefore, in the present case, we depart from our rule, and subjoin the particulars.

At the Great Provincial Show, to be held at Liverpool from June 29, to Monday, July 5 (inclusive), a boiler contest will be held under the following conditions:—

1. Competitions will be in the three classes, viz.: Class 1, 2,000 feet; 2, 1,000 feet; 3, 500 feet.
2. Each competitor to supply and fix his own piping and boiler, with all necessary fittings complete, at his own expense.
3. The Royal Horticultural Society will supply the fuel and the thermometers required for the contest.
4. All the hot-water piping to be 4-inch (inside size). The chimneys not to exceed 20 feet in height above the ground level.
5. The height of flow-pipe above top of boiler not to exceed 24 inches (over all) at boiler, not to rise more than 6 inches in 100 feet.
6. Each boiler to have not more than one flow and two return connections.
7. The piping to be fixed as under: In the 500 feet, three flows and three returns, two deep; in the 1,000 feet, five flows and five returns, two deep; in the 2,000 feet, ten flows and ten returns, two deep; with three, five, or ten syphons or boxes respectively at extreme end.
8. The total amount of piping in each case not to be less than specified.
9. The competition in each class will begin simultaneously, about mid-day, and last for twenty-four hours. That for the 2,000 feet on the first day of show; for the 1,000 feet on the second day of show; and for the 500 feet on the third day of show.
10. In the case of boilers set in brickwork, they must be fixed, and the brickwork dried by firing, and thoroughly cooled down again by the time of competition beginning.
11. Each competitor must be prepared to fix the thermometer on the part of the plain piping where directed on the morning of the competition.
12. Every point for and against each boiler can be pointed out, and will be carefully considered by the judges, and may be embodied in the report of the contest, so that competitors should carefully avoid anything that might tell against them.
13. Intending competitors must send in, at time of entry, full particulars as to heating power, &c., of their boilers, with price at which they are prepared to supply the public, which will be published.
14. One or more medals will be given in each class if the judges consider the competition worthy of such an acknowledgment.

Applications for space should be made on or before Saturday, June 12, to Mr. A. F. Barron, Superintendent, Royal Horticultural Society's Gardens, Chiswick.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 6d. and 1s.—[Advt.]

Correspondence.

FLORAL SOCIETIES' SHOWS.

I put a query to "M. R." very plain and to the point. I have not much more to add but this, that my name is of no consequence. Suffice to say I represent certain exhibitors, who staged their carnations in Mr. Dodwell's garden on August 4th, 1886. Evidently Mr. Dodwell thinks he had better come to the support of his friend, but I have no more to say to either. Mr. Rowan says he had a good show of carnations on July 20th, they were past their best on July 28th, and they were again in great beauty on August 4th. According to this the first and last date would have suited Mr. Rowan admirably, but he could not show between them! What an astonishing and unique experience! Evidently no society could fix a date to satisfy such an exhibitor. I believe July 27th will be much too early this year, even for the south. My carnations are three weeks late at present. Mr. Rowan's and Mr. Dodwell's side issues are of no consequence to me; they know best why they have raised them. If it is to throw dust in my eyes they will fail to blind me, and assuredly I am not blind at present. Moreover, I am very well satisfied that this correspondence has arisen, for it has brought out some interesting facts. Scrutator.

I enclose you list of prizes of the National Carnation and Picotee Society for 1885 and 1886. You will see that the reduction has been made on a fair basis throughout.

I may also say that the re-arrangement of the schedule for this year was left to a committee appointed by the general meeting of members held at South Kensington, on Tuesday, December 8th, 1885. The committee were reluctantly compelled to make the reduction, owing to the action of the late financial secretary, Mr. Dodwell. His accounts were not passed by the society's auditors; but it is interesting to compare Mr. Dodwell's management with that of the present executive.

Mr. Dodwell began the last year of his office with a balance in favour of the society of	£25	15	2
Seedling prize fund	3	12	0
Donation from Pelargonium Society	1	11	9
Veitch Memorial Trustees	5	0	0
	35	18	11
Subscriptions for the year, and half seedling fund	84	14	0
	£120	12	11

Paid in prizes £75 11s., deduct this from £120 12s. 11d., and we have £45 1s. 11d., which represents the expenses.

In 1885, under the new management, the society paid in prizes £68 13s., the expenditure being £8 11s. 3d. The subscriptions for last year were £80 3s. 6d., representing very little falling off, but some were special. Compare the above with Mr. Dodwell's management of his own show at Oxford:—

Subscriptions, &c.	£70	16	6
Judges' awards	41	6	6
	£39	10	0

The balance of nearly £40 being swallowed up in expenses! Mr. M. Rowan is auditor, and Mr. Dodwell is hon. secretary and treasurer. If the members of the new Oxford Union, founded on a "popular basis," can submit to have £39 10s. squandered in expenses for £41 6s. 6d. spent in prizes, it is no business of mine. I only want to show that the National Society can spend £68 13s. in prizes for £8 11s. in expenses. Mr. Dodwell might with prudence remain silent.

J. Douglas,
Hon. Sec. National Carnation and Picotee Society.

EXHIBITING HARDY PLANTS.

In your report of the first of the two summer exhibitions of the Royal Botanic Society you refer to the unsatisfactory condition in which the collections of hardy plants in competition for the prizes were staged, and I am glad you did so, for the plants were presented to the notice of the visitors in a manner that gave a poor idea of their beauty. I have no sympathy with the carping critics who not only take advantage of every possible opportunity for finding fault, but go out of their way to do so; but I consider this was a proper occasion for criticism, and I should have preferred the use of a term much stronger than "unsatisfactory," because a more expressive word is necessary to convey an adequate idea of the way in which some at least of the plants in the several collections were staged. The schedule required "12 alpines, in pots," which I should interpretate as twelve plants of alpines that had been grown in pots. The exhibitors thought otherwise. In one collection there were eight or ten plants in separate pots packed together in a large pan, with spar between the pots; and in all of the collections the major portion of the specimens, if they may be so designated, were made up with plants recently lifted from the open borders. This is a decidedly unsatisfactory way of showing them, for it gives the large growers a decided advantage over those who have a limited collection, and it, moreover, very heavily discounts cultural skill. Very little skill is required to dig up two or three large clumps of a saxifrage and pack them together in a pan or pot, and the grower who has but little space at command cannot possibly make up such large masses as those whose space is practically unlimited. But if the plants had to be grown in pots the smaller cultivators would be able to compete on more equal terms, as the place each exhibitor would occupy on the prize list would depend more upon the skill that had been brought to bear upon the specimens than the extent of the stock of each of the several kinds. But I am not so much concerned about the exhibitors as I am about the plants. When grubbed up on the morning of the show, or in the afternoon previous, and packed together in pots, they present such a wretched, half-dead appearance, as to tend to bring hardy flowers into disrespect, rather than to afford pleasure to those who are interested in them and appreciate their beauty. The judges are, of course, more to blame than the exhibitors, for if they were to distinguish between plants that had been grown in the pots and lifted from the borders, and give due preference to the former, matters would soon come right. But hitherto they have proceeded on the lines that size alone is the test of merit, as proved by the fact that if the matter is discussed with the exhibitors, they at once say the judges show so much favour to the large masses that they are compelled to stage them. A Lover of Hardy Flowers.

Law.

INJURY TO VEGETATION BY MEANS OF SMOKE FROM RAILWAY TRAINS.

Andrews v. Great Eastern Railway Company.—The result of this action in the Queen's Bench Division, before Mr. Justice Field and a special jury, was given in our issue for last week. It is a matter of the very first importance, not only to persons engaged in commercial horticulture, but to the public at large, and we have no doubt it will constitute a ruling precedent. Whether the defendant company will acquiesce in the decision must, of course, be quickly determined; but at present there are no signs of an intention to call in question the finding of the jury.

The action raised the question as to how far railway companies are liable at law for injuries admittedly occasioned to plants, shrubs, &c., growing on land in proximity to their lines from smoke and noxious vapours evolved from their engines. The plaintiff is a nurseryman carrying on business at Temple Mills, Stratford, and his gardens are situated at the point where the defendants' line to Loughton branches off from their main line to Cambridge. The nursery is close alongside the defendants' main line upon its south-eastern side. The action was brought to recover damages as compensation for an alleged nuisance, caused, it was alleged, by the negligent use by the defendants of their engines in respect of the smoke and noxious vapours evolved therefrom, which had substantially damaged the various plants and flowers grown by the plaintiff in his nursery. The plaintiff also prayed for an injunction to compel the defendants to abate the nuisance complained of. The defendants admitted that the plaintiff's nursery had sustained damage by reason of the matters complained of, though not to the extent alleged. They denied that they were guilty of negligence as alleged, and pleaded that, that being so, they were relieved from liability by statute. The alleged nuisance, they contended, was unavoidable and incidental to carrying out legitimately the undertaking for which the legislature had created them.

Mr. Crump, Q.C., Mr. Alfred Cock, Q.C., and Mr. Crispe appeared for the plaintiff; Mr. Moulton, Q.C., and Mr. Douglas Walker appeared for the defendants.

Mr. Edwin Andrews, the plaintiff, was called, and stated that he had begun business on his own account at the place in question in 1872. His nursery was about an acre and a half in extent, and there were now about 40,000 square feet of glass upon it. Before 1880 there were about 30,000 square feet of glass. He chiefly grew grapes and cucumbers, and had besides the usual nurseryman's stock. The average profits for the three years immediately next before 1880 had been between £600 and £700 a year net. After that year these profits had fallen about 50 per cent. He was an uneducated man and kept no books, his business being a strictly cash one. It was about 1880 that he first experienced the smoke from the defendants' engines as a nuisance. At this time there began to be a congestion of engines used in shunting and making up luggage trains in a large new siding. These engines would stop opposite his garden by signal, and often "fuel up," and so emit dense volumes of black smoke and dust, which would catch him on three sides according to the wind. This smoke and the noxious gases caused the leaves of plants, &c., to curl and frizzle up. They became choked and ruined by a foul black deposit, which also settled on the glass and obscured the light. Witness stated that from 1880 to 1884, when he instituted this action, he had made numerous complaints from time to time on the subject to the defendants, both by letter and personally. These complaints, it was stated, had had the effect of temporarily lessening the nuisance. It was shown in evidence that the defendants, in consequence of the complaints, fined some of their engine drivers and others for causing or permitting excessive smoke at the spot in question. The correspondence between the parties was put in, and scientific and other evidence was given to support the plaintiff's case.

Mr. Moulton, in opening the defence, admitted that the plaintiff had suffered considerable damage, but contended that the defendants were not legally liable. The legislature had enacted that the defendants must use engines which as far as practicable consumed their own smoke. To effect this there must be perfect and complete combustion. The engines must burn coal, and the complete combustion of any coal must of necessity produce sulphurous acid, by which he contended the real substantial injury to the plants was due.

Evidence for the defence having been given,

Mr. Justice Field summed up. He pointed out that to entitle them to protection by statute from their common law liabilities a railway company must not be negligent nor unreasonable in the user of their traffic and in carrying out their statutory powers. In going over the evidence his lordship remarked that there was evidence to show that when the defendants chose the matters complained of abated, which seemed to negative the defendants' contention that they were unavoidable. Finally, his lordship asked the jury whether the plaintiff had sustained such a substantial and material loss as to entitle him to compensation, and, if so, was it caused by the defendants carrying on their business in a legitimate manner as authorised by statute, or was it due to some excess by the defendants of those powers? If they thought that a portion of the injury was due to the legitimate user of the defendants' line and part to an excessive user, they would have to separate the two as far as was possible when assessing the damages.

The jury found for the plaintiff, damages £500.

Judgment accordingly, and a refusal to stay execution.

STEALING GERANIUMS.

At Marylebone Police Court, Alfred Alldred, 27, of 20, Rackham Road, Notting Hill, a letter carrier, was charged with stealing nine geranium plants, worth 4s. 6d., the property of Captain Charles Harris, of 46, Leamington Road Villas, Bayswater. Police-constable Thomas said he saw the prisoner leave the garden of No. 46. When the prisoner caught sight of witness he turned short round, and walked rapidly away. Witness examined the garden, and seeing that plants had been removed he went after Alldred, and securing the assistance of another constable, took him into custody. When told that he would be charged with the theft, the prisoner said, "Forgive me this time. Think of my wife and children. I will put them back where I got them from if you will allow me." An official from the General Post Office said prisoner had been in the service upwards of thirteen years, and had behaved himself hitherto extremely well. He could not anticipate the decision of the Postmaster-General, but he feared the consequence to the prisoner would be very serious. Mr. Cooke said he could not imagine what had induced the prisoner to make such a deplorable sacrifice of character, position, and family for the sake of a few paltry plants. He fined him 10s., and ordered him to pay 4s. 6d., the value of the plants. There were many postmen and others in court who seemed to feel as acutely the position of the prisoner as he did himself.

Replies to Queries.

Grape Vines.—R. P.—Your vines have been too hot and too dry. Syringe freely, give water at the roots if needful, and let them have air.

Turnips.—M. B.—The two best turnips for sowing now are the Early White Stone or Six Weeks and the Red Globe. Good breadths of these sown now will give you an abundant supply until late in the autumn.

Setting Melons.—Constant Reader will probably have a sufficient crop by leaving them to set themselves, but to make sure is a better way. All that is needful is to pluck a flower that has no fruit beneath it, and strip away the corolla and insert the yellow club in the centre of a flower that is attached to a tiny fruit. It should be done in the forenoon, when the male flowers are perfect and the yellow pollen on the club appears in the form of dust.

Wasps.—B.C.—Any old muslin curtains may be cut up for bags to enclose bunches of grapes, and the bags should be large enough to hang loosely over the bunches, or the wasps may discover that the fruit can be reached by a little dexterity from the outside, and they are fairly clever in the transaction of business. Bottle traps are particularly useful, as they decoy the wasps from the fruit, and keep them prisoners

Seedy Spinach, &c.—Barry has failed, as many other beginners have failed, through sowing the seeds too thick. It is truly astonishing how much is lost both in quantity and quality of all kinds of garden crops by this foolish practice. At the present time there will be found in many gardens three or four plants of kidney beans where there ought to be but one, and of lettuces, beets, and many other important crops overcrowding puts the quality down to nothing, and people think gardening impossible in consequence, whereas the impossibility is of their own making. Your spinach has run away to seed to punish you for not allowing it to grow.

Silvery-leaved Bedders.—G. A.—Several of the silvery-leaved plants are exceedingly useful for edging beds and borders, and also for forming divisional lines. It will not be advisable to have a large collection, as the number of those really good is comparatively small. In the second and subsequent years the plants grow more or less irregular and present an unsatisfactory appearance, therefore the stock should be renewed annually by means of cuttings or division, according to the character of the respective kinds. The following comprise the best of the plants having silvery foliage: Achillea umbellata, Antennaria tomentosa, Cineraria ceratophylla, Centaurea ragusina compacta, C. Princess of Wales, Cerastium tomentosum, Echeveria secunda glauca, E. Peacocki, Leucophyton Browni, Sedum glaucum, Thymus lanuginosus, and Veronica incana.

Dracænas.—W. S.—In the cultivation of dracænas it is essential to keep them within a short distance of the glass and to syringe them sparingly, excepting during the summer season, when overhead syringings will be beneficial. All the varieties with coloured leafage can be readily increased by means of cuttings of the stem, which, in being prepared for propagating purposes, should be cut into lengths of about two inches. Insert the cuttings singly, in small pots, or several together in pots five inches in diameter, and place where they can have the assistance of a brisk temperature and a genial bottom heat. Use a light sandy mixture for the cutting pots, and for subsequent shifts an open and moderately rich compost. The following comprise some of the best of those at present in cultivation: Alba marginata, Angustifolia, Baptisti, Bausei, Cooperi, Ernesti, Goldieana, Guilfoylei, Lindeni, Massangeana, Mrs. Turner, Pulcherrima, Terminalis, Terminalis alba, and Williamsi.

Passion Flowers.—W. H. B.—You have been misinformed, for instead of being difficult they make a most vigorous growth under simple management. Whether grown in the stove or conservatory, the passifloras should be planted in a border that is well drained and moderately rich, and when in full growth receive liberal supplies of water. The growth should be allowed as much latitude as is consistent with the health of the other subjects grown in the structure. The shoots should be shortened at the end of the autumn, when the plants are at rest, to prevent obstruction of the light during the winter. In the course of the spring the new shoots that are produced should be thinned out, and those remaining be allowed to grow unchecked, an abundant production of flowers being impossible where severe stopping is resorted to. The best kinds for the stove are Alata, Decaisneana, Hahni, Innesi, Kermesina, and Princeps. For the conservatory, Campbelli, Clowesi, Constance Elliott, Cærulea racemosa, Imperatrice, Eugenie, Lawsoni, and Munroi.

Achimenes.—W. Smith.—The plants should now be in full growth and well advanced, nevertheless we gladly comply with your request for a brief description of the way in which the corms should be started and the plants grown on; and a short list of the varieties best adapted for general cultivation. In starting achimenes into growth shake the corms out of the old soil, and lay them rather close together on the surface of shallow pans filled with a mixture consisting of loam, leafmould, and sand. This having been done cover with a half-inch layer of fine soil, and place them in a structure in which the temperature ranges between 65 deg. and 70 deg. Maintain the soil in a moderately moist state and increase the supply when the plants begin to make their appearance above the surface. As soon as they have attained a height of about two inches transfer them to the pots or baskets in which they are to bloom. The plants should be put about two inches apart, and have the soil pressed moderately firm about them. The compost must be moderately light and rich, and the best mixture that could be prepared for achimenes is one consisting of fibrous loam four parts, and leaf-mould, well rotted manure, and silver sand. Achimenes require rather liberal supplies of water when in full growth, and a liberal degree of atmospheric humidity. They ought to have a position near the glass until within a short time of their flowering, but they must not be exposed to the direct rays of the sun. The following comprise the finest varieties at present in cultivation: Advance, Ambroise Verschaffelt, Baumanni hirsuta, Carl Wulfarth, Chirita, Cherub, Dazzle, Dr. Buenzod, Dr. Hopft, Francois Cardinoux, Georgiana, Hofgartner Wendschurch, Longiflora, Longiflora alba, Longiflora major, Longiflora rosea, Margaretta, Masterpiece, Madame Ambroise Verschaffelt, Mauve Queen, Rosea magnifica, and Van Houtte.

Preserving Green Peas for Winter Use.—F. B., Kildare, and others, will find in *G.M.*, July 14, 1883, a paper on preserving various kinds of vegetables. The present subject of inquiry is the best mode of preserving green peas. We give what may be termed the Dutch method of preserving them after they are partially cooked, and for this purpose they should be rather old. And we give also what may be termed the French method of preserving them with the aid of sugar, which is always preferable to salt as a preservative, provided it can be used: (1) Gather the peas before sunrise, shell them immediately, and throw them into boiling water; when they have had one good boil, take them off; and when cold, spread them thinly over a wire sieve. Place the sieve for six hours over hot wood ashes, or over a very slow charcoal fire, so as to dry them gradually, and then put into bottles, corking them carefully. In this way they will keep fresh till winter. (2) For this method the peas must be mature, but they should not be old. Take a middle-sized stew-pan and nearly fill it with peas, over which sprinkle, very lightly, pounded loaf-sugar. To a quart of peas there should be added two tablespoonfuls of sugar. Put the pan over a slow fire, and carefully stir two or three times. As they become heated a little water will flow from them, which is a sign that they are heated enough. Turn them out on a soft cloth to drain, and when rendered as dry as possible remove them on to sheets of paper spread out in an airy room. In doing this look for any that are bruised or discoloured, and remove them. When quite dry pack them in smallish earthen jars, and tie down and store them in a cool dry place. If they are not quite dry mildew will soon appear and render them worthless. But if the work is well done they will be coated with a thin glaze of sugar, which is peculiarly preservative in its nature. French beans preserved in this way are of a good colour and flavour when used in the winter, and will require only the ordinary process of cooking. Green peas fully grown, but still tender, may be preserved for soups by spreading them on trays or papers and drying them in a cool oven—say, not hotter than the hand can bear without inconvenience. They will be much shrivelled, but will be excellent for soups and ragouts. We do not know of any method of preserving so that they shall come to table in winter in a condition equal to fresh gathered peas in summer. Even the best brand of tinned peas, which are of excellent quality, will not do it.

Literature.

Mr. Heath's Illustrations for June is as fresh and various as usual, and perhaps, amongst the many "illustrations," that of the American Sulky is at once the freshest and worth the price of the number. We see now that the old joke about putting the cart before the horse is in the way to become a serious fact. The horse is in the middle of the cart now, and we have but to back him and "there he is."

Rus in Urbe; or, Flowers that thrive in London Gardens and Smoky Towns. By MRS. HAWEIS (Field and Tuer.) This trifle is likely to prove useful to many, but there is not much to be said about it. Mrs. Haweis cultivates a small quarrel with gardeners, and has the misfortune of not clearly apprehending the ground of her complaints. The general tone of the discourse is encouraging and instructive, and when the persuasive part of the work is completed there is offered the reader a considerable and "safe" selection of trees, shrubs, and flowers. The cover and the frontispiece are dainty and appropriate, the cuts that illustrate the text are obtrusive and coarse. Whoever is in doubt about the establishment of a beauty spot in a smoky town will be advantaged by consulting Mrs. Haweis, whose teachings are founded on experience.

Orchids: Their Structure, History, and Culture. By LEWIS CASTLE. (171, Fleet Street). It is quite gratifying to see this new edition of Mr. Castle's admirable brochure, because the fact tells us there are buyers for a book which must command a large sale or cannot have a place in the world except as an act of sacrifice. When such a book makes way as the result of a purely commercial arrangement we know that cultivators of orchids are increasing in numbers; and, in their way, are augmenting the sum total of enthusiasts in horticulture. Mr. Castle has made improvements in his text, and has added to its scope; and has, in fact, made the very utmost of his opportunities on being required by an appreciative public to reproduce his useful and interesting treatise. We have big books on orchids, and the sandwiching of a little one between them is, for serious purposes, something like the halfpenny worth of wholesome bread to an incredible quantity of sack. And if the comparison does not hold, it still remains to be said that Mr. Castle has prepared for the advantage of the world at large a wonderful shilling's worth of information on orchids.

Library of English Literature. By HENRY MORLEY. (Cassell.) The 41st part of Professor Morley's valuable work takes us through poems from 1447 to 1590, and the series includes Lydgate's story of Thebes, Spenser's Faerie Queen, and other works of scarcely less importance. The work is to be completed in 48 parts, and we begin to regret that it is not to be continued indefinitely, so thoroughly sound is the plan and so useful the result of the editor's careful working out.

From Messrs. Ward and Lock we have received part 2 of illustrated edition of Scott's *Quentin Durward*, part 55 of *Amateur Work*, part 7 of *Langhorne's Plutarch*, part 8 of *Whiston's Josephus*, part 19 of *Universal Instructor*, part 8 of *Popular Histories*, and the current number of *Sylvia's Home Journal*.

From Messrs. Cassell we have received part 39 of *Doré Gallery*, part 4 of *Familiar Wild Flowers*, part 88 of *Familiar Garden Flowers*.

Amongst miscellaneous papers received are *Ladies' Gazette of Fashion* (7, Paternoster Buildings), Mrs. Warren's *Ladies' Treasury* (23, Old Bailey), *Old Jonathan* (148, Aldersgate Street), *The Queen's Resolve*, The Fireside, Home Words, and Day of Days (7, Paternoster Square), and Dowsett and Wood's *Estates Roll*.

The Fern World. By FRANCIS GEORGE HEATH (Low and Co.).—Amongst the many books on ferns that bear the name of Mr. F. G. Heath, this is certainly the most comprehensive as regards the information it affords and the special purpose in view. It is customary with writers on ferns, and more especially on British ferns, to indulge in a certain amount of gushing, and we must do Mr. Heath the justice of saying that he does not gush over much in this nice book, and a little must be allowed in the interest of readers who cannot do without it. The book is descriptive and critical, pictorial and geographical, persuasive and practical. It takes us through the regions where ferns most abound, and aids us to find them by indications of localities, and to appreciate them by descriptions of the scenery. But the most important feature is the descriptive fern flora, which constitutes the chief bulk of the book, and in which we find a series of admirable illustrations adapted to the requirements of beginners who cannot identify the species from technical summaries alone. Mr. Heath's "Fern World" is a substantial contribution to the library of the rambling botanist and amateur gardener.

TRADE CATALOGUES.

DOBBIE AND CO., ROTHESAY, N.B.—*Choice Seeds and Flowers.*

KNIGHT AND CO., 104, CAZNEAU STREET, LIVERPOOL.—*Vegetable and Flower Seeds.*

THAMES BANK IRON COMPANY, UPPER GROUND STREET, S.E.—*Trade Price List.*

POTTER AND CLARKE, FARRINGDON STREET, E.C.—*Garden and Flower Seeds.*

Obituary.

RECENTLY, at Brisbane, Mr. WILLIAM LANDESBOROUGH, the Australian explorer. In 1866 he discovered the head of the Thompson river, and subsequently he led the expedition in search of the unfortunate Burke and Wills.

ON the 27th May, at his residence, 2, The Limes, Mattock Lane, Ealing Dean, W., WILLIAM HENRY ACRAMAN, Esq., in his 81st year, much beloved. Friends will please accept this intimation.

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Melons	each	3s. 0d. ,,	4s. 0d.
Peaches	per doz.	5s. 0d. ,,	15s. 0d.
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Pine-apples, St. Michaels, each		3s. 6d. ,,	6s. 0d.
Strawberries	per lb.	2s. 0d. ,,	6s. 0d.

VEGETABLES.

Artichokes, Globe, per dz.		2s. 6d. to	3s. 6d.
Asparagus, English, per 100		2s. 0d. ,,	5s. 0d.
Asparagus, French, per bun.		1s. 6d. ,,	6s. 0d.
Beans, French	per lb.	0s. 9d. ,,	1s. 0d.
Beet	per doz.	1s. 0d. ,,	2s. 0d.
Cabbages	per doz.	1s. 6d. ,,	2s. 0d.
Carrots	per bun.	0s. 4d. ,,	0s. 6d.
Cauliflowers	per doz.	2s. 6d. ,,	3s. 6d.
Cucumbers	each	0s. 4d. ,,	0s. 6d.
Endive	per doz.	1s. 0d. ,,	1s. 6d.
Garlic	per lb.	0s. 4d. ,,	0s. 6d.
Herbs	per bunch	0s. 3d. ,,	0s. 4d.
Horse-radish	per bun.	3s. 0d. ,,	4s. 0d.
Lettuces, Cabbage, per doz.		0s. 8d. ,,	1s. 0d.
Lettuce, Cos	per doz.	1s. 0d. ,,	1s. 6d.
Leeks	per bun.	0s. 3d. ,,	0s. 6d.
Mint, Green	per bun.	0s. 3d. ,,	0s. 4d.
Mushrooms	per basket	1s. 0d. ,,	1s. 6d.
Onions	per bushel	4s. 0d. ,,	5s. 0d.
Onions	per bunch	0s. 4d. ,,	0s. 6d.
Parsley	per bun.	0s. 3d. ,,	0s. 4d.
Radishes	per doz. bunch	0s. 6d. ,,	1s. 0d.
Rhubarb	per bun.	0s. 4d. ,,	0s. 6d.
Small Salading	per pun.	0s. 3d. ,,	0s. 4d.

VEGETABLES—*continued.*

Spinach	per bushel	2s. 6d. to	3s. 0d.
Tomatoes	per lb.	0s. 9d. ,,	1s. 0d.
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Abutilons	per doz. bun.	1s. 6d. to	2s. 0d.
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Bouvardias	per bunch	0s. 6d. ,,	1s. 0d.
Callas	per doz.	3s. 0d. ,,	4s. 0d.
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Marguerites, per doz. bun.		4s. 0d. ,,	6s. 0d.
Mignonette, per doz. bun.		3s. 0d. ,,	6s. 0d.
Pelargoniums, Zonal, per doz. trusses		0s. 6d. ,,	0s. 8d.
Pelargoniums, per doz. trusses		0s. 8d. ,,	1s. 0d.
Roses	per doz. blms.	1s. 6d. ,,	2s. 0d.
Roses, Tea	per doz. blms.	1s. 0d. ,,	1s. 6d.
Stephanotis, per doz. sprays		1s. 6d. ,,	2s. 6d.
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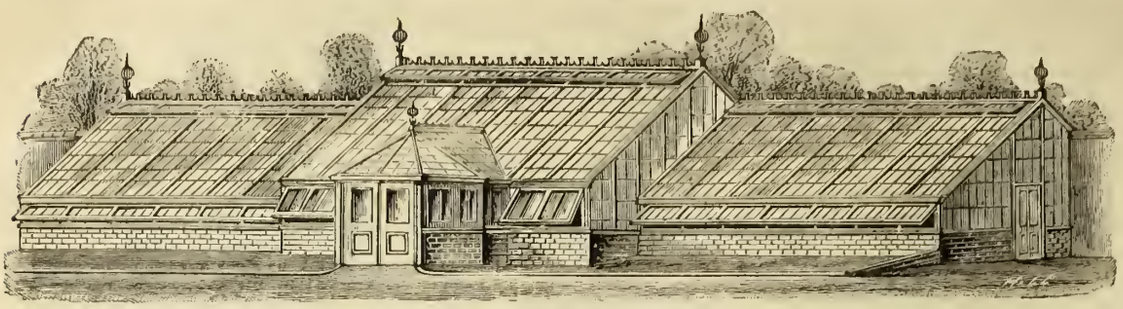

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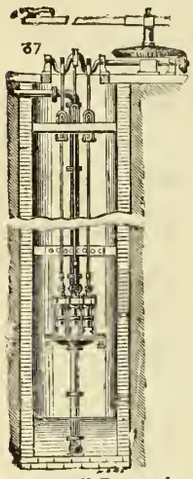

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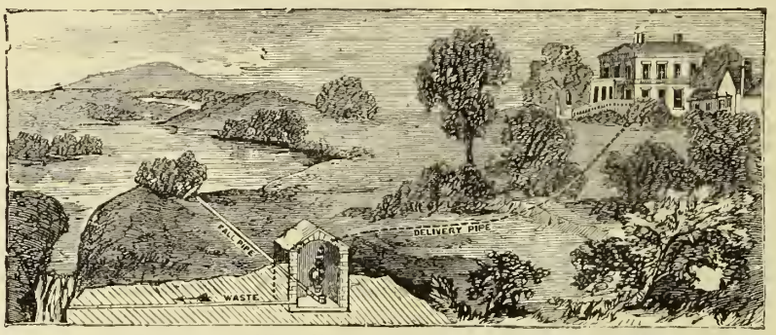

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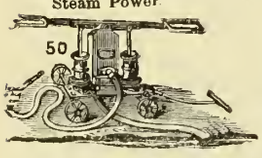

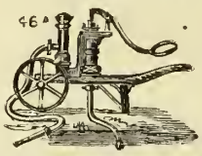

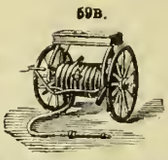

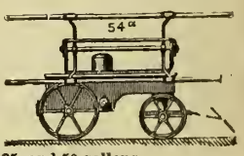

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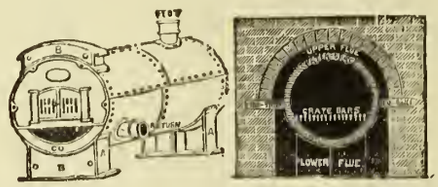

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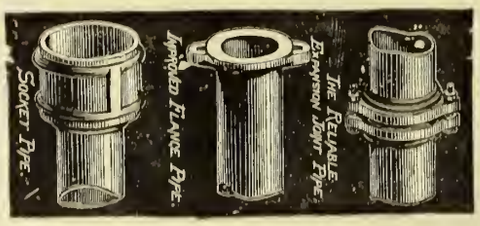

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D. of M.	D. of W.	ANNIVERSARIES, FESTIVALS, OCCURRENCES, HISTORICAL NOTES, &c.	SUN. Rises.	SUN. Souths After Noon.	SUN. Sets.	MOON. Rises. After.	MOON. Sets. Morn.	HIGH WATER AT London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 10 yrs. Chiswick.	ORCHIDS IN FLOWER.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
13	S	*Pentecost.* WHIT SUNDAY.	3 45	0 15	8 15	4 51	2 14	11 19	11 50	8 12	8 44	66·5	Anguloa uniflora	Columbia.	164
14	M	Battle of Naseby, 1645.	3 45	0 2	8 16	5 57	2 45	—	0 18	9 15	9 43	60·6	Arpophyllum cardinale	Guatema.	165
15	Tu	Magna Charta signed, 1215.	3 44	After.	8 16	7 0	3 20	0 43	1 7	10 8	10 32	60·7	Vanda Roxburghi	India.	166
16	W	O Full Moon, 1h. 39m. after. Duke of Marl-	3 44	0 23	8 16	7 57	4 1	1 32	1 54	10 57	11 19	60·9	„ tores	Sylhet.	167
17	Th	*St. Alban.* [borough died, 1722.	3 44	0 36	8 16	8 47	4 48	2 15	2 35	11 40	Midnt.	61·1	Sobralia macrantha	Guatema.	168
18	F	Battle of Waterloo, 1815.	3 44	0 49	8 17	9 30	5 40	2 53	3 11	—	0 18	61·2	Dendrobium calceolaria	India.	169
19	S	Inigo Jones died, 1652.	3 44	1 2	8 17	10 8	6 37	3 31	3 51	0 36	0 56	61·4	„ cretaceum	„	170

ROYAL HORTICULTURAL SOCIETY.
GREAT PROVINCIAL SHOW AT LIVERPOOL,
JUNE 29 to JULY 5, 1886.
GREAT EXHIBITION of IMPLEMENTS, GARDEN STRUCTURES, TOOLS, and APPLIANCES in the WAVERTREE PARK.
Schedules and full particulars as to space, &c., may be had on application to the Superintendent, Mr. A. F. BARRON, Royal Horticultural Society, Chiswick, London; or to Mr. J. RICHARDSON, Botanic Gardens, Liverpool.
NOTICE!—Entries close June 12th.
Applications for Advertisement Space in the Official Catalogue should be made at once to Adams and Francis, Advertising Agents, 59, Fleet Street, London, E.C.

ROYAL HORTICULTURAL SOCIETY.
GREAT PROVINCIAL SHOW AT LIVERPOOL.
JUNE 29 to JULY 5, 1886.
GREAT EXHIBITION of PLANTS, FLOWERS, FRUIT, VEGETABLES, &c., in the BOTANIC GARDENS and WAVERTREE PARK.
Schedules and full particulars as to space, &c, may be had on application to the Superintendent, Mr. A. F. BARRON, Royal Horticultural Society, Chiswick, London; or to Mr. J. RICHARDSON, Botanic Gardens, Liverpool.
NOTICE.—Entries close JUNE 21.

GRAND ROSE SHOW, BATH, THURSDAY, JULY 8.—1st Prizes: Nurserymen: 72 varieties, £8 8s.; 36 varieties, £4. Amateurs: 36 varieties, £5; 24 varieties, £3. The 2nd and 3rd prizes in proportion. Several other classes for Roses, Bouquets, Strawberries, and Plants. 31 classes in all. Entries close July 3. For Prize Schedules apply to BENJAMIN PEARSON, Secretary.
14, Milsom Street, Bath.

LEWISHAM and DISTRICT FLORAL SOCIETY.—GRAND SUMMER EXHIBITION, in the Grounds of RIVERDALE, LEWISHAM, S.E., WEDNESDAY, JUNE 30, and THURSDAY, JULY 1, 1886, will be opened by Lord and Lady Lewisham. Band of the Royal Horse Artillery. £5 offered for the best 48 Cut Roses; also Second and Third Prizes. These and various others are open to all comers.
For Schedules, &c., apply to the Hon. Secretary, Mr. HENRY DRAKE, 39, Court Hill Road, Lewisham, S.E.

Exhibitions and Meetings for the Ensuing Week.

THURSDAY, JUNE 17, AND FRIDAY, JUNE 18.—BRENTWOOD HORTICULTURAL SOCIETY.—Annual Exhibition.
FRIDAY, JUNE 18.—SCOTTISH PANSY SOCIETY.—Annual Exhibition.

Auction Sales for the Ensuing Week.

THURSDAY, JUNE 17.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.
FRIDAY, JUNE 18.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

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SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.
Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.
ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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The Gardeners' Magazine.

SATURDAY, JUNE 12, 1886.

A DISSOLUTION OF PARLIAMENT at the present time will seriously affect the movements of trade and jeopardize many current phases of horticultural endeavour. What is inevitable is sure to happen, but ignorance is bliss sometimes, and at this particular moment no one is fully assured of the inevitability of the anticipated dissolution. Its probability, however, is so great that men of the world will prepare their minds for it, and one result must be such a political conflict as we have not experienced since the fight over the Reform Bill of 1832. It may be some consolation to the many who will suffer by the loss of a season to know that their loss goes towards the making of history, for we are as yet but at the beginning of a gigantic episode, of which the first clause was completed in the division of Monday night, or, more properly, of Tuesday morning. There has never been recorded a larger meeting of Members of the House of Commons. The Members number in all 670, and of these only five were absent, and 657 (including the Speaker) actually took part in the division. On the merits of the question on which the division took place we have, of course, nothing to say, and there is obviously but one course possible now for practical purposes, and it is to take the sense of the country upon it. That in itself is, doubtless, as desirable as it is necessary. To hang up the question may be possible, but such a course would be fraught with mischief, and the least of the evils now to be reckoned with is the direct appeal to the country. It is but too certain that business must suffer a shock, and enterprises that are associated with the course of nature and the movements of society will suffer most of all. In the horticultural world the greatest caution will be required to ensure the fulfilment of engagements and the completion of projects entered into when there were no symptoms of a great disturbance. The dissolution will take place about June 25.

THE LABELLING OF PLANTS AT EXHIBITIONS is often badly done, and is conspicuously objectionable when associated with fine examples that stand high in the winning. The botanical name is always wanted, but it cannot be said that it is always enough, for often it happens that the "common" name, the "English" name, or the "colloquial" name is of great importance. It is agreeable to contrast the labels of the present day with those of days that many can remember, for within the past half-century a gratifying improvement has taken place, and whoever makes serious note of the fact will probably also note that there is much room yet for improvement. On the general subject very much may be said, but as these are busy times we propose to say but very little, and that at least shall be to the purpose.

As regards the names of plants, the labels should bear those that are current in good gardens, respectable catalogues, and horticultural papers. That a plant may be known by several names is not of great consequence; that fact can afford no excuse for bad labels, and should not supply an argument in favour of hair-splitting by such as may have to decide authoritatively whether a label is good or bad for its particular purpose. Take an example. One of the best known plants in cultivation is the pretty thing often called the "feathery spiræa." It is not a spiræa, but an alliance of the saxifragas. It is variously labelled and catalogued Spiræa japonica, Hoteia japonica, Astilbe barbata, and Astilbe japonica. The last name has been for some time past adopted in these pages, and we have several times explained that the generic term spiræa should be put out of use. But when it becomes our business to criticise labels we are in no haste to condemn the adoption of any of the names here cited, for the sufficient reason that so long as they appear in catalogues and reports it is unfair to demand of the plant grower a higher knowledge of the subject than those who propagate knowledge (and error) in print. But in the case of two labels—one bearing the first name cited, which is wrong, and another bearing the last, which is right—we should be bound to vote for accuracy. The point of importance is that a good label is a key to useful knowledge, for in the case before us, such a name as spiræa japonica, though incorrect, will enable anyone to find the plant in the books, and thus trace its history. This opens the way to the study of synonyms, but, as we promised to be brief, it shall suffice to say that synonyms commonly used should appear as such when convenient, and every particular case should be judged upon its merits. The fuller the label the better, generally speaking; but legibility, though of less importance than accuracy, is far from unimportant, and it almost amounts to a surprise when we compare the degrees of pleasure with which we view plants that are equally good, but unequal in respect of the labelling.

What is to be done to stir up the bad labellers and encourage the painstaking? Probably prizes for labels would prove of great practical value, and the medal of the R.H.S. might be an appropriate prize in many cases. The larger societies should have rules and

prizes of their own; the smaller should conform to general rules, and by means of affiliation secure the aid of the R.H.S. In order to establish a system of awards for labels, a definite but liberal plan should be agreed upon, and it should have the sanction of scientists who have given special attention to the subject of botanical nomenclature. Should the R.H.S. ever advance so far in the path of usefulness as to appoint a botanical committee, the framing of a scheme for competitions in labelling would be appropriate work for it. The general features of the scheme being determined, the promoters of exhibitions would hasten to co-operate in carrying it out, for it would be seen from the first that diversity of plans of action would tend to nullify the usefulness of the work all round, and this consideration strengthens the argument for its initiation by a central and universally recognized authority.

The Hollyhock continues to improve in health, and maintains the promise it gave two years ago, of returning to a respectable place in the garden and on the table of the autumnal exhibition. In consequence of the leader on hollyhock disease and the prospect of the recovery of the plant that appeared in our issue for August 16, 1884, many who had abandoned the cultivation made a new venture in purchasing plants and sowing seeds. There are now to be found in various parts of the country thriving plantations that will show their flowers in proper form in the season now opening should the weather prove fairly favourable. The best of these plantations have been raised from seeds sown in the spring of 1885, and the plants were put out in the course of the summer, and in many instances had to endure excessive heat before they were established. A few losses occurred, but the plants on the whole prospered, and their flower spikes are now rising, and in due time should tell a pleasing tale. The successes to be reported are not severely geographical, for from north to south, and from east to west, there are satisfactory examples both of named collections and plantations of seedlings. The longest winter on record appears to have made but few and slight impressions on the plant, and thus we are spared the discussion of its relative hardiness. It can be made a tender plant, as we have been careful to explain, by the process of grafting and hard cutting for propagating purposes, with the aid of a high temperature in spring. In fact, what is called "over-cultivation" is as injurious to the hollyhock as to any plant known to us. It seriously injured the verbena; it nearly annihilated the hollyhock; but a return to reasonable ways is restoring the health of these and other sufferers.

Mr. H. Hatch has been engaged as gardener and bailiff by J. G. Talbot, Esq., M.P., Falconhurst Court, Edenbridge.

Mr. J. Jones has received charge of the gardens of Terrace House, Southampton, the residence of C. H. Day, Esq.

Brighton Chrysanthemum Society will hold its annual exhibition November 16 and 17.

Petræa volubilis is now in flower in the palm stove in R.B.S. Gardens, Regent's Park.

Royal Gardens, Kew, will be open to the public at the hour of ten on Monday morning next, this being the rule on a bank holiday.

There will be no Rhododendron Show in R.B.S. Gardens, Regent's Park, this year, the winter having too much distressed the plants that were selected for the purpose.

A Flora of Oxfordshire, by Mr. Druce, is announced as ready for publication. It will contain Mr. H. Boswell's lists of Oxfordshire mosses and fungi.

Middlesex Natural History Society is a new organization intended for outdoor and museum work within the county. Lord Enfield is the first president.

Mr. J. Garrett, of the Royal Gardens, Kew, has been engaged as head gardener at Batsford Park, Moreton-in-the-Marsh, the residence of A. B. Mitford, Esq., C.B.

A New Flora of the Riviera has appeared in continuation of the admirable work of the late Mr. J. T. Moggridge. It is entitled "Flowering Plants and Ferns of the Riviera." The author is Mr. C. Bicknell; the publishers are Trubner and Co.

Manchester Whitsun Exhibition is after the established pattern as regards arrangements, and we rejoice to add that the quality is after the old pattern also. If orchids are advancing in London and Birmingham, they are, at least, not retrograding in Manchester. The show of hardy plants is extensive and interesting.

A Special Fete will be held at the Crystal Palace on Thursday, June 24, to welcome the representatives of the Colonies and India now visiting this country. On Saturday, June 26, the Palace will be visited by the Prince and Princess of Wales, and on both occasions special attractions will be provided.

Solidification of Oxygen was exhibited for the first time at the Royal Institution, a few days since, by Professor Dewar. The solidification is accomplished by allowing liquid oxygen to expand into a partial vacuum, when the enormous absorption of heat that follows results in the production of the solid substance. Oxygen in a solid condition resembles snow in appearance, and has a temperature of about 200 deg. Centigrade below the freezing point of water.

The Ferneries at the Colonies advertise effectually the capabilities of Chiswick. Everywhere in this great exhibition we see groups of tree ferns that were sent over as dry logs, and started into growth in the Chiswick gardens of R.H.S., and now they testify by their beauty that Mr. Barron gave his mind to them. There was wanted for the work one whole year more than was allowed, and we have reason to rejoice that so much has been done in one season.

Richmond Vestry will probably secure the whole of the Duke of Buccleuch's estate of eleven acres at Richmond, having voted the sum of £30,000 for the purchase, this being the minimum figure named by the Duke. All that remains to be done to complete the purchase is probably of a formal nature, but difficulties may arise, and we can but hope the spirited action of the vestry will be rewarded by complete success in this matter.

Masdevallia rosea was the most interesting amongst many beautiful orchids shown at South Kensington on Tuesday. It is so distinct that it may be likened to Epiphyllum truncatum, but no one, we imagine, has ever seen the flowery cactus, to which we have likened it, in so gay a dress as this masdevallia. The leafage is peculiarly compact, and the flowers seem to stream out from it in the way of a fringe, the form of the flower being characteristic, and the colour a very rich tone of purple rose. It was contributed by S. Courtauld, Esq.

Royal Society.—At the annual election of Fellows of the Royal Society the following fifteen candidates were elected into the society by ballot: Shelford Bidwell, M.A., William Colenso, F.L.S., Harold B. Dixon, F.C.S., Major-General Edward Robert Festing, R.E., Andrew Russell Forsyth, M.A., Professor A. H. Green, M.A., Professor Victor Horsley, F.R.C.S., Adam Sedgwick, M.A., Raphael Meldola, F.R.A.S., Philip H. Pye-Smith, M.D., Henry Chamberlaine Russell, B.A., Professor W. Cawthorne Unwin, B.Sc., Robert Warington, F.C.S., Captain William James Lloyd Wharton, R.N., and Henry Wilde.

Pæonies and Pyrethrums were presented in great variety, making a brilliant display of colour, at R.H.S. meeting on Tuesday. Of iris there were perhaps as many as of pyrethrums, but these flowers do not tell with any force when cut, and very many of them that have distinctive names are quite wanting in distinctive qualities. Amongst the herbaceous pæonies two noble varieties were certificated, one of them named *Festina maxima* being probably the finest variety of its class in cultivation. The flower is of great size, very double, creamy white, with a few blotches of purplish red in the centre. A collection of iris from Messrs. Krelage, of Haarlem, made but a weakly show, having suffered much from their long journey. Mr. Ware's miscellaneous great collection of hardy plants was much admired.

Royal Botanic Show on Wednesday was largely attended, and was worthy of the weather and the company that favoured it. Orchids were in great force, and the giant specimen of Odontoglossum vexillarium from Mr. Whitbourne's garden justified all that has been said of its fine growth and perfect beauty. It carried nearly 300 flowers. Messrs. H. Low and Co. put up a lot of cattleyas, amongst them *C. Wagneriana*, which may be described as a white C. Mossiæ; and another in the same way, *C. Reineckiana*, which is white with violet labellum. One of the best of the novelties was Messrs. Veitch and Sons' *Nephrolepis rufescens v. tripinnatifida*, which it is not profane to liken to the Cambrian polypody, from which, of course, it differs by a hemisphere in geography, and something in classification. A finer fern of its class we do not know; it will be invaluable for exhibition.

PLANTS FOR THE COOL PLANT HOUSE.

By Thomas Baines.

Veronicas.—The mild winters of which we now and then get a series, such as the three preceding the last, make us forget that certain plants which are able to bear a considerable amount of frost are still not hardy in any but the mildest parts of the western coast. Such, for instance, as the veronicas, which, during the last three years have, in the west, scarcely ever been out of flower. Their handsome green foliage and cheerful-looking flowers render them at all times acceptable, but never more so than when they appear in winter. Many years back, when V. Andersoni, a hybrid raised by crossing the willow-leaved V. salicifolia with V. speciosa, appeared, it made quite a sensation, and no wonder, for even treated as a greenhouse subject it is one of the most lovely autumn flowers we possess, much superior to V. salicifolia, which was the seed parent in the cross named, and much more free in the production of flowers than V. speciosa. Several others have made their appearance, some amongst which may be named Blue Gem, Brilliantissima, and Gloire de Lorraine, but for general usefulness there does not seem to be any better than V. Andersoni.

Veronicas are easily grown in pots, just the sort of plants for those who have not had much experience in plant growing to try their hands on. They strike freely from cuttings, which should be put in early in the winter, so as to give time for their attaining a useful size before autumn. The cuttings are best put singly in small pots in sand. Kept close and moderately warm, they will root in a short time, after which give them more air, and as soon as they have got well rooted move them into larger pots. They will grow well in loam well enriched with manure, which is the most suitable for them. As soon as they begin to grow pinch out the points of the shoots; this is necessary to get them to break low down. Keep them in a growing temperature through the spring, and harden them off so as to be ready for standing out of doors as soon as there is no danger of frost. They are amongst the freest of free-rooters, and by the middle of May may be planted out in a bed of well-prepared soil; again pinch back the shoots. Keep them sufficiently supplied with water, and in the autumn move them into pots, in which they will soon get

established, keeping them a little close for a short time. They will bloom for eight or ten weeks. The plants may be cut well in, and grown on another summer in larger pots, standing them out of doors; if kept inside they will get drawn up weakly, and not flower so well. If old examples are likely to get too large the stock may be kept up by propagating afresh each winter.

Illicium religiosum.—This distinct-looking evergreen plant—alike distinct from most things in both leaves and flowers—is a suitable subject for the cool house. It is a native of Japan, and is nearly hardy in some parts of the kingdom. It can be struck from cuttings, made of the firm, partially-matured wood inserted in sand, kept moist, and moderately close in a greenhouse through the winter, during which time they will callus; when this has taken place give them gentle bottom heat and they will strike. After they have got well-rooted move them into larger pots, and subject them to ordinary greenhouse treatment for the first summer, during which time they should have the points of the leading shoots pinched out. The following spring give larger pots, and towards the end of May stand them out of doors in the full sun, plunging the pots in coal ashes; here let them remain until autumn, when take them indoors. Give larger pots in spring, and again stand in the open air for the season. The plants may be expected to give some of their yellow-green shaded flowers the following spring, but will produce them more freely in after years. The open air is the right place for them in summer in all stages of their growth, except the first year after the plants are struck. There are other methods of treating this plant, but for cool house cultivation I have found the foregoing to answer best.

Desfontainea spinosa.—This is a dense, bushy, somewhat erect habited evergreen plant, from Patagonia, that bears handsome scarlet flowers. In appearance it is not unlike the holly-leaved Osmanthus (O. ilicifolius), except that its leaves are not so large as those of the Osmanthus. It is nearly hardy in the South of England; on the western coast it will live out of doors, consequently it is a suitable subject for the cool house, where, doubtless, if the precaution was taken to plunge the pots it would do without fire-heat altogether. But it will not answer planted out under glass, for, if not exposed to the open air all on through the summer its wood does not get sufficiently matured to enable it to flower freely. The plant is a slow grower, and does not attain an unmanageable size. Taking it altogether—either when in flower or as seen in the garb of its dense lively green foliage, it is one of the handsomest plants in cultivation, yet it is rarely met with. Why, can only be conjectured, unless it is through the rage there seems to be at the present day for quick-growing things that entail no waiting on the part of the cultivator to see them grow up to their full size. Yet this is a poor reason for the exclusion from our greenhouses of the quantities of beautiful and distinct looking plants that used to give the charm of variety such as is not obtainable by the limited number of kinds that now in most cases are made to suffice for filling a plant house. The Desfontainea can be propagated from cuttings made of the half-matured shoots. These will be obtainable in the latter part of summer. Put them in pots or pans filled with sand, in the ordinary way; confine under bell-glasses, and keep moist in a greenhouse through the winter so as to allow the ends to callus. Then in spring move them into heat, where they will soon root; when put them singly into small pots, and give them greenhouse treatment for a time. Pinch out the tops to induce them to break back. Towards the end of summer they may be stood out of doors for a few weeks. Winter in an ordinary greenhouse temperature. In spring give larger pots and stop the points. When the roots have got into the new soil, stand the plants outside until autumn, when they must be returned to the greenhouse. In spring re-pot, and treat through the summer as before. All that is further required is to continue the treatment so far advised, giving more root room as it is wanted. Those who do not care to wait for cuttings to grow up can obtain plants in the ordinary way, potting them on in spring each year, placing them out in the full sun in summer, and wintering in the house. Good turfy loam answers for the plant, with as much sand added as will keep the soil in a condition for the water passing freely through it. Pot firm, as with all plants of a like character. Treated in this way it will continue in a healthy, thriving condition for many years, each season making an effective display with its bright-looking flowers.

Philesia buxifolia.—In this singular evergreen shrub there is a combination of flowers not unlike those produced by Lapageria rosea, with a somewhat stiff erect habit in the plant. It comes from South America, and is a slow grower, not attaining a large size. It is the solitary representative of the genus, and is a suitable subject for the cool house, in which it would not suffer with the pots plunged even if no artificial heat were present. It blooms freely when properly treated; the flowers are red, bell-shaped, and drooping, giving the plant a distinct and handsome appearance. The habit of growth is neat, and the foliage pretty. It is best increased from suckers, which are produced moderately freely; these should be taken off, with roots attached, any time before growth commences in spring, placing them singly in pots proportionate to their size. It does best in peat, to which some sand must be added. Keep the newly-potted suckers in a greenhouse until they get established. The object is to grow the plants on without delay, but they must not be kept too close so as to induce soft growth, or they will suffer when turned out of doors, which they should be as soon as warm weather comes, when plunge in coal ashes in a sunny place, giving plenty of water as soon as they have commenced to grow freely. Let the plants remain outside until the autumn is well advanced, wintering in the cool house. It is a summer bloomer, and during the time of flowering will be an effective object indoors, but should, as much as possible through the growing season, be in the open air, as in common with a good many other desirable plants it dislikes anything approaching a confined atmosphere. With additional pot room as required, and fair attention in other matters, it will go on for many years.

Embothrium coccineum.—An evergreen shrub, of moderate growth, that bears distinct-looking red flowers, which are produced in spring. It comes from New Holland, and used to be much more cultivated as a pot plant than at present. It will be found an acceptable addition to the flowering section of cool house subjects. Cuttings strike freely taken off when in a half ripened state, inserted in sand, and kept close, moist, and shaded, in a moderate temperature. When rooted they should be placed singly in small pots, and treated in the way that answers for ordinary greenhouse stock, attending to stopping, and such staking and tying as necessary to give the plants a sufficiently symmetrical appearance without formality. They may be kept under glass altogether until they have attained a useful flowering size, after which plunge them out of doors in the summer months. All the further attention required is to give additional root room as it is wanted, and to see that they get enough water, especially during the growing season. Either peat or loam will answer for this embothrium, but in peat it usually makes more progress. This fine plant was figured in G.M., August 15, 1885. T. Baines.

HARDY PLANTS IN FLOWER.

Dianthus is becoming a great genus now that rock gardens are in favour and pinks and carnations are largely exhibited. Conspicuous amongst the rockery plants of late have been the glacier pink, *Dianthus neglectus*, a wonder in its way, perhaps the loveliest rock plant known; the Cheddar pink, *D. cæsius*, pretty and fragrant; and the Amoor pink, *D. dentosus*, showy and useful. Now we see the fiery flowers of *D. cruentus* in the finest state, the plants unhurt by the long winter and now crowned with a diadem of crimson flowers that nothing can equal in all the range of rockery plants. Very soon the alpine pink, *D. alpinus*, will make a show of rosy crimson flowers above its shining leaves. To grow this group of plants in perfection is worth any amount of trouble, and the chief point is to protect them from winter damp.

Anemones have been reinforced by the accession to the list of flowers of the several sections of *Anemone coronaria*, now showing their large, highly-coloured flowers in endless variety. These and the cheaper kinds of Ranunculus asiaticus are amongst the most useful of all known border flowers, for they flower well when spring planted, and prosper in almost any kind of soil if fully exposed to sunshine. But these are not in our line just now, for we have note of *Anemone rivularis*, a strong growing species, with thrice divided leaves and conspicuous white flowers. This is a nice, but not a showy plant.

Rock Roses are not as yet plentiful, but with sunny weather they will make the wilderness to blossom like the rose. We have now a glorious show of colour on the hoary rock rose, *Cistus canescens*, which has greyish leafage, and large rosy purple flowers of the most exquisite satiny glow and texture. It is figured in Sweet's "Cistineæ" (t. 45), with sufficient accuracy for purposes of identification, but with a poor effect of colour. But this is pardonable, for no art of man can reach to the truth with such a lovely subject.

Golden Drop is the familiar name of the beautiful *Onosma Taurica*, one of the finest of the more showy plants of its class, and a proper companion to the best of the symphitums. Its pure citron colour is a point of some importance, seeing how plentiful are yellow flowers at all seasons. In a general way this is a difficult plant to propagate: we may talk of seeds and cuttings, but after all, when we have agreed on what is to be done, it still remains to do it. We have lately seen plants of this onosma shut up in a frame, and looking quite uncomfortable, but the curator of an important collection justified the proceeding by saying he obtained by this method suitable shoots for cuttings; and a troublesome plant must put up with a little discomfort as a punishment for being troublesome. There is something in it: at all events, the thing is to make sure of what you want, and the procedure that is the best in one place may not be the best in all. The happy ones who can secure seed need not punish their plants for troublesomeness.

Geraniums are gay, and will continue to show acceptable masses of colour, but *G. phœum* and its relations are fast becoming seedy. The section of *G. pratense* are now coming into flower and are most welcome, and the finest of the summer flowering species, *G. armenum*, already displays a few blotches of colour. But the geranium of the time is *G. argenteum*, a charming dwarf plant, with silvery leaves and large rosy flowers. This is fully equal in merit, though less showy, to G. armenum, and should have a place in every good rockery garden, for of its hardiness there is no room for doubt whatever.

Lupinus compels attention, for *L. polyphyllus* in about a score of varieties is in full glory with its brilliant porcelain spires. There would be small profit in naming the varieties, although we reserve the right to do so at any time; for the present we shall say that they are all good, and do not greatly differ. These tap-rooted things do not divide or transplant well, therefore the prudent hardy man will be careful to raise a few from seeds every year. *Lupinus arboreus* is now in flower, and is particularly worthy of note as a good plant; indeed the hardy man who does not possess one may be said to be in a melancholy situation. It is gay with its yellow flowers now, and they are so fragrant that when within reasonable range of them one forgets the delicate perfumery of Bond Street. The whity-blue variety of this plant is described in a certain book as not good, and we decline to name the book, because, being a good book, we will not gravely question its authority. But we record our opinion that the white or pale blue variety of the tree lupin is a good thing, and at the present time distinct. A grand yellow lupin is *Thermopsis fabacea*, of which there are some half-dozen varieties, all good, and at this time very gay with yellow flowers. Any good soil will suit this plant, and it should be kept going from seeds, for like other lupins it does not like to be divided against itself.

Poppies are making hay while the sun shines, for since the 5th of June, when summer warmth was felt for the first time this year, they have become very gay. The Oriental poppy, *Papaver orientalis*, whether labelled "bracteatum," "concolor," or "triumphans," is the gayest of all, and, in fact, the most dashing plant in the garden. There are many good people who "cannot abide it," and we sympathise with them, for occasionally "our gorge rises at it." But all can enjoy the pretty alpine poppy, *P. alpinum*, in its several varieties of white, scarlet, and yellow; and the more showy Iceland poppy, *P. nudicaule*, and very soon the brilliant flowers of *P. umbrosum* will appear, but, being an annual, it should not here be mentioned. Alas, the deed is done, and we decline to apologise.

Calls at Nurseries.

MESSRS. J. LAING AND CO.'S EXHIBITION OF BEGONIAS.

The magnificent exhibition of tuberous begonias which has recently been opened in the nurseries of Messrs. J. Laing and Co., at Forest Hill, marks a distinct epoch in the comparatively short history of these flowers, and is not less interesting to the specialist than it is attractive to the visitor who troubles but little about names and varieties. The exhibition house, which is upwards of one hundred feet in length by twenty-five feet in width, is filled to its utmost capacity with plants of various sizes ranging up to specimens of the largest size and perfect in development, and the effect produced by the marvellous display of colour is so startling in its brilliancy that it is not likely to be soon forgotten by those who have an opportunity of visiting the nurseries. But, spacious as is this structure, it has not been found sufficient for the accommodation of the whole of the immense stock of plants in bloom, and the exhibition has consequently extended to a second house, which, if not so large as that in which the principal display is produced, is highly interesting, for in it are located many of the beautiful doubles of recent introduction.

In the exhibition are represented all the finest varieties at present in cultivation, the greater proportion consisting of the varieties raised by the firm, who, as so well known, have achieved a very high degree of success in the improvement and the cultivation of tuberous begonias. The whole of the "Royal" varieties depicted in the plate issued by the firm a short since are in bloom, and form a very important series. Queen Victoria is a superb variety, the foliage handsome, and the flowers of immense size, the colour deep rose; Prince of Wales, rich crimson scarlet; Princess of Wales, brilliant rose pink; Prince Albert Victor, bright orange scarlet; Princess Louise, pure white; Princess Victoria, blush pink, shading to rose carmine at the margin; Duke of Edinburgh, glowing marone crimson; and Duchess of Edinburgh, rich orange yellow. These all have a stout, free branching habit, and bear flowers of the finest form, and ranging from five to seven inches in diameter. They will be found especially adapted to the requirements of cultivators for competitive purposes. The following single varieties possess exceptional merit, both as regards habit of growth and quality of flowers: Earl of Rosslyn, bright orange scarlet, one of the best of its colour for specimen culture; Mrs. Weekes, white, the petals margined with pink, very distinct and beautiful; Charmer, rose, with light centre, a pleasing variety; Golden Gem, bright yellow; Torey Laing, orange buff, a very distinct and effective shade; White Perfection, pure white, the flowers very large, one of the best of the whites for specimens; Countess of Rosslyn, rich orange shaded bronze, very effective; Countess of Chesterfield, bright rose; Marchioness of Bute, deep rose, large and very fine; Lady Lewisham, bright rose; Fireball, orange scarlet, rather old but of great excellence; Stanstead Surprise, deep crimson, very large and fine; Rose Perfection, deep rose; Primrose Queen, delicate primrose yellow, very pleasing; Frimbriata, light flesh pink, frilled at the margin, very pleasing; Her Majesty, blush shaded pink; Guardsman, orange scarlet; and Grace Darling, blush, shaded at the margin of the petals with pink.

The improvement in double begonias has been very great. The following comprise some of the best doubles at present in bloom in the collection: T. Hewitt, rich scarlet, one of the very best varieties of its colour; Marquis of Bristol, a new variety, with finely formed flowers of a rich yellow colour; Prince of Wales, deep crimson, flowers large and very freely produced; Mrs. Partridge, primrose yellow; Mr. Barnett, marone crimson, the darkest of the double varieties; Alba Plena, pure white, the best of the double whites; Leon de St. Jean, scarlet, the flower stalks quite erect; Miss Amy Adcock, salmon with blush centre; Canary Bird, bright canary yellow; Lady Halse, pale primrose, passing to white; Marquis of Stafford, brilliant crimson; Flora, bright salmon rose; Marchioness of Stafford, creamy white, very beautiful; Mrs. Brissenden, salmon pink with cream-coloured centre; General Gordon, carmine red; Lillie, deep pink; and Davisi fl. pl. superba, crimson scarlet.

Those enumerated above do not exhaust the list of really good single or double varieties, but they are those which should have the first attention. In addition to the named varieties there are large numbers of selected seedlings, amongst them being several very distinct varieties. The planting of the seedlings in the open quarters was in progress when we were at the nurseries, and it may be of interest to state about one hundred thousand will have been bedded out by the time the work is completed.

VEGETATION OF JAPAN.

The area of Japan is about 96,000,000 acres, and the forest area, exclusive of Loo Choo and the Bonin Islands, is about 29,000,000 acres. The forests are held in nearly equal proportions by Government and by private owners. Forestry has long been made a study in Japan, and it is stated in a recent report of the United States Commissioner of Agriculture that no people are more skilled in grafting and dwarfing than the Japanese. The Government Forestry Department is now an important branch of the State. The head office is in the capital, Tokio, but in each of the forty-four *Ken*, or States, into which Japan is divided, there is a branch office, from which the respective forests and plantations are managed. During the days of the old rulers each lord had his own forestry laws, all of which were very strict; one of these made it a punishable offence to be found in the forest after nightfall. Since the new *régime* the forestry laws have been consolidated, and their old feudal strictness somewhat abated; but the existing laws are still strict enough to secure the due preservation of the forests.

In Tokio there is a Government school of forestry which was established three years ago, and is now attended by 150 pupils. Some of these pupils are preparing themselves for practical work in the State forests; others are the sons of landowners and farmers acquiring a scientific knowledge of arboriculture in order to qualify themselves for the efficient management of their own lands. The curriculum in the forestry school includes botany, the chemistry of the soil, a little natural philosophy, surveying, and the practical work of planting and rearing trees. Illustration is given to the pupils by Japanese officials, who have themselves studied forestry in the schools of Germany. Large plantations have been formed under Government auspices, and every year the area of forest land is being added to—cedars, oaks, spruces, and firs being the trees more generally planted.

Within the last few years an important experiment has been made in the introduction into Japan of the seeds of trees and shrubs from other countries. Tea is extensively cultivated, but it was only in 1879 that the first coffee berries were brought from the Sandwich Islands and planted in Japan, and great hopes are entertained of the success of this experiment from a commercial point of view. The cinchona tree was introduced from India in 1878, but the climate of Japan does not appear to be favourable to it, and in 1880 large importations of forest trees were made from Europe and America, and planted in the experimental gardens of the forestry department of Tokio. Some were failures, and others took favourably to the country—the list including several firs, oaks, and maples, the birch, the German larch, lime, ash, *Pinus Webbiana*, and other trees, which will in time form an important addition to the timber supply of the country.

Extending over fifteen degrees of latitude, and with high central ridges of mountains on the larger islands, the climate of Japan differs considerably in the north and south, on the plain and in the mountains, so that the vegetation partakes both of tropical and temperate zone characteristics. The country itself may be divided into five distinct tree regions or zones. In the first the temperature is high, and the forests consist of broad-leaved evergreen trees, then comes the zone of the oak and the beech, and other broad-leaved deciduous trees; next that of the family of cedars, among others the *Thuias* and *Retinosporas*, for which the country is remarkable. Higher still is the region of the firs and pines, the conifers including many of the finest specimens of the *Abies Veitchii*. Chief, however, among the trees of Japan are the *Cryptomeria japonica* and *Retinospora obtusa*, which attain to a height of about 120 feet, and a girth of 20 feet.

The United States Commissioner of Agriculture says, that to those who have only been accustomed to see small dwarf specimens of the Japanese *arbor vitæ* and conifers used for lawn decorations, nothing is more astonishing than the great slabs of wood which such trees supply in their native country. Of such slabs many specimens are seen in Japan, and the ornamental woods are also very numerous. A very useful Japanese hardwood is the *Keyeki*, which has a reddish hue; and there are many varieties of oak. From one of the trees grown in Japan—the *Broussonetia papyrifera*—the inner bark is taken and manufactured into paper, while from one of the climbing plants the woodmen make their clothing. The wood is steeped in water, then beaten with hammers, and the fibrous mass thus obtained is woven into cloth, which is dyed a deep blue colour.

In the way of timber, the Japanese are able to supply the greater part of their own wants, and as the houses are largely built of wood the quantity required is very considerable. A large quantity of timber is exported to China, and a small quantity is imported from America. In Japan there are large numbers of ponds in which timber is preserved. These are usually constructed near the mouth of a river, and into them fresh and sea water is allowed to flow, in the proportion of six parts salt to four parts fresh. Should there be a larger proportion of salt water, the timber is apt to become black; if a larger proportion of fresh water, the wood is liable to attack from worms. The ponds are about five feet in depth, and by means of canals many of them are often connected. The timber is piled in the form of a cube, and is kept in the pond from two to five years before being used, the trees most frequently treated in this way being the *Retinosporas* and *Cryptomeriæ*; a part of the preserving process being the thorough washing and re-arrangement of the wood twice a year. Some of the ponds are made large enough to contain 10,000 pieces of timber.

ALLOTMENTS.

The following appeared in the *Times* of June 5:—

Speaking in the House of Commons last week on the Bill introduced by Mr. Chaplin for giving compulsory powers to local authorities for the purpose of acquiring land in order to provide cottagers' allotment gardens, Mr. Arch said:

"I had the honour the other day of having a long interview on the subject with the Earl of Onslow. I submitted a scheme to his lordship, which I believe will be accepted by the noblemen whom he represents. If they do accept that scheme this Bill will be of no earthly use anywhere."

As these proposals appear to the members of this association to be reasonable and easy of adoption it may be interesting to the public to learn their nature.

I therefore subjoin a memorandum of a conversation which I had with Mr. Arch, and which, after perusal, he has returned to me saying that it very fairly represents his views.

Onslow, Hon. Secretary.

Voluntary Allotments Association, 60, Palace Chambers,
Westminster, May 30.

"Memorandum.

"Mr. Arch was questioned as to the amount of land which a labourer working for daily wages could cultivate with profit to himself, and expressed a belief that it depended upon a variety of circumstances. Where a man was married to a wife who was not capable of field work, or whose time was engrossed with little children, he would not be such a fool as to seek for more than a very small plot of ground; but where a man was strong and able, and had growing children and an active wife, Mr. Arch believed he could manage more than a quarter or half an acre, especially if not fully employed.

"Asked what steps he would advise a landlord anxious to give the labourers the opportunity of fulfilling these conditions to take—he said, Let the landlord call together the labourers in the village, without the assistance of any intermediary, and tell them that he proposed setting aside a convenient plot of land for the purpose of allotments. That on one side he would divide it into small plots, and on the other into larger ones. The landlord should invite the labourers to apply for these plots in such sizes as they thought they could conveniently cultivate. That the rent should be the same as that paid for land of similar quality similarly situate, with such increase as might be necessary to cover outgoings of all kinds. That the landlord should insist without a shadow of partiality or leniency on the punctual payment of rent and the maintenance of the land in a good state of cultivation. That he should give the labourers to understand that, subject to these conditions, they would not be disturbed in their holding, but that a breach of them would lead to immediate forfeiture.

"Asked Mr. Arch's opinion as to fixing the rent on the basis of existing rates, with the understanding that it should rise or fall according to the increase or decrease of the rates, he expressed his entire approval of the suggestion.

"He further stated that if a number of landowners would carry out the suggested apportionment of land, he would himself, if his engagements permitted, attend the meetings and express to the labourers his approval of the scheme."

PEACH AND NECTARINE CULTURE.

By James Douglas.

In gardens where the ground has been well prepared, either in Scotland or England, first rate peaches and nectarines can be obtained from the open walls. Some fifty or sixty years ago excellent fruit was obtained from wall trees in Scotland, where the climate is nothing like so favourable to the perfect development of the fruit as that of the south. In well-prepared soil the wood ripens well and the buds are perfectly developed for next season's crop, whereas when the soil has not been prepared unsatisfactory results are obtained. I have seen good peaches and nectarines grown on walls five feet high, but this is the minimum height, and they succeed much better where they are planted against walls from ten to fourteen feet high. The best material for walls is the ordinary brick, and for a wall ten or eleven feet high nine inches thick will be sufficient. If higher than this it will be necessary to have it fourteen inches thick. The foundation of the wall ought to be two feet six inches below the ordinary ground level. The reason for this is that the border ought to be excavated to that depth. The most economical way to do this is to begin at one end of the border, and clear out a space the whole width of the border, and, say, eight or nine feet wide. Whatever good soil there is ought to be saved, and the unsuitable gravel or clay subsoil must be wheeled out. The borders ought always to be well drained, and in each space of nine feet a row of drain pipes should be laid in from the wall to the centre of the path running parallel with it. In the path a main drain ought to be laid. If it can be obtained, it is a good plan to place about six inches of brick rubbish in the bottom of the border. The best material to mix with the ordinary soil is good turfy loam, broken up with a fork or spade. When one space has been made up another must be dug out and treated in the same way, and it ought to be made up nine inches above the level of the path; this will allow for sinking, which it will do to within two or three inches of the level of the path in twelve months. If possible, the border should be prepared in fine weather during summer. It will sink a good deal during the autumn rains. In November the trees may be planted, but it is better not to nail them to the wall until the end of February. The late Mr. McIntosh, author of "The Practical Gardener," paid great attention to the culture of wall fruits, and strongly urges the importance of making good borders, and, like many of the gardeners at that date (1822), thought an impervious bottom was the most preferable. It is not worth while to describe his method of preparing the border, as few people would care to follow the directions; in fact, I think the bottom impervious to water or the roots an evil to be avoided. Ardent young cultivators may err in making the ground too rich; in fact, if the soil is naturally in good condition it will be much better not to add any manure to it, as there will be sufficient nourishment in it to produce a medium growth, which is best. Strong, gross shoots are useless. The best way to apply manure to a peach border is to surface dress it during the summer months. It prevents evaporation and encourages the roots to grow near the surface, instead of striking downwards into the colder soil. In places where the garden soil is well adapted to the culture of these trees it may not be necessary to do much by way of preparation, except to trench it up about two feet deep.

Draining is almost an essential part of the preliminary operations, for even if the soil is naturally dry wet autumns may be disastrous by flooding the ground and preventing the perfect maturation of the wood, which is essential to successful culture and a good set of fruit the following season. In some country places there is no difficulty in obtaining plenty of good loam; and when that is the case out-of-doors culture of peach and nectarine trees is assured. I will now as briefly as possible describe the future management of the trees, and I may say at the outset that we have learned a good deal during the last twenty years.

The training of wall trees was a very slow process when some of us were apprentices. The trees, as they were usually sent home from the nurseries, had one centre shoot and two on each side. These were cut well back, quite two-thirds of their length, and next season a few extra shoots would be trained from these stumps to "lay the foundation of the tree." Summer pinching was not thought of—at least it was not practised. We have now greatly improved on the old systems of culture; so much so, that a wall can be furnished with bearing wood in less than half the time it used to take to do it. In the first place, instead of cutting back the young wood to one-third of its length, I would reduce it by one-third only. The first season the shoots might not grow so strong as to require pinching, but they ought to be laid out carefully and evenly over the wall, taking care not to over-crowd the space allotted to them. The second year the trees will be sure to make very vigorous growth, and all gross shoots should be stopped when they have grown fifteen or eighteen inches; the next growths, which will be produced immediately, may also require to be stopped, and each set of growths will be weaker in proportion. The small growths, though later, will ripen better than the gross shoots would have done if they had not been interfered with, they will produce flower-beds in plenty, which gross shoots do not; and, further, the size of the tree is increased much more rapidly. I well remember suggesting to a Scotch gardener of the old school this method of pinching the growing shoots to increase the size of the trees more rapidly, and at the same time a better class of young wood; but he could not see it. His remark was, "We can seldom get one growth to ripen, how would it be if we tried to get a second."

It ought to be remembered that gross shoots on peach trees never ripen well, and seldom bear fruit. If there are sufficient shoots of a medium or slender growth these gross growths may be cut clean out at the base. The object of summer pinching fills the wall with bearing wood in half the time it would take if this was not done; but when the wall has been furnished the practice should be discontinued. If the soil in which the trees are growing is not too rich, full-grown trees will not produce gross wood; besides this, the crop of fruit also checks the growth to a considerable extent. I do not believe in winter pruning for these trees. I prefer to do the whole of it in summer. Some gardeners say: "Lay in plenty of young wood in summer; it is easy enough to thin it out in winter," their object being to select at that time the most fruitful wood. (I take it that every gardener knows that the fruit buds are found on the current year's wood and not on spurs). It is quite unnecessary to grow young wood merely to cut it off again, or to make sure of its being fruitful. The fact is that every weak or medium growth will be bristling with fruit buds. This follows naturally as the night the day, and the wood will be much better ripened if it has sufficient space for the perfect development of the leaves than if two or three shoots are grown where one ought to be, and which must be removed after.

Another matter requires explanation. If the weakly shoots are examined it will be found that some of them are furnished their whole length with fruit buds, and not a leaf bud amongst them, except one at the point. Now, it is obvious, if the point is cut off there will be no bud left from which a leading growth can proceed; the shoot will die back, and with it the fruit which may have set on it. The stronger shoots will be furnished here and there with triple buds, and the centre one of the three will be a leaf bud, so that any shoot can be cut back to these if it is necessary to do so; but with good summer management it is not.

Peach and nectarine trees are the favourite haunts of red spider. This troublesome pest is sure to attack them as soon as hot weather sets in. It can be destroyed, or kept in check, by syringing. Much more difficult to get rid of is the peach aphis, which causes the leaves to curl, and makes for itself a safe retreat in the injured leaves. Dusting with tobacco powder as soon as it is observed is a good plan to get rid of them, or syringing with soft soapy water.

A few of the best varieties to grow are: of peaches—*Alexander, Hale's Early, Early York, Grosse Mignonne, Noblesse,* and *Bellegarde*; of nectarines—*Lord Napier, Stanwick, Elruge, Violette Hative, Pine Apple,* and *Victoria.*

MARKET GARDENING IN THE CHANNEL ISLANDS.

By E. Whitfield Crofts.

No. 19.

(*Completing the series.*)

Description of Alderney—Its exposed position, climate, soil, and crops—The quantity of potatoes grown now and in the past—Fruit not much grown—Description of Sark—Gardens and farms—Price of land—The soil very productive—The potato trade, past and present—Culture of fruit—Floriculture—The gardens of the Seigneurie—Conclusion.

Before concluding these articles, we should just like to say a few words about the two remaining islands of importance in this singularly interesting group; as in the foregoing survey we have confined ourselves strictly to matters relating to Jersey and Guernsey.

Taking the islands in the order of size, we shall speak first of Alderney, which is well described as a formidable mass of hard rock, forming the north-western extremity of the cotentin or manche, and terminated by Cape la Hague. It is distant twenty-thre miles from Guernsey, and sixty from England. Its length is four miles, and its breadth one mile. The coast consists of a series of lofty and precipitous cliffs, of a truly magnificent character,* much of which is being fortified by the British Government. †

Consisting of a flat table land, at an elevation of about 250 feet above the sea level, Alderney is less sheltered from winds than either Jersey or Guernsey, and its climate is supposed to be rather colder and more bracing, though this is not known from actual recorded observations. The fact that the island is very exposed to the prevailing winds would be gathered at once by the stranger from the scarcity of trees which is everywhere noticeable, and which causes the scenery to have a somewhat dreary aspect, and leads one all unsuspectingly to pronounce the place as barren and less fertile than it really is.

The soil is productive, and markedly so in some instances; but is lighter and more open than that of the other islands. The population being large—it has been much larger—in proportion to the size of the island, and the coast abounding in seaweed, the land is highly manured, and large crops are thus drawn from it year after year, without any fear of exhausting the soil. The farms are all very small, in fact simply overgrown gardens; and not the best cultivated of gardens either. The ground is usually much choked by weeds, indeed such quantities of weeds were surely never seen on the worst cultivated Irish farm.

Potatoes, of which nearly one hundred acres are planted, do remarkably well, and are considered by the inhabitants as much finer flavoured than those grown elsewhere, in the archipelago or out of it. Many thousands of bushels were formerly exported to England every year, but it does not appear that this trade is now in existence.

Early potatoes are grown by some, but the quantity is not easily ascertained, as the returns are included in the figures for Guernsey. In those cases where spade culture is employed a marked increase is observed in the bulk of the crop.

There is but one orchard in Alderney, and this by no means an

* The Queen, who visited Alderney some years ago, described it as "quite different from all the other islands—excessively rocky and barren, and the rocks in and under the sea are most frightful."

† Alderney has been long regarded as occupying an important defensive position in the English Channel. The fortifications are being carried out on a great scale. The harbour alone has cost upwards of one million sterling, and is yet far from complete.

extensive one. The reason of this is owing to the exposed situation of the country. With artificial shelter, it has been satisfactorily proved that fruit does as well here as in the other islands.

Sark, though of less dimensions than Alderney* produces far more garden produce than that island. Sark, frequently called "the Gem of the Channel Islands," is unique in many respects, and a most romantic and interesting little spot. In form it is like the figure 8, the larger circle representing Great Sark and the smaller one Little Sark, while the Coupée, at an elevation of 300 feet above sea level, joins the two at the point of intersection. The cliffs are very steep, and penetrated by many noble caverns richly stored with zoophytes.

The inhabitants are a remarkably simple, honest,† hospitable community of people, who live on from year to year with little to disturb the even tenor of their lives. They are clever gardeners and farmers, and cultivate the soil to its utmost capacity. The land, which is good, the soil being more of a loamy character than that of Alderney, lets readily at 75s. the acre, all rent being paid in kind. Manure, comprising both seaweed and guano, is largely employed. A native of the island tells us "that it produces in one year sufficient to maintain its inhabitants for four years." As far back as 1822 we are told that 20,000 bushels of potatoes were sent to Guernsey for transportation to England.‡ Potatoes are still a very important crop in Sark, twenty-four acres being under cultivation last year, some twenty or thirty tons of these consisting of the early variety. The mode of culture is the same as that followed in Guernsey.

Of orchard land there is about ten acres, the crop consisting principally of apples. The most that can be said for the orchards is that they are in as good a condition as those in the neighbouring island. In some instances the ground under the trees is cropped with vegetables, which are frequently carried to St. Peter's Port and sold. Gooseberries are also grown, but not as largely as formerly. Many years ago this berry figured in a mess that formed a favourite dish at every Sarkese table, and consisted, so the old historian tells us, of gooseberries, coleworts, milk, bacon, and mackerel "boyled together all to pieces, which our mode is to eat, not with the ceremony of a spoon, but the more courtly way of a great piece of bread furiously plying between your mouth and the kettle." §

It will be readily conceded by the stranger who visits this remote little territory that the islanders have made the very amplest use of the resources at their command. The enterprising inhabitants are, some of them, turning their attention to floriculture, and many of the cottagers now forward to Covent Garden *via* Guernsey baskets of early flowers, tenderly reared in the warm nooks and corners of this genial little country.

There is no doubt whatever that the Seigneurie has done much to promote the resources of the island over which he rules. His beautiful, though limited, gardens no doubt have had the effect of encouraging and stimulating the islanders to every effort, showing them what can be accomplished even in Sark. These grounds are tastefully laid out in lawns, ponds, shrubberies, and plantations. Flowers and fruits are grown to perfection. Many rare plants grow luxuriantly in the open air throughout the year.

This, then, brings us to the conclusion of our review of the market gardening operations in the Channel Islands, and we think we have shown that the archipelago is not only a very important source of our fruit, vegetable, and flower supplies, but in all probability is likely to become of yet greater importance as such in the immediate future.

NEW NOTES ON DIPLADENIAS.

By W. Bradbury.

The cultivation of dipladenias does not make much headway in private gardens, notwithstanding their distinctive character and wondrous beauty, and it appears desirable to remind those who have structures in which to grow plants requiring a high temperature that few stove plants in English collections will afford them so much satisfaction. In point of beauty their flowers are certainly not surpassed by those of any other class of stove plants, and in the matter of cultural requirements it may be asserted that they can be grown to a high degree of perfection without the cultivator having a very heavy tax imposed upon either his time or his skill. I am not quite certain that writers on the cultivation of dipladenias have not in many instances deterred instead of encouraged the general body of gardeners from taking them in hand. If we turn to book or essay, we find the importance of bottom heat during the earlier stages of growth urged with so much persistency as to give one the idea that they could not be grown without it. Bottom heat is undoubtedly beneficial when the plants are starting into growth, but they can be successfully cultivated without any more heat at the roots than is enjoyed by the branches. Then we have elaborate directions for training the shoots on strings fastened within a short distance of the glass until the production of the flower buds, and for taking them down from the roof and training them over formal trellises fixed in the pots. These directions are very well when exhibition specimens are required, but the dipladenias are as well adapted for the decoration of the stove as for forming part of a collection in a competitive gathering, a fact which those who have written about them appear to be unacquainted with. When required for exhibition it is necessary to train the growth on a trellis after the formation; but closely-trained specimens utterly fail to convey an adequate idea of their elegance and beauty. It is only when they are allowed to spread freely and grow more or less naturally that they are seen to full advantage, and at the same time impress one with the beauty of their flowers. Not only should the dipladenias be grown for roof decoration in place of the many rampant and weedy subjects that at present obtain attention, but bougainvilleas, stephanotis, and other choice subjects should be more liberally employed for that purpose than has yet been the case.

For some years past we have grown the dipladenias rather largely for training up the pillars and under the roof of the stove; and as they bloom freely from about midsummer until the autumn they produce a fine effect, and attract more attention than anything we grow. The whole of our stock is grown in pots because the roots are rather liable to injury from an excess of moisture, and there is a great difficulty in providing, within the stove, a border in which they will be perfectly safe. Moreover, there is a great difficulty in regulating the water supply according to the seasons. Hence we use pots for all our plants, and are careful to have them well drained that there may be no danger of the soil becoming sour in consequence of the water not passing away so quickly as it should do. We invariably employ, both for young plants and full-sized specimens, a mixture consisting of fibrous peat two parts, mellow turfy loam one part, and a moderate quantity of silver sand. When any difficulty is experienced in obtaining first-class loam, peat and sand should alone be used, as the results will be decidedly unsatisfactory when loam of an indifferent quality forms part of the compost. An annual shift is sufficient for plants large enough to require a pot eight inches in diameter, but until reaching that size they may be shifted twice in the course of the year if considered necessary. The larger plants we shift towards the end of February, when the growth of the previous year is shortened far enough back to ensure breaks from the well-ripened wood. In repotting, the balls of soil are reduced by nearly one-half to enable them to enjoy the advantage of a liberal quantity of new soil without a material increase in the size of the pots, which should not, for the largest plants, exceed ten inches in diameter. The young plants are repotted previous to their commencing to make new growth, and when a second shift is necessary they receive it some time in June. The base of the stem is in all cases kept rather above the surface, and the soil pressed moderately firm.

The dipladenias do not require very liberal supplies of water at the roots at any season of the year; but when they are in full growth they must receive sufficient to maintain the soil in a nice moist state. During the latter part of the autumn and the whole of the winter very little water indeed will suffice. They enjoy a humid atmosphere, and they should be syringed freely until they are in full bloom, when it must be discontinued, or so far reduced as not to injure the flowers. Dipladenias do not require shade, but a moderate amount will not do them any harm, and there is therefore no necessity to expose the other plants in the house to the risk of having their foliage injured by the rays of the sun.

The following comprise the best of those at present in cultivation: Amabilis, Boliviensis, Brearleyana, Crassinode, Hybrida, Profusa, Williamsi.

PHILADELPHUS MEXICANUS AS A GREENHOUSE SPECIMEN.

On May 27 it was my good fortune to make a "tour of inspection" of the floral treasures ranged in the glass structures of Mr. John Walker's nursery, Thame, Oxon. On entering the rose house I encountered a grandly-bloomed example of *Philadelphus mexicanus*, its myriads of white saucer-shaped blooms giving forth a fascinating perfume which filled the house. The plant, eight years old, and occupying an eighteen inch pot, was six feet high and four feet through; the number of blooms, fully expanded, reached about one thousand, a large percentage being semi-double. As it stood side by side with some other choice specimens it appeared well adapted to form one of a group of stove or greenhouse plants, the profusion of white bloom being well balanced by healthy Deutzia-like foliage. It was making exuberant growth, the leading shoots having been cut back to give the bloom a better chance of development. It appears to have been raised from a cutting taken from a plant in the open which survived the severe winter of 1860; and although so fine a specimen has only had a "rough-and-tumble" sort of treatment till just recently, had it been "tied out" its diameter might easily have been doubled. Exhibitors and plant growers generally may make a note that it is "easy to do." This variety was introduced from Mexico in 1839, and does well in the open in a deep loam with a protection during the sharpest weather. There appear to be about twenty varieties known in gardens, half of which came from North America, three from South Europe, two from Carolina, and one each from the Himalayas and Nepaul. P. coronarius (garland-flowered) was introduced from South Europe as early as 1596. The whole genus is commonly known as Syringa, or Mock Orange, the natural period of blooming being May or June.

Oxford. William Greenaway.

* Its greatest length is under three miles, and the greatest width 3,000 yards. Area in statute acres 1,274, or about 1¾ square miles. Population, 571—526 in Great Sark, 45 in Little Sark. Number of estates, 92.

† There is a prison with two cells. While in the island we were told of a very grave case, which is really too good to be lost, and we venture to give it here, though it has little to do with market gardening. The sentence was for three whole days! This was the severest sentence the authorities could inflict. It was the talk of the island; the offence was the theft of some linen from her mistress by an Englishwoman, not a Sarkese. The young woman, however, was terrified at being shut up alone. The kind-hearted Sarkese thought the sentence too severe, public sympathy was enlisted in her favour, so the cell was first comfortably warmed; then she objected to the door being shut, so it was left open; but she felt lonely at night, and the good Sarkese women kept her company and comforted the culprit each night during her imprisonment. One of the days was Sunday, and it is told how the prisoner sat on the chair in the doorway and watched the people go to church.

‡ No less than 22,000 bushels of wheat were exported in the same year. There are now 80 acres under wheat and 70 acres under parsnips.

§ News from the Channel; or the Discovery and perfect Description of the Island of Serke by a Gentleman now inhabiting there, to his Friend and Kinsman in London.

THE BEAUTY OF CONIFEROUS TREES.

From the early days of May until towards the middle of July coniferous trees present so many features of beauty that one cannot be greatly surprised that they are often planted where they cannot grow, and in places well adapted for them are allowed to usurp some of the space that might with advantage be devoted to deciduous trees. At the present time the sparkling freshness of the new growth of the conifers is like a new revelation of beauty too good for every-day enjoyment, and that ought to be reserved for holidays and Sundays. The colour of the pushing shoots is mostly a brilliant golden green, but in some instances it is of a silvery glaucous tone, in others a little purplish, and, again, there are tendencies to sulphur-yellow and to the full green of the ripening grass. The striking difference between the deciduous and coniferous trees at the present time is not so much due to the delicate and refreshing colour of the new growth absolutely, but to that combined with the dark old leafage over which the new growth is spread like a lively stippling, this dark basis of last year's growth, which has made the trees appear sturdy and solemn all the winter, being now a powerful relief agent and a separator from the deciduous trees, which are, more or less, all over alike, and are therefore strikingly distinct.

Opinions differ as regards the propriety of mixing trees, not a few men of sound judgment and experience contending for oneness of expression in every plantation, and objecting, therefore, to the mixing of conifers and leaf trees. For general purposes, perhaps, this rule may be observed, that a mere mixture is never to be desired unless there are special reasons. On the broad ground, where what we call "good taste" is to be sought, we should say that every plantation should display a dominating element, but there is a great difference between the variety that accentuates the dominant expression and the uniformity that tends to dulness. Wherever the conditions of soil and climate favour coniferous vegetation the planter of a garden or a park should seriously consider how many of these he will take into his scheme, if not to constitute leading features, at least to afford the charm of variety, and by their bold contrasts to leaf trees to heighten the beauty of deciduous belts and groups. Nor is it at this time of year only that comparisons should be made, for in autumn, when the woods are all on fire with amber and russet and crimson and golden brown, the occasional deep green of a thriving pine or fir, the cold steely bloom that, as the days shorten, overspreads some of the giants of the coniferous world, are most acceptable effects, and occasionally rank amongst the rapturous surprises.

LAWSON'S CYPRESS, *Cupressus Lawsoniana.*

As regards mere colour, some of the commonest coniferous trees are as delightful as the rarest; as, for example, the larches and the spruces are now dotted with the new growth in a way to make one satisfied with a place on the planet. But a certain few of the great total are pre-eminently lovely and have a special claim, and it must be said at once that the claim has long been recognized, and appreciation has often led to injudicious planting. All the piceas, for example, delight in putting forth gay tassels of new growth, that sobers slowly into the hue of maturity, and is now at its best for lightness and brightness. Perhaps the most distinct and fascinating of all at this moment is the Atlantic cedar with its curious stencilling of grey, reminding the Arctic traveller of the lovely colour of the silver fox, a creature that may be called "grizzled" by those who have not an eye for colour. The long-leaved pinuses make perhaps the least display of all, seldom rising in the first acts of their annual drama higher than a comfortable, full tone of green, destined very soon to pass into the solemn blackish green by which most of them are distinguished in autumn and winter. In the smallest section of Tsuga we have something like a scintillation, for the little sprouts sparkle all over the trees as though, being now only in their week-day clothes, they were ready on a signal to throw them off, and in an instant appear as living lights that have a distinct commission to warm the cold spring landscape. The glaucous brushes of the deodar, the silvery sparkle of the white spruce, the delicious gleam of the tufts on the comb-like silver fir, and the blue—almost starch blue—of the glaucous variety of the noble fir: these observations teach us that the cheapest and commonest of the conifers are not necessarily the best, for we must find a few of the finest in form and style to ensure the most striking displays of spring colour. A lover of trees may find a genuine delight now in making notes on the more distinctive appearances of the new growth of the conifers. It may be that the subject is inexhaustible, but that need not deter one from enjoying a taste of it with a resolve to "cut and come again." Sure I am that to many who consider themselves blest with a special taste for trees and appreciation of their several beauties, the comparisons now suggested would prove a new sort of pastime, and show, perhaps, that the world is not yet used up, but contains material that will ever prove to be fresh and fresh as though never seen or heard of before. W.

GREENHOUSE PLANTS IN SUMMER.

By William Cole, The Grove Vineyard.

Where gardens are so liberally provided with glass structures that azaleas, camellias, heaths, and other of the more important classes of hard-wooded plants can each be grown in houses specially set apart for them, there is no great advantage in placing them out of doors during the summer season. But it may be asserted that when the whole collection of plants has to be grown in one or two houses it is highly beneficial to the hard-wooded plants to be removed from under glass and be placed in the open for eight or ten weeks, the exact period to be determined by the ability of the plants to bear exposure and the character of the season. In the removal of hard-wooded plants from the greenhouse or conservatory for the summer season it is necessary to exercise considerable care, for they must not be subjected to full exposure to the action of the weather before the new growth is moderately hardened, and the plants have been in all other respects properly prepared for the change. It is not less necessary to impress on cultivators the importance of giving the plants regular attention throughout the whole of the time they are out of doors and to supply them with water. They ought, indeed, to have precisely the same care bestowed upon them as when they are in the greenhouse. It appears necessary to direct special attention to this matter, because of the injury done to many plants every year owing to those in charge acting as if they believed them able to take care of themselves when placed where fully exposed to the weather.

The majority of the hardwood plants can be removed out of doors in the course of the current month, and in proceeding with their removal those which have completed their growth should be taken outside first. It will be well to select a rather open position for all the several classes, with the exception of camellias, which should be placed where they will be screened from the sun during the greater part of the day. But the sun will not do any injury to azaleas, hedaromas, heaths, eriostemons, and similar subjects provided they are supplied with a sufficiency of water at the roots. Shade is necessary in the case of camellias for the preservation of that deep green colour of the foliage which adds so much to their appearance. Having selected a position suitable for the respective subjects, make up a bed of coal ashes on which to stand the pots. This should be not less than four inches in thickness, to prevent the ingress of worms, which do much injury to the plants when they find their way into the pots. A good depth of coal ashes also facilitates the escape of the water as it drains from the pots. When the number of plants is very small the pots may be stood on planks, or tiles if more convenient. But it is better in all cases to stand the pots on ashes, as they assist in keeping the soil cooler than is practicable when the pots are stood on a hard surface.

After the plants are placed in their summer quarters they should be examined every day and be supplied with water according to their requirements. In watering, sufficient should be supplied to soak through the ball of soil, and if one application is not sufficient it should be repeated until the water begins to run through the bottom of the pot. When the soil is from any cause allowed to become dust-dry the pots should, if of a convenient size, be dipped in a vessel of water of a sufficient depth to immerse the whole of the ball of soil, and thus ensure its being thoroughly moistened. An occasional syringing overhead will be highly beneficial to camellias during periods of hot weather, the evening being the best time for syringing them.

Mr. E. S. Dodwell has favoured us with a letter of seven sides on the question of the fixing of dates for flower shows. It throws no new light on that question, and appears in no way calculated to advance the interests of floriculture, and therefore we feel bound to decline giving it publicity in these pages. We agree with our correspondent "Scrutator," that the discussion has brought out some interesting facts, but to prolong it would be of no public advantage.

MUSHROOMS IN OPEN BEDS.

By J. C. Clarke.

Since the appearance of my notes on the cultivation of mushrooms at page 315 I have received a letter from a correspondent asking for information on their production in open beds. As the matter is of general interest I have thought it better to deal with it in a general way in the pages of the Gardeners' Magazine than by letter, and accordingly send now the necessary particulars. My correspondent writes: "I have read the article on mushrooms in the magazine of last Saturday with much interest, but it hardly meets my case. I write to ask you to kindly tell me if I can grow mushrooms in open beds, as I have no place for them in the shade. Also whether I can utilize a two-light frame for the same purpose."

With reference to this communication I will at once say that the writer may grow mushrooms in the open from April to November. But he will perhaps experience a little difficulty in very hot weather, as there is some trouble in having the fermenting materials in the proper condition to make a lasting heat, and until one has learnt how to manage the beds the hot sun and drying winds in the months of July and August are rather against the cultivator. Still with perseverance any one may master all the details, and with a little experience he will soon become acquainted with the conditions of success. To grow mushrooms on beds made in the open a larger quantity of fermenting materials is required that when the beds are made under cover, as in windy weather, even when the beds are well protected, there will be some waste of heat which must be provided for by an increase in the bulk. For this purpose the manure must be had fresh from the stables, and the longest and most dry be rejected. A considerable portion of the litter must be retained, which must be laid in a heap and turned over as often as necessary until it is sufficiently fermented to maintain a steady heat. But a good deal depends on the condition of the manure, for if the bed is made up before the violent fermentation has subsided there will be too much heat at first and a falling off before the spawn has had time to permeate the soil and a poor crop will be the result.

The bed should be three feet wide, nine inches high at the sides, and then sloping up to the centre, where it should be from two feet to two feet six inches high. At the top the bed should be six inches wide. I like a rather wide bed, because if it is much less than three feet the first rough wind will blow a good deal of the heat out of it. The manure must be put together very firm; in fact, it should be as firm as treading and beating can make it, and then there will be no danger of the rain passing down into the bed in such a way as to do any harm. If much rain penetrates the bed it cools the materials considerably. The length of the bed will, of course, depend on the quantity of mushrooms required. A bed four yards long, of the width just mentioned, will give a nice supply for a considerable period. As soon as the bed is made up some provision must be made to keep off the rain. If there is nothing better, a layer of long, dry litter spread over will be better than no protection at all. I have found hurdles neatly thatched with straw very convenient and effectual in keeping off the rain. For any one not accustomed to hotbeds it is a good plan to place a thermometer in the middle of the bed to ascertain the temperature. It is not likely when the manure has been well prepared that the bed will be ready for spawning until ten days after it has been made; however, as soon as the temperature falls to 80 deg., it is quite safe to put the spawn in. This should be done by cutting up the bricks into pieces about two inches square, and these should be inserted in the bed from ten inches to twelve inches apart. If the pieces of spawn cannot be pressed in far enough so as to be level with the surface they must be beaten in with the back of a spade.

WHITE SPRUCE, ABIES ALBA. (See page 331.)

PINUS PONDEROSA. (See page 331.)

The soil must be put on as soon as the spawning is finished. It is most important at all times that the soil should be fairly heavy and rich as well. That is to say, no soil should be used for mushrooms that has previously been exhausted by other crops. It is very desirable that it should be a good mellow loam, or else from a pasture. In any case it must be free from too much turfy matter, or it will not be favourable for the spread of the spawn. We keep a stock of turfy loam on hand for mushrooms, which is stacked in a heap from six to nine months before we use it. If we find it is too wet it is spread out on the floor of an open shed until it is dry enough for use, when it is laid on the bed about one inch thick, and the surface made quite level with the back of a spade. For beds in the open it will be necessary to put a layer of rough hay, or long litter, over the bed, and the thatched hurdles be placed on that. In a well-prepared bed it generally takes about four or five weeks before the mushrooms are large enough for use.

My correspondent should also try his hand at growing mushrooms in the open during the winter. If he starts with the understanding that a good deal depends on the weather what the result will be, there will be no serious disappointment. But it sometimes happens that we have a spell of mild weather even in mid-winter, sometimes lasting for

three or four weeks. If he should be fortunate enough to have a bed in just the condition for bearing he will stand a chance of obtaining a fair return for his labour, especially if he keeps an extra covering of litter over the beds in very cold weather. Any way, such beds should not be destroyed until it is seen what effect warm spring weather may have in bringing the mushrooms on. If the beds are not too much soaked with rain during the winter the spawn will not be seriously injured, and a crop may be obtained by waiting for it.

The two-light frame may be utilized in growing mushrooms by placing the frame on a firm bottom, and then making a bed inside the frame. For this purpose more care will be necessary in selecting the manure, as there is less room, or, in other words, the bed cannot be made so deep unless the frame is deeper than the ordinary size. To be more precise, I had better say that the manure must be composed of droppings chiefly, and the bed prepared in the same way, and with as much care as if it was being made in a proper mushroom house; the other details of frame management are just the same as the instructions I have given for other plans of growing them, by which I mean the same temperature in the bed must be maintained, and the spawning and soiling is just the same. The lights will, of course, be placed on the frame for the purpose of keeping off the rain, and if the frame is used during the summer it will be necessary to cover it with a thick layer of litter, not only to exclude the light but to keep the internal air cool. I may mention that frame culture is more certain in the spring and autumn than during the heat of summer unless the frame can be placed in a cool, shady place. I should also mention that mushrooms grow better in darkness than when fully exposed to the light.

ANOTHER BOWL OF PÆONIES.

The tree pæonies being now in flower, and sufficiently abundant that we may cut freely and yet leave enough to maintain the glory of the out-door show, I made another attempt with the big yellow bowl, and had nearly succeeded in stuffing it full with a bouquet about a yard across, when rank rebellion broke out, and the awful threat was uttered, that if I persisted in using "and figuring" the "common" thing, it should be incontinently smashed and made an end of. Now that did not alarm me because, for a few pence, I could purchase another from one of those wandering merchants, whose joy it is to lead a cart and clash yellow bowls together and cry "now ladies" in the back streets of London. It seems to me the people in these back streets are all overloaded with wealth, and are therefore always buying yellow bowls, or bloaters, or periwinkles, or crumpets, or sprats, or clothes-lines, or

A JAR OF TREE PÆONIES.

something I cannot catch the name of at ten a penny. But let all that pass, the threat did not trouble me, but a dim suspicion that my head was included in its daring sweep made me pause, and I quietly employed my paws in pulling out a few of the flowers and packing them, as you see in the figure, in a grand old Dutch jar of gigantic size and cold pale grey colour with a few dots and lozenges of dark blue upon it. Yes, here is the æsthetic thing, open to public observation, and it will show that the most extravagant in size and form of all our garden flowers readily conforms to artistic treatment, and even if put into a somewhat choice receptacle do not demand a costly one, for this huge Dutch pot is certainly not worth, as merchandise, more than ten shillings at the utmost. As for the big yellow bowl, I have it filled after my own fashion, and protected by lock and key in my sanctum. But as it appears to be destined to promote the stroking of one's fur the wrong way this is the last figure of the kind with which I shall trouble you. W.

Notes of Observation.

LATE CROPS OF PEAS.

In the west of England I find that as a general rule June 12 is not too late to sow peas for a late crop, but of course the date must be fixed by the sort of peas grown. In my case I find none better than Ne Plus Ultra or Bruce Findley. These two sorts are not widely different from each other, both growing from six feet to seven feet high. Generally speaking, they will be in full bearing from the latter half of September until the middle of October. I have tried sowing the early varieties even later than the date just mentioned, the sorts being Ringleader and William I. But I find these small varieties are not appreciated after the table has been supplied throughout the summer with such large and tender peas as Veitch's Perfection and Champion of England. In naturally dry ground, or where there is a deficiency of manure, late crops of peas should have trenches prepared for them the same as for celery, with plenty of manure in the bottom. The trench need not be quite so deep as for celery. Under such treatment the crop is not likely to suffer from mildew in a dry season, as the roots will obtain the full benefit of any water that may be given them. J. C. Clarke.

DENDROBIUM DEVONIANUM.

It is much to be regretted that exhibitors of orchids cannot be persuaded that the beautiful Dendrobium Devonianum appears to the greatest advantage when allowed to grow naturally, with its long and slender pseudo-bulbs hanging over the sides of the baskets in which the plants are grown. But it appears to be a very difficult matter to convince them that training the pseudo-bulbs to a trellis of some description does not improve the appearance of specimens exhibited. Of the specimens exhibited, at least seventy-five per cent. are trained in some way, and consequently give an inadequate idea of the extreme elegance of the species. At the recent exhibition of the Reading Horticultural Society, one of the very finest specimens of this dendrobe that has yet been submitted was shown in the class for a specimen stove plant which had the whole of its pseudo-bulbs tied in to a wire trellis which resembled a depressed globe. There were upwards of twenty pseudo-bulbs from two to three feet in length, and studded from top to base with the exquisitely-coloured flowers. But superbly as the specimen was flowered it had a very poor and commonplace appearance, and I was sorry for the exhibitor that he should have so presented the plant to the notice of the visitors that it utterly failed to obtain the attention it so well merited. To fasten the pseudo-bulbs erect to sticks is bad enough, but to tie them to a dumpy trellis is a hundred times worse. G.

THE GOLDEN LARCH.

There is no more perfectly self-coloured coniferous tree at this season of the year than the golden larch, *Larix Kæmpferi*, and it is, moreover, elegant in growth, and a most cheerful charmer of the grove. It is now brilliant in fresh golden-green, of one hue throughout, and as autumn approaches the colour will change to a rich golden yellow. As it is quite deciduous, it has of winter colour none. In general habit of growth it comes near to the common larch (L. europæa), but in the cones it differs considerably, the deciduous scales diverging out at the points like the scales on the artichoke, and quite deciduous when ripe. This tree, discovered by Fortune in the north-east provinces of China, is quite hardy, and in no way peculiar in its requirements, therefore may be classed among the useful garden trees. Its proper name is *Pseudo-larix Kæmpferi*, the false or Chinese larch. C.

PANSY COLD STEEL.

This fancy pansy is so lovely that you must permit me to make a note upon it. The flower is of excellent form, with just enough defect to make it delightful for an artist. Lower petals profound marone with a gleam of violet; side petals, the same deep, nearly black, marone; the top overspread with profound violet-toned indigo, shading into deep carmine for an edge to the great blotch; all the petals margined with pale yellow. It is quite a question if a more lovely example of colouring can be found in all the race of pansies, whether show or fancy. B.

SPURIOUS TEA.—The teas sold by Chinese merchants to foreign countries during the last four or five years have been so generally complained of on account of the adulterating material added to them, that the Inspector General of Maritime Customs, who is an Englishman, has warned the authorities that the tea business of China is likely to be entirely ruined. Good Tea is prepared from young leaves of the early spring growth, which alone yield the strong, rich, and delicious infusion for which Horniman's Pure Tea has for 50 years been so famous. See Local Agents, Chemists, Confectioners, &c., advertised in all papers, and at Railway Stations.—[Advt.]

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Cinerarias coming up in seed pans to be pricked out as soon as large enough to lift, and have separate thumb-pots, with light rich compost, and be put in a frame to grow on. By securing a vigorous growth from the first, they will be less troubled with green fly, and make fine specimens. Those who have not sown seed yet must do so at once, or it will be too late.

Fuchsias must be syringed twice a day, and have moderate shade. Fine plants in comparatively small pots will be greatly benefited with weak liquid manure every three or four days.

Hard-wooded Plants requiring a shift this season must have it at once, or the time will go by for them to derive full benefit from the operation. The most important matter of all is to secure good drainage, and to use the compost in as rough a state as possible consistent with the size and nature of the plant. Whenever the cultivator is in doubt about the best soil for any hard-wooded plant, he will be pretty safe in using equal parts peat and loam, both in a turfy and sweet condition—the more elastic the better, and a moderate quantity of sand.

Pelargoniums, as they go out of bloom, to be cut down, and placed in a warm, sheltered, and rather shady place for a week; then to be put in the full sun, and kept rather dry at the root, with occasional sprinklings of the stems and leaves till they break, and then to be repotted back into small pots with sound lumpy turf to make their new roots in.

STOVE AND ORCHID HOUSE.

Orchids.—The general collection may be kept in perfect health now without fire-heat by shutting up early and sprinkling the floor of the house to cause a humid atmosphere. Do not shade overmuch—generally from ten to three will be quite sufficient from this time till shading is dispensed with altogether.

Stove.—Justicias, centropogons, and other plants of free growth required for winter flowering to be shifted on as becomes necessary, for it is most important they should not become pothound until they reach the pots in which they are to bloom. Clerodendrons and other climbers to have their growth regulated to prevent overcrowding, but close training is not desirable, as the best effect is produced when the shoots are so allowed to grow as to present a natural appearance.

FORCING AND ORCHARD HOUSES.

Peaches and Nectarine Trees must be fully exposed to the atmosphere as soon as the fruit is gathered. To houses in which the fruit is approaching maturity admit plenty of air, and every morning give a light skiff with the syringe over the leaves. Stop the strongest shoots a few at a time, to swell the ripe buds. Trained trees are generally loaded with superfluous wood, through the prevalence of a delusion in favour of plenty to choose from at the winter pruning. Choose now, and remove all that will not be wanted, and what is left will ripen properly.

Pines in the fruiting pit will require careful attention. Where the fruit is swelling nicely sprinkle the surface of the paths and bed frequently; but where the fruit is changing colour discontinue the sprinkling, and give only just enough moisture to keep the plants in health. After cutting fruit, earth up the stools, and give a brisk bottom heat, and plenty of moisture to strengthen the suckers. Beds in which vines are plunged must be kept constantly moist, as the heat will not rise through any dry material.

Figs producing a second crop to be fed liberally, and have a top dressing of quite rotten dung. The top growth must be pinched back.

FLOWER GARDEN AND PLEASURE GROUNDS.

Asters and Stocks to be planted out from pots and seed pans during moist weather.

Chrysanthemums must be made to grow freely now, or it is impossible they should bloom well. Give abundance of water. Chrysanthemums in the open ground to be topped again, and the soil between them lightly pricked over with a small fork, and some quite rotten dung worked in. It will be found that they always root near the surface, and a dressing of dung will greatly help them, and save the labour of watering.

Dahlias to be staked at once, if not already attended to, and the forwardest shoots to be carefully tied.

Liliums in pots to have abundance of water.

Tall-growing Herbaceous Plants need a little care now to protect them from high winds. A very effectual and expeditious method is to insert strong stakes, and run a few lengths of stout tarred string amongst them, so as to form a support to the back and front of every row. Small forked branches will serve the same purpose where the plants are not sufficiently regular to be supported with string.

KITCHEN GARDEN AND PLEASURE GROUNDS.

Broccolis.—Any plants remaining in seed beds must be planted out at once where they are to remain.

Cabbage.—If there are any vacant plots of ground not required for other crops sow good breadths of Rosette Colewort and Early York cabbage. These will come into use in advance of the ordinary winter greens, and will be very acceptable.

Cucumbers in frames often show a stubbornness in swelling off their fruit, though apparently full of health and vigour. Very often a good soaking at the root will cure all this. Cucumber plants may be, and often are, kept alive by the syringe merely, but they want soaking to be fruitful. Where the plants are still pushing and are full of vigour put on about two inches of fresh soil.

Lettuce.—It is a good plan to sow some quick-hearting kinds where they are to remain, as the operation of transplanting tends to cause them to "bolt." Dig and manure the ground, and sow thin in drills a foot apart. As soon as large enough to handle, thin them to six inches apart. Lettuces to be transplanted from seed beds now should have a very rich soil, and, if possible, a shady position and abundance of water. The best preventive of bolting is to keep them growing fast, and manure, moisture, and shade are favourable agencies.

Leeks to be planted out from seed beds on deep rich soil. A convenient mode for earthing up is to plant them in four-feet beds, six rows in a bed, the plants six inches apart.

Melons swelling fruit to have plenty of weak manure liquid; those ripening their fruit to be kept tolerably dry, but if kept too dry will be infested with

red spider; so endeavour to keep them in good health on the smallest possible supplies, and give plenty of air.

Peas for late crops to be sown in well-manured trenches six inches below the general level, as in case of drought the trenches can be filled with water quickly, and will keep all that is given them. Watering peas, as a rule, is objectionable, and if they are on ground deeply dug and liberally manured—and it is mere vexation to attempt to grow peas on poor ground, or ground badly prepared—they will not want water.

Turnips must be sown now, as there will be a demand for them soon. Use abundance of manure; sow, if possible, just before rain occurs, or between flying showers.

Winter Greens to be put out in plenty now, as peas, potatoes, and other crops are taken off. Collards, Brussels Sprouts, and other quick-growing subjects that will mostly be used before Christmas, to be planted in manured ground; but those to stand till next spring to furnish sprouts not to be manured, as it renders them less able to withstand severe frosts. Continue to plant Broccoli, Brussels Sprouts, Scotch Kale, and everything else of the kind from the seed beds.

Vegetables in Season now include Asparagus, French Beans, Beet, Cabbages, Carrots, Cauliflowers, Cucumbers, Lettuces, Mushrooms, Onions, Radishes, Small Salading, Spinach, Tomatoes, and Turnips.

A WALK ROUND THE COLONIES.

The first general impression of a walk round the Colonial and Indian Exhibition, on most minds, will be that a magnificent triumph has been achieved as the result of a spirited policy in this representation of the capabilities of the outlying territories of the British monarchy. The immensity, the fulness, the richness, and the absolute genuineness of this show are suggested on the instant, for all the characteristic features are patent, but much study of minute particulars will be required on the part of those who purpose to master either the general scheme or any of its details. In visiting the show specialists will soon discover the things that interest them; but many who take general views of things will be bewildered by its extent and variety, and will, in consequence, miss many of the more important attractions. The few notes that follow may be useful to some of the readers of this paper. If they do not compass the entire affair they may suggest some points of interest that would otherwise escape attention, or even elude the search, in a scene wherein it may be said that wealth tends to weariness and delight to satiety, and therefore the casual visitor needs to be guarded against the seductive power of trifles.

It may be noted by those familiar with the affair that the idea of just proportion is admirably embodied in the space allotted to the various territories, and that India, because of its immense population and the antiquity of its arts, should have abundant room, and make an impressive display of its productions. Most appropriately we begin with India, which receives us at the principal entrance with its wonderful fabrics and the interesting models of native troops in the British service. You will note the beautiful screens of the courts before you as you pass through the vestibule, the one immediately before you being crowned with a drum-house with the band in action; these models, in common with all others in the Indian courts, being the products or native art. We shall say nothing about the beauty of the wood carving of the jewellery, or the metal work or the pottery, although we should hope every one of our readers will give full heed to these things.

We will commence observations in the south annexe, which faces the entrance from the subway, this chamber being devoted to economic botany and ethnology. Strange to say, comparatively few of the visitors find their way into this court, the brilliant metal work and gorgeous fabrics of the courts adjoining decoying them aside from it, much, as we think, to their disadvantage. Here are groups of models of the natives of various provinces, and a grand opportunity they offer for a study of the physical characteristics of the Indo-European races, the Indian peoples generally being now regarded as a distinct branch, and not the centre of the Aryan family, of which in the older classification the so-called "Caucasian" race it was the recognised basis. Amidst the considerable variety of stature, proportion, and colour, the characteristics of the European family are all distinctly suggested in the face and the hair. If the visitor will take the trouble to make a geographical analysis of these groups, he will see the occasional presentment of the Arab type in districts where Mahomet is predominant, the purer Indian blood being in the Hindoo sections, while, as we proceed eastward, a Mongolian complexion gains upon us, and the people of Burmah often approximate to the yellow races of the farther East, which, for present and for all general purposes, may be described as Chinese. In what part of the world the human race commenced its happy career none can say, but a study of these groups will show that there is no extravagance in the theory that from the East, and more particularly from India and Persia, came first the Celtic races, next the Saxons, and finally the Sclavs. Professor Rhys does not go far East for the European races, but still he must go to India for their affinities, and the casual visitor who has hitherto classed all the dark races as one stock may with advantage take note of the aquiline noses, the thin lips, and the silky hair that are to be seen here in various modifications. After all, for England to rule India is only parallel to what obtains in family life where the young people in due time obtain ascendency over their parents. In this court are models illustrative of Indian husbandry and other rural arts. Make note of the magnificent slabs of paddouk wood; also of the cinchona stems that have been stripped of their bark and renewed by mossing, the new and the old bark being clearly distinguishable. In another court that you will presently visit is a brilliant table of black wood, showing superb work on a magnificent material.

Having traversed the long corridor and the side court corresponding to the economic court, it will perhaps be convenient to visit the Indian Palace, which occupies the position formerly covered by the private pavilion of the Prince of Wales. From this point to the south central gallery is but a step, and through this, in a line with the Indian Palace and Old London, is a bit of garden, on the right of which (B) is New South Wales, and (F) Western Australia; on the left (C) Victoria and (A) Canada. But still standing in the garden you have before you a map of the world with the British possessions displayed in colour; and within the courts the map adorns are—on the right (E) Queensland, and left (D) South Australia. There is plenty of work here for every variety of taste in sight-seeing.

In Victoria look for models of fruits, including apples, pears, tomatoes, and aubergines. Near these models, amongst many good pictures, is one of the Pink Terrace of the North Island of New Zealand that we have lately discoursed upon in connection with Mr. Froude's seasonable book "Oceana." On the opposite side, and still near the models, are panels, seventy-six in number, on which are beautifully painted, by Mrs. Ellis, of Rowan, Melbourne, a series of the more important Australian flowers—quite a study for a garden botanist, and the more attractive because many of the subjects are old friends of the garden, the conservatory, and the exhibition table. In the centre of the room here is a lesson in needle work that some of the ladies will value. It is a study of the wattle acacia, and is admirable for its truthfulness. This is the work of Miss Jackson, of Bendigo. At the end of the court are models of two native camps, furnishing material for zoological and ethnological study, the natives here, in their abject poverty of resources, contrasting in a striking manner with the happy visitors that gaze with wonder at their domestic arrangements.

In Western Australia are some superb woods, and amongst them a specimen of Jarrah wood, the produce of Eucalyptus marginata. The rich red brown colour and the boldly waved striations render this surprisingly beautiful, and the dimensions of the logs are astonishing.

In South Australia will be found the best models in the whole of the show of the homological specimens called "natives." On a side slip, near a lot of kangaroos and wombats, is the fire maker at work. He takes us back to the stone age, or keeps that age living for us. He has two strips of wood, one pierced with holes and the other cut to fit in any of the holes, and he twirls the upright rod rapidly until fire appears and is communicated to a little heap of dried rushes. The visitors insist that his pierced rod is an iron bar, but a man who could obtain an iron bar for fire making could obtain matches or a flint and steel, and so free himself of the slow and painful task of fire making. The larger group contains some fine figures, and there is much beauty in the grim savage with a head like a bison and legs sadly wanting in muscle, that navigates a bark canoe on the water before us, while near by is another male native returning from the chase to find his lady-love kindling a fire to cook the family dinner. It is not unreasonable to say that a sculptor might discover in the man on the bark boat a model of fine form, and one happily out of the range of conventionality. In a side court devoted to South Australian wines will be found a copy of Rendu's "Ampélographie Francaise" (Paris, 1857), containing figures of 69 varieties of grapes, not a few of them being famous in English vineries. Growers of grapes will find some pleasure in looking at this book, even if they have not time for minute comparisons, and may not, except perhaps when the policeman is enthralled by the beauty of a barmaid, carry it away for study at home.

In Queensland are some extra good things: a mighty turtle, suggestive of the municipal glory of the Australian colonies in the future; a gigantic saw-fish (Pristis zyrzron), with his sword "drawn," and his tail arrested in its wagging by the consciousness that he must do or die; and finally, as regards the big things, a pair of dugongs, which represent the genus Halicore of the great cetaceons family. These Indian "fishes" are indeed mammalians, and therefore related to the whales, and properly located on the coast of New South Wales; by favour coming from the Indian Ocean to Queensland, because this is the Queen's land, and all Indians are the Queen's subjects. It may be well to note, while these beasts (for they are not fishes) are before you, that they are cousins to the real mermaid or manatee, and therefore touch, with their ugly snouts, the fringe of fairy land. Here note a cedar log cut from a tree girthing 20 feet 5 inches, the colour a light mahogany.

Canada makes a tremendous show, consisting in great part of skins, farm implements, and fruits preserved in syrup. These fruits are all labelled, and may make half a day's work for many an ardent pomologist. Judging them hastily it may be said their colours are admirably preserved, but this is not true all round, for we noted a jar of Josephine de Malines pears as white as snow. In a very pretty collection of heads and skins will be found the head of a gigantic Moose deer, measuring from the tip of the snout to the cervical vertebræ about 33 inches, and suggesting the beast must have been of enormous dimensions.

From the centre of the Canadian machinery court, where not a few of our readers will find abundant entertainment, is a way through to the aquarium. Now it is well to bear in mind that the back slums of the live fishery are as entertaining as the showy frontage, where the fishes and the lobsters gambol regardless of expense. In the narrow slip at the back of the aquarium proper are some tanks that our scientific brethren should see, for they contain some special lots of salmonidæ and a most entertaining collection of turtles and tortoises, very few turtle doves finding their way here, because, of course, a back slum is not the place for them. Observant readers will please note that this back way to the aquarium is rich in surprises for the curious. For all who would read aright the true story of the tame turtle in the "Golden Gate" this slip is a grand school, where he who walks slowly may read better than he who runs, and there is no extra charge to well-behaved persons.

New Zealand (H) is difficult to find, and it may prove a help to many to say that it lies immediately behind the aquarium, and so we are already warm in respect of its situation. When you hear the roaring of the electric machinery you are near New Zealand. When you find the elks and walruses and other big things of Canada, turn sharp to the left and you will find the New Zealand Fernery, with its steps (not of silica) leading to bowers of bliss. And again, when you are at the remote end of London Street turn to the right and look for a grove of trees, and there you are, the expense of a long voyage being saved by payment of a shilling at the entrance gate, all the rest being "thrown in." In entering the fernery take note of some Maori carving, then go home and refer to your G.M., of December 15, 1883, and you will find a great replica of this work in the figure of the boathouse commemorating the acquisition by the Maories, years ago, of the sweet potato, a thing the British public never appreciated and that the authorities at South Kensington have studiously debased as though New Zealand itself and all the piety of its fine art work were to them as muck they might quickly wash their hands from.

The Cape (J) is easily found on the map of the world, but here you must go to Queen's Gate for it. There is no more interesting department, but it is less agricultural than might have been expected. A model of a diamond mine, a company of diamond cutters at work, and a party of native African washers, whose trade it is to search for diamonds, will afford some entertainment to the men, while for the ladies there are mounted diamonds, and for the horticultural people there is Messrs. E. G. Henderson and Son's conservatory filled with Cape plants, comprising examples of encephalartos, aloe, erica, lachenalia, aphelexis, hydrangea, and other such. Natal and the West African colonies are near by, but how these districts can exhibit themselves properly without the aid of thunderstorms we cannot imagine, and will be content to hope for the best.

Ceylon (M) may be taken on the way back from Queen's Gate by encountering once more the electrical machinery. Here will be found a capital exhibition of cinchonas and the front of a rogue elephant. It should be known to all and sundry that a rogue is an old male that has left the

general company and roams about alone. He is a dreadful beast to meet, as might be expected of an old savage that has forsworn female society. Having seen him, make a dash through London street and Indian Palace to a little garden where the Indian tea-rooms are, and there you can rest and take tea or visit the orchid house now filled with glorious orchids from the adjoining St. Albans' nurseries. Then cross the grove to Malta (V) and you will have another feast of textile fabrics, not the least important being the Maltese lace and gold embroidered vestments. All in the same line is Cyprus, and if you are now tired demand a dish of fried locusts and wild honey, and having partaken thereof tell your friends that fried locusts surpass whitebait in flavour and satisfying power.

ORIGIN OF THE PERPETUAL CARNATION.

In a recent number of the *Revue Horticole* a very remarkable article was published on the Perpetual Carnations in their present state. But the writer says: "Where and how was the culture of the Perpetual Carnations commenced? Who is the horticulturist who first did addict himself to it? We do not know." I therefore think that it may interest horticulturists and amateurs to be informed, and I, in consequence, send a copy of their history I published ten years ago in the journal of our horticultural society, which had not a wide circulation. According to several horticultural writers, the Carnation was cultivated more than 2,000 years ago; but we know nothing of what was practised about those times—no more in horticulture than any other science; and as it is only since the beginning of this century that the facts of nature have been studied we can only relate what has been observed lately.

The perpetual Carnations have been created—created—at Lyon. It was M. Dalmais, gardener of M. Lacene, a celebrated amateur and founder of the first horticultural society in Lyon, who obtained the first real constant-blooming Carnation, about forty-six years ago. He sent it out in 1844, under the name of Atim, the produce of artificial fecundation of a so-called species, known by the vulgar names of Oeillet de Mahon, or of St. Martin, because it was regularly blooming by the middle of November, fecundated by Oeillet Biohen. This first gain was successfully fecundated by the Flemish Carnations, and about 1846 he obtained a great number of varieties of all colours. Mr. Schmitt, horticulturist at Lyon, followed M. Dalmais, and obtained several fine varieties like Arc en Ciel and Etoile Polaire, which were cultivated for several years, but do no more exist, having been superseded by finer varieties.

But in 1850, a disease having destroyed the collection, Mr. Schmitt abandoned that culture. Soon after, Alfonse Aligatiere, the well-known and zealous propagator, undertook the hybridization of Carnations, and in a short time obtained a great success, and added to that series a great many varieties, all particularly dwarf, and obtained a great improvement by creating those with stiff flower-stems, about 1866. We can thus say that Aligatiere has created a new species. He has also upset the old system of propagation—that of layering—and has proved that by cuttings is the best and most reasonable method, and justified my saying that layering is the infancy of horticultural art. Nothing, he has proved, is easier than propagating Carnations from cuttings.

The best time to strike them is January and February, and the best mode is to put them in fine sand on bottom heat at about 60 deg. to 70 deg. of Fahrenheit, without bell-grasses, in a double spanned roof house. The cuttings must be syringed every day and the sand kept moist; they will be rooted in three or five weeks, and must be planted out in April or May and will make fine plants to bloom in autumn; about September they can, those that have flower-buds, be potted for indoor decoration.—Jean Sisley, Monplaisir, Lyon.

MESSRS. STIFF AND CO.'S WORKS IN TERRA COTTA.

During the past few days we have inspected, at the works of Messrs. Stiff and Son, on the Albert Embankment, Lambeth, an interesting series of works in terra cotta designed for house and garden decoration, and applicable to all the purposes for which plastic art works are applied in architecture and garden embellishment. Prominent amongst these productions are garden vases, fountains, urns, and plinths for statuary; also finials and dressings for façades, sun dials, monuments, and capitals. In many instances original and appropriate designs have been worked out with great ability; in others, celebrated examples of high art have been carefully copied, a most commendable course of procedure, for many would prize a vase with a history or a group of interesting associations above any original work in respect of which, beyond its merit perhaps, there is nothing to be said. This remark is not intended to depreciate Messrs. Stiff's original designs, for we have seen none that are in any way deficient of either taste or usefulness, while not a few are beautiful beyond the average of such productions. It remains true, however, that the worker in terra cotta will do well generally to copy originals that have acquired some degree of fame; because, while he will thus secure models that have passed the ordeal of criticism, he will turn out works that are associated with persons and places and memories that the world will not willingly let die, just as in the famous Wedgwood ware a copy of the Barberini vase, or of an urn from Pompeii, will generally be prized before a work especially designed for the purpose; unless, indeed, it be by such a master as Flaxman, in which case "the exception proves the rule."

A characteristic of Messrs. Stiff's terra cotta is the care bestowed on detail in modelling. Delicate undercutting, that contributes so much to the beauty of sculpture in marble, more especially in leaves, flowers, feathers, and elaborate scrolls, are in this material accomplished in the most perfect manner with but trifling augmentation of expense, the difference between building up a soft material and cutting out a hard one being, in fact, the principal difference between the two extremes in the production of such works. We noticed some grand capitals suitable for the pilasters in a spacious chamber or hall room, in which the bold and delicate undercutting gave peculiar beauty and freshness to the work. Many of the garden vases show the folding over of leaves and flowers, as, for example, of the acanthus, or the oak, or the lily, in a most life-like manner, and, as Emerson might remark, showing in dead and rigid stone the tender beauty of an imperishable flower.

The colour of the material may be described as that of a warm stone, which has most dignity and truthfulness in its original, or, say, natural state, and so far as we can judge should never be painted. But then the question will arise, how about weather wearing and the growth of minute vegetation? Well, there are two serious considerations to be entertained. One is the careful working and homogeniety of the raw material, the consequence of this being there is no internal conflict, such as must ensue when homogeniety is wanting. Grant the occurrence of accidental grit or of a portion of the stuff not so well finished as the rest, and it will be seen that the weather will assail the defective places and may possibly succeed in thereby causing the ultimate destruction of the entire work. Many of the "artificial stone" productions have failed through neglect of this primary necessity for homogeniety, for when moisture can find its way into any such body the power of the frost will be destructively illustrated in due time. The fineness and uniformity of texture in these works are *primafacie* evidences of stability.

But homogeniety, about which we have not said one word too many, is as the threshold to the house of satisfaction. Within the house is the fire, and, to make an end of similes and comparisons, the careful and complete roasting of these works ensures the hardness of texture that repels both vegetation and dirt, and gives a fine musical tone on concussion. The music is, indeed, an important test of the perfection of the firing, on which so much of the future behaviour of the work depends. As regards dirt, smooth hard surfaces take the least, and rough soft surfaces the most, anywhere and everywhere. The cleansing power of water is sooner seen on glass than on bricks, just because of the difference of texture of the two bodies. As there is no absolute protection against dirt, so there is none against vegetation, and we could conduct the gentle reader to a beautiful church in which one of the great windows is so overgreen with green algæ as to suggest to the onlooker that a profitable crop of grass may be expected, and blessed is the patience of those who can wait for it. But a fine, well-knit texture and perfect firing do tend directly to the discouragement of vegetation, for the simple reason that the absorption or retention of moisture is reduced to a minimum. Indeed, the relative value of any kind of burnt earth, whether it be a tile, a pot, or a vase, in fact no matter what, may be approximately ascertained by ascertaining how much a sample can be increased in weight by immersing it in water. If absorbent, the winter rains will soak it through, and frost, soon following, will tear it to pieces or split away some portion that is out of harmony with the rest, and in this way, from time immemorial, the weather has been in operation on the works of man, and also on the natural rocks. Water is the pioneer of frost, and leads the way in cleaving mountains. Coming down from the mountains to the plains, and from the country to the town, and considering the needs of architects, builders, and gardeners, we now commend to favourable consideration the terra cotta works of Messrs. Stiff and Son, for a recent inspection of which we desire here to record our thanks. S. H.

GUELDER ROSES.

Guelder Roses are plentiful in Guelderland, which lies due east of Amsterdam, and extends from the Znider Zee along the course of the Rhine to the junction of the Lippe. In the woods and gardens about Arnheim the trees are conspicuous in early summer by reason of their abundant "snowball" clusters of flowers; and in autumn the leaves and berries combine to augment the glow of colour that warns us of the coming winter, when the birds will consume the berries, and the leaves will fall to the ground. In this country it is also a wilding, but rather scarce, whereas its near relation, the wayfaring tree (*Viburnum lantana*), is quite common, more especially in Kent and Essex. It is often a fine decoration to the hedgerows when bearing an abundant crop of variously-coloured berries—some glowing scarlet, others as black as jet.

The common Guelder rose (*Viburnum opulus*) or snowball tree, that is so familiar in our gardens, does not differ from the wild tree of the same name in any essential particular. It is, however, much handsomer, as the result of long cultivation, and probably the improved forms were introduced to our gardens from the district of Holland its familiar name commemorates. Gerarde describes it as known to the Dutch as "Gheldersche Roose," but he says nothing of the origin of the garden variety; and Dodoens, who describes it as "Marris (or marsh) Elder, Ople, or Dwarffe Plane Tree," throws no light upon the subject. It is of little consequence; but as names are often, like caskets, filled with information for such as can unlock them, we shall assume that in the case before us we have direct suggestion of the indebtedness of our gardens to the horticulture of the Low Countries.

The snowball tree makes a growth in many respects like the common hedge maple, and the leaves are similarly lobed. In the early summer the leafage is of a brilliant light green colour; and in May and June, when the flowers appear, often in prodigal profusion, the round white clusters show with striking effect, and serve as a beautiful link between the coming summer and the passing spring. Between the showy flowers of the garden tree and the less attractive flowers of the wild tree some differences are observable, and they are of the kind which may be seen in a peculiarly interesting manner in that beautiful hardy shrub, *Hydrangea Japonica*. In the centre of the clusters the flowers are small, and show stamens and pistils; but those on the circumference are large and sterile. The garden tree agrees in these particulars, but affords a less interesting study, owing to the crowded state of the clusters.

In every garden the Guelder rose should have a place, and it is particularly well adaped for the mixed shrubbery, as it does not suffer much if a little crowded. For a sheltered spot, or as a dwarf tree for a wall, we have *Viburnum plicatum*, with beautifully-plaited leaves of a fine dark green colour and handsome heads of white flowers. This is good enough for pot culture in a cool conservatory, where the climate is too cold for its well-doing in the open ground. Another and quite grand plant is the great-headed Chinese snowball (*Viburnum macrocephalum*), which comes near to our *V. lantana* in foliage, but bears immense heads of snow-white flowers. This also is worthy of pot culture in gardens that are too cold for it. A large-leaved species from Japan, called *V. macrophyllum*, is worth attention, but is of less importance than the two named above.

A favourite tree on southern and western coasts is the evergreen laurestinus (*Viburnum tinus*), a tree of neat habit and beautiful appearance, that puts forth an abundance of white flowers during the winter, its season ranging from November to April, as the climate of the district or the weather of the winter may influence it. This beauty is so much valued that it is often grown to a great size in tubs, being annually pruned or clipped to keep it to a round or elliptic form, to serve the same purposes in garden decoration as the sweet bays and orange-trees that are grown in tubs. In many parts of the country the laurestinus is useless as a garden tree, but then it is still one of the best of subjects for pot culture in the cool conservatory, and associates usefully with berried aucubas, skimmias, pyracanthas, and escallonias, all which are easily managed as pot plants, and by some of the more spirited amateurs are grown in quantity to group with specimen chrysanthemums in November and December. In the northern suburbs of London the laurestinus scarcely prospers in the open ground; but in the western suburbs, and particularly along the valley of the Thames, it grows and flowers almost as freely as at Bournemouth. It is not many years since we saw at Strand-on-the-Green, near Kew, laurestinuses on the walls of houses rising above the level of the roof.

The viburnums are partial to a strong soil, and the common snowball tree will thrive in places that are too damp for many of the better kinds of flowering trees.—*Familiar Garden Flowers.*

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, June 8.

Exhibition of Orchids and Hardy Flowers.

The two great features of the exhibition at South Kensington on Tuesday were the orchids, for which special provisions were made in the schedule, and the hardy flowers contributed to the miscellaneous class by trade cultivators. Both classes of subjects were staged in large numbers and in capital condition, and the quaint forms of the orchids and the bright colours of the hardy flowers produced a display which proved highly attractive to the large body of visitors.

Orchids had six classes provided for them, and, with the exception of that for a group of odontoglossums, the competition was sufficiently keen to fully test the merits of the respective collections. Two good collections were contributed to the amateurs' class for twelve, and the premier award was made in favour of Mr. C. J. Salter, gardener to J. Southgate, Esq., Selborne, Streatham, who had large, well-bloomed, and very fresh specimens of Cattleya gigas, bearing ten blooms; C. Warneri; C. Wagneri, a beautiful pure white form of C. Mossiæ; Anguloa Ruckeri, a beautiful species, with orange and red flowers; Oncidium macranthum; Odontoglossum vexillarium; O. vexillarium picturatum, a beautiful variety, with large pale coloured flowers; Aerides Fieldingi, bearing six good racemes; Cypripedium Dominianum; and Dendrobium suavissimum. Mr. F. J. Hill, gardener to H. Little, Esq., The Barons, Twickenham, was second with a highly attractive collection, consisting of specimens bearing the impress of skilful cultivation. It comprised Cattleya intricata, a supposed natural hybrid which Mr. Little flowered for the first time last year; the flowers have greenish sepals suffused with rose, and a rich purple labellum; two fine forms of C. Mendeli, two examples of C. Mossiæ, Cypripedium Lawrencianum, C. barbatum superbum, C. niveum, and two plants of Lælia purpurata, which assuredly ought not to have been admitted in a collection of orchids to consist of "twelve distinct" kinds. The contest was very spirited in the amateurs' class for six, and here Mr. Cooke, gardener to De B. Crawshay, Esq., Rosefield, Sevenoaks, was first with finely developed examples of Odontoglossum vexillarium, Dendrobium Jamesianum, Epidendrum vitellinum majus, C. Mendeli, and C. Warneri, a superb variety, the flowers of exceptional size, and very rich in colour. Mr. Salter was second, staging good examples of Cattleya gigas, C. Warneri, and Maxillaria Turneri.

In the trade class for twelve, Mr. J. Cypher, Cheltenham, exhibited a collection possessing much merit, and was awarded the first prize. The specimens comprised C. Mossiæ, bearing about forty flowers, C. Mendeli, C. Mendeli grandiflora, one of the finest of the many good forms of this handsome species, Dendrobium thyrsiflorum, Epidendrum vitellinum majus, bearing about forty spikes, Odontoglossum citrosmum rosenm, O. vexillarium, Anguloa Clowesi, and Lælia purpurata. Mr. H. James, Castle Nursery, Norwood, was a good second with a group in which were large well-flowered specimens of Aerides Lobbi, especially dark in colour; Cypripedium barbatum superbum, Odontoglossum vexillarium, and Dendrobium Bensoniæ. Mr. J. Cypher was first also in the trade class for six, very closely followed for second place by Mr. H. James. In the two collections Cattleya Warneri, C. Mossiæ Rothschildiana, a distinct variety with large finely-formed flower, Lælia purpurata, Masdevallia Harryana, and Dendrobium thyrsiflorum were admirably represented.

The only competitor in the class for a group of odontoglossums of not less than fifteen distinct kinds was Mr. H. James, who was awarded the first prize. The collection included neat examples of Odontoglossum cordatum Kenasteanum, a distinct variety with pure white labellum; O. Wilckeanum, O. niveum majus, O. Sceptrum, O. polyxanthum, and O. vexillarium roseum. In the open class for six cattleyas or lælias, Mr. Cypher was first with Lælia purpurata, L. purpurata Brysiana, Cattleya lobata, C. Mendeli, and two plants of C. Mossiæ; Mr. Cooke and Mr. H. James were second and third respectively. Mr. Hill also contributed a good group to the class.

Hardy Flowers were contributed in immense quantities, and, whilst forming one of the most beautiful departments of the exhibition, served to show the wealth of material at the command of cultivators of herbaceous plants. Messrs. Kelway and Son, Langport, were awarded the silver-gilt Banksian medal for a very bright and effective collection, in which double and single pyrethrums, herbaceous pæonies, and German irises figured prominently. The pyrethrums comprised upwards of seven hundred blooms of high quality, and included several new varieties of special merit. From the double varieties were selected for their fine form and beautiful colouring: Minerva, pink; Glorie d'Italie, rich magenta crimson; Chamois, buff tinted rose; Purity, white; Hobart Pasha, rich marone crimson; Deese, blush white; J. N. Twenty, brilliant rose; Henry Margie, bright rose; and Dorante, rose purple. Particularly noteworthy amongst the single varieties were Antigonus, deep rose; Arnold, bright magenta crimson; Apollo, bright crimson; Pluto, blush; Agenlius, bright magenta; and Alexon, brilliant magenta. The herbaceous pæonies included several beautiful varieties that are but little known, chief amongst them being Hesperia, scarlet crimson; Agenonia, creamy white; Italie, dark marone with anemone centre; and Adelaide, white.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, exhibited a large and thoroughly representative collection of hardy flowers, which was tastefully arranged and, as usual, attracted much attention. The award of the silver-gilt Banksian medal was made. The collection was strong in pæonies, irises, and pyrethrums, all of which are now at their best, and it included also good examples of Cypripedium occidentale, C. acaule, and Dianthus alpinus, one of the most beautiful of the Alpine pinks, Saxifraga pyramidalis, S. Hosti, Heucheria sanguinea, and cut flowers of Anthericum liliastrum major and other miscellaneous subjects. The silver-gilt Banksian medal was awarded to Messrs. Barr and Son, 12, King Street, Covent Garden, for an extensive and tastefully arranged collection, comprising ixias, pyrethrums, pæonies, and irises.

Messrs. W. Paul and Son, Waltham Cross, Herts, exhibited a beautiful collection of hardy rhododendrons, for which they were awarded the bronze Banksian medal. The collection comprised about fifty of the finest varieties in cultivation, and as the trusses were good and the arrangement tasteful it received a full share of attention from the visitors. In addition to the rhododendrons, the firm exhibited a basket of Scotch roses and a basket of the Copper Austrian Brier, a very distinct single rose with flowers of a bright orange scarlet hue. From Messrs. Hooper and Co., Covent Garden, came a collection of herbaceous pæonies, which, in association with maidenhair ferns, presented a charming appearance.

Floral Committee.

Present: Mr. J. O'Brien in the chair; Major Lendy, the Rev. W. Wilks, and Messrs. Shirley Hibberd, H. M. Pollett, A. Perry, G. Paul, H. Herbst, W. H. Low, J. Walker, W. Bealby, H. Bennett, H. Cannell, W. B. Kellock, E. Hill, W. Holmes, and J. Dominy.

Several orchids were submitted to the committee, and one of the most interesting was a very fine specimen of Masdevallia rosea, bearing upwards of a hundred flowers, from Mr. A. Wright, gardener to S. Courtauld, Esq., Bocking Place, Braintree, who was awarded a cultural commendation. The New Plant Company, Colchester, exhibited several varieties of Cattleya Mossiæ, of which one distinguished by the varietal name of "Colchester" was especially rich in colour. Mr. J. Cypher sent cut flowers of several Cattleyas. Mr. H. M. Pollett, Fernside, Bickley, submitted, under the designation of Cypripedium Godefroyæ argenteum, a variety of this fine lady's slipper, which has silvery foliage, marked with small deep green blotches, and large flowers freely spotted with rose. Mr. White, gardener to C. Dorman, Esq., The Firs, Sydenham, contributed an interesting group of orchids, in which were Maxillaria Sanderi, a handsome species, bearing very large flowers, freely blotched with dull marone on a creamy white ground; Cattleya Wagneri, C. Mossiæ Reineckiana, Odontoglossum Andersoni, and two or three distinct forms of Odontoglossum Alexandræ. Mr. Cobb, Silverdale Lodge, Sydenham, contributed a very beautiful pure white form of the odontoglossum last-mentioned. A vote of thanks was accorded each of the above-mentioned exhibitors. MM. Vervaet et Cie., Ghent, sent Odontoglossum Vuylstekianum, a distinct and handsome form in the way of O. luteo-purpureum, but the flowers are bright orange-yellow, blotched at the base of the petals with light yellow. It was not received until late in the day, and did not consequently come under the notice of the committee.

Several new and very beautiful gloxinias were exhibited by Messrs. H. Cannell and Sons, Swanley, amongst them being Mrs. Amherst, an erect flower, profusely spotted with purple on a white ground; Mrs. Knowles, an erect variety, the flowers large, and finely spotted with lilac-blue; and Snowdrift, blush white. A vote of thanks was accorded the firm. From the Chiswick gardens of the society came an interesting collection of fuchsias and a group of ivy-leaved pelargoniums. Mr. Stacey, Dunmow, contributed two good stands of verbenas, in the cultivation of which he is very successful; and Mr. J. King, Rowsham, Aylesbury, exhibited Coleus Vesuvius, a very distinct variety, the leaves large and of a rich scarlet hue, with narrow golden margin.

Fruit Committee.

Present: T. F. Rivers, in the chair; and Messrs. H. J. Veitch, T. B. Haywood, W. Denning, G. T. Miles, G. Norman, J. Burnett, J. E. Lane, J. Woodbridge, and W. Warren. The duties of the committee were very light, as the subjects submitted were very few and of but little importance. Messrs. T. Rivers and Sons, Sawbridgeworth, sent a dish of Rivers's Early Favourite plum, for which a cultural commendation was awarded the firm, and a dish of Dumelow's Seedling apple. Mr. Lockie, Oakley Court, Windsor, exhibited a melon under the designation of Oakley Court Seedling, which appears promising, but as the fruit was not quite ripe the committee requested to see it again. The South Australian Commissioners exhibited a dish of Winter Nelis pears, and potatoes, onions, and various dried fruits, for which a vote of thanks was accorded.

Novelties.

First-class certificates were granted as under:—

To Mr. T. S. Ware, Tottenham, for

Pæonia Festiva maxima.—An exquisitely beautiful herbaceous variety, the flowers very large, full, and globular, the colour creamy white blotched with deep carmine.

Pyrethrum Mrs. Bateman Brown.—A distinct single variety, the flowers of full size, superb form, and a brilliant crimson colour.

To Mr. Stacey, Dunmow, for

Verbena Lady C. Beresford.—A handsome variety, the trusses large and the flowers of excellent form; the colour bright reddish crimson with large white eye.

To Messrs. H. Cannell and Sons, Swanley, for

Gloxinia Ormonde.—A beautiful erect variety; the flowers of average size, very stout, and of good shape, the colour brilliant crimson with marone throat.

To Admiral Fairfax for

Cattleya speciosissima, Fairfax's variety.—A beautifully-coloured form of this handsome species; the flowers of full size, the petals and sepals pale rose, veined deep rose, the labellum purple veined marone.

To Mr. F. G. Tantz, Studley House, Hammersmith, for the undermentioned tree or Montan pæonies:—

Lilacina.—A semi-double variety, the flowers rather large and even in outline; white with rose-coloured centre.

Purity.—Semi-double, the flowers pure white and of good shape.

To Messrs. Kelway and Son, Langport, for

Pæonia Eclaire.—A handsome herbaceous variety, with large globular flowers of a rich salmon hue, shading to pink at the edge of the petals.

Pyrethrum Princess of Wales.—An exquisitely beautiful single variety; the flowers rather large, the ray florets brilliant rose and disc rich gold.

Pyrethrum Ormonde.—A double variety possessing much merit; the flowers large in size and of superb form, the colour rose magenta.

Pyrethrum Celia.—A handsome double variety; the flowers large and full, the colour rose lilac.

Iris Victorine.—An attractively-coloured German variety; the flowers of average size, the falls purple, veined at the base, and the standard white blotched with violet.

ROYAL BOTANIC SOCIETY.—SECOND SUMMER EXHIBITION.

June 9.

The high character of the summer exhibitions of the Royal Botanic Society was fully maintained by that held on Wednesday, when the various classes of ornamental plants, cut flowers, and fruit now available for competitive purposes were admirably represented. Orchids again formed the most important and attractive feature of the show; and stove and greenhouse plants in bloom and remarkable for the beauty of their foliage, pelargoniums, ferns, fuchsias, and begonias were staged in large numbers and in a manner that did credit to the cultural skill of the respective exhibitors. There was a bright display of cut flowers, and the fruit generally was of high quality.

Orchids occupied the whole of the two slopes on the eastern side of the tent, and produced a very striking effect. There were four classes for twelve, two of which were open to amateurs, and two were set apart for nurserymen,

In the amateurs' class for twelve, the specimens to be made up or otherwise, Mr. J. Douglas, gardener to F. Whitbourn, Esq., Great Gearies, Ilford, was first with a magnificent group, in which was the finest specimen of Odontoglossum vexillarium that has yet been staged at a public exhibition. This specimen has been grown by Mr. Douglas from a very small size to its present dimensions, and has upwards of thirty racemes, bearing in the aggregate about three hundred flowers. The other examples, which also evinced cultural skill of a high order, comprised Odontoglossum crispum, O. Roezli, O. Roezli alba, Cypripedium caudatum, Epidendrum vitellinum majus, Lælia purpurata Brysiana, Dendrobium nobile, and Cattleya Mossiæ; Mr. C. J. Salter, gardener to J. Southgate, Esq., Streatham; and Mr. F. J. Hill, gardener to H. Little, Esq., The Barons, Twickenham, were second and third respectively, with the same specimens as those exhibited at South Kensington the day previous. Mr. J. Douglas was first also in the amateurs' class for twelve *bona fide* specimens, staging Lælia purpurata alba, Odontoglossum Roezli, and its white form, Cattleya Mossiæ, Odontoglossum vexillarium, and Cymbidium Lowianum, the last mentioned having two very fine racemes; Mr. S. Cooke, gardener to De B. Crawshay, Esq., Rosefield, Sevenoaks, was second with an attractive group, in which there was a good form of C. Warneri. There was a spirited contest in the trade classes, and in both Mr. J. Cypher, Cheltenham, and Mr. H. James, Norwood, were first and second respectively, the collections consisting chiefly of the specimens staged by these exhibitors at South Kensington on Tuesday; Messrs. T. Jackson and Son, Kingston-on-Thames, were third with a capital collection in the class in which made-up specimens were admissible. Messrs. Hugh Low and Co., Upper Clapton, exhibited a large group of plants of Cattleya Mossiæ, in which there were several varieties of exceptional beauty.

Stove and Greenhouse Plants in bloom were, as at the May exhibition, very unequal, some of the collections being remarkably good, whilst others were very indifferent. The premier award in the open class for twelve was awarded to Mr. J. Cypher, who had specimens large in size and splendidly flowered of Hedaroma tulipifera, Anthurium Scherzerianum Cypheri, a distinct variety, with very large spathes, Clerodendron Balfouriana, Pimelia Hendersoni, and Aphelexis macrantha purpurea; Mr. J. F. Mould, Pewsey, Wilts, was second with a neat collection, in which were good specimens of Dipladenia profusa and Allamanda grandiflora; Mr. H. James was third with a collection which contained a large example of the brilliantly-coloured Anthurium Scherzerianum. In the trade class for six Mr. J. Cypher was first with a group in which was a superbly flowered specimen of Erica Cavendishi. Mr. James also exhibited well in the class. In the corresponding class for private growers Mr. C. Rann, gardener to J. Warren, Esq., Handcross Park, Crawley, was first with specimens of medium size, and remarkable for their freshness and finish, Pimelia decussata, Aphelexis macrantha purpurea, and Erica depressa being specially meritorious.

Ornamental-leaved Plants comprised several excellent groups. Mr. J. Cypher was first in the trade class for six with a collection in which there were good palms, Cycas revoluta, and Croton Queen Victoria, the last mentioned being very richly coloured; Mr. H. James and Mr. J. F. Mould were second and third respectively. In the corresponding class for amateurs Mr. Rann was first, staging Croton Challenger and C. albicans in a high state of development; Mr. Butler, gardener to H. A. Gibbs, Esq., St. Dunstan's, Regent's Park; and Mr. G. Wheeler were second and third with good groups. In competition for the prizes for six variegated plants Mr. Rann occupied the first place with finely coloured examples of Croton Henryanus, C. Prince of Wales, Pandanus Veitchi, and Yucca aloifolia variegata; Mr. Butler was second. The first prize for six palms was awarded to Mr. Butler, who had a finely-developed specimen of Kentia Canterburyana; and the second award was made in favour of Mr. H. James.

Ferns were well shown by Mr. Rann and other exhibitors. Mr. Rann, who was first for six, staged exceptionally fine specimens of Gleichenia rupestris glauca and G. rupestris gigantea, and Dicksonia antarctica.

Pitcher Plants were well shown by Mr. H. James, who was first for six sarracenias, and also for twelve nepenthes, amongst the latter being a fine specimen of N. Mastersiana.

Begonias were represented by a collection of large, well-bloomed specimens from Messrs. J. Laing and Co., Forest Hill, who were first in the class set apart for these flowers. Amongst the varieties forming the collection were Princess Victoria, Sir S. Northcote, Stanstead Surprise, New Colour, Ball of Fire, and Primrose Queen, all of which were highly meritorious in their respective shades of colour.

Pelargoniums were of exceptional merit, and made a very bright display. Mr. C. Turner, Slough, was first in the class for six show varieties, and Mr. J. Cypher second. In the first prize group were Sister of Mercy, Rosetta, Kingston Beauty, Statesman, and Prince Leopold. Mr. C. Turner was also first in the class for six fancy varieties, staging superbly flowered specimens of Lady Carington, Ellen Beck, East Lynne, Delicatum, Queen of the Hellenes, and The Shah. The most successful exhibitors' in the amateurs' classes were Mr. D. Phillips, gardener to R. W. Mann, Esq., Langley, and Mr. Hill, who were first and second respectively both for show and fancy varieties.

Fruit was not so plentiful as usual, but that staged was of good quality. Mr. Robins, Heartwell House, Aylesbury, was successful in taking the first prize in the class for a collection, and presented good dishes of Alexander peach, Foster's Seedling grape, and Hero of Lockinge melon. Mr. Richards, Somerley Park, Ringwood, was first in the class for a pine staging an exceedingly well-ripened Queen. The awards for melons were made in favour of Mr. J. R. Alles, Old Warden Park, Biggleswade, Mr. J. Douglas, and Mr. Robins, the first prize brace consisting of McIndoe's Green Flesh and Hero of Lockinge.

The competition for the prizes for grapes was fairly good, and in the class for baskets of black grapes Mr. T. Osman, Ottershaw Park, Chertsey, staged superb examples of Black Hamburgh; Mr. Brush, gardener to Lady Hume Campbell, High Grove, Pinner, was a good second with the same variety. Mr. Mowbray, Fulmer, Slough, was first in the corresponding class for white grapes, with an excellent basket of Buckland Sweetwater. For a dish of Black Hamburgh, Mr. Osman and Mr. Brush were first and second with well-finished clusters; and in the class for black grapes other than Black Hamburgh Mr. Mowbray was first with well-coloured bunches of Black Prince. In competition for the prizes for Muscat of Alexandria, Mr. Feist, Bishopsgate House, Staines, was first with good clusters; and in the class for white grapes other than muscats, Mr. Mowbray was first with Buckland Sweetwater, and Mr. Brush was second with Foster's Seedling. In competition for the prizes for two dishes of peaches Mr. Hopworth, Mr. Osman, and Mr. Nash were first, second, and third respectively, the principal varieties being Barrington, Alexander, Grosse Mignonne, and Early Silver. In the corresponding class for nectarines Mr. Harris, Singleton, was first with Lord Napier and Elruge, of fine quality; Mr. Nash second, and Mr. Miller third. Strawberries were well shown by Mr. Worthing, Chadwell Heath, and Mr. Mowbray; and cherries by Mr. Hare, Grantham. Five baskets of Australian apples were exhibited, and being large in size, well coloured, and very fresh they attracted much attention.

Cut Flowers produced a very pleasing display. The chief prizetakers in the several classes were Mr. T. S. Ware, Messrs. Paul and Son, Mr. J. Douglas, and Mr. Gibson.

Miscellaneous Contributions comprised large and effectively arranged collections from Mr. B. S. Williams, Upper Holloway; Messrs. W. Cutbush and Son, Highgate; Messrs. J. Laing and Co., Forest Hill; Messrs. Hooper and Co., Covent Garden; and Messrs. E. G. Henderson and Son, Maida Vale, to whom silver medals were awarded. Messrs. J. Carter and Co., High Holborn, contributed a beautiful collection of ixias; and from Messrs. H. Cannell and Son, Swanley, came a fine group of gloxinias.

Novelties were rather numerous, and a considerable number of certificates were awarded. Botanical certificates were granted as under:—

To Messrs. J. Veitch and Sons, Chelsea, for

Nephrolepis rufescens tripinnatifida.—A handsome variety, with oblong and remarkably leafy fronds of a rich green colour.

Gymnogramma schizophylla gloriosa.—A robust and exceedingly beautiful variety of this well-known species.

Pteris tremula foliosa.—A handsome form with fronds having broader pinnæ than in the type.

Asparagus verticilliatus.—An old species, elegant in character, and popular with cultivators because of its thriving in a cool house.

Todea grandi pinnata.—A valuable addition to the filmy ferns; the fronds are broad and spreading, and well-grown examples present a very beautiful appearance.

To Messrs. H. Low and Co. for

Cattleya Wagneri.—A beautiful form of C. Mossiæ with white sepals and petals, and white labellum with golden throat.

C. Reineckiana.—This also is a form of C. Mossiæ, and possesses much beauty; the flowers are of large size, and pure white, with purple blotch on the labellum.

To Mr. B. S. Williams for

Oncidium Krameri majus.—A fine form of this well-known oncid, with flowers larger in size and richer in colour than those of the species.

Lissochilus lutescens.—A charming species, the sepals and petals white, the labellum bright yellow.

To Messrs. E. G. Henderson and Son for

Dracæna nobilissima.—A bold growing species with broad leaves of a rich bronzy red colour.

To Messrs. F. Sander and Co., St. Albans, for

Oncidium superbiens.—A handsome species in the way of O. macranthum, the flowers produced in long spikes, and attractively coloured chesnut red and yellow.

Floricultural certificates were granted as under:—

To Messrs. J. Veitch and Sons, for

Rhododendron Gloria Mundi.—A beautiful hybrid, producing large trusses of soft orange red flowers.

Imantophyllum Distinction.—An excellent addition to the many good varieties that have been recently introduced. The flowers are of large size and fine form, the colour bright orange, pale yellow in the centre.

Gloxinia Ivanhoe.—An erect variety with large finely-formed flowers of a bright purple blue colour, with well defined lavender margin.

To Messrs. J. Laing and Co., for

Begonia Charmer.—A handsome single variety, the flowers of large size, and a bright carmine red colour with white centre.

B. Miss Amy Adcock.—A beautiful double variety, with finely-formed flowers of a bright red hue.

To Mr. T. S. Ware, for

Pæonia Festiva Maxima.—A beautiful variety, described in the report of meeting of R.H.S.

Anthericum liliastrum major.—A well-known hardy herbaceous plant, producing elegant spikes of pure white flowers.

ROYAL NATIONAL TULIP SOCIETY.

Annual Exhibition at Manchester, June 5.

The annual exhibition of this society was held on Saturday last, June 5, at the Manchester Botanical Gardens. The day was warm and bright, and the tulips showed to great advantage, notwithstanding which the attendance of visitors was anything but good. The Lancashire growers were well represented, but Midland exhibitors were (with one exception) entirely absent. This state of things in a "National" exhibition is greatly to be regretted, but seems to be quite unavoidable, as the Midland tulips are in bloom fully a fortnight before the Lancashire tulips, so no one show can be arranged to suit both, the tulip being a short-lived flower. The flowers shown were wonderfully good, both in size and quality, and when one thinks of the miserable weather we have experienced during the past two or three months one appreciates the difficulties which the growers have had to face this season. Feathered flowers, especially, were numerous and good, and it was only in the flamed classes that any falling off in quality was noticeable. The honours of the day fell to the Rev. F. D. Horner, who showed grand, deep-coloured correct flowers of large size, which told of good growing in a favourable locality. Mr. James Thurstan was not far behind, and is much to be praised for his efforts to obtain new and good varieties, by raising seedlings, which is generally a long and tedious process. He has, however, had some measure of reward, for his seedling rose, Mrs. Thurstan, is one of the best of feathers, and it and other seedlings of promise will, some day, assert themselves on the exhibition table. Most of Mr. S. Barlow's flowers were merely buds, and he could not show his usual strength. Messrs. Woolley, Kitchen, Housoley, J. Wood, Boydell, Knowles, and Woolfenden brought good collections, and two maiden growers exhibited. Altogether the exhibition proved that the interest in the tulip is not entirely extinct, but on the contrary, that there are signs of a returning interest in the cultivation of this gorgeous and interesting flower.

Below is the list of prizes:—

Rectified Tulips.

In class 1, five stands of twelve dissimilar tulips, two feathered and two flamed in each class, the Rev. F. D. Horner, Burton-in-Lonsdale, was first with a fine well-grown stand of large flowers, comprising: Orion, flamed; Commander, heavily feathered; Talisman, feathered and flamed; Duchess of

Sutherland, flamed; Sir Joseph Paxton, flamed; Nanny Gibson, feathered rose; Mrs. Cooper, a grand dark bybloemen, feathered; Annie McGregor, flamed and feathered; Dr. Dalton, feathered; Mabel, flamed; and an unknown variety, flamed. Mr. James Thurstan, Wolverhampton, was a very close second, with a stand inferior to Mr. Horner's in point of size only. He showed Adonis, flamed; Paxton, flamed; Mabel, flamed; Constant, flamed bybloemen, Modesty, delicately feathered; Sulphur, feathered; Dr. Hardy, flamed; Mrs. Thurstan, a grand feathered rose, not yet sent out, which will be a great acquisition to its class; Talisman, flamed; Lady C. Gordon, flamed; Asclepius, a good feathered bizarre seedling, and another good unnamed seedling, feathered. Mr. D. Woolley, Stockport, was third with a good stand, comprising: Paxton, feathered; Seedling, flamed; Adonis, flamed; Mrs. Miller, feathered bizarre; Annie McGregor, flamed; Julia Farnese, feathered; John Hart, a grand pure feathered bybloemen seedling raised by Mr. Dymock; Paxton, flamed; Heroine, feathered; Merit, flamed; Bessie, feathered; Mabel, flamed. Mr. W. Kitchen, Marple, was fourth with Masterpiece, feathered; John Hart, feathered, a grand bloom; Comte (the finest example of this old flower seen for some time); Mdme. St. Arnaud, flamed; Violet Amiable, flamed; Paxton, flamed; Talisman, feathered; Julia Farnese, heavily feathered; Mabel, Sutherland, and Dr. Hardy, flamed; and Charles X, feathered. Mr. John H. Wood, Royton, was fifth with nice blooms of Adonis, Heroine, Mrs. Lea, Amiable, Denman, Mabel, Paxton, flamed and feathered, Surpass le Grand, Annie McGregor, Masterpiece, and Excelsior.

In Class 2, eight stands of six dissimilar tulips, one feathered and one flamed in each class, Rev. F. D. Horner was first with large blooms of Mabel, flamed; Sutherland, flamed; Masterpiece, feathered; Mrs. Cooper, feathered; Modesty, feathered; and Orion, grandly flamed. Mr. Woolley was second with Paxton, feathered and flamed; Mabel, flamed; Julia Farnese, feathered; Adonis, flamed; and a fine Bybloemen seedling, feathered. Mr. Thurstan was third with Adonis, feathered; Lady C. Gordon, flamed; Talisman, Paxton, flamed; Modesty, feathered; and a good seedling. Mr. J. Wood was fourth with Heroine, Mabel, Adonis, Masterpiece, Paxton, and Bessie, the last being very impure. Mr. W. Kitchen was fifth, Mr. Jas. Knowles was sixth, Mr. S. Barlow, Stakehill, was seventh, and Mr. Jos. Boydell, Lowton, was eighth.

In Class 3, four stands of six dissimilar tulips, one feathered and one flamed in each class, for subscribers of half a-guinea only, Mr. Hugh Housley, Stockport, was first with a good stand comprising Violet Amiable, feathered; Mrs. Lea, feathered; Paxton, flamed; Lord Denman, flamed; Royal Sovereign, feathered; and Triomphe Royal, feathered. Mr. R. Woolfenden, Royton, was second with Mabel, flamed; Denman, flamed; Excelsior, flamed; Masterpiece, feathered; Heroine, feathered; Violet Amiable, feathered. Mr. A. Fearnley, Lowton, was third with Heroine, Devonshire, Andromeda, Violet Amiable, Paxton, and another. Mr. Wright Prescott, Leigh, was fourth with Pilot, Masterpiece, Lady C. Gordon, Denman, Guerier, and Heroine.

In Class 4, six stands of three feathered tulips, one in each class, Rev. F. D. Horner was first with Modesty, Mrs. Cooper, and Dr. Dalton—a lovely trio. Mr. D. Woolley was second with good examples of Mrs. Miller, Mrs. Lea, and a seedling. Mr. W. Dymock was third with Mabel and two seedlings. Mr. H. Housley was fourth with Adonis, Mabel, and Sovereign. Mr. Thos. Wood, Pennington was fifth, and Mr. Jas. Knowles sixth.

In Class 5, six stands of three flamed tulips, one in each class, Mr. Jas. Thurstan was first with Paxton, Mabel, and Adonis; Mr. H. Housley was second with Annie McGregor, Denman, and Paxton; Mr. J. Wood was third with Merit, Mabel, and Bessie; Mr. W. Kitchen was fifth; and Mr. Thos. Wood was sixth.

In Class 6, three stands of two tulips, one feathered and one flamed, of any class, for maiden growers only, Mr. Thos. Wood was first, and Mr. Thos. Holden, Royton, second.

In Class 7, six stands of two tulips, one feathered and one flamed, of any class, Mr. Horner was first with Mrs. Cooper, feathered, and Orion, flamed; Mr. Housley was second with Sovereign and Paxton; Mr. Boydell was third, Mr. Prescott fourth, Mr. Thurstan fifth, and Mr. Woolfenden sixth.

In Class 8, single blooms, feathered bizarres, Mr. S. Barlow was first with a grand specimen of George Hayward, fourth with Paxton, ninth with General Grant, a brilliant red bizarre, and tenth with W. Wilson; Mr. Prescott was second with a fine old Lord Lilford; Mr. Knowles third with Charles X; Mr. J. Morris Bedford, Leigh, fifth with Devonshire; and Rev. F. D. Horner seventh and eighth.

In feathered roses, Mr. Woolley was first with Heroine, fifth with Mabel, and seventh with Alice; Mr. Barlow was second with a fine unknown variety in the style of Andromeda; Mr. Fearnley third with Industry; Mr. Horner fourth, Mr. Knowles sixth, Mr. Morris eighth, Mr. Prescott ninth, and Mr. Thurstan tenth.

In feathered bybloemens, Mr. Woolley was first with John Hart, sixth with John Hart, and seventh with seedling; Mr. Knowles was second with Adonis, third with Bessie, and tenth; Mr. Prescott fourth, Mr. Dymock fifth, Mr. Kitchen eighth, and Mr. Boydell ninth.

In flamed bizarres, Mr. Boydell was first, with a variety he calls "Targate"; Mr. Thurstan second with Dr. Hardy; Mr. Barlow third with Excelsior, and seventh; Mr. Woolfenden fourth, Mr. John Wood fifth, Mr. Horner sixth, Mr. Fearnley eighth, Mr. Housley ninth, and Mr. Boydell tenth.

In flamed roses, Mr. Housley was first, with Annie McGregor, fourth, and sixth; Mr. Barlow was second with Mabel, and third with Lady C. Gordon; Mr. Kitchen fifth, Mr. Knowles seventh, Mr. Fearnley eighth, Mr. Thos. Wood ninth, Mr. John Wood tenth.

In flamed bybloemens, Mr. Barlow was first with a very large and fine Adonis; Mr. Woolley second, with Denman, and sixth; Mr. Horner was third with Talisman; Mr. W. Kitchen fourth, Mr. Thurstan fifth, Mr. Thos. Wood seventh, and Mr. Boydell eighth, ninth, and tenth.

Class 9. The best feathered tulip in the show was adjudged to be Mr. Barlow's Geo. Hayward, a fine dashing bizaare.

The prize for the best flamed tulip was given to the Rev. F. D. Horner for the Orion in his stand of six.

A certificate was awarded to Mr. W. Dymock for his seedling feathered bizarre, to which he gives the name of Lord Randolph.

Breeder Tulips.

In Class 10, six stands of six dissimilar tulips, two of each class, Rev. F. D. Horner was first with large blooms of Thos. Parker rose, Paxton bizarre, Alice Grey bybloemen, Dr. Hardy bizarre, Glory of Stakehill bybloemen, and Miss Coutts rose.

Mr. J. Wood was second with a level lot, comprising Excelsior and Paxton bizarre, Industry and Mabel roses, and Surpass le Grand and Alice Grey bybloemens.

Mr. S. Barlow was third with bright, but too young, examples of Horatio, Miss Coutts, Talisman, Mrs. Barlow, Hepworth's 27/63, and Glory of Stakehill; Mr. Kitchen was fourth, Mr. Thurstan fifth, and Mr. Woolley sixth.

In Class 11, eight stands of three tulips, one in each class, Mr. Barlow was first with fine blooms of Horatio bizarre, Annie McGregor rose, and Glory of Stakehill bybloemen; Mr. Thurstan was second with Annie McGregor, Horatio, and an unknown variety; Mr. Horner third with Mrs. Parker, Paxton, and Alice Grey; Mr. Fearnley fourth, Mr. R. Woolfenden fifth, Mr. J. Boydell sixth, Mr. D. Woolley seventh, and Mr. H. Housley eighth.

In Class 12, single blooms, bizarre breeders, Mr. Barlow was first with a grand Paxton, and seventh; Mr. Kitchen second with Paxton, and fifth; Mr. Thomas Wood fourth with Sulphur, and sixth; Mr. Thurstan third with a nice seedling, and eighth.

In rose breeders, Mr. Thurstan was first with Olivia, and eighth; Mr. Woolfenden second; Mr. Horner third with Hepworth's Seedling, fourth with Lady Grosvenor, and fifth; Mr. Prescott sixth, Mr. Housley seventh.

In bybloemen breeders, Mr. Horner was first with Beauty of Litchurch, second with Glory of Stakehill, fourth with Talisman, and fifth; Mr. Barlow third with Glory of Stakehill, and sixth; Mr. Kitchen seventh, and Mr. Thurstan eighth.

The best breeder tulip in the exhibition was adjudged to be the bloom of Sir Joseph Paxton of Mr. Barlow's, which won the first prize in Class 12.

James W. Bentley,
Hon. Sec. Royal National Tulip Society.

BATH AND WEST OF ENGLAND AGRICULTURAL SOCIETY.

The horticultural department of the Bristol meeting of the Bath and West of England Agricultural Society was rather better than for several years past, and the large tent devoted to the plants, fruits, and cut flowers was well filled, and presented a very attractive appearance.

Chief amongst the exhibitors of ornamental plants were Messrs. R. Smith and Co., of Worcester, who staged a beautiful collection, in which the clematis were particularly good, both as regards the selection of varieties and the condition of the specimens. Messrs. John Laing and Co., Forest Hill, exhibited a very fine group of tuberous begonias in which were represented the Marquis of Bristol, Mrs. Partridge, and other of the fine varieties introduced by the firm. They had also some excellent gloxinias, to which they devote special attention, the spotted forms being very beautiful. Mr. Bannister, gardener to St. Vincent Ames, Esq., Cote House, Westbury-on-Trym, presented four gigantic specimens of Chrysanthemum frutescens, which averaged six feet in diameter, and were densely flowered. These attracted considerable attention, and brought the exhibitor much praise. Messrs. J. R. Pearson and Sons, Chilwell Nurseries, Nottingham, contributed several stands of zonal pelargoniums, comprising a selection of the many good varieties raised by the firm. These produced a bright display, and proved of great interest, more especially to the practical cultivators.

Orchids were well shown by Mr. W. Perry, gardener to C. Miles, Esq., Bristol, and several other exhibitors, and comprised Odontoglossum vexillarium, O. triumphans, Cattleya Mossiæ, C. Mendeli, Aerides Fieldingi, Masdevallia Harryana, M. Lindeni, Dendrobium Jamesianum, Cypripedium candatum, and Vanda suavis. Miscellaneous contributions were made by Mr. Young, Clifton; Mr. E. Coles, gardener to H. Pattrick, Esq., Bristol; Mr. E. Miller, gardener to F. Taggart, Esq., Old Sneyd Park, Bristol; and M. W. Rye, gardener to J. Derham, Esq., Sneyd Park, Bristol.

The contributions of fruit were not numerous, but the produce staged was of good quality. Mr. Nicholls, gardener to Mrs. Miller, Brentry House, Westbury-on-Trym, staged four vines in pots, carrying heavy crops of well-finished fruit. These represented Foster's Sweetwater and Black Hamburgh, of which there were two canes each. Messrs. Cheal and Sons, Lowfield Nurseries, Crawley, Sussex, exhibited a collection of apples, consisting of upwards of forty dishes, the majority being in an excellent state of preservation for so late in the season. Tomatoes were well shown by Mr. Bannister.

In the agricultural department great displays of seeds, grasses, and roots were made by Messrs. Sutton and Sons, of Reading, Messrs. E. Webb and Sons, Stourbridge, and Messrs. Wheeler and Sons, Gloucester, which very materially enhanced the attractions of the gathering.

The Household.

CHEESE CUSTARD.

The subject of this paper may be properly introduced with the observation that it illustrates the possibility of an important discovery of the most direct utility being made, described, demonstrated in the most public manner, and yet remaining as a sort of dead letter in the alphabet of the world's knowledge. It has troubled me much that what I have to communicate is not already too well known to need any help from me, but it is practically unknown, and all good housewives, all who love good food, and all who should observe economy in furnishing the table, are hereby advised to take particular note of what follows.

Proposition—What will you do with a piece of old dry cheese that no one can eat, and that refuses to be half melted as a Welsh rabbit (which, of course, is a rare bit)? I can tell you what I have seen done with it. I have seen it thrust into the kitchener with the waste fat and other rubbish that it is the rule to burn, and I have heard it soon afterwards roaring up the chimney, for cheese burns like fat, and the better the cheese the more likely is it to set the chimney on fire. You will say this is shocking. Well, some such way of settling accounts with old cheese may be practised in your house, my good reader, without your knowledge, so make sure of your facts before you denounce unknown destroyers. Before you have finished this paper you will know how to convert the old flinty cheese into a delicate, wholesome, and digestible article of diet, more nourishing than a steak, and more tasty than a devilled kidney.

Good cheese consists of casein and cream. A poor cheese consists of casein minus the cream. In natural and condensed milk the casein is soluble; in cheese the casein is insoluble—the hand of man has made the difference. By treating the milk with rennet or acids, to form a curd, the casein is condensed, and the natural potash is expelled from it. A milk diet will never cause scurvy: a cheese diet will cause scurvy, and often has done so. There are two reasons why cheese should be eaten with caution, even by the robust, and they are its natural indigestibility and its defect of potash. It is the

most nourishing food known, but the most difficult of digestion, and singularly incomplete as a food, requiring the aid of raw vegetables to compensate for the removal of its potash, which, of course, is transferred from the curd to the whey in cheesemaking.

Those who understand electricity are familiar with the reversal of the action in what are called accumulators. Now a reversal of the action is possible in the utilization of cheese. In making it we drive the potash out, but in converting it into a digestible and delicious food we restore the potash to it, and it becomes—at some distance—soluble casein once more. For the discovery of this, and also its promulgation, we are indebted to Mr. W. Mattieu Williams, F.C.S., who, in a course of lectures on the scientific basis of cookery, given at meetings of the Society of Arts, thus discourses on the subject:—

"Taking the composition of a whole skinned and prepared sheep, or ox, as it hangs in a butcher's shop, the amount of nutriment it contains is about equal to one-third of its weight of cheese. The fat is about the same in both, but the difference is due to the bones and excess of water. Thus, 20 lbs. of cheese contains as much nutritious material as a sheep of 60 lbs. weight, and would have the same value as practical nutriment if it could be as easily digested.

"To us, in this densely populated country, so largely dependent on imported food, this is of vast importance, cheese being the most portable of all food—even more so than wheat—on account of the greater value in given bulk. We may obtain it from nearly all parts of the world, and it can be used as ballast, if obtainable where ballast is required.

"I therefore claim to have done the State some service in having worked out the problem of restoring the casein of cheese to its original soluble form, as it existed in the milk, and thereby rendering it easy of digestion. My method is very simple, and, after what I have just explained, so obvious that I am surprised at being unable to find any record of its having been done before.

"As everybody now knows, acids are neutralised by alkalis. If, then, the casein was rendered insoluble by acid—say lactic acid—it is probable that it may have its solubility restored by adding as much alkali as will neutralise that acid. I have tried this with complete success, have thus dissolved cheese both in milk and in water.

"But you will say that this is bringing too much of the laboratory into the kitchen—this neutralisation by alkali, and will very properly ask what alkali? and how this alkali will act in the body; whether as food, or as medicine, or as poison?

"The alkali I use is potash, in the form of bicarbonate, which readily gives up its alkali to any fixed acid when hot; a little explanation will show that it not only renders the cheese digestible, but supplies just that which cheese requires in order to render it a complete food.

"Salts of potash exist in milk, but they are all so soluble, that when the curd is precipitated in the cheesemaking they are left behind in the whey, causing the cheese to be in a condition somewhat analogous to that of the gelatine of the academicians, or still more nearly to that of salt junk, from which the juices have passed by exosmosis into the brine.

"In the course of my youthful wanderings I had a very instructive experience of this. With a fellow tourist (the late C. M. Clayton, son of the diplomatist concerned in the 'Clayton-Bulwer treaty') I took passage in a small schooner from Malta to Athens. We were both pedestrians, had walked together, 'roughing it,' in Italy and Sicily, and proud of our powers of enduring hardships. Consequently, in providing our food for the voyage, we took nothing but a lump of cheese and some loaves of bread. A gale of wind blew us far out of our proper course, and made the journey a long one. We ate our cheese heartily enough for about three days, then it became hard work to go on with it. It grew worse and worse, until at last we gladly exchanged the remainder for some of the vile broth made by the dirty sailors in the still dirtier forecastle, and composed of horse beans and stale cabbage leaves boiled in water. On landing at the Piræus we devoured cucumbers, fruit, and lettuces with strange avidity. We were evidently on the road to scurvy, and should have reached some of its uglier symptoms had we continued the cheese diet much logner.

"We were craving for the potash salts wanting in the cheese, and which the raw vegetables supplied, just as sailors crave for the like after a long course of salt junk and biscuits.

"This is my recipe for restoring the casein of cheese to its original soluble condition. Grate the cheese, or cut it into shreds, then add bicarbonate of potash at the rate of a quarter of an ounce to one pound of cheese (this proportion I have calculated as about supplying the amount of potash which originally existed in the quantity of milk from which the cheese was made). Put these in three or four times their own bulk of water or milk, slowly raise to the boiling point, and keep hot, stirring until all the cheese is dissolved. The solution thus obtained thickens into a custard-like mass on cooling. Any larger quantity of water or milk may be used if a more liquid result is required.

"I use common English or American cheese, in spite of the cookery books, which prescribe Parmesan whenever grated cheese is demanded. Parmesan grates readily, because, as they say in the Midlands, 'Its butter has gone to market.' It is similar to what is there called skim Dick,' the hard dry cheese given to farm labourers, or sold at about 4½d. per lb. It is made from skimmed milk. Parmesan is but glorified skim Dick, glorified by its peculiar and fine flavour. The solution of cheese may be used in many different ways. Stirred into oatmeal porridge, boiled rice, bread crumbs, mashed potatoes, hasty pudding, or other similar farinaceous preparations, it supplies a highly nutritious, economical, and digestible dish, a meal in itself equivalent in composition and nutritive value to beef and potatoes.

"I have given these concoctions the general name of 'cheese porridge.' They are not likely to be acceptable to pampered epicures, to whose requirements I give no attention, but those who work hard with brain or muscle will, I think, appreciate them. Their preparation may be simplified, and I think rather improved, by adding the bicarbonate of potash to the water in which the meal, rice, &c., is boiled, and throwing in the grated cheese, well mixing it, just before turning the porridge out of the pot.

"The following is an excellent dish—cheese custard, or improved digestible *fondu*. Dissolve grated cheese in milk with bicarbonate of potash in the proportions already given, flavour with mustard and pepper, &c.; then beat up eggs, yolk and white together, at the rate of two or three to every ¼ lb. of cheese. Add these to the cheese solution. Now take a shallow dish that will bear heating, put a little butter on it, and heat the butter till it frizzles; then pour the mixture into this, and bake or fry until it is nearly solidified and very lightly browned. This is a rich dish, requiring bread. It is best cooked in little dishes, one portion in each, and eaten from the same.

"By using a larger quantity of milk to dilute this cheese custard a very wholesome and delicious cheese pudding may be made. Bread, cut in slices, with or without butter, is laid in a pie dish, one slice above the other, and the diluted cheese custard poured upon it cold, and allowed to stand an hour or more until the bread is fully saturated. It is then baked until the surface is lightly browned."

New Plants, Flowers, and Fruits.

Oncidium pardoglossum (*Gard. Chron.* 1886, 617).—Flowers narrow, whitish, much yellow on the lip, column long.

Cypripedium apiculatum (*G.C.* 1886, 617).—A cross between *C. barbatum* and *C. Boxalli*.

Adiantum Birkenheadi (*G.C.* 1886, 648).—A distinct and beautiful maiden hair fern distinguished by "the dilatate lobate development of the apices of the larger and more conspicuous pinnules."

Narcissus juncifolius muticus (*G.C.* 1886, 648).—A handsome plant, sweet scented, a probable hybrid between N. juncifolius and N. P. N. Portnlacca muticus.

Epidendrum fraudulentum (*G.C.* 1886, 648).—A curosity, flowers rosy and purple.

Maxillaria Lehmanni (*G.C.* 1886, 648).—Flowers as large as that of Lycaste Skinneri, snow white.

Portulacca grandiflora Regeli (*Gartenflora* 1209).—A beautiful variety of a well known annual.

Salvia interrupta (*Gartfl.* 1210).—A bold plant allied to *S. officinalis*; flowers purple or blue.

Scabiosa Caucasica v. elegans (*Gartenfl.* 12 2).—The best of its family, and free in flowering

Correspondence.

CERTIFICATING PELARGONIUMS.

As one of the certificating sinners, I read the paper on pelargoniums by "Practical Cultivator" with some interest. On some points I might agree with him, as, for example, that in granting certificates for show varieties we have often thought more of "show quality" than garden habit. But "Practical Cultivator" vitiates his argument by what I regard as a falsification of facts, which is just the way in which the over-zealous cut the ground from beneath their feet. I will follow the excellent example of your "Scrutator," and ask for a plain answer to a plain question. The writer says "some dozens of certificates have been awarded during the past fifteen years to varieties of which not more than one bloom was fully developed when they were submitted to the adjudicators." Now I do not believe this, and my plain question is—When and Where? A Certificator.

Obituary.

Recently, at his residence, Dinham House, Ludlow, R. Kyree Penson, Esq., a well-known cultivator of auriculas and carnations, in his 70th year.

Markets.

COVENT GARDEN.

Fruit.

Apples	per ½-sieve	2s. 0d.	to 4s. 0d.
Apples, American, per bar.		10s. 6d.	,, 21s. 0d.
Apricots	per doz.	0s. 6d.	,, 0s. 8d.
Cherries	per lb.	0s. 4d.	,, 1s. 0d.
Cobs, Kent	per 100 lbs.	35s. 0d.	,, 50s. 0d.
Figs	per doz.	2s. 6d.	,, 5s. 0d.
Gooseberries	per quart	0s. 6d.	,, 0s. 8d.
Grapes	per lb.	2s. 0d.	,, 5s. 0d.
Lemons	per case	8s. 0d.	,, 9s. 0d.
Melons	each	2s. 0d.	,, 3s. 0d.
Peaches	per doz.	6s. 0d.	,, 18s. 0d.
Pine-apples, English, per lb.		2s. 0d.	,, 2s. 6d.
Pine-apples, St. Michaels, each		3s. 6d.	,, 10s. 6d.
Strawberries	per lb.	2s. 0d.	,, 5s. 0d.

Vegetables.

Artichokes, Globe, per dz.		2s. 6d.	to 3s. 6d.
Asparagus, English, per 100		2s. 0d.	,, 5s. 0d.
Asparagus, French, per bun.		1s. 6d.	,, 0s. 0d.
Beans, French	per lb.	0s. 9d.	,, 1s. 0d.
Beet	per doz.	1s. 0d.	,, 2s. 0d.
Cabbages	per doz.	1s. 6d.	,, 2s. 0d.
Carrots	per bun.	0s. 4d.	,, 0s. 6d.
Cauliflowers	per doz.	2s. 6d.	,, 3s. 6d.
Cucumbers	each	0s. 4d.	,, 0s. 0d.
Endive	per doz.	1s. 0d.	,, 1s. 0d.
Garlic	per lb.	0s. 4d.	,, 0s. 6d.
Herbs	per bunch	0s. 3d.	,, 0s. 4d.
Horse-radish	per bun.	3s. 0d.	,, 4s. 0d.
Lettuces, Cabbage, per doz.		0s. 8d.	,, 1s. 0d.
Lettuce, Cos	per doz.	1s. 0d.	,, 1s. 6d.
Leeks	per bun.	0s. 3d.	,, 0s. 6d.
Mint, Green	per bun.	0s. 3d.	,, 0s. 4d.
Mushrooms	per basket	1s. 0d.	,, 1s. 6d.
Onions	per bunch	0s. 4d.	,, 0s. 6d.
Parsley	per bun.	0s. 3d.	,, 0s. 4d.
Peas	per quart	1s. 4d.	,, 2s. 0d.
Radishes	per doz. bunch	0s. 6d.	,, 1s. 0d.
Rhubarb	per bun.	0s. 4d.	,, 0s. 0d.
Small Salading	per pun.	0s. 3d.	,, 0s. 4d.
Spinach	per bushel	2s. 0d.	to 3s. 0d.
Tomatoes	per lb.	0s. 9d.	,, 1s. 0d.
Turnips	per bunch	0s. 4d.	,, 0s. 6d.

Cut Flowers.

Abutilons	per doz. bun.	1s. 6d.	to 2s. 0d.
Azaleas	per doz. sprays	1s. 0d.	,, 1s. 6d.
Bluebells	per doz. bun.	0s. 9d.	,, 1s. 0d.
Bouvardias	per bunch	0s. 0d.	,, 1s. 0d.
Callas	per doz.	3s. 0d.	,, 4s. 0d.
Carnations, per doz. blms.		1s 0d.	,, 1s. 6d.
Eucharis, per doz. blooms		3s. 0d.	,, 4s. 6d.
Gardenias, per doz. blooms		1s. 0d.	,, 3s. 0d.
Hellotropes, per doz. sprays		0s. 6d.	,, 0s. 8d.
Iris	per doz. bun.	5s. 0d.	,, 7s. 6d.
Lapageria, per doz. blooms		1s. 0d.	,, 2s. 0d.
Lilium longiflorum, per doz. blooms		4s. 0d.	,, 0s. 0d.
Lilium candidum, per doz. blooms		2s. 0d.	,, 3s. 0d.
Marguerites, per doz. bun.		3s. 0d.	,, 6s. 0d.
Mignonette, per doz. bun.		3s. 0d.	,, 0s. 0d.
Pansies	per doz.	1s. 0d.	,, 3s. 0d.
Pæonies	per doz. bun.	5s. 0d.	,, 15s. 0d.
Pelargoniums, Zonal, per doz. trusses		0s. 6d.	,, 0s. 8d.
Pelargoniums, per doz. trusses		0s. 8d.	,, 1s. 0d.
Pyrethrums	per doz.	2s. 0d.	,, 5s. 0d.
Ranunculus, per doz. blms.		1s. 6d.	,, 3s. 0d.
Roses	per doz. blms.	1s. 6d.	,, 2s. 0d.
Roses, Tea	per doz. blms.	1s. 0d.	,, 1s. 6d.
Stephanotis	per doz. sprays	1s. 0d.	,, 2s. 6d.
Tropæolum	per doz. bun.	1s. 0d.	,, 2s. 0d.
Tuberoses	per doz.	1s. 0d.	,, 1s. 6d.

BOROUGH AND SPITALFIELDS.

Potatoes.

Regents	per ton	75s.	to 100s.
Magnum Bonum	per ton	00s.	,, 90s.
Scotch Champion	per ton	50s.	,, 60s.
Victorias	per ton	65s.	,, 85s.
Jersey Kidneys, New	per cwt.	15s.	,, 21s.
Jersey Rounds, New	per cwt	8s.	,, 12s.
Malta Kidneys, New	per cwt.	10s.	,, 15s.
Malta Rounds, New	per cwt	8s.	,, 10s.
Lisbon Rounds	per cwt.	7s.	,, 10s.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 0d. and 1s.—[Advt.]

D. of M.	D. of W.	ANNIVERSARIES, FESTIVALS, OCCURRENCES, HISTORICAL NOTES, &c.	SUN. Rises.	SUN. Souths After Noon.	SUN. Sets.	MOON. Rises. After.	MOON. Sets. Morn.	HIGH WATER AT London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M tmp. avrg. of 40 yrs. Chiswick.	ORCHIDS IN FLOWER.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
20	S	**Trinity Sunday.** Accession of Qn. Vict.	3 44	1 14	8 18	10 38	7 35	4 9	4 27	1 16	1 34	61·5	Dendrobium tortile	Java.	171
21	M	*Proclamation.* [tings begin.	3 44	1 27	8 18	11 5	8 36	4 45	5 4	1 52	2 10	61·6	Barkeria melanocaulon	Costa Rica.	172
22	Tu	Matthew Henry died, 1714. Hilary Law Sit-	3 44	1 40	8 18	11 30	9 38	5 22	5 40	2 29	2 47	61·7	,, spectabilis	Guatemala.	173
23	W	Queen reviewed 20,000 Volunteers in Hyde	3 45	1 53	8 19	11 53	10 42	6 1	6 21	3 5	3 26	61·8	Brassia Lawrenciana	Demerara.	174
24	Th	☾ Last Quarter, 4h. 35m. after. [Park, 1860.	3 46	2 6	8 19	Morn.	11 44	6 43	7 6	3 46	4 8	62·0	,, Wrayæ	Guatemala.	175
25	F	R. Ferguson (physician) died, 1875.	3 46	2 19	8 19	0 17	After.	7 31	7 57	4 31	4 56	62·1	Broughtonia sanguinea	Jamaica.	176
26	S	Great Storm over London, 1788.	3 46	2 32	8 18	0 49	1 56	8 26	8 59	5 22	5 51	62·2	Calanthe furcata	India.	177

ROYAL HORTICULTURAL SOCIETY.
GREAT PROVINCIAL SHOW AT LIVERPOOL.
JUNE 29 to JULY 5, 1886.
GREAT EXHIBITION of PLANTS, FLOWERS, FRUIT, VEGETABLES, &c., in the BOTANIC GARDENS and WAVERTREE PARK.
Schedules and full particulars as to space, &c, may be had on application to the Superintendent, Mr. A. F. BARRON, Royal Horticultural Society, Chiswick, London; or to Mr. J. RICHARDSON, Botanic Gardens, Liverpool.
NOTICE.—Entries close JUNE 21.

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.
NOTICE.—COMMITTEE MEETINGS, Fruit and Floral, at Eleven a.m., in the Conservatory; Scientific at One p.m., in the Lindley Library, on TUESDAY next, JUNE 22.
SHOW OF PELARGONIUMS, &c.
N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

CRYSTAL PALACE.—GREAT ROSE SHOW OF THE SEASON, SATURDAY, JULY 3. For Schedules, Entry Forms, &c., &c., apply to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

GRAND ROSE SHOW, NORWICH, TUESDAY and WEDNESDAY, JULY 13 and 14 (during visit of Royal Agricultural Society). £150 offered in prizes, including: Roses, 72 vars., £10; 48 vars., £5 5s.; 36 vars. (amateurs), £5 5s. 83 classes in all. Entries close July 8.
Bank Plain, Norwich. ARTHUR W. PRESTON, Hon. Secretary.

GRAND ROSE SHOW, BATH, THURSDAY, JULY 8.—1st Prizes: Nurserymen: 72 varieties, £8 8s.; 36 varieties, £4. Amateurs: 36 varieties, £5; 24 varieties, £3. The 2nd and 3rd prizes in proportion. Several other classes for Roses, Bouquets, Strawberries, and Plants. 31 classes in all. Entries close July 3. For Prize Schedules apply to
14, Milsom Street, Bath. BENJAMIN PEARSON, Secretary.

LEWISHAM and DISTRICT FLORAL SOCIETY.—GRAND SUMMER EXHIBITION, in the Grounds of RIVERDALE, LEWISHAM, S.E., WEDNESDAY, JUNE 30, and THURSDAY, JULY 1, 1886, will be opened by Lord and Lady Lewisham. Band of the Royal Horse Artillery. £5 offered for the best 48 Cut Roses; also Second and Third Prizes. These and various others are open to all comers.
For Schedules, &c., apply to the Hon. Secretary, Mr. HENRY DRAKE, 39, Court Hill Road, Lewisham, S.E.

LEE, BLACKHEATH, & LEWISHAM HORTICULTURAL SOCIETY.—The ANNUAL EXHIBITION will be held in the Grounds of MRS. PENN, THE CEDARS, LEE, on WEDNESDAY and THURSDAY, JULY 7 and 8. Schedules and all particulars may be obtained of the Secretary,
C. HELMER, 5, Boones Road, Lee, S.E.

TAUNTON, SOMERSET.—The NINETEENTH GRAND ANNUAL EXHIBITION of the TAUNTON DEANE HORTICULTURAL AND FLORICULTURAL SOCIETY will be held in the VICARY PARK, TAUNTON, on THURSDAY, the 12th AUGUST, 1886. About £250 in Prizes. Bee Tent. Prize Schedules may be obtained of the Hon. Secs. Taunton Flower Show, 5, Hammet Street, Taunton.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, JUNE 22.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.; Exhibition of Pelargoniums.

TUESDAY, JUNE 22.—RYDE SPORTS ASSOCIATION.—Rose Show.

WEDNESDAY, JUNE 23 TO FRIDAY, JUNE 25.—YORK.—Floral Fête.

Auction Sales for the Ensuing Week.

THURSDAY, JUNE 24.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

FRIDAY, JUNE 25.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London, E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.
Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.
ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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The Gardeners' Magazine.

SATURDAY, JUNE 19, 1886.

A REVOLUTION IN THE CONSTRUCTION OF BOILERS appears to be imminent, but we cannot promise it will be accomplished in time to affect the boiler contest that has been organized in connection with the R.H.S. exhibition at Liverpool. Unfortunately there will be another kind of boiler contest at the time the exhibition takes place, and hot water will be in fashion. Our business is with the non-political ebullition, and we esteem it a privilege to be enabled at this juncture to direct attention to the latest invention of Mr. Thomas Fletcher, of Warrington, who has done much for hot water, and may be regarded as the Count Rumford of the nineteenth century. Mr. Fletcher's scientific labours have been, to a great extent, directed to the economic application of the heat derived from the combustion of gas, and what we have now to report upon is an experiment in gas heating. But the boiler men are hereby advised to pay heed to it, for it illustrates the subject of heating at large—first by demonstrating the operation of an important principle, and next by showing the way to communicate heat to water in about half the time hitherto employed—and, as appears at present, with proportionate economy of fuel.

It is demonstrated, in the first place, that a vessel containing water cannot be actually touched by a flame. This is a very delicate point; but we are satisfied with Mr. Fletcher's demonstration, which consists in pasting a paper label on the underside of the boiler and showing it subsequently unhurt, although by the application of flame in the usual way the water in the vessel has been forced up to boiling-heat. Not only is it demonstrated that actual contact between the flame and the boiler is impossible so long as the latter contains water, but the breadth of the space between the flame and the metal has been measured, and the cause of the interspace—or, as it may be called, the flame vacuum—is made evident. It comes to this, that the heat is absorbed so rapidly and continuously by the water that, as the flame approaches the metal, it is killed by cold. Everyone who has had practical experiences of fires and fuels must have noticed that a cold surface kills a flame or diminishes its brilliancy, the rapid absorption of its heat being the simple explanation. The problem Mr. Fletcher selected for solution by means of experiment was how to abolish this "flame vacuum," and thus bring the flame into actual contact with the metal, and thus, by augmenting the power of the boiler to communicate the heat to the water, to effect economy in the consumption of fuel, and at the same time raise the heat with greater rapidity.

As happens in all such cases, it is like conjuring, very easy when you know how to do it. A poker thrust into a bright fire will cause a little deadness where immediate contact with the fire occurs. This illustrates the action of a body capable of rapid absorption, and for a few seconds perhaps there will be between the poker and the flame a "flame vacuum." But the metal quickly absorbs heat, the vacuum is abolished, direct contact occurs, and the red-hot or white-hot poker is the result. Were the poker a hollow tube filled with water, in communication with a system of vessels or pipes, actual contact would not occur, and to raise it to a red heat would be impossible. Now to solve the problem we must ensure for the water some portion at least of the advantage of the solid metal in the absorption of heat; and as regards merely accomplishing this there is now no difficulty, but to apply the solution to working purposes will demand the exercise of patience by practical experts.

Mr. Fletcher inserts in the bottom of a boiler a number of short copper rods, which pass through and terminate inside in hammered heads, which may be compared to the heads of nails. These short rods have the advantage exemplified in the poker of allowing the flame to come into actual contact with them. A paper label pasted on one of the rods will never be seen a second time after the flame has been applied in an efficient manner. The copper rods carry the heat directly into the body of the water, and the result is a wonderful rapidity in the rising of the heat. The copper rods are like the rails on the iron road, they reduce friction and so facilitate transport, the train in this case being made of heat and its destination the water in the boiler.

The application of this discovery, as remarked above, constitutes

another problem to be worked out by experiment and observation. There was never an invention perfected at the first inception of its plan, and in the matter before us it is evident there is much to be done to convert the notion into money for the advantage of mankind. Let us look at the outside of our hypothetical boiler, with its poker ends protruding from the base to make actual contact with the flame. If the rods are too long they will seize more heat than they can use, and oxydation will occur, which is at once vexatious and destructive. The length and thickness of the rods, therefore, will have to be carefully proportioned to the vessel and the means of heating. Now, if we look inside, we shall see that if the bottom of the boiler is much occupied with the projecting heads of the rods there may be such a rapid accumulation of sediment as to prejudice the whole affair. It is, however, only reasonable to anticipate that difficulties of detail will be surmounted in the usual way, and, in the first instance at least, the mistakes are likely to be more instructive than the successes.

The members of the Gas Institute had an opportunity on June 9 of witnessing Mr. Fletcher's experiments, which were accompanied by lucid explanations, and the meeting constitutes an epoch in the history of a most important subject.

The Potato Crop is always in danger in a rainy season. Since the growing time commenced this has been a rainy season, and, as we anticipated, the temperature has been below the proper average. It would be rash to say that the potato crop is in danger, but it is safe to say that it has had enough rain to carry it through to the time of ripening; and should the season continue cold and wet—as of course it may—then there will be danger, and the great old enemy will appear to fluster us. It has been our custom to remark, from year to year, that while we are powerless as regards regulating the weather, we are not powerless in respect of mitigating the effects of unfavourable weather on the potato crop; and, as a rule, good cultivation may be regarded as a sure preventive of disease up to a certain point well within the limits of a fair return for reasonable labour. At the present time the moulding up is the chief business. Now we warn all and sundry that, in the event of a bad season, scientific moulding will prove to be the turning point between profit and loss in potato growing. Those who allow ample space for the shaws to spread in the full enjoyment of light and air, and who ply the fork or a suitable plough between the rows, and mould up "small and often" will have a great crop at command as nearly as can be done by the art of man; while, on the other hand, those who crowd the plant, leave the interspaces uncultivated, and mould up "all at once," will have nothing; or, rather, will have vexation and loss, and the mockery of nature for their ill-usage of the plant. We have constantly urged the importance of slight and frequent mouldings, and these to be managed with the least imaginable injury to the shaws; and recent experiments, fully reported on in our past issues, have amply justified our advices on this as on other points in potato culture.

Royal Caledonian Horticultural Society has abandoned the summer show announced for July 7 and 8.

Mr. Edwin Roland has taken charge of the gardens at Aldersey Hall, Chester.

Dr. Cooke's Herbarium of Fungi has been acquired for the nation, and deposited in the Herbarium at Kew, to supplement the Berkeley collection, which is much valued there.

Mr. John Williams having left Rufford Hall Gardens, Ormskirk, has taken charge of the gardens of J. Whitehead, Esq., Penwortham, Preston.

Analysis of Soils, more especially as to the presence of organic carbon and ammonia, is a special subject of interest in *Comptes Rendus* for April 27.

British Archæological Association will meet at Darlington, July 26, and four or five days following. The district around the place of meeting will be vigorously scoured by the antiquaries.

A Mushroom over nine inches in diameter from Charlwood, Surrey, was presented at the meeting of Royal Botanic Society held on Saturday last.

Senecios from seed freshly gathered and scarcely ripe (not dried) are stated by the Hon. and Rev. J. T. Boscawen to make a quicker growth than from dried seed; and the green seed gives a larger percentage of plants.

The Marine Laboratory at Plymouth promoted by the Marine Biological Association makes satisfactory progress. The plans have been approved by the War Office, and building operations have commenced. The Lords of the Treasury promise to recommend a grant of £5,000 and a subscription of £500 per annum for five years.

A Skeleton of the Moa, commonly spoken of as the the "extinct dinornis" (*Dinornis maximus*), is a conspicuous and interesting object in the New Zealand court at the Colonies. In this same court also is the "unspeakable" Kea parrot that drives farmers mad by devouring their live mutton.

The City of London Fine Art Gallery is to be opened by the Lord Mayor on Thursday next. Can it be true that the City of London will recognise the claims of art? It may be true or it may not be true. For the present we fear the whole affair consists in make-believe.

The Annual Flower Service was held in the church of St. Catherine Cree, Leadenhall Street, on Tuesday last. The congregation brought gifts of flowers, which were afterwards taken to an East End orphanage. The Rev. W. M. Whittemore, D.D., preached from Numbers xvii. 8, "The rod of Aaron put forth buds," &c.

Berlin Industrial Exhibition, 1888, is estimated to cost eight million marks. Towards this amount the city of Berlin will contribute two million marks, and it is expected the Imperial Government will give sufficient to fill up the difference between the contribution above noted and the estimated receipts, which are estimated at three and a-half million marks.

Toughening Paper.—A plan for rendering paper as tough as wood or leather has been recently introduced on the Continent; it consists in mixing chloride of zinc with the pulp in the course of manufacture. It has been found that the greater the degree of concentration of the zinc solution, the greater will be the toughness of the paper. It can be used for making boxes, combs, for roofing, and even for making boots.

The Large Summer Radish introduced by Messrs. J. Carter and Co., which bears the distinguishing name of "Knickerbocker," differs from all other radishes in continuing eatable when its youth is past and the stem is running up to flower. It should make an end of the "hot radishes" that are often supplied from the garden when summer weather has set in; still the Knickerbocker has warmth sufficient to afford an agreeable stimulus to the palate.

Label Writing is illustrated in Saxifraga nepalensis, a new and spurious name for our old friend S. pyramidalis. The *Gardeners' Chronicle*, commenting on the injury that must result from the introduction of such names, calls upon the "label writers at the Royal Horticultural Society, Chiswick," to set an example of bold rectification. While the whole system of botanical nomenclature is in confusion, and the botanists make mischief mischievous by ignoring their own rules, it is too bad to find fault with gardeners at Chiswick who take the names of plants without searching question.

Mr. E. W. Badger's "Cottage Gardening" appears seasonably, in a new form, with improvements and enlargements, and will be useful to the owners of small gardens beyond the average of such books. For this work Mr. Badger was awarded a prize that carried with it substantial testimony of merit, and the author is known in horticultural circles as a painstaking, observing, and successful amateur. All the directions are given in plain terms, all the advices are founded on experience, and the few opinions ventured on are seasoned with common sense.

Volcanic Activities in New Zealand give new interest to the wonderful lake country recently illustrated in these pages in connection with Mr. Froude's delightful work "Oceana." Apart from what may be termed the human and the scenic interest of the disastrous eruption in the north island, there is a special source of interest in its apparent elucidation of a great problem in cosmogony. This eruption broke out coincidently with the cessation of the activities of Etna. The possible necessity for the coincidence may suggest to some of our readers a reperusal of the paper on the internal heat of the earth that will be found in G.M. of Dec. 22, 1877.

Colonial Museums in Holland and Belgium are reported on in a letter from Mr. Thomas Christy in the *City Press* of June 16. The writer asks "where are all the series of samples and objects representing the commerce of our Colonies to be located at the expiration of the Colonial Exhibition?" To such a question there are many possible answers. Perhaps they are to be located in a cellar until rats and mildew make an end of them. Perhaps they are to be given to societies and museums that take the trouble to ask for them. Perhaps their final home may be in a Colonial museum that shall immediately succeed the present exhibition.

Streptocarpus Dunni is the most interesting plant now flowering at Kew. It belongs to the didymocarpus group of gesnerworts, and attracts by its oddity much more than by its beauty. The plant produces a huge rugose leaf, from the base of which springs a cluster of tubular flowers of a curious buff brown colour. To display a specimen the pot must be lifted high above the stage, that the great gaunt leaf may spread out in its full proportions. It is not so good looking as *Streptocarpus Saundersi* (B.M., 5,251), or *S. polyantha* (B.M., 4,850), which have handsomer leaves and innocent-looking pale blue or lilac tinted flowers. There are many plants of Streptocarpus Dunni in the succulent house, and one mounted for display is in the begonia stove, adjoining the Victoria house.

Liverpool Provincial Show of R.H.S.—Intending exhibitors of plants, &c., are reminded that the entries close on Monday next, the 21st. It is expected that this will prove one of the largest and most important of the exhibitions ever held by the society. Great progress is being made in laying out the grounds, and many of the hothouses are already erected. The implement exhibition is of great extent. Fine weather appears now to be all that is wanted to ensure complete success. Exhibitors are requested to note that vans will be in readiness at Edge Hill and other railway stations to convey the plants, &c., to the exhibition on giving notice to Mr. Richardson, curator, Botanic Gardens, Liverpool, when they may be required; and the several leading railway companies have agreed to carry the plants on the return journey at reduced rates.

The Holidays have been freely enjoyed by all classes in all places, although the weather throughout has been fickle and often unpleasant. On Monday the weather in London might be described as a bearable imitation of winter, yet the railways and the outdoor amusements were made lively by the numbers that patronized them. The holiday spirit that has run through the country suggests that trade is not extinguished, and politics not as yet paramount. Crystal Palace had 48,000 visitors; the Colonies, 80,000; Zoological Gardens, 23,053; Kew Gardens, 72,210. Generally speaking the numbers everywhere, on road and river, and at places of entertainment throughout the country, exceed those of last year.

Hull Chrysanthemum Society.—The schedule of prizes offered for competition at the exhibition of this important society to be held November 18 and 19 is more comprehensive and liberal than in either of the previous years, the silver cups having been increased and the cash prizes materially augmented. There are now four challenge prizes, the most important being the vase for forty-eight blooms presented by G. Bohn, Esq., which is of the value of fifteen guineas, and carries with it prizes of £10, £8, £5, and £2. The others are a cup of the value of ten guineas with money prizes amounting in the aggregate to £14 for groups of chrysanthemums, a piece of plate for the best arranged dinner table, and a cup of the value of eight guineas for the best stand of twelve incurved or Japanese blooms. The several challenge prizes have to be won twice consecutively or three times altogether before becoming the property of the exhibitor. That for forty-eight blooms was won last year by Mr. Lindsay, gardener to Sir E. Moss, Otterspool, Liverpool.

Fruit Growing in Bohemia.—In a recent report M. Ladislas Burket, director of the School of Arboriculture at Pisek, gives some particulars of fruit-growing in Bohemia, where, as in various other parts of the world, energetic efforts are now making to develop that branch of culture. In the kingdom of Bohemia, which in acreage may be likened to Yorkshire and Lancashire put together, it is estimated there are 20,500,000 fruit trees, of which about 13,490,000, or 66 per cent., are stone-fruit trees, and the rest apples, pears, &c., including, if we understand rightly, vines. There is a large and increasing export, and the produce of Bohemian orchards is sold extensively in the markets of Berlin, Stockholm, St. Petersburg, and Moscow. Most of the best French and German varieties have been introduced, but there are besides many Bohemian sorts which deserve more attention than they have yet received. There are twelve schools of agriculture (and arboriculture) in Bohemia, not counting the School of Pomology and Œnology at Troja, near Prague, and the professional staff of these schools is employed during the summer vacation, under the auspices of the Council of Agriculture, in travelling about and giving lectures on practical instruction in the management of fruit. Fruit-preserving has made some progress, but it is admitted that much remains to be desired. What are done best at present are drying prunes and apples and the preparation of the "plum marmalade" sold all over Austria under the name of "provild." In drying prunes a competitor has lately sprung up in the newly-annexed province of Bosnia. Conserves on the French model are only made by three or four small establishments. Scarcely any cider is made in Bohemia.

Notes of Observation.

ASPHODELUS LUTEUS.

This is a very attractive hardy herbaceous plant, and one which should find more favour, for as it attains to a large size a single plant is quite a conspicuous object. With us it grows to a height of about four feet, and a dozen flower stems rise out of a bed of grass-like foliage. As the specific name denotes, the flowers are yellow, and they open at various times. Our plants have been in bloom for the past three weeks, and they will go on flowering for two months longer. It is quite proper to state that our specimens are growing in a warm position where the soil is fairly good and deep. The plant is easily increased by offsets, and the best time to take them off is in early spring. J. C. Clarke.

STAR OF BETHLEHEM.

There are so few bulbous plants in bloom in the early part of June that the flowers of this old favourite are quite welcome. The umbels of pure white flowers, borne on neat flower stems about four inches high, are both interesting and pleasing. It is very useful in a cut state, and the flowers last for more than a week in water after they are cut.

J. M.

PAUL'S SCARLET THORN.

How nobly this thorn has stood out in point of colour this season against all the old pink-coloured forms, and not only this year, but in all previous ones. I have been admiring some trees of this thorn which I have known for nearly twenty years, and they have now reached a size that makes them very conspicuous. I can say without hesitation that Paul's Scarlet Thorn is the highest coloured of any of the family. It is much to be regretted that so few plants of it are to be seen in gardens. J. C. Clarke.

STRATAGEM PEA.

A friend of mine only grows two sorts of peas, although he requires a constant supply through the season. For the earliest crop he sows Ringleader, but he sows no other but Stratagem for successional crops, and he is perfectly satisfied with it. He acknowledges that Stratagem is scarcely so suitable for late crops as Ne Plus Ultra, but as he can only get sticks about four feet high he is unable to grow the tall growing sorts. He speaks most highly of Stratagem, which is more than I can do—for it does not crop well with me, showing that soil has some influence on the behaviour of peas. J. M.

PHENOMENA OF VARIATION, WITH SPECIAL REFERENCE TO FERNS.

Read at a meeting of the Horticultural Club by C. T. Drury, Esq., F.L.S.

In a paper which I had the honour of reading here last season upon certain newly discovered phenomena of reproduction in ferns, I confined myself mainly to a description of the various normal and abnormal methods by which they are propagated, and an elucidation of the characteristic differences in those respects between the Filices and the flowering plants. With a view of opening a discussion of somewhat wider interest than the study of ferns alone could do, I purpose to-night to dwell especially upon the peculiar faculty of variation possessed by ferns, and the general character of such variation, in order to ascertain from the discussion which I hope will follow whether this faculty is displayed in as great a degree in the other branches of botany which may form the special study of my fellow members. I therefore start with the hypothesis that ferns are endowed with a greater capacity of sudden variation under natural circumstances than other plants. I say under natural circumstances, because it is chiefly wild sports which I have in view, and not the wonderful differences which careful cultivation and selection are capable of effecting in almost every living thing if only time enough be granted.

The faculty of variation is general throughout organic life, but in the vast majority of cases the individual differences displayed between organisms of the same species are mainly the result of different conditions of growth, and do not involve any material alteration of structural plan. The offspring consequently present the same general appearance as the parent. Here and there, however, through some subtle occult influence, cases present themselves where the offspring is found to display strongly marked characteristics of which not a trace existed in either parent, or, so far as can be ascertained, in any of its progenitors. These sudden departures from the normal type (or sports, as they are horticulturally termed) seem frequently to result from some accumulated influence induced by the artificial conditions attendant in cultivation. This is shown by the fact that many flowers under such treatment are liable after a certain time to vary suddenly either in themselves or their progeny, a fact to which we owe the immense number of strongly marked forms of floral beauty now existent.

In ferns, however, under purely natural conditions—or, at any rate, under conditions as natural as we can obtain in a civilised country—there have been discovered an immense number of forms departing so widely from the normal types among which they were found, and which are so isolated in their occurrence and so entirely unaccompanied by any trace of intermediate aberration, that we are forced to the conclusion that they are the direct offspring of spores from perfectly normal plants, notwithstanding which, they, in most cases, truly transmit their peculiarities generation after generation to their offspring.

What an extraordinarily subtle influence must that be which in either plant or animal can so affect and transform the microscopic germ that the resulting offspring shall not only differ materially from the parent form, but possibly an altogether different type of structure, at once symmetrical and beautiful, shall originate, and be able to transmit henceforth its peculiarities to its offspring. Here, indeed, have we special creations, forming striking exceptions to the general rule of gradual evolution.

To return to my special theme—ferns. Take, for instance, the Victoria Lady Fern, and grant the assumption, which cannot be avoided, that it originated from a normal plant. This normal plant we found to consist of fronds formed of a central stipe, tapering to a point, and provided with side branches or pinnæ on the same plan and set on at an angle of about 30 deg.; these being again divided on the same principle, the whole forming a feathery frond of lanceolate outline. On the back of every frond there are millions and millions of microscopic spores, which, during the indefinitely long life of the plant, are shed around and blown about in countless myriads year after year, not only from this plant but from thousands like it in the vicinity. Suddenly one, and apparently only one, of these spores yields a plant in which all the divisions, pinnæ, pinnules, and pinulets are not only duplicated but much narrowed and set at about right angles to each other. The outline of the frond is also greatly narrowed, and finally the tips of the pinnæ and the frond itself are many times divided, so as to form heavy tassels. Finally, it is abundantly sporiferous, and every spore is capable of reproducing its structural peculiarities; though, strange to say, the offspring are generally if not always easily distinguishable from the parents by a certain coarseness, the fine cutting of the ultimate division being, as it were, blurred, and less sharply defined. On the other hand, I have raised hundreds of this form, and never saw a case of reversion to the normal form. This case of variation is an extreme type, involving as it does not merely a cresting but also an essential variation in plan of structure, a combination of peculiarities which has so far not been discovered in connection with any other family of ferns, though some few varieties are characterised occasionally by cruciate pinnæ. This fern was found growing wild by the roadside in Scotland, and though the station was assiduously searched then and later no second example or intermediate form was or has since been discovered there or elsewhere. Another extreme form was A. F.-f. acrocladon, found also by the roadside on a Yorkshire moor. Here the rachis and rachides possess such a tendency to division that the normal feathery nature of the frond is utterly lost, and the plant resembles a number of mossy balls crowning the much-divided stipes. Here, again, no intermediate form was found in the vicinity, and the necessary conclusion is that it originated at one jump, as it were, from the normal form. This case, however, is not so striking as that of A. F.-f. Victoriæ, since the ramification of the rachis is a comparatively common form of variation, and is only carried in this instance to an extreme extent. This again yields, I believe, fairly true progeny, in one of which the division is carried to such an extent that the whole plant resembles a ball of velvet.

This power of cresting, in which the normally acute points of the rachis and rachides, of frond, pinnæ, and even of the pinnules become dilated and divided, seems common to all or nearly all of the Britsh ferns, only one or two species having failed so far to afford instances; and since, as I have said, the more marked departures have been found wild, it becomes a question whether exotic ferns all over the world will not yield instances of the same phenomenon when sought for by an eye accustomed to the quest; for it is a peculiar fact that until the sight becomes habituated to the search for special features the eye unconsciously is liable to overlook and pass by the most striking characteristics. Hence a botanist whose speciality is the discovery of new species only would readily detect an altogether new plant, but fail to note that one amongst a crowd of familiar plants possessed unusual features. As an instance of this, I recollect once hunting over a lot of Scolopendriums with a good general botanist, and I found no less than seventeen ramose and otherwise

abnormal plants among them before he found one, yet in his own element he would point out an uncommon flower on the other side of a field where I could hardly discern a plant at all. To this may be attributed the fact that so few abnormal exotics, and especially tropical ferns, have been found, though I venture to think the quest is worth while; for let the scientist term them monstrosities if he will, I contend that in many cases the abnormal forms infinitely transcend the normal ones in beauty,* while admitting freely that, on the other hand, many are far more curious than beautiful. Anyone who has seen a grand specimen of Lastrea cristata, our nearest approach to a tree fern, and splendidly tasselled, must admit that such a cresting on Dicksonia antarctica or a fine Cyathea dealbata would be simply magnificent, and I am sure that somewhere in the untravelled habitats of these ferns their crested forms are quietly awaiting their discoverer.

In connection with this power of crestation, I would ask, What is the parallel phenomenon in flowering plants? Hardly, I think, the doubling of the flowers, though that suggests itself as a near approach; yet from the fact that the sterility which is usually attendant upon such doubling is associated in the ferns with the plumose and not the crested varieties, I think the connection should be looked for there; the extremely foliose character of such forms seeming to absorb all the vigour of the plant, so that spores are either altogether or almost absent, precisely as the multiplication of the flower petals seems to affect the seed-producing parts of the flower. This idea I only throw out for discussion.

Here again the most marked instances of variation in the plumose direction have been wild finds. Dr. Wills's Scolopendrium crispum, for instance, has deeply curled fronds of normal strap-shaped outline, but much wider—over four inches in some cases. The Axminster and Horsfall plumose Athyria were also found wild; and to cut this part of my paper short, so were the greater part of the abnormal forms in cultivation; though, thanks to the selection of some of our careful cultivators, such as Colonel Jones of Clifton and others, the offspring of such finds have been found to develop their characteristic beauties to a far greater extent than the parents, some of Colonel Jones's Polystichums especially, the result of selection and hybridisation being apparently the *ne plus ultra* of feathery delicacy.

I have alluded several times to the constancy of such variations, but there are some curious exceptions to this rule, as every fern-hunter knows to his cost. Many of the most marked and beautiful forms yield common progeny, and also are apt to "sulk" as it is termed, and refuse to produce anything but normal fronds unless grown exactly as they like it. One of my own best finds affords the most remarkable instance of this instability that I know of. In 1884 while in Scotland I found near Kilmarnock a really splendid form of Lastrea Filix-mas polydactyla; in fact the most polydactylous form by far which had been seen. The plant had five or six huge fronds, all with beautifully pendulous pinnæ tasselled with as many as twenty divisions. I brought it to London and displayed it with great pride to some of the best judges, who one and all decided that it was a thoroughbred beauty, as it was profusely covered with spores. I carefully gathered some from the best parts of the frond and sowed them. The plant being deciduous the foliage disappeared in the winter, and the following season I watched the rising crown in confident anticipation of a finer and more symmetrical plant than the removal and travelling had permitted it to be the previous season. Judge, then, of my disgust when a common Filix-mas was slowly developed without even the simple merit of the normal form, for many of the pinnæ were deformed and depauperate. Later on a frond or two arose with faint signs of division on the apices of the pinnæ; meanwhile the young ones began to arise from the spores, one and all common male ferns. Another exactly similar plant found at the same place, but some 20 yards distant, in the succeeding week by a cousin of mine, showed slightly crested pinnæ here and there, and that was all—verdict, a rogue. Still I would not despair, and thought this year perhaps it might get over its sulkiness, the spring comes, and slowly rises the shuttlecock-like circle of fronds, all common again except a few deformities; then an odd frond rises, pinnæ slightly crested, then another, and ho! it is heavily tasselled and as beautiful as could be desired.

Meanwhile the seedlings have been developing fronds four to six inches high, all common with the exception of two, which in the prothallus stage had transferred to a Todea superba frame, these two heavily tasselled from the beginning. I wait a little, and behold here and there generally there are fronds arising among the seedlings which promise not only to equal the parent at its best but even to surpass it. Here is inconsistency with a vengeance, but by no means one of the worst cases, for many a presumed good find has reverted altogether when removed from its birthplace, never displaying its peculiarities again.

That this capacity of sudden variation is not always confined to a single spore is evidenced by the fact that under cultivation instances have been known where a number of exactly similar plants have appeared which have been extremely different from the parent. I have a very dwarf and congested form of Blechnum spicant raised from B. s. strictum of Barnes, of which I am informed by the raiser fifteen plants made their appearance, yet no one would credit the parent with such offspring unless on the very best evidence. A still more remarkable case occurred some short time back amongst my own sowings. I sowed spores from a very finely cut form of plumose Athyrium (A. F.-f. plumosum elegans, *Parsons*) of purely normal outline, yet among a large batch of plants only one resembled the parent; the whole of the rest were heavily crested on tips of frond and pinnæ, most of them symmetrically, but some were irregular. As the sowing was a very special and unmixed one and duly registered, and as, moreover, I have never sowed spores from a plant similar to the resulting ones, I am quite sure of their origin. They all, moreover, possess the plumose character of the parent.

It is a well-known fact that ferns otherwise normal develop occasionally some local eccentricity which is liable to affect the spores borne in its immediate vicinity. There is, for instance, a very finely crested Gymnogramma (G. Laucheana grandiceps) raised by Dixon, of Hackney, some years ago, and the raiser informed me that upon an ordinary plant of G. Laucheana he noticed the tip of one of the pinnæ merely dilated, and as it bore some sori he sowed it, the result being a house full of densely-crested plants. It has, therefore, suggested itself to me that many of the varieties found may originate in a similar way, though this, of course, does not detract one iota from the singular transformation of the germ which must precede the appearance of the transformed plant. It is also manifest from the case of the plumose Athyrium just described that the abnormality is by no means necessarily visibly shown in the parent. The most common form of variation is that of crestation, varying from merely division of the tip of the frond to an indefinite ramification of parts forming a ball like Athyrium F.-f. acrocladon. The other forms are enumerated, but may be roughly classed under the following heads: Depauperation, the extreme form of which is the reduction of the plants to mere midribs; dwarfing, implying merely reduction in size; congestion, where the spaces between the divisions are so reduced that the parts more or less densely overlap and crowd each other; plumation, which is generally accompanied by partial or entire absence of spores, and which consist in a greater foliaceous development, apparently produced at the expense of the spores. Several of these classified eccentricities may be conjoined in one and the same plant, as, for instance, in L. f.-m. angustata cristata congesta, where the ordinary lanceolate frond of the male fern is narrowed to about an inch in width, is extremely congested and finally crested, this being, I believe, the result of three separate sports; first a natural wild sport, viz., the crested but otherwise normal form, a spore of which gave a narrowed form from which, I believe (though I have not its history), the congested form was raised. Besides these classified forms of varieties there are hundreds which can only be ranked as oddities; such as, for instance, the cornute forms which have arisen in several families, where the midrib is suddenly extended from the surface of the frond, like a thorn; the proliferous forms, where young plants bud out in the most unexpected places; the serpentine forms, where the ordinary shuttlecock shape is resolved into a sort of Medusa's head, each frond coiling away from the crown and twirling about like a snake. Mr. G. B. Wollaston has a Polystichum answering this description exactly. Then there are the marginate forms, where regular ridges are developed on either side of the frond; pocilliform and truncate varieties, where the frond suddenly stops and develops a pocket, and so on *ad libitum*.

With regard to proliferation, I should like here to record the fact that in my collection I have recently found a seedling Lastrea dilatata bearing a young plant on the first frond evolved from the prothallus. A plant of Asplenium Adiantum nigrum var. microdon has developed a young plant in the axil of one the pinnæ. So far as I know, proliferation has not been recorded in connection with either of these species.

Having drawn your attention thus to the main forms of variation to which ferns are subject, and some of the peculiarities attending their occurrence, I will reserve further observations on the subject until after the discussion.

* Compare the normal Athyrium with the best plumosum, and the difference is as great as between a common goose feather and that of an ostrich.

MESSRS. HOOPER AND CO.'S NURSERY, TWICKENHAM.

In the interesting nursery of the celebrated Covent Garden seed firm are many interesting subjects to be made note of, not the least important of them being the collections of hardy herbaceous plants. As large colours catch the eye we must confess to the captivating powers of the now gorgeous Papaver orientale bracteatum. This plant has darker leafage than the plant commonly regarded as the type, and it carries its flowers on stout stems, these flowers being extra large, stout in substance, quite goblet shaped, and of a rich tone of deep crimson scarlet. As regards the black spots some flowers have them and some have not, but this point is of no consequence, all the flowers in the plantation being of the same noble form and rich colour. Near by are lots of seedling hollyhocks pushing up their flower spikes, and not a gap to be seen amongst them. A swarm of tobacco plants, the stuff for making an acre of helichrysums, and any number of iris, are features that compel attention. Amongst the iris we noted *Aurea*, a good self yellow; *Arnold's*, a compact variety, the standards lurid purple, the falls bronzy purple; *Madame Chereau*, tall, porcelain blue and white; *Victorine*, dwarf, the standards white tipped indigo, the falls full indigo purple; *Princess of Wales*, pure white; and a new and unnamed brilliant yellow.

Tree carnations are largely grown here, and the young stock is planted out in beds, to be lifted in due time for flowering in October. The group of one hundred plants shown by Messrs. Hooper at R.H.S. in October last were grown in this way, the plants being prohibited showing a flower except when wanted, the prohibition consisting in nipping out the grass that makes a show of running up to flower. Petunias of a select strain grown here show some fine qualities. We were especially pleased with one named *Empress*. This makes a compact leafy plant of a light green tone, and finely formed double flowers of a delightful tone of light rosy pink. As a bedding and specimen plant it is one of the best of the season. Another important culture is seen in the gloxinias, which are at the present time in fine condition, and show grand breeding both in form and colour. Visitors to Regent's Park show on the 9th had an opportunity of admiring these fine gloxinias, for they were freely employed to light up Messrs. Hooper's beautiful bank of miscellaneous plants.

IRISES IN BOTANIC GARDENS, OXFORD.

One of the grandest displays of colour made in these gardens at the end of May and beginning of June is seen in the groups of iris filling the large bed devoted exclusively to this interesting family of hardy plants. Upwards of eighty varieties are comprised in the collection, and of these nearly sixty were in perfect flower on June 8, a clump of Flavescens, bearing sixty stems furnished with nearly two hundred pale yellow flowers, being an object of beauty. The colours range from pure white, straw yellow, golden yellow, orange, violet brown, lavender, and purple, to the darkest shades of blue, many beautifully suffused with rays and markings. About twenty-one varieties were still undeveloped, but the following were at their best, viz.: Astarte, Lusitanica, Alexandrina, Milton, Rebecca, Ventricosa, Neglecta, Florentina, Alica, Mirabila, Squalens, Sinei, Aurora, Aurora borealis, Mexicana, Abon Hasson, Pallida, National, Ochroleuca, Matthiola, Pseudacorus, Swerti, Stenophylla, Prismatica, Bohemica, Tridentata, Siberica, Californica, Halophila, Aouta, Virginica, Gueldenstadti, Virescens, Spuria, Constantia, Tubiflora, Triflora, Versicolor, Kermesina, Cuprea, Alba purpurea, Tenuifolia, Queen of Egyptians, Delecta, Duchess de Brabant, Squalens alba, Longipetala, Flavescens, Penelope, Formosa, Armetta, Sestosa, Sordida, Graminea, and Sambucina minor.

The clumps, which have grown strong, are to have fresh quarters in the autumn, so that for a season or two they will scarcely be so showy as this season.

Oxford. W. Greenaway.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 6d. and 1s.—[Advt.]

SHORT NOTES FOR SMALL GARDENS.

By the Vicar's Gardener.

Treading Flower Beds.

This is an operation which perhaps many do not think necessary, but in our case it is of more importance this season than it has been for several years past, owing to the wet state of the soil when the summer bedders were put out. We had to stand on boards laid on the bed in order to plant, and not only was the soil moist, but we could not press it firmly about the roots for fear of pressing it into a pasty condition. The consequence is the surface as well as the soil below is much looser than is good for the occupants of the beds; and although I have said it is more necessary to tread the beds between the plants than usual, I may mention that it is a practice we follow every year. We find it beneficial to the plants, for I am quite convinced that the majority of the summer bedders thrive much better in a rather firm soil than in a loose one. As soon as the bedding out is finished we go over the beds and either tread or make firm with a wooden rammer every inch of ground between the plants. Those in lines are easily managed, and a man can tread the surface with his feet close up to each plant, but where we cannot get between we have long wooden rammers, such as carpenters use, and these are pressed firmly both between and on the roots of the plants. As a matter of course, we wait for a few dry days before doing it, for the operation would do more harm than good if the surface soil was not quite dry.

Pegging Down Bedding Plants.

It is not an uncommon practice to peg down the growth of such plants as verbenas, heliotropes, and petunias as soon as they are planted. This is done no doubt with the object to fill up as much space as possible at once, but it is a mistake to do so. For years I have observed plants so dealt with, and am quite satisfied that it checks their growth, because I have noticed that those which had not been pegged down for three weeks or a month after they were planted filled the beds much sooner than those pegged down earlier. It is evident to me that one disturbance at a time is as much as this class of plants can bear. It may seem a small thing to alter the growth from an erect to a recumbent position, but we must understand that the plant has just undergone one serious disturbance at the roots, and the slow rate at which the plants grow when it is done at the same time as the planting, as compared to the advance they make if the pegging is delayed for a few weeks, clearly proves that it causes a serious check. I offer this well-proved fact to the serious consideration of your readers.

Lawns and Lawn Mowers.

Owing to the heavy rainfall during the month of May, it has been as much as we could do to keep the lawns in a presentable condition, for the grass grew at such a rate that it was a difficult task to keep it under. On one of our lawns some distance removed from the house, the grass had grown so high that I had to send a man with a scythe to cut it over first, as there was more grass than the mowing machine could take. I always consider it good policy to cut all high grass over with a scythe, and then let the machine follow directly afterwards. Lawn mowers are only intended to cut grass of an ordinary height. Many a lawn mower has been rendered unfit to do good work through having to cut through thicker and longer grass than its strength was intended for, and many a man has been seriously weakened and his health injured through having to propel a machine of greater power than one man could properly manage. A long experience with mowing machines has taught me that no man should be expected to use one that cuts more than twelve inches. On a very level lawn, one that cuts fourteen inches may be admissible when the grass can be cut as often as it is necessary, or, in other words, before there is a heavy crop. Speaking from experience, I can truly say that where there is a large breadth of lawn I can get over as much ground in a given time with a twelve-inch machine, and feel much less fatigued at the end, as I can with a larger one.

Stocks and Asters.

I am very partial to asters and ten-week stocks. The former I exhibit every year, and am fairly successful. I don't know if my practice differs from that of other cultivators, but if I briefly describe it the hints given may be useful to young exhibitors. In the first place I have to get my flowers in bloom by the middle of August, as that is about the time most of the shows are held at which I exhibit. To do this I sow the seed at the end of March in pans, and raise the plants on the front shelf of the greenhouse. When they are large enough I transplant into boxes six inches deep and filled with rich soil. They are then transferred to a cold frame, where they remain until the end of May, when I plant them out where they are to flower. I need not tell any of your experienced readers that the ground must be thoroughly rich to grow good asters. I always heavily manure the aster beds during the winter, and then they are ready when required. Before I plant out the asters I mark out a space that will just take a two-light frame, eight feet long and six feet wide. Half of this space I fill with quilled asters, the other half with Victorias. The reason for so doing is that if the summer is not favourable, and I find that my flowers will not be ready in time without some assistance, I put on the frame and lights at night, and also during wet and stormy weather, so that to a certain extent I can hasten or retard the flowers.

To the use of the frame I attribute much of my success; for not only are the flowers sheltered from rain, but by shading carefully from the hot sun my flowers are often perfect in their soft and delicate colouring, when those in competition against them are dull and undefined. With reference to other cultural details, I can only advise all growers of asters to give them plenty of liquid manure in some form, and to well mulch the soil between the plants either with a thick layer of old hotbed manure or fresh collected horse droppings.

Spring Flowers.

If a commencement has not already been made to raise a stock of spring flowering bedders, no time must be lost. The forget-me-nots are the first that require attention. The seed must be sown at once if this is the method adopted to secure a stock of plants. The seeds always come up better when sown in pans or boxes and placed in a cold pit or frame, as then the seed can be shaded until the seedlings appear. As soon as the plants are large enough they must be planted out in a good piece of ground. The young side growths slipped off from old plants strike freely towards the end of July if they are inserted in sandy soil and a hand-light placed over them until they have formed roots. These also must be planted out to gain size and strength as soon as they are rooted. Pansies are useful hardy subjects for flowering in the beds in spring. The seed should be sown about the middle of July, and treated the same as is recommended for the forget-me-nots. The rosy white variety of Silene pendula compacta is also a desirable spring bedding plant. These and Saponaria calabrica, and Limnanthes Douglasi may also be sown about the middle of August. They are best sown in the open ground in drills half an-inch deep, and the seed lightly covered with fine soil. If the weather should be dry the surface must be kept moist by gentle waterings. It is necessary that the ground should be moderately rich, and all hard lumps near the surface broken up, for a quick growth is desirable to induce the plants to become strong enough to pass safely through the winter. All spring bedding plants ought to be planted where they are to flower by the middle of October.

HARDY FLOWERS AND FERNS.

Any one who will make a tour round the suburbs of London during the summer months merely for an inspection of the different gardens that may come under notice cannot fail to find that in nine cases out of ten they will be laid out on the same principle, and the same class of plants will be in use. For the past few years all we can see at this season are bedding subjects in their different shades of scarlet, pink, yellow, and blue. Whichever way you turn nothing meets the eye but a continual glare, scarlet being the predominant colour. A change is certainly wanted, and almost anything would be preferable to the present system of bedding out, for a time, at any rate, for the old adage runs thus—a change of scene is good for the eyesight; and I really think it would be in this case.

For amateurs with little time to devote to gardening, and perhaps less money, instead of investing what they can spare in bedding subjects, it would do much better to expend it in hardy flowers, ferns, &c., which would make a good show and suit them far better than the ordinary bedding subjects, especially if they have no glass for the protection of their plants during the winter. I do not wish to speak disparagingly of this class of plants, but there are many amateurs who annually expend pounds for geraniums, fuchsias, &c., &c., and as they have not the time to attend to them, nor the convenience of propagating for the ensuing year, I consider the money, as in great part, thrown away.

In speaking of hardy flowers I do not mean the class of stuff you may see on the coster's barrow ("all a-blowing and a-growing"), but the kinds of plants well made, such as would be supplied by a respectable nurseryman. When such are secured and reasonably treated the garden will become interesting, and will be appreciated by the most fastidious. If any amateur takes up my views on the subject he cannot do better than make a selection from the plants I have enumerated below, all of which are quite hardy, will grow in any good ordinary garden soil, and are invaluable for cutting purposes. With the aid of a few bulbs for early spring a nice display throughout the year will be assured.

Hardy Flowers for a Small Garden.

Aquilegia chrysantha.
A. cœrulea.
Anthericum liliastrum (St. Bruno's lily).
Anemone appennina.
Aster alpinus.
A. amellus Bessarabicus.
Auriculas in variety, alpines best.
Campanula glomerata dahurica.
Centaurea montana.
C. montana alba.
Old crimson clove Carnation.
White clove, Glorie de Nancy.
Pinks in variety.
Pyrethrums in variety.
Leucanthemum, or Chrysanthemum maximum.
Helleborus niger.
H. altifolins.
Spiræa filipendula plena.
S. palmata.
Gysophila paniculata.
Lychnis chalcedonica plena.
L. viscaria splendens plena.
Polemonium Richardsoni.
Statice latifolia.
Geum coccineum plena.
Gaillardia grandiflora.
Myosotis palustris.
Dielytra spectabilis.
Senecio pulcher.
Rudbeckia Newmanni.
Silene maritima fl. pl.
Scabiosa caucasica.
Lily of the valley.
Lilium candidum.
L. dahuricum.
L. chalcedonicum.
Dodecatheon splendidum.
Hepaticas in variety.
Pæonies in variety.
Monarda didyma (bergamot).
Ranunculus aconitifolius plenus.
Pansies in variety.
Thalictrum adiantifolium.
Iris Germanica in variety, more especially such as Gracchus, Madame Chereau, and Celeste.

Hardy Ferns for a Small Garden.

Lastrea filix mas (male fern).
Athyrium filix fœmina (lady fern).
Scolopendrium vulgare.
Struthiopteris Germanica.
Cyrtomium falcatum.
Osmunda regalis (royal fern).
Pteris aquilina (brake fern).

These should be more universally grown by amateurs, as they require but little attention, and cannot fail to give satisfaction; moreover, if properly started as garden plants, they will take care of themselves the whole year round.

George R. Johnson.

FLAME CONTACT.

A New Departure in Water-Heating.

By Thos. Fletcher, F.C.S., Gas Institute Meeting, London, June 9, 1886.

It is my intention to prove to you, on theoretical grounds, and also by experimental demonstration, in such a manner as will admit of no possible doubt, that the presented accepted system of water heating, by gaseous or other fuel, is a very imperfect means for an end, and is, both in theory and practice, essentially faulty. My statements may appear bold, but I come prepared to prove them in a manner which I think none of you will question, as the matter admits of the simplest demonstration. I will, in the first place, boil a specified quantity of water in a flat-bottomed vessel of copper; the time required to boil this you will be able to take for yourselves, as the result will be visible by the discharge of a strong jet of steam from the boiler. I will then take another copper boiler of the same form, but with only one-half the surface to give up its heat to the water, and will in this vessel boil the same quantity of water with the same burner in a little over one-half the time, thus about doubling the efficiency of the burner, and increasing the effective duty of the heating surface nearly four-fold, by getting almost double the work from one-half the surface.

The subject is a comparatively new one, and my experiments are far from complete on all points, but they are sufficiently so to prove my case fully. As no doubt you are all aware, it is not possible to obtain flame contact with any cold, or comparatively cold, surface. This is readily proved by placing a vessel of water with a perfectly flat bottom over an atmospheric gas burner; if the eye is placed on a level with the bottom of the vessel a clear space will be seen between it and the flame. I cannot show this space on a lecture table to an audience, but I can prove its existence by pasting a paper label on the bottom of one of the boilers, and exposing this to the direct impact of a powerful burner during the time the water is being boiled, and you will see that it comes out perfectly clean and uncoloured. Now it is well known that paper becomes charred at a temperature of about 400 deg. F., and the fact that my test paper is not charred proves that it has not been exposed to this temperature, the flame being in fact extinguished by the cooling power of the water in the vessel. I need hardly remind you that the speed with which convected or conducted heat is absorbed by any body is in direct ratio to the difference between its own temperature and that of the source of heat in absolute contact with it; and, therefore, as the source of the heat taken up by the vessel is nothing but unburnt gases, at a temperature below 400 deg. F., the rate of absorption cannot, under any circumstances, be great, and the usual practice is to compensate for this inefficiency by an enormous extension of surface in contact with the water, which extension I will prove to you is quite unnecessary. You will see I have here a copper vessel with a number of solid copper rods depending from the lower surface; each rod passes through into the water space, and is flattened into a broad head, which gives up its heat rapidly to the water. My theory can be stated in a few words: The lower ends of the rods, not being in close communication with the water, can and do attain a temperature sufficiently high to admit of direct flame contact, and as their efficiency, like that of the water surface, depends on the difference between their own temperature and that of the source of heat in absolute contact with them, we must, if my theory is correct, obtain a far greater duty from them. I do not wish you to take anything for granted, and although the surface of the rods, being vertical, can only be calculated for evaporating power at one half that of a horizontal surface, as is usual in boiler practice, my margin of increased duty is so great that I can afford to ignore this, and to take the whole at what its value would be as horizontal surface, and still obtain a duty 50 per cent. greater from a surface which is the same in area as the flat-bottomed vessel on the fire side, but having only one-third the surface area in contact with the water. I do not, of course, profess to obtain more heat from the fuel than it contains, but simply to utilize that heat to the fullest possible extent by the use of heating surfaces beyond comparison smaller than what have been considered necessary, and to prove not only that the heating surface can be concentrated in a very small area, but also that its efficiency can be greatly increased by preventing close water contact, and so permitting combustion in complete contact with a part of the heating surface. I will now boil 40 ounces of water in this flat-bottomed copper vessel, and, as you will see, sharp boiling begins in three minutes fifteen seconds from the time the gas is lighted. The small quantity of steam evolved before this time is of no importance, being caused partly by the air driven off from the water and partly from local boiling at the edges of the vessel, owing to imperfect circulation. On the bottom of this vessel is pasted a paper label, which you will see is untouched by the flame owing to the fact that no flame can exist in contact with a cold surface.

It may be thought that, owing to the rapid conducting power of copper, the paper cannot get hot enough to char. This is quite a mistake, as I will show you by a very curious experiment. I will hold a small plate of copper in the flame for a few seconds, and will then hold it against the paper. You will see that, although the copper must of necessity be at a temperature not exceeding that of the flame, it readily chars the paper. We can, by a modification of this experiment, measure the depth of the flameless space, as the copper, if placed against the paper before it has time to be previously heated, will, if not thicker than 1-40th inch, never become hot enough to discolour the paper, showing that the flame and source of heat must be below the level of a plate of metal this thickness.

In repeating this experiment I must caution you to use flour paste, not gum, which is liable to swell and force the paper past the limit of the flameless space, and also to allow the paste to dry before applying the flame, as the steam formed by the wet paste is liable also to lift the paper away and force it into the flame. I will now take this vessel, which has only one-half the surface in contact with the water, the lower part being covered with copper rods, 3-16 inch diameter, ½ inch centres apart, and 1½ inch long, and you will see that with the same burner as before, under precisely the same conditions, sharp boiling takes place in 1 minute 50 seconds, being only 13 seconds more than half the time required to produce the same result with the same quantity of water as in the previous experiment. Although the water surface in contact with the source of heat is only one-half that of the first vessel, and the burner is the same, we can see the difference not only in the time required to boil the 40 oz. of water, but also in the much greater force and volume of steam evolved when boiling does occur. With reference to the form and proportions of the conducting rods, these can only be obtained by direct experiment in each case for each distinct purpose. The conducting power of a metallic rod is limited, and the higher the temperature of the source of heat the shorter will the rods need to be, so as to ensure the free ends being below a red heat, and so prevent oxydation and wasting. There are also other reasons which limit the proportions of the rods, such as liability to choke with dirt and difficulty of cleaning, and also risk of mechanical injury in such cases as ordinary kettles or pans. All these requirements need to be met by different forms and strengths of rods to ensure permanent service, and, as you will see further on, by substituting in some cases a different form and type of heat conductor. To prove my theory as to the greater efficiency of the surface of the rods in contact with the flame as against that in direct contact with the water, I have another smaller vessel, which, including the rods, has the same total surface in contact with the flame, but only one-third the water surface as compared with the first experiment. Using again the same quantity of water and the same burner we get sharp boiling in two minutes ten seconds, being an increase of duty of 50 per cent., with the same surface exposed to the flame. The rods in the last experiment form two-thirds of the total heating surface, and if we take, as I think from some careful experiments we may safely do, one-half the length of the rods to be at a temperature which will admit of direct flame contact, we have here the extraordinary result that flame contact with one-third of the heating surface increases the total fuel duty on a limited area 50 per cent. This really means that the area in contact with flame is something like six times as efficient as the other. In laboratory experiments it is necessary not only to get your result, but to prove your result is correct, and the proof of the theory admits of ready demonstration in your own laboratories, although it is unfit for a lecture experiment, at all events in the only form I have tested it. If you will take two ordinary metal ladles for melting lead, cover the lower part of one of these with the projecting rods or studs and leave the other plain, you will find on melting a specified quantity of metal in each that the difference in duty between the two is very small. The slight increase may be fully accounted for by the difference in the available heating surface reducing the amount of waste heat passing away, and this proves that flame contact, and therefore quick absorption of heat, takes place on plain surfaces as soon as these are above a certain temperature, which, in a metal ladle, very soon occurs. What the temperature is which admits of flame contact I have, as yet, not been able to test thoroughly, and it will need some consideration how the determination of this is to be correctly made; at the same time it is a question in physics which should be capable of being answered.

Let us now take the other side of the question. If the efficiency of a surface depends on flame contact there must of course be flame, or at least gases of an extremely high temperature, and we therefore cannot expect this extraordinary increase of efficiency in any part of our boiler except where flame exists, and if these projectors are placed in a boiler, anywhere except in contact with flame, their efficiency must be reduced to that of ordinary heating surface. They are, of course, useful, but only in the same way as ordinary fine surface. When we come to boilers for raising steam, which have to stand high pressures, we come to other difficulties of a very serious nature, which require special provision to overcome them. To put such rods as I have referred to in a boiler-plate necessitates the plate being drilled all over holes, causing a dangerous source of weakness, as the rods cannot be used as stays; further than this, they would render really efficient examination a matter of extreme difficulty, and would be liable to give rise to frequent and almost incurable leakages, but there is, fortunately, a very simple way to overcome this difficulty. I have found that rods or points, such as I have described, are not necessary, and that the same results can be obtained by webs or angle-ribs rolled in the plates. My experiments in this direction are not complete, and at present they tend to the conclusion that circular webs, which would be of the greatest efficiency in strengthening the flues, are not so efficient for heating as webs running lengthways with the flue, and in a line with the direction of the flame. This point is one which I am at present engaged in testing with experimental boilers of the Cornish and Lancashire type, and, as with gas we have a fuel which renders every assistance to the experimenter, it will not take long to prove the comparative results obtained by the two different forms of web. Those of you who have steam boilers will, no doubt, know the great liability to cracking at the rivet holes in those parts where the plates are double. This cracking, so far as my own limited experience goes, being usually, if not always, on the fire side, where the end of the plate is not in direct contact with the water, where it is, in fact, under the conditions of one of the proposed webs. I think we may safely come to the conclusion that this cracking is caused by the great comparative expansion and contraction of the edge of the plate in contact with the fire, and it will probably be found that if the plates are covered with webs the whole of the surface of the plates will be kept at a higher and more uniform temperature, and the tendency to cracks at the rivet-holes will be reduced. This is a question not entirely of theory, but needs to be tested in actual practice.

There is another point of importance in boilers of the locomotive class, and those in which a very high temperature is kept in the fire-box, and this is the necessity of determining by direct experiment the speed with which heat can safely be conducted to the water without causing the evolution of steam to be so rapid as to prevent the water remaining in contact with the plates, and also whether the steam will or will not carry mechanically with it so much water as to make it objectionably wet, and cause priming and loss of work by water being carried into the cylinders. I have observed in the open boilers I use that when sufficient heat is applied to evaporate one cubic foot of water per hour from one square foot of boiler surface the bulk of the water in the vessel is about doubled, and that the water holds permanently in suspension a bulk of steam equal to itself. I have as yet not had sufficient experience to say anything positively as to the formation or adhesion of scale on such surfaces as I refer to, but the whole of my experimental boilers have up to the present remained bright and clean on the water surface, being distinctly cleaner than the boiler used with ordinary flat surfaces. Is is, I believe, generally acknowledged that quick heating and rapid circulation prevent, to some extent, the formation of hard scale, and this is in perfect accord with the results of my experiments. The experiments which I have shown you, I think, demonstrate beyond all question that the steaming power of boilers in limited spaces, such as our sea-going ships, can be greatly increased; and when we consider how valuable space is on board ship the matter is one worthy of serious study and experiment. It may be well to mention that some applications of this theory are already patented.

I will now show you as a matter of interest in the application of coal-gas as a fuel how quickly a small quantity of water can be boiled by a kettle constructed on the principle I have described, and to make the experiment a practical one I will use a heavy and strongly-made copper kettle which weighs 6½ lbs., and will hold when full one gallon. In this kettle I will boil a pint of water, and, as you see, rapid boiling takes place in 50 seconds. The same result could be attained in a light and specially made kettle in 30 seconds, but

the experiment would not be a fair practical one, as the vessel used would not be fit for hard daily service, and I have therefore limited myself to what can be done in actual daily work rather than laboratory results, which, however interesting they may be, would not be a fair example of the apparatus in actual use at present.

THE ÆSTHETICS OF HORTICULTURE.

At a recent meeting of the Massachusetts Horticultural Society the subject was discussed at some length. We give, from the Society's Proceedings, an abridged report of the discussion.

Mr. O. B. Hadwen, of Worcester, said: As we view the premonitions of the awakening of nature we are impressed with God's goodness in creating the infinite variety of plants, flowers, and fruits indigenous to different countries and climates, each and all having form, size, shape, and colour distinct, and beyond comprehension, wonderful. We see the workings of the living principle contained in every seed, and directed by conditions that are beyond the power of the human mind to understand. We note the capacity of plants to extract from the earth and atmosphere food and nourishment, and to develop bud, leaf, flower, and fruit in constant succession, unvarying in type and variety, each true to its kind, yielding at maturity food for man and beast, as well as for insects innumerable; and by decay, in a longer or shorter period of time, supplying food and nourishment to the life and growth of other plants in endless rotation.

We see the Divine wisdom in so forming and arranging the faculties of man that he is enabled to learn and appreciate the marvellous diversity in form and size, and the wonderful and happy blending of colour in the tints and shades of a thousand flowers. What in nature is more refreshingly beautiful? Man can understand, to a certain extent, the organism of flowers—the pistils, stamens, and petals, and their functions, and the microscopic pollen or fructifying particles of the flower, which the scientific horticulturist makes use of in cross-fertilizing or hybridizing, tending, under the guidance of experience and skill, to produce new and distinct varieties—a process which, with intelligent guidance, seems destined to end only with creation itself. He sees the office of insects in conveying pollen from flower to flower, producing seeds containing germs in variety without number, yet keeping each variety distinct. In the apple and pear no two seedlings, thus far, appear to be alike; there is but one Baldwin apple and but one Bartlett pear that have ever been produced from seed; and the same is true of the hundreds of varieties that are designated by name.

While horticultural science assures us of the germinal principle of seeds, we are as yet unlearned in the methods by which the qualities of flowers and fruits are transmitted from one to another through the pollen. This remains to be ascertained hereafter.

The study and practice of horticulture has a tendency to raise man to a higher level. It quickens and intensifies his senses of sight, smell, and taste, and increases his mental scope and his capacity for the enjoyment of life. How readily the eye of the horticulturist detects upon our tables a new flower, fruit, or vegetable! How quickly we scent a new fragrance and aroma! How fastidious and sensitive is the taste when a new fruit is brought to the test! How diplomatic yet emphatic is language if it is found deficient in any particular!

Horticulture has largely contributed to refinement and good taste in the embellishment of the grounds about dwellings. Through it the highways are made delightful with trees, gardens are tastefully laid out, forming a pleasure in themselves, and an element of beauty in the landscape. Wherever it touches it gives the impression of wealth and happiness in nature, which it skilfully enhances through contributions rich and unique, coming from different lands and contrasting climates.

The philosophy and science of horticulture seem to have been understood to some extent even in the remotest ages. They are mentioned by Confucius, who lived five hundred and fifty years before the Christian era. Among other things, he says: "Heaven in producing mankind gave them their various faculties and relations with their specific laws; these are invaluable rules of nature for all to hold." He speaks of seed planting thus: "Let it be sown and covered up, the ground being the same, and the time of sowing likewise the same. It grows rapidly up, and when the full time is come it is all found to be ripe. Although there may be inequalities of produce, that is owing to the difference of soil, as rich or poor, to the unequal nourishment afforded by the rains and dews, the different ways in which man has performed his business in reference to it." The Greeks were not strangers to horticulture; they speak of the details of its practice with as much intelligence, precision, and enthusiasm as do many of the present day; the same general principles seem to have been equally well understood and applied. Fruits were grown from seed, though probably not by artificial cross-fertilization, as now practised by the more intelligent. One of their poets gives a description of his fruit garden in flowing verses, from which we copy:—

> "The branch here bends beneath the weighty pear,
> And verdant olives flourish round the year;
> The balmy spirit of the western gale
> Eternal breathes on fruits untaught to fail;
> Each dropping pear a following pear supplies;
> On apples, apples; figs on figs arise;
> The same mild season gives the blooms to blow,
> The buds to harden, and the fruits to grow."

Thus have I briefly touched upon horticulture, not to elaborate any of its phases, not as a teacher in the culture of fruits or flowers, not even to attempt a solution of the wondrous sciences so intimately allied to it, but only as a student of the farm and garden, and in obedience to the call of the chairman of your committee.

Rev. A. B. Muzzey said that the love of gardening is natural to every well-ordered mind. In the practice of horticulture in its highest branches three things are necessary: First, a practical knowledge of the subject; and to supply this these discussions are held and papers of a practical cast are read; and the comments on these give us the experience of our best cultivators. Second, money is wanted, and with a right spirit and culture the more the better. He was glad to see men grow rich honestly and furnish the means for refining and elevating pursuits. But, third, comes the question, What is the ultimate object of these pursuits? Is it that men may raise beautiful flowers and form landscapes with beautiful views? Something beyond this is needed. The endeavour to produce marketable fruits and flowers is a most laudable one. Man has an inherent love of these beautiful things, and through them a deep and glorious part of human nature is ultimately reached. Some are content for a time with the practical view; but sooner or later there comes a point where we must increase the taste for the beautiful. For every reason we should cultivate the æsthetic view of horticulture. There is something wanting in any man, whatever his material wealth may be, who has no sense of the beautiful, and does not know what a magnificent world he lives in. The speaker did not wish to be understood as disparaging wealth or any material good; but these things are of the highest use only when that use is inspired by an enthusiastic love of beauty. Why has the great Artist so clothed the world in beauty, but that it may be appreciated and enjoyed by His children?

Mr. Edmund Hersey said: The book of nature is the most important we can study; for it will lead us up to a higher level. The love of nature is one of the most important things we can possess; it is better than money, for, let a man imbued with it go where he will he will have lessons of instruction and enjoyment. Money is necessary; but, with that alone, what does life amount to? We want something higher than bread and butter. An individual without a dollar can enjoy much of the beauties and glories of nature. He hoped the discussion of this subject would lead us to something higher than material good, and to see in our fields something more than money.

Mr. E. W. Wood said that the refinement of a community may be accurately estimated by its taste in the cultivation of flowers. An enthusiastic admirer of flowers once invited him to visit his flower garden at five o'clock in the afternoon, when it would appear to the greatest advantage. He accepted the invitation, and found a garden of about an acre, with the handsomest display of flowers he ever saw. The owner came out to meet his visitors, but when they inquired the names of his flowers he hardly knew one, and was obliged to ask his wife, who was familiarly acquainted with them, and derived from them an enjoyment which he could not. The owner expressed deep regret that in his early days he had not acquired more knowledge of botany, for from want of it he was now deprived of much of the enjoyment which his garden would have afforded. Mr. Wood also related an anecdote of the late Joseph Breck, who was riding in a horse-car with a large bouquet in his hand, when a little girl kept passing back and forth before him, and evidently admiring the flowers so much that he took out some and gave her Some time after, he was riding again, when a little girl, whom he did not recognize, kept passing before him and looking up at him, and on his asking her if she knew him, she replied, "Oh, yes! you are the gentleman who gave me the flowers." The good man turned to a friend who was with him, and with tears in his eyes, said, "We can afford to be at some pains to grow and distribute flowers if they give such happiness as that." The speaker thought that the greenhouse might be made one of the most valuable means of education; he considered it next to the school-house. The study of botany at school from text-books, without the illustration of living specimens, is dry, but with these it may be made exceedingly interesting.

Mr. J. G. Barker said: Our public parks and cemeteries have tried to do something in educating the taste of the people. The adoption of the landscape plan in laying out cemeteries is both the result of improved taste and the cause of further improvement. It was first put in practice in Spring Grove Cemetery at Cincinnati, and in West Laurel Hill at Philadelphia; and now scores of new cemeteries are springing up which are all laid out on this plan. Our Saviour drew most of the illustrations of His teachings from the flowers, and His words: "Consider the lilies of the field how they grow; they toil not, neither do they spin; and yet I say unto you that even Solomon in all his glory was not arrayed like one of these," justify us in doing all that we can to extend the love of trees and flowers.

Mr. William D. Philbrick remarked that he would like more simplicity of taste in gardening than is prevalent, and less of stiffness and conventionality, and fewer expensive and showy attempts at artificial effects. We should try to study what is beautiful in itself. He thought too much attention was given to expensive exotics, and too little to the more graceful and delicate native wild flowers of our own woods, many of which are easily domesticated. No flower of the garden gives him more delight than our wild columbine.

Mr. David W. Lothrop said he was surprised to find so many people who have very little idea of the beautiful. The love of it must, in a measure, be cultivated while we are young, to bring out our latent æsthetic tendencies. One of the greatest difficulties, however, in doing this is the absence of a standard of taste. Edmund Burke wrote on the Sublime and Beautiful, and in later life ridiculed his own propositions. There is some danger, the speaker thought, of overdoing this matter, and getting beyond the bounds of good sense. He related several anecdotes showing the inability of some people to readily perceive the beautiful; one of Dr. Lyman Beecher, who, on being shown a fine landscape painting embracing a man shooting game, simply exclaimed, "He's bagged three of them!"

There is a prevalent idea that the country is beautiful only in the summer; but the true lover of the country knows that it has its beauties in the winter as well. It is certainly cleaner and purer then. He advised the painting of country residences with warm, neutral tints, instead of white, which makes them look cold and cheerless, like snow-banks, and the planting of evergreens around them for shelter or beauty, which, when the limbs are borne down with snow, will look almost fairy-like.

Mr. C. Terry said that the most beautiful objects in the fine arts are but copies of the beauties of nature, and the artists who have done their best fall below nature. Those who enjoy beautiful natural scenery stand on a higher plane than those who do not. There is nothing more beautiful than the blossoms of fruit trees; and it is a striking fact that there is no fruit until after the flower—beauty comes before reproduction. The study of the growth of plants is the study of the Creator himself, and we are never so near to Him as when engaged in the study of His works. In this connection the speaker quoted Tennyson's lines:—

> "Flower in the crannied wall,
> I pluck you out of the crannies,
> Hold you here, root and all, in my hand,
> Little flower; but if I could understand
> What you are, root and all, and all in all,
> I should know what God and man is."

Water Lighting was illustrated before the scientific committee of R.H.S. by Mr. T. C. March, of Buckingham Palace. This system serves some such purpose—or possibly the self-same purpose—of green glass in the roof of a fernery by cutting off rays of light and heat that plants under glass appear to do very well without. A film of water in a glass tank is placed over the plants, and the only vertical light they obtain is through this.

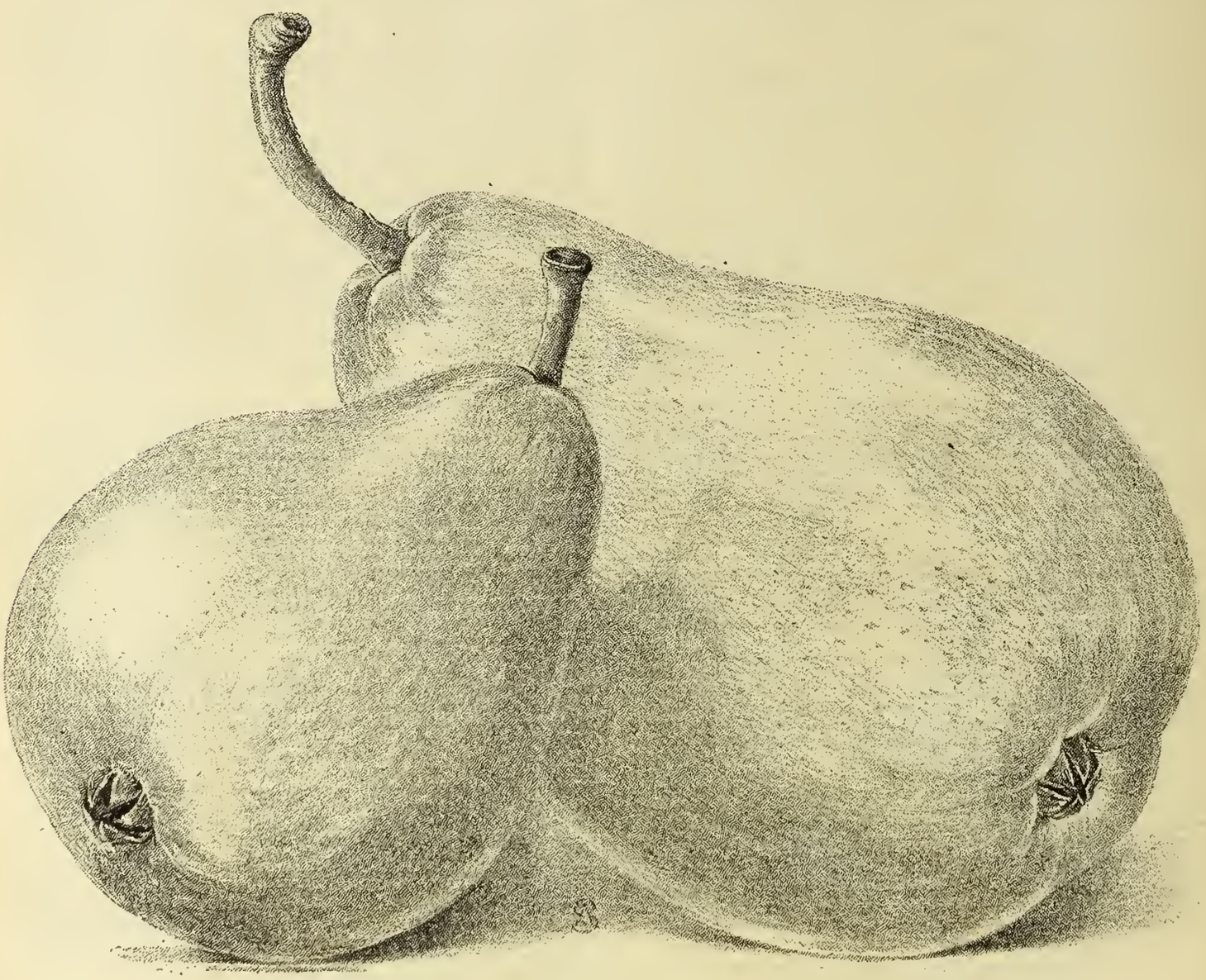
CONGRESS PEARS.

Durondeau or *De Tongre.*

There were 44 dishes of this fine pear in the great exhibition at Chiswick last year. It is Durondeau of Bivort, Decaisne, and Hogg; Poire de Tongre of Leroy. The original tree exists in the garden of M. Durondeau, at the village of Tongre Notre-Dame, near Ath, in the province of Hainhault, Belgium. It was first brought into notice by M. Pynaert, of Ghent, and is now established in all the best European gardens.

This is a dessert pear of the first quality, and conspicuous in collections by reason of its beauty. The fruit is large, bluntly pyriform, even, and smooth, the skin yellow with dots of russet, but on the sunny side shining crimson richly streaked and shaded with deeper crimson. The eye is small, the stalk medium, sometimes obliquely inserted. The flesh is tender, juicy, and sweet, and in perfection usually from the middle of October to the middle of December.

The tree is hardy and fruitful, and produces a finer sample on the quince than on the pear. The figures show on right a fine congress specimen grown on the quince, the smaller being from the same garden, but grown on the pear. It should be remarked, however, that as a standard on the pear it is fairly constant and highly fruitful, and will often bear a crop when, through a cold spring, many other sorts fail. Nevertheless, for the garden, pyramids on the quince will prove the most useful.



DESSERT PEAR, *Durondeau.* The specimens show difference of growth on quince and pear stocks.

Ilex dipyrena, in common with other hollies, prospers on the western coasts, especially at the sea level. An illustration of its fitness for a place in a collection is afforded by a specimen in the Exeter nurseries of Messrs. Lucombe, Pince, and Co., where may be seen a specimen fifteen feet high, with a stem nearly as stout as a man's body.

PRICKLY ACANTHUS.

Acanthus spinosus.

There are fully half a dozen species of acanthus or "bear's breech" established in English gardens, all natives of the South of Europe, all slightly tender, but practically as hardy as any plants of their class, for although they are occasionally punished by cruel weather they are never killed, unless, indeed, they are left in a swamp to swim for their lives. On heavy soils and in shady situations they are coarse and weedy, but on deep sandy, well-drained, and warm soils, with full exposure to sunshine, they are peculiarly noble and impressive, and their association with the Corinthian capital in architecture adds to the interest of their picturesque growth. As lawn specimens, and occasionally in miscellaneous groups, comprising "rustic" plants, they are effective, but the best place for any and every acanthus is on a spacious rockery, where they may show their fine forms amidst suitable surroundings, and without having to compete with more delicate forms or richer colours.

Acanthus spinosus, here figured, is the most effective plant of this interesting group. It differs much from the better known *A. mollis*, although Linnæus first, and Martyn afterwards, doubted their specific distinctness. It is the acanthus sylvestris, of Parkinson (331), and A. mollis var. of Martyn's Miller's Dictionary. The only authentic figure of it generally accessible is in B.M., 1816 (t. 1808), where will be found a list of synonyms.

The most useful of the acanthus are A. mollis, A. latifolius, and A. spinosus, and where one suffices the last named is certainly the best. When well grown and flowering freely there is not a nobler rockery plant known to cultivation, its purplish flowers having just enough colour to complete its majestic expression.

PÆONIES AND MOUTANS.

The recent exhibitions of these magnificent flowers gave great delight to observers whose recollections run back to the early days of John Salter, who strove hard to push them into popularity, and had but partial success in the endeavour. To the younger ones they were in the nature of a surprise, for having dropped out of fashion, or rather having never come into fashion, they are to young and old unfamiliar flowers, and need, even at this date, to be "discovered." Nearly a hundred years have run by since the tree pæony was introduced by Sir Joseph Banks, and nearly eighty years have gone since it was figured in the "Botanical Magazine" (t. 1,154), and now we may search in gardens far and wide and fail to find a single example. The same cannot be said of the herbaceous pæony, for while *P. officinalis* may (but doubtfully) rank as a British plant; others, such as *P. albiflora*, have been in the country fully three hundred years, and are widely distributed in all the older countries of the northern hemisphere. Between the two sections the differences are many and great. The moutans arrest attention by their tree-like growth and the immense size and daring splendour of their flowers, while the herbaceous pæonies appeal to a more strictly floral taste in their immense variety and often close approximation to the characters sought for by the florists. Indeed, when submitted to a critical judgment of their respective merits, smoothness, regularity, richness, and purity of colour, with the finish implied in the term "quality," are demanded; and hence varieties of P. officinalis do not often obtain distinction because of the usually obtrusive appearance of their seed pods or carpels. Although beyond doubt specifically distinct, the Chinese writers affirm that the herbaceous pæony has by means of cultivation been converted into the arborescent plant. The supposed change is the more remarkable (if true) seeing that in the province of Lo-Yang the moutans rise to a height of eight to ten feet, and when in flower present such a magnificent appearance that we can believe the other story about it, that plants have been sold in China for a hundred ounces of gold apiece.

PRICKLY ACANTHUS, *Acanthus spinosus* (Flowers purple and white).

The comparative scarcity of pæonies of all kinds, and the moutans more especially, is in part owing to certain peculiarities of their nature. The herbaceous plants may be said to thrive "anywhere," but it is certain they do not; for occasionally we meet with plantations that make but a middling appearance as compared with others that are

more happily situated, and that attain to a magnificence that no other flowers can, at the time, be said to rival. Yes, they are somewhat peculiar in their requirements, and their flowers are short-lived. Possibly the last-named peculiarity has had much to do with the complaint of nurserymen who have nursed many pæonies that "they do not sell." Both objections are, however, insufficient to account for the fewness of these flowers, and we feel bound to anticipate for them a very widely-extended popularity as compared with their present position in public estimation.

All the pæonies, whether of the herbaceous or arborescent class, require a firm, deep, moist, fertile soil. On poor sandy soils and on hot dry soils, equally with cold dry soils, they do not thrive in a satisfactory manner. The writer has never seen herbaceous pæonies make such a free growth and magnificent bloom as in his own garden, where in a half wild spot they were located on a rich deep soil by the margin of a stream, but well above the water level, and allowed to be slightly encroached upon by wild grasses and other such herbage, giving a broad green groundwork for the huge masses of colour. In any case they require much space for free development, and where they are found to thrive they are well adapted to grow in collections, the named varieties having fine properties, and while they last, which is certainly not long, being as rich in gratifications as any hardy flowers known to the English garden. For the borders, the spacious rockeries, and the front lines of shrubberies, the single and typical pæonies, comprising such as *Albiflora*, *Sinensis*, *Edulis*, *Officinalis*, *Anemonœflora*, *Corallina*, *Paradoxa*, and the very lovely *Tenuifolia* are superb subjects, and will thrive in any soil that is good enough to grow a cabbage. For collections in large beds or to fill special positions in a promenade garden there are about a hundred named varieties to supply selections, and many of these are deliciously fragrant and beautiful beyond all possibility of description. For this fine section a rich deep soil should be prepared and the plants should be set out at distances suitable for the display of their several characters; the spaces between occupied with plants suitable to make a display in the later season, when the pæonies have run out of flower, thus redeeming these noble subjects from the reproach that, like fireworks, they make a daring display that is quickly followed by darkness. And what more suitable than lilies, for which the same conditions would be perfectly suitable?

The double pæonies comprise so many that are good, and yet nearly alike, that the surest way of buying is to make a selection on the ground when the plants are in flower. But while a certain number run side by side others are remarkably distinct and indispensable. For a grand effect the delightfully odorous *Grandiflora Superba*, with long-petalled rosy centre and brilliant carmine guard is unequalled, but will not please the florist's eye. On the other hand, the delicately sumptuous *Festiva Maxima* is the perfection of a florist's flower, its creamy petals folding in the most delightful manner, and its purple flakes seeming to accentuate its purity. *General Macmahon* is the equal of it in form and style, but is highly-coloured rosy crimson; while we have in *Papaveriflora* what may be called a gigantic poppy anemone, with the utmost richness and eccentricity of such a flower. After these we have types of perfection in *Artemise*, silvery pink and soft buff; *Belle Douaisienne*, a mottled flower; *Carnea elegans*, rich rosy flesh; *Dr. Crevaux*, rosy self; *Edulis superba*, violet, shaded rose; *Etendard de Grand Homme*, rosy violet, superb; *Madame Calot*, blush white, with tint of rose; *Monsieur Villeneuve*, intensely rich rosy purple; and *Reine des Francais*, rosy blush, with sulphur centre. With such a group for the foundation of a collection, additions might be made from time to time without any fear of stocking the garden with second-rate stuff, for they would not only establish themselves in the ground, but establish in the mind of their owner a standard of taste for the estimation of succeeding candidates for admission.

Moutan pæonies are reputed tender, and as facts are not to be ignored it must be admitted that they occasionally suffer in gardens exposed to the east by reason of their flowers appearing before the spring frosts have expended their savagery. Mr. Bateman's experience has been recorded in these pages, and is often referred to as showing that in the coldest parts of Staffordshire the protection of glass is advantageous. But this sort of plant, even if needing to be protected when pushing its flowers, is not adapted for a permanent place under glass of any kind; it should make all its growth under natural conditions with the aid of the summer shower and the roasting heat, of which we have an occasional taste in this country. In a garden a few miles removed from Cambridge, the late Mr. Richard Headly grew the tree pæony to noble proportions, and but rarely had to complain of injury by frost. Mr. Harrison Weir, at his place at Brenchley, in Kent, had a considerable collection of varieties which, as garden plants, were simply perfect, giving no trouble at all, and making every year an immense display of their gigantic flowers. One quality certainly is required in the cultivation of moutans, and that perhaps is often wanted. It is patience! These plants make no effect, and therefore may be said to disappoint, until they have been established some three or four years. Then they begin to suggest what may in the future be expected of them. In a starving position, even three or four years is not enough to enable them to acquire any expression of character. They need to begin with good conditions, and to be left alone, and time and patience will suffice for all the rest. W.

SPURIOUS TEA.—The teas sold by Chinese merchants to foreign countries during the last four or five years have been so generally complained of on account of the adulterating material added to them, that the Inspector General of Maritime Customs, who is an Englishman, has warned the authorities that the tea business of China is likely to be entirely ruined. Good Tea is prepared from young leaves of the early spring growth, which alone yield the strong, rich, and delicious infusion for which Horniman's Pure Tea has for 50 years been so famous. See Local Agents, Chemists, Confectioners, &c., advertised in all papers, and at Railway Stations.—[Advt.]

HARDY PLANTS IN FLOWER.

On every hand are evidences of a poor season for hardy flowers, for although nothing in especial has failed, and many plants are as gay as ever, though late; yet there is not the wide spread glow of colour we have been accustomed to enjoy in May and June in the hardy garden. The long winter, the slow spring, and the coolness of the opening summer possibly explain the case sufficiently, and while we hope for the better times it will be prudent to appreciate the feast that is before us.

The Pea tribe may be said to have run its course in the shrubbery, and to be now making a beginning in the beds and borders. The laburnums are over, but the herbaceous relatives are in most cases now showing their first flowers. It is so with *Lathyrus rotundifolius*, a neat growing plant not often seen in gardens, the average height four to five feet, the habit leafy, the flowers fiery carmine red. The better known and universally admired *L. lutifolius* will not show a flower for a fortnight yet near London, and in less forward places will be fully a month later. *Lathyrus pisiformis*, a hardy species from Siberia, merits mention as a good plant, the growth spreading, about eighteen inches high; leafy, the flowers large, purple, with shades of bright rose and blue; a showy and interesting plant. Equally interesting, but less showy, is *L. lutea*, the yellow everlasting pea, a very spreading, very leafy plant, the flowers few, in smallish heads, the colour orange buff. *Orobus niger* is often labelled *Lathyrus*; it is a neat bush of about three feet, the leaves small, and liberally covered with purplish flowers. Here, too, we may place *Hedysarum astragaloides*, a bushy plant of two feet, now very showy with compact heads of rosy purple flowers. The best of this genus, *H. coronarium*, the "French honeysuckle" will presently show its flowers, and make the rest look second-rate.

Prickly Fig is the colloquial name of the opuntias, of which there are half a dozen sorts flowering now on dry walls and warm nooks, or on miniature rockeries under glass of some sort, but in such a season as the present we do not see them to advantage. Very showy, however, are thriving masses of *Opuntia vulgaris* and *O. Rafinesquei*, the two hardiest of the series, and the last named being well able to take care of itself in any dry, warm spot in the southern counties, and when it attains some size it is one of the finest garden plants in cultivation.

Umbelliferous Plants of many kinds are now flowering, and when happily placed are effective, but in groups and masses are generally objectionable. Not many of them are capable of good service in small gardens, but it is amusing to note how many persons fall in love with the gigantic heracleums and archangelicas. We shall only note here one plant that is good enough for the choicest sanctum garden. It is *Pleurospermum Austriacum*, and invites attention because it happens to be in flower. But the inflorescence is nothing. The plant may be described as a miniature mountain of leaf beauty, for it grows as compact and orderly as anything of the kind in all the world, and its leafage is fernlike, and of a delightful tone of green.

Poppies comprise the gigantic *Papaver orientale*, now nearly over, and the lovely little *P. nudicaule*, with flowers white, yellow, orange, and red, the typical colour being yellow. It is well known that the variety of oriental poppy named *bracteatum* is the best of all, the flowers being of fine form and good substance, and the colour a rich deep scarlet. The flower stems of this fine plant show bracts or floral leaves at intervals, and usually, but not uniformly, one bract under each flower, while the specific form, as it is regarded, is without these bracts, and bears a somewhat flimsy orange tinted flower. All the varieties of P. orientale are good in their way, and even of the true bracteatum, which is the best, there are good and bad examples, the consequence of raising stock from seed. Those that are strikingly good should be propagated by cutting up the roots to ensure keeping the true character.

Meadow Rue in all its forms is full of interest, and just now the varieties of *Thalictrum aquilegifolium* present a most delightful appearance. We have a pure white on which the pile of flowers now may be described as a kind of floral foam, a most refined subject for an artist's garden. We have also one named *atropurpureum*, with a head of flowers of a soft rosy colour, quite delicious in its way, and we have varieties with creamy, greenish, and purple shades.

Dianthus haunts us still, for every day seems to add to the number of beauties of this family on the rockery. We make note now of *Dianthus arenarius*, a long jointed grassy plant with small starry white flowers, quite a model of a rockery plant. Grieve's rock pink, *D. Grievei*, makes a short growth, not grassy, the flowers large, fringed, rosy pink or pure white.

Ragworts proper have not arrived, and will come quite soon enough; but *Senecio doronicum* and *Arnica montana* make a pair of yellow boys to supply some dots of gold to pay for the keeping of the rockery. They are rather too rustic to rave about, and the senecio is the best of the two. A fine plant, quite out of the ragwort line, is *Senecio concolor*, with a nice head of smallish flowers, purple with white disc, quite in the style of a wild cineraria.

Alum Root is the colloquial name of a group of plants that have not secured the appreciation they deserve. Perhaps a reservation should be made in favour of Belvoir, where Mr. Ingram certainly turns them to good account in the Duchess's garden. At this time we are once more grateful for the sweet little spikes of reddish crimson flowers of *Heuchera sanguinea*, a very distinct plant from the white flowered *H. Americana*, *H. glabra*, and *H. Richardsoni*. A nice little clump of this red-flowered Heuchera makes a pleasant episode on a rockery.

Campions look poor, and although *Lychnis diurna* in the wild garden makes a glorious show on the leafy banks we feel that there is a difference, and it may be said that catchflies have retired from business, or are half-hearted about it, because there are so few flies to catch. But "come, child of misfortune," here is that irrepressible thing, *Lychnis viscaria*, in splendour arrayed, its tone of ruby red or rosy crimson being unsurpassed even by any of the dianthus, and that is saying much for such a "common" thing. The double variety called *splendens plena* is, in respect of colour, the king (or queen) of the rockery just now; it is always a surprise, like love, or even like whitebait.

Hardy Orchids are at their best now, and we can record that the delicate and delicious *Cypripedium spectabile* will do as well in what we will call dry peat as in the moist peaty bed we have been accustomed to prepare for it. But it needs shelter; the rough winds must not chafe it, for the comfort of sheltering woods is its happy portion when left alone with nature, and it certainly does like damp. We have had nice blooms on *C. acaule*, *C. macranthum*, *C. guttatum*, and *C. pubescens*, but C. spectabile is a precious pearl adapted for universal appreciation.

Rock Roses do not like dull weather, and so to catch a few of them in perfection now is an event. But the well-known bog cistus, *Cistus ladanifera*, is

flowering freely, and makes an effective clump, the large white flowers suggesting that poppies have taken to grow on trees, a delusion assisted by the specific name. We note also, as now showing flowers, *C. rotundifolius*, purple; *C. villosus*, purple; and the Portuguese *C. Lusitanicus*, yellow.

Weigelas are now in full glory, and glorious they always are, provided only they are warm enough. For exposed situations they are altogether unsuitable, as we know to our cost. But with shelter in a fairly good climate they are truly sumptuous and ever improving with age, therefore when they have made a great spread it is but poor policy to cut them back, for this renews their youth, and with it a rigid growth, while the old trees spread wide and arch over gracefully. Whether we class them under *Weigela*, or *Diervilla*, is of no great consequence now. The following are, perhaps, the best in the collection: *Abel Carriere*, rich rosy red; *nivea*, pure white, a poor grower, very dwarf; *Hendersoni*, fine habit, slender, flowers shaded red; *Candida*, the best white, and a fine plant; it is a little coloured in hot weather, but this often adds to its beauty; *Lavallei*, a very fine dark variety, flowers reddish purple—not a nice grower; *rosea*, the best known of all, a delightful plant, and one of Fortune's best findings; *Monsieur Lemoine*, a grand variety, flowers at first pale flesh, afterwards becoming rose, and dying off red.

ODONTOGLOSSUM ROEZLI AND O. VEXILLARIUM.

By James Douglas.

In the new "Dictionary of Gardening," edited by Mr. Nicholson, of Kew, the above handsome orchids have been removed from the Odontoglossums and placed under Miltonia. They are so well known under the old name that it will now be very difficult to alter them. I believe Mr. Nicholson is right. O. Phalænopsis and O. Warcewiczi should be placed in the same category. The introduction of O. Roezli and O. vexillarium is well fixed on my memory. They created a profound sensation amongst orchid growers. O. Roezli was discovered by M. Roezl, and flowered for the first time by Mr. Bull, of Chelsea, I believe in October, 1873. It is a native of Colombia, but when it was first discovered its introducers were very reticent about it, and this, in the interests of science as well as practical gardening, is a grave error. When we know the conditions in which new plants are found in their native habitats, the minimum and maximum temperature, with other conditions, it is not so difficult for the cultivator to feel his way.

I would like to refer shortly to the large plants exhibited by me at the Royal Botanic Gardens in May last, one of which was furnished with 100 flowers fully open. The plants were purchased on June 29, 1874, and have been twelve years under my care. I bought five small plants in thumb pots; they were growing in a large London nursery in the cool house, and I was informed they were cool house orchids requiring cool house treatment all the year. The plants were carefully tended, and grew away freely until the cold weather set in, when they showed evident signs of something being wrong. Before the cool temperature was suspected two plants were dead, and the remainder looked very "seedy." They were placed at once in the warmest house, and very soon a change came over them; they again grew away freely, and the three plants were exhibited in May last. We have often had them attacked by thrips, and the effort to destroy these lively little creatures must be sustained for a long time. Tobacco smoke will kill the vermin, but the plants do not like the smoke; so that the only recourse is dipping them in soft soapy water, which must be repeated again and again until they are quite destroyed.

Success or failure depends to a great extent on the time and manner of repotting the plants. I have repotted them once in two years in the late summer or autumn months. They require good turfy peat and sphagnum moss. I have never used manure of any kind either for these or for O. vexillarium. We have had many plants since the first lot, and they have all done well with the same warm treatment. O. Roezli is figured in Bot. Mag., tab. 6,085. O. vexillarium was noticed in the *Gardeners' Chronicle* so long ago as 1867, and again in 1872. It first flowered in Messrs. Veitch's nursery at Chelsea, from plants sent home by Mr. Chesterton, and is also figured in Bot. Mag., tab. 6,037.

It was some time before we found the right treatment for this fine species. We had our first plants in June, 1876; they were very small and very dear. They were also tried in the cool house, but made no progress in winter, and did not grow away nicely in the following spring. I was advised by a great orchid authority to place them in an intermediate house by day and in the cool house at night. This plan was tried without success. It was rather amusing, though, to see the two plants carried from the one house to the other, like chickens coming home to roost at night and going out to feed in the morning. Probably my friend who advised me to adopt this plan was joking. I have never found out whether he was or not. Suffice to say, his proposal was not justified by the facts. We have the plants yet, but they have never got over their early treatment.

In February, 1878, we bought six more plants at Stevens's salerooms. They were newly imported, and of small size, but were in capital condition. They were placed in the Cattleya house and started to grow freely, and they have never failed in vigour during the last eight years. The large plant exhibited at the Royal Botanic Gardens on the 9th of June was one of them. The pseudo-bulbs are as vigorous as ever they were. As a proof of this one bulb produced four spikes, on which were 28 flowers; and there were 47 spikes on the plant, producing on the aggregate 287 flowers, or an average of six flowers on each spike. The treatment which has been followed from the first is to grow them the same as the Cattleyas, except during the hot summer months, when they are placed in the cool house. My experience with this species and many other orchids has taught me that none but quite healthy plants should be purchased. An unhealthy or unclean orchid is not worth having at a gift. Another word of advice I would give to orchid growers when any species is doing well. Let well alone; avoid rash experiments as you would the plague. A word to the wise is enough, but some persons lack both discrimination and patience.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Azaleas and Camellias, if still under glass, must have air night and day, and the floors kept damp. Use the syringe regularly till the flower buds show at the points of the shoots, and then discontinue the use of the syringe.

Beaucarneas and their allies are generally very badly treated; hence the rarity of good specimens. One of the greatest secrets of success is to give them abundance of water at this season; it is scarcely possible to overdo it.

Cinerarias are now very forward in the seed bed, and the largest must be potted off and put in a frame. A bed of spent hops answers admirably for them.

Conservatory plants require abundance of water and a free circulation of air amongst them. Climbers must never be neglected, or the growth will become so confused that to restore anything like order much of it must be cut away. Moisten all walls, borders, and stonework the last thing in the evening to create a humid atmosphere.

Fuchsias should be propagated now in quantity. Specimen plants will require abundance of water, and once or twice a week liquid manure. Fuchsias in the open ground are generally disfigured with a superabundance of sticks, whereas in a good turfy soil, with a moderate amount of rotten manure, they ought to need but little artificial support, and a certain easy drooping habit is proper to their character. Most of the light fuchsias require to be well shaded, or the points of the calyx acquire a green tinge.

Hard-wooded Plants that have flowered will require to be removed to a shady place to rest awhile, and to be repotted if needful when they have started into a new growth.

Soft-wooded Plants, such as Cinerarias, herbaceous Calceolarias, Chinese Primulas, Pansies, Pyrethrums, &c., should be raised from seed now in quantity. If Primulas were sown in April for early bloom, it will be as as well to sow again for a successional batch. Remember that to grow bad seed is just as much trouble as the best, so that the question of cost of seed should not be considered too closely. Procure the best that can be had, and grow them in a good compost from the first. Soft-wooded plants rarely do any good if grown slowly; they need abundant nourishment, and if kept stout and strong rarely suffer from vermin. It is the bad practice of starving seedlings in the seed pans that creates the principal trouble of getting them clean afterwards.

FORCING AND ORCHARD HOUSES.

Orchard House Trees require very little attention now beyond abundant watering, and the use of strong liquid manure. No more pinching to be done. Shoots badly placed may be removed now without fear of causing the buds at the base to break.

Pines must have plenty of air and abundance of water. All parts of the pit should be sprinkled occasionally to promote a humid atmosphere.

Vines that have ripened their fruit must be carefully brought into a resting condition by gradually reducing the supply of water and exposing the wood to the weather night and day, except during rain. Crops ripening to have the help of fire heat in case of a prolonged torm of cloudy or cold weather, as any delay in ripening will bring on mildew. Where the grapes are just stoning, attention should be paid for the last time to thinning and tying in, but do not cut away every apparently superfluous shoot; very often a few random growths help to sustain the vigour of the vine, and are in fact the signs of vigour; but of course these should not overlap the old wood, or shade the leaves that have bunches to take care of.

STOVE AND ORCHID HOUSE.

Orchid House.—Orchids that were late in starting into growth may still be repotted, but it must be done at once to enable the plants to derive the fullest possible benefit from it. An abundance of atmospheric humidity is still necessary, and water must be poured freely on the paths and beds.

Achimenes need help from liquid manure to ensure the full development of their foliage and flowers.

Ixoras cannot be kept in order as specimens without careful treatment. As soon as the bloom is nearly past cut them back moderately, and put them in a good heat to start again. When freely in growth, shift any that require it; or, if not, remove a portion of the soil and replace it with fresh.

FLOWER GARDEN AND PLEASURE GROUNDS.

Bulbs in pots that flowered in spring and have now finished their growth will be better worth keeping if the pots are placed on a shelf in a hot lean-to. Cape bulbs require much the same sort of treatment, but care must be taken to keep them growing a reasonable time after flowering, till, in fact, they have "made themselves" for the next season. It is because we do not ripen bulbs sufficiently that so few are of any value after having once flowered.

Chrysanthemums to have plenty of water, and to be assiduously trained.

Carnations and Picotees must have their buds thinned, and all other needful preparations should be made to prepare for a good bloom.

Dahlias must be safely staked, or the first gale will lay them low.

Hollyhocks must be securely staked.

Roses will require more or less attention. Look over the stock of briers intended for budding, and cut away all superfluous shoots to the base, and slightly shorten those that are so placed as to be suitable for budding. By the time the general budding season arrives the shoots thus shortened will be in full growth again, and will take the buds more readily. Make ready to work the strongest briers at once, and as soon as plump buds can be obtained of the choicest varieties. Buds that remain dormant till the next spring do not generally make such good plants as buds that start away soon after being entered, and make ripe hard shoots before winter. We have found that when the shoots from the buds of the season were very sappy a gentle lift of the stock by means of a four-tined fork, early in October, gave a check that hastened the ripening, and prevented loss in winter. We mention this now because some propagators prefer dormant buds, because of the risk in winter, whereas pushing buds can be used with equal safety if means are resorted to to check the growth in time. Another matter worthy of mention is that the wild wood should not be cut away severely before entering the buds, as a loss of it checks the flow of sap, and defers the complete junction of the two barks.

FRUIT GARDEN AND ORCHARD.

American Blight is now making its appearance on apple trees. We find the Gishurst compound and nicotine soap are cheap and effectual settlers

for it. A hand-brush plied upon the parts affected, without any medicament, has a very decisive effect. It is not safe to use brine now, but when the leaves are off brine is one of the best of purifiers for apple trees.

Pinching must be practised with assuidity in fruit gardens where pyramids and bushes are grown. There is one thing to be said about pinching, namely, that once commenced it must be continued, for if neglected, the shorter growth, clothed with spurs, is soon buried under a forest of spray, which breaks out on all sides, and very soon alters the character of the trees entirely.

Wall Trees trained now will have time to ripen their wood; if neglected much longer it will be too late to do justice to them.

KITCHEN GARDEN AND FRAME GROUND.

Broccoli from late sowings to be pricked out, and young plants in a forward state to be planted out where they are to remain, in soil deeply dug and liberally manured.

Brussels Sprouts to be planted out as fast as possible. The soil must be in good condition for these, for if they are not fine they are scarcely worth having.

Collards should be planted in quantity as ground can be obtained for them. Plant them rather thick.

Celery to be planted at every opportunity. Deep trenches may be used now, but in another few weeks it will be advisable to make the trenches shallow, because the late planted crops will have to stand out the winter. Any remaining in seed pans or boxes may now be pricked out in beds in the open ground.

Spinach.—If requisite to sow now, give the preference to the prickly seeded variety, which is used for winter spinach, as it is less likely to bolt in case of hot dry weather.

Tomatoes to be trained and stopped. If not frequently stopped a good crop cannot be expected.

Root Crops, such as parsnip and beet, require now a final thinning; there is no gain from crowded beds. Potatoes to be frequently hoed between. If children can be employed to pick off the blossoms the weight of the crop will be increased, but the difference will scarcely pay for any other kind of labour.

Sow for succession Mazagan Beans, York Cabbage, Rosette Colewort, Cucumbers, Endive, French Beans, Onions, Parsley, Peas, and Turnip Radish.

PIERRE BELON, OF LE MANS, AND HIS WORKS.

By L. Crie, Professor of the Faculty of Sciences, Rennes.

Pierre, or Peter, Belon was born about the year 1517, at La Soultière, a hamlet of the town of Cérans-Foulletourte, in Sarthe. Our compatriot, a "doctor in medicine of the University of Paris," left France at the beginning of the year 1546. He went first to Candia and Constantinople. He then visited Lemnos, Mount Athos, and the ruins of ancient Salonica. Thence he betook himself to Egypt, and visited Alexandria and Cairo, where he made observations, of which the fame still survives. Upon his return to France Belon published a memoir on fishes: *L'Histoire Naturelle des Poissons. Paris*, 1551.

This work, replete with instruction to the philosopher and naturalist, may be regarded as the most ancient treatise on comparative anatomy. The illustrious scientist speaks of "the affinities existing between the internal parts of the Dolphin and those of the Porpoise"; he demonstrates that the anatomical structure of the dolphin's brain conforms, in all its parts, with that of the human brain, "and that there is no difference between the description of the matrix of the dolphin and that of the sea-otter." The germ of modern embryology appears in a very remarkable manner in the figure at p. 19, showing the fœtus of a dolphin. Belon gives, from nature, the external configuration of the dolphin, and its teeth, accompanied by a description of the latter, such as would be given in the present day. Thanks to our compatriot's treatise on the dolphin naturalists ceased to confound this species. Such was Belon's first work, which, in our opinion, is entitled to rank among the most original researches of the sixteenth century, heralding the dawn of a new era in the modern history of anatomical science.

Two years afterwards Belon published *Les Observations de plusieurs Singularitez et Choses mémorables trouvées en Grece, Asie, Judée, Egypte, Arabie, &c. Paris*, 1553. In the vast field of scientific observation the *Singularitez* form a work of rare interest, and contains one of the most instructive portions in the author's itinerary in Egypt. The pages devoted to geography, ethnography, medicine, and the fauna and flora of that strange land may still be perused with pleasure. We find there very curious particulars of Alexandria and of the manners and customs of its inhabitants; of the City of Rosetta; of the Nile fishermen; of the dwellings and gardens at Cairo; of the plants growing round about Suez. The work contains, likewise, a plan of the city of Alexandria and "portraicts" of the Isle of Lemnos, of Mount Athos, and of Mount Sinai. Although very elementary in their geometrical principles, these testify to much thought. Belon figured, from nature and for the first time, various strange animals, as the ichneumon, the hippopotamus, the crocodile, the chameleon, the sacred ibis, &c. His *Singularitez*, filled with local originalities, are remarkable for their scope of observation. Everywhere in the book we note a rigorous desire to ascertain the truth and keep nothing back. As a whole, it certainly entitles its author to rank amongst the foremost travellers of the sixteenth century.

In 1553 Belon brought out a curious treatise on ancient monuments and on the substances used by the ancient Egyptians in embalming dead bodies. This tractate was reprinted by Gronovius in tome VII. of his *Antiquites Grecques*. In the same year Belon published his work on coniferous trees: *De arboribus coniferis*. In this treatise, which has not received the attention it deserves, each individual chapter will repay careful perusal. His treatise on fishes is little known. It bears the title, *De aquatibus libri duo, cum iconibus ad vivam ipsorum effigiem quoad opus fuerit potuit. Paris*, 1553. We have three editions of this work translated into French, and all of the same year. The work possesses an altogether exceptional interest, embodying, as it does, the outlines of modern ichthyology. Correcting Aristotle's statements, the Mans naturalist has given a definite character to ichthyology by his descriptions and figures of many different species. Long before the splendid researches of Cuvier, Belon had studied the conformation of the digestive system in various fishes. The work contains a study of the "appendages of the pylorus," and modern ichthyological research has revealed nothing incompatible with his views.

In this work, and in the undermentioned one, we note the use of a binary system of nomenclature in distinguishing leading species. *Torpedo oculata* and *Gobis fluviatilis* may be cited as examples in point, names which are retained in the latest and best treatises on this branch of natural science. In fine, the book marks an epoch in zoology. Conjointly with the observations of Rondelet and Salviani, it served as the basis of all that was written on the subject of fishes down to the time of Lacépède. An enormous stride in natural science was made when Belon thus founded the study of modern ichthyology.

Afterwards he turned his attention to birds: *L'Histoire de la nature des Oyseaux avec leurs descriptions et naïfs portraicts retirez du Naturel escrite en sept livres. Paris*, 1555. In this last work, more especially, this celebrated naturalist reveals himself as a sagacious observer and an audacious thinker. As frontispiece Belon dared to put the skeleton of a bird beside that of a man, and to indicate by common signs the parts common to both. He created the comparative method, and the parallel he thus instituted betwixt the skeleton of a man and that of a bird was a veritable stroke of genius. The conception, immense in its possibilities, inconceivable in its audacity for an age so remote, assures to him the honour of the first attempt to demonstrate the unity of organic nature. Instead of resting satisfied with indications of greater or less vagueness, or hunting after phrases susceptible of divers interpretations, he expresses his ideas with vigour and precision, after the method in actual use in the exact sciences. The idea of unity of composition, first enunciated by Belon, was proclaimed with enthusiasm two hundred and fifty years later by the illustrious Geoffroy Saint Hilaire.

In this book, which is replete with ingenious views and rich store of facts respecting the osseous structure, the digestive organs, and the voice of birds, the Mans naturalist classifies these animals in two groups: (1) *Fissipedes*, (2) *Palmipedes*. Now, it is curious that this system, established in 1555, is that at present met with in the most elementary treatises.

The last, and not the least celebrated, of Belon's published works is his treatise on agriculture: *Les Remonstrances sur le default de labour et culture des Plantes. Paris*, 1558. In this tractate the eminent naturalist invites the physicians of Paris to co-operate in founding an establishment for raising plants. Under his direction, René du Bellay had already realized some of Belon's great projects, at Touvoie, near Le Mans. The gardens at Touvoie, where in the sixteenth century carob-trees, pistachios, and the tree of life (*Thuja*) were flourishing, where, under the great naturalist's direction, planes, acacias, and arbor vitæs were first raised from seed, were then the fairest and the richest gardens, not only in all France, but in Germany and Italy besides. It was there, in the suburbs of Le Mans, that Belon founded the first French botanic garden, of which the gardens at Montpellier (1596) and at Paris were the complete development.

Calls at Nurseries.

MESSRS. SUTTON AND SONS' SEED GROUNDS, READING.

For some time the several spacious structures devoted to herbaceous calceolarias in the London Road Seed Grounds of Messrs. Sutton and Sons have presented a remarkably brilliant appearance, and afforded an excellent idea of the effectiveness of these flowers when skilfully grown, and the high degree of perfection to which they have been brought by the firm. The strain of calceolarias grown by the Messrs. Sutton is distinguished by the dwarf sturdy habit of the plants, the large size and fine form of the flowers, and the rich and diversified colouring. The varied hues represented in the collection defy description; suffice, then, to say that the selfs comprise pure yellow, light straw, rich crimson, brilliant red, deep orange, bright rose, and deep rose-purple, and that the spotted flowers have grounds varying from pale sulphur to rich yellow, the markings ranging from pale rose to deep purple, and from orange to marone crimson. The richness of the colours of the strain is a characteristic of great importance, and it is not more striking in the collection in the seed grounds of the firm than at the exhibitions of the Reading Horticultural Society, where calceolarias are shown with much success by several of the leading cultivators of the district, the whole of the collections invariably consisting of specimens raised from seed of Messrs. Sutton and Sons' strain.

The gloxinias, to which special attention is also given, are now rapidly coming into flower, and already there are several hundred specimens in full bloom, producing an effect of surpassing beauty. These are about eighteen months old, having been raised from seed sown in January, 1885, and in passing through the houses it appears difficult to determine whether the cultural skill that has been brought to bear upon the plants or the high quality of the flowers is the most worthy of admiration. But, considering that they are grown for the production of seed, there can be no doubt that the splendid development of the flowers is of primary importance. Both drooping and erect varieties are grown, and of each the flowers are of immense size, stout in substance, and perfect in form. The colours include beautiful shades of rose, purple, crimson, and blue, and we noticed a large number of spotted flowers, of which the markings were exquisitely beautiful. Not less noteworthy was a large batch of a very fine white type, which has, after several years' selection, been fixed. The specimens will, in due course, be succeeded by the plants raised from seed sown in January last, and as there are many thousands there will be a fine display until quite the end of the summer.

Begonias also form an important feature, and as in the case of the gloxinias they comprise old and young plants. A goodly number of the former are in bloom, and indicate in a striking manner the high quality of the strain. The two varieties raised by the firm from crosses effected between tuberous and fibrous rooted varieties are fully in bloom, and are interesting for their decorative value and their parentage. One, which is known as Prince Henry, is dwarf in growth, and has rather large leaves of a bright bronzy crimson hue, and bears a profusion of medium-sized coral-red flowers. The other is of a quite distinct character, the growth being erect, the foliage bright green, and the flowers pure white. This will undoubtedly prove exceedingly useful for decorative purposes. Snowflake, a variety of the Semperflorens type, also raised by the firm, is one of the best of the white begonias for general decorations as it is free and continuous in blooming, and the flowers, which are produced in large panicles, are of the purest white.

In the open quarters there are numerous trials in progress, chief amongst them being those of asters, stocks, and tomatoes, the latter having assumed very large proportions.

Exhibitions and Meetings.

MANCHESTER ROYAL BOTANICAL SOCIETY, WHITSUN EXHIBITION, June 11 to 18.

The horticultural exhibition which has been held at Old Trafford during the past week was so thoroughly good that amongst the experts there was a concurrence of opinion as to its being the best of the nineteen Whitsun shows that have been held under the auspices of the Manchester Royal Botanical Society. Orchids have for many years past been contributed to the Whitsun gatherings at Old Trafford in immense numbers and high-class condition, but on this occasion the cultivators in the district quite surpassed themselves, and in conjunction with a few growers from a distance produced a display of the most magnificent description. Herbaceous and alpine plants, which received special encouragement, were not less remarkable in their way than the orchids, for they were largely shown by both private and trade growers, and the majority of the plants were presented in a high state of development. Stove and greenhouse plants in bloom, and remarkable for the beauty of their foliage, were not perhaps shown quite so largely as at some of the previous exhibitions, but they were sufficiently numerous to fill at least two-thirds of the available space in the great exhibition house, and the majority of the specimens were so well finished as to leave but little to be desired. Roses, clematis, and ferns were also remarkably good; and of fruit there was an excellent display, which did not fail to attract the attention of the holiday visitors.

Orchids unquestionably constituted the most important feature of this great gathering, and proved immensely attractive. As indicating in some degree the magnitude of the display produced by these highly-attractive subjects, it may be mentioned that there were no less than 237 specimens in competition for the prizes, many of them ranging from three to five feet in diameter, and all more or less densely flowered. In addition there must have been upwards of two hundred plants in the miscellaneous groups from trade growers. As in previous years, a considerable proportion of the largest of the specimens had been "made up" a short time previous to the opening of the exhibition, and in some instances the exhibitors had not been particularly successful in arranging the plants. But, generally speaking, the making up was fairly well done, and the large masses of flowers presented a singularly rich appearance. There was a very strong contest in the amateurs' class for fifteen, and at the head of the competitors was Mr. Hill, gardener to G. Hardy, Esq., Pickering Lodge, Timperley, who had a magnificent group, consisting chiefly of *bona fide* specimens. The collection comprised Dendrobium Paxtoni, about five feet high and four feet in diameter, and bearing 262 racemes; D. Wardianum, nearly as large and equally well bloomed; D. suavissimum, Odontoglossum vexillarium, fully three feet in diameter, and almost solid with bloom; O. vexillarium roseum, Cattleya Mossiæ, C. Skinneri, and C. Mendeli, each about three feet across, and quite solid with flowers; Cypripedium superbiens, bearing nearly forty flowers; C. Lawrenoianum, C. caudatum roseum, a highly-coloured form of this handsome species; Aerides odoratum majus, well furnished with racemes; Lælia purpurata, a fine specimen of a variety of exceptional beauty; Vanda suavis, and Cypripedium Stonei, one of the most handsome of the lady's slippers. Mr. J. Cragg, gardener to A. Heine, Esq., Fallowfield, was second, with a collection consisting of medium-sized, well-bloomed, and very fresh examples of Odontoglossum Alexandræ, O. cirrhosum, Cattleya Mendeli, C. Skinneri, C. Mossiæ, Dendrobium thyrsiflorum, D. nobile, very fresh and good, D. chrysotoxum, Vanda suavis, and V. insignis. Mr. Cole, gardener to J. Broome, Esq., Didsbury, was a very close third, with an excellent collection, in which were finely-developed specimens of Vanda teres Andersoni, a high-coloured form of this beautiful species; V. suavis Gottschilki, a very distinct and beautiful variety.

The competition was equally severe in the amateurs' class for nine, in which Mr. J. Cragg occupied the post of honour with large finely-flowered specimens of Dendrobium Paxtoni, D. Devonianum, exceptionally good Calanthe veratrifolia, bearing about twenty superb spikes; Odontoglossum crispum, O. Roezli, Cypripedium Lawrencianum, and two enormous masses of Cattleya Mossiæ, each at least four feet in diameter, and quite solid with bloom. Mr. Hill was a very close second with a collection comprising fine examples of Lælia purpurata, Dendrobium Jamesianum, D. Paxtoni, Cypripedium Parishi, Masdevallia Harryana, C. Mossiæ, and Vanda suavis, the latter carrying five good spikes. Mr. Elphinston, gardener to J. Heywood, Esq., Stretford, was third with a charming group of *bona fide* specimens, amongst which Cattleya Sanderiana, Cypripedium Hookeri, and Oncidium leucochilum. Mr. J. Hill was successful in taking the first place in the class for six, and had good examples of Lælia purpurata, a superb variety with white sepals and petals, and richly coloured labellum, Dendrobium Wardianum, and Dendrobium clavatum; Mr. Elphinston second with a group in which occurred a very fine specimen of Cattleya citrina; Mr. Johnson, gardener to T. Slatter, Esq., Stand Hall, third, with small but remarkably good examples of Dendrobium Dalhousianum, Cattleya Sanderiana, and Mormodes luxatum eburneum. The class for ten orchids, from which "made up" specimens were excluded, was well filled, and the several collections were highly interesting. Here, as in the great class for fifteen, Mr. Hill was well in advance of the other competitors, and obtained first place. The specimens staged comprised Brassia Lawrenciana, Lælia purpurata, Cattleya Mossiæ, Aerides Fieldingi, Trichopilia crispa marginata, Cypripedium Stonei, with ten finely-developed flowers; Aeridea Veitchi, with three superb racemes; Dendrobium crassinode Barberianum; and O. vexillarium giganteum, a large-flowered form, possessing much beauty. Mr. Cole was second with a neat group, in which were Cattleya Lawrenciana, Sobralia macrantha, and Cattleya Sanderiana. Mr. Cragg was third. Mr. Hill was first also in the class for six cattleyas, with nicely flowered examples of C. Mendeli and C. Mossiæ; Mr. Cragg was successful in taking second place. The premier award for three vandas was made in favour of Mr. Cole, whose plants comprised a good example of Vanda teres and an immense specimen of V. teres Anderaoni, bearing fully one hundred flowers.

The orchid classes, in which the competition was limited to trade cultivators, were well filled, and the various collections, although not containing specimens of such large dimensions as in the amateurs' classes, contributed materially to the interest of the exhibition. In competition for the prizes for sixteen, Mr. J. Cypher was first with an evenly-balanced collection in which were good specimens of Cattleya Mendeli grandiflora, C. Mossiæ, C. Mossiæ Rothschildiana, C. lobata, Odontoglossum citrosmum, Lælia purpurata Brysiana, and Anguloa Clowesi; Messrs. Heath and Son, Cheltenham, second with a collection in which a fine specimen of the beautiful Dendrobium Dearei was conspicuous; Mr. H. James, Norwood, was third. For ten orchids the exhibitor last mentioned was first with a capital group, and Mr. Cypher and Messrs. Heath and Son were second and third respectively.

Stove and Greenhouse Plants in bloom, if not so largely shown as at one or two previous exhibitions, were well represented in point of numbers, and as regards the quality were somewhat above the average. There was a keen competition in the class for eight, and in this Mr. Nicholas, gardener to the Earl of Zetland, Upleatham, distinguished himself by taking the first place with one of the finest groups that has been placed on the exhibition stage, the plants being large in size, splendidly flowered, and perfect in contour. The subjects of which it consisted were Bougainvillea glabra, Anthurium Scherzerianum, Statice profusa, Dracophyllum gracile, Franciscea calycina major, Stephanotis floribunda, Allamanda grandiflora, and Aphelexis macrantha purpurea. Mr. C. Paul, gardener to C. Schloss, Esq., Bowden, was second with a collection which were good specimens of Boronia elatior, one of the most beautiful of the several species, Anthurium Scherzerianum, and Chrysanthemum Halleri maxima, the last mentioned being about seven feet in diameter and densely flowered. Mr. Roberts, gardener to A. Nicholson, Leek, third. In the corresponding class for nurserymen Mr. J. Cypher occupied the first place, staging exceptionally fine specimens of Erica Cavendishi, E. tricolor elegans, Ixora Williamsi, one of the very best for specimens, Hedaroma tulipifera, Azalea Souvenir de Prince Albert, Anthurium Scherzerianum, and Dracophyllum; Mr. J. F. Mould second, with medium-sized and very fresh specimens, amongst them being a grand example of Gloriosa superba, which is seldom seen in such fine condition; Mr. H. James third.

Ornamental-leaved Plants were remarkably good, and formed a pleasing background to the orchids. Mr. Nicholas was a capital first in the amateurs' class for eight, staging Croton Johannis, C. majesticum, and C. Warreni, all of which were large in size and superbly coloured; Davallia fijiensis plumosa, a huge specimen at least seven feet in diameter and perfect in contour, probably the finest specimen of this fern in the country; Gleichenia Mendeli, very large and fresh, and good palms and cycads. Mr. Roberts was second with a group possessing much merit, the cycads and crotons being particularly good. Mr. Paul was third with a collection which included admirable specimens of Anthurium Veitchianum and A. crystallinum. The successful exhibitors in the trade class for eight were Mr. J. Cypher, Mr. H. James, and Mr. J. F. Mould, in the order of their names, the first-mentioned contributing a brilliantly-coloured specimen of Croton Queen Victoria. Dracænas were admirably represented, and in the trade class for twelve Messrs. R. P. Ker and Son, Aigburth, were first with exceptionally well-developed examples of D. vivicans and D. superba, two narrow-leaved varieties of much value for table decoration, D. amabilis, D. Lindeni, D. Elizabethæ, D. Goldieana, and D. Shepherdi. Mr. James was second with a very good collection, although the plants were not so well coloured. Mr. J. F. Mould was first for ten crotons, with a group consisting of neat and richly coloured examples of C. Andreanum, C. interruptum aureum, an elegant form with narrow leafage of the richest golden yellow, C. Queen Victoria, C. Johannis, C. majesticum, and C. Prince of Wales.

Roses were exceptionally good, and the group of standard and dwarf roses exhibited by Messrs. Paul and Son, Cheshunt, formed one of the most beautiful and attractive features of the exhibition. There were two classes for roses in the nurserymen's division, one for twenty plants, in pots not exceeding nine inches in diameter, and one for thirty, without restriction as to the size of the pots, and in each the first prize was awarded to Messrs. Paul and Son. The fifty plants were arranged in a large circular bed, with plenty of space between them, and the pots hidden in a groundwork of Adiantum cuneatum. By this simple arrangement the effect produced was surprisingly beautiful, and the group attracted much attention from visitors of all classes. Especially good in the collection of twenty were Edouard Morren, Madame Victor Verdier, Captain Christy, Innocente Pirola, Francois Levet, Centifolia rosea, Madame Lacharme, Etoile de Lyon, Souv. de T. Levet, a beautiful dark tea, Leon Renault, Perfection de Montplaisir, and Madame Gabriel Luizet. The standards included Anna Olivier, Comtesse de Serenye, Celine Forestier, Perfection de Montplaisir, Madame Cusin, Innocente Pirola, Alfred Colomb, and Niphetos. Mr. J. Hooley, Stockport, was second for twenty; and Mr. Mould occupied a similar place in the class for thirty. Mr. J. Brown, Heaton Mersey, contributed an excellent group to the amateurs' class for six, and was awarded the first prize, Mr. T. Dickens and Mr. J. Heywood being second and third respectively. To the trade class for eighteen trusses of tea scented roses Messrs. Paul and Son contributed a very beautiful box, in which there were finely developed blooms of Catherine Mermet, Perle des Jardins, Sunset, Marechal Niel, Francisca Kruger, Souv. d'un Ami, Anna Olivier, Niphetos, and Comtesse de Nadaillac. For twelve teas, Mr. T. B. Hall, Rock Ferry, was first with superb flowers of Alba rosea, Madame Willermoz, Hon. Edith Gifford, Madame Cusin, Anna Olivier, Innocente Pirola, Jean Ducher, Niphetos, Comtesse de Nadaillac, and Madame Margottin.

Alpine and Herbaceous Plants were shown in immense numbers, and formed a most interesting feature. In the exhibition tent Messrs. J. Dickson and Sons, Chester, had two exceptionally fine groups of herbaceous plants which, if less bright in colour than the rhododendrons and other subjects with which they were surrounded, attracted a large share of attention. The collection for which they were awarded the first prize in the class for sixty comprised very large and well-bloomed specimens of Campanula azurea, C. Van Houttei, Anthericum liliastrum, Lupinus polyphyllus, Centaurea ruhra, Gladiolus Ardens, Spiræa aruncus, S. palmata elegans, Tulipa persica, Œnothera Youngi, Campanula persicifolia fl. pl., Lilium Browni, L. speciosum, L. speciosum album, L. longiflorum, L. tigrinum, L. testaceum, L. Snovitzianum, Papaver nudicaule, and delphiniums, pæonies, and pyrethrums in variety.

In the group in which there was no limit as to the number of plants there were large and well-bloomed specimens of Spiræa astilboides, Aster alpinus, Helianthemum sulphureum, H. luteum, Nepa gracilis, Allium Neapolitum, Lilium pomponium, Myosotis azorica, and Camassia esculenta. The first prize in the amateurs' class for thirty herbaceous plants was awarded to Mr. Gill, Ashton-on-Mersey, the second to Mr. Cole, and the third to Mr. T. Dickens, Higher Broughton.

There was a very keen contest in the class for forty alpines, and here, as in the classes for orchids, violas, and pansies, "made up" plants abounded. Messrs. F. W. and H. Stansfield, Sale, were first with a thoroughly representative collection, the specimens large in size, and in a vigorous state of health. The species represented included Dianthus alpinus, Veronica prostrata, Saxifraga caniculata, S. Hosti, S. aizoon, S. Stansfieldi, Silene alpestris, Saponaria ocymoidea splendens, Sedum Douglasi, Anemone alpina, Potentilla villosa, Geranium cinerum, Selaginella helvetica, Ramondia pyrenaica, Primula farinosa, P. Sikkimensis, Lychnis viscosa, and Pentstemon nitidus, a charming little species, with deep blue flowers; Mr. J. Mellor was second with an attractive group; Messrs. Paul and Son were third with a very beautiful

collection, consisting exclusively of single plants. Amongst the rarities in the collection were Omphalodes Luciliæ, a beautiful species, with pale blue flowers; Ramondia pyrenaica alba, a white form of great beauty; Saxifraga lantoscana superba, a very distinct form, producing flowers larger in size, finer in form, and of a purer white than those of the species; Lithospermum graminifolius, a distinct species, with slender foliage and light blue flowers. Messrs. J. Dickson and Son were awarded an extra prize.

In addition to the competing collections, Messrs. Backhouse and Son, York, exhibited, not for competition, a group of one hundred and twenty-five, in which were several new species of great beauty. Amongst the less known kinds were Gazania pavonia, a very attractive species with large golden yellow flowers; G. longiscapa, Saxifraga lantoscana superba, Edraianthus serpyllifolius, a dwarf species, bearing large campanulate flowers of a rich purple colour; E. pumilus, Papaver lacinata, Silene virginica, Pentstemon Lewisi, Orchis latifolius lægotis, and Cypripedium macranthum, amongst the plants of the latter being a remarkably high-coloured form.

Ferns were, as usual, plentiful and good, and both exotic and British species were admirably represented. In competition for the prizes for eight exotic kinds Mr. Paul was first with a collection in which were huge specimens in the freshest possible condition of Gleichenia rupestris glaucescens, G. speluncæ, G. Mendeli, G. flabellata, and Gonophlebium subauriculatum. Mr. Hesketh, gardener to A. Birley, Esq., Pendlebury, was second with rather small but very fresh and otherwise good specimens.

The classes for hardy ferns were exceptionally well filled, and in the trade class for twelve, magnificent collections were shown by Messrs. C. Rylance and Co., Aughton, Ormskirk; Messrs. W. and J. Birkenhead, Sale, Manchester; and Messrs. Stansfield. In the several collections, Athyrium filix-fœmina corymbiferum, A. f.-f. Fieldi, A. f.-f. plumosum, A. f.-f. Craigi, one of the finest of the crested forms of the lady ferns, A. f.-f. Vernoniæ, Polystichum angulare cristata, P. a. plumosum, Osmunda cinnamomea, and O. regalis cristata. The specimens were also good in the amateurs' class for twelve, in which the first place was occupied by Mr. Robert Tyldsley, Worsley, whose specimens comprised Osmunda regalis cristatum, Lastræa grandiceps, Lastræa filix mas cristata, L. f.-m. ramosissima, Athyrium filix-fœmina Vernoniæ, A. f.-f. Victoriæ, A. f.-f. acrocladon, and A. f.-f. todeoides, an extremely beautiful variety with finely-cut fronds.

Fruit was plentiful, and of exceptional excellence, and comprised pines, grapes, peaches, nectarines, strawberries, and melons. The awards for a collection of eight distinct kinds were sharply contested, and the first place was occupied by Mr. G. T. Miles, gardener to Lord Carington, Wycombe Abbey, with a collection comprising Queen pine, Lord Napier nectarine, Stirling Castle Peach, Black Hamburgh and Foster's Seedling grapes, Black Circassian cherry, Dr. Morier strawberry, and Longleat Perfection melon of a high degree of perfection. Mr. McIndoe, gardener to Sir J.W. Pease, Hatton Hall, Guisboro', was a good second, with fruit of high quality, the collection comprising Muscat of Alexandria and Black Hamburgh grapes, Barrington and Bellegarde peaches, and Lord Napier nectarines. Mr. Dawes, gardener to the Hon. Mrs. Meynell Ingram, Temple Newsham, Leeds, was third with a good collection. Black grapes were of a high degree of excellence, and Mr. Hollingsworth, gardener to J. F. Campbell, Esq., Woodseat, Uttoxeter, was first with medium-sized clusters, remarkably fine in berry, and especially well coloured. Mr. Londen, gardener to T. Barnes, Esq., Chirk, was a very close second, the bunches large, and the berries of good colour, but hardly so well finished as those for which the first prize was awarded. Mr. McIndoe was third with neat clusters. There were eight competitors in the class for white grapes, and the premier award was made in favour of Mr. Miles, who had highly finished clusters of Buckland Sweetwater; and Mr. C. B. Breese, gardener to Mrs. Ackers, Congleton, was second with small bunches of Duke of Buccleuch; and Mr. W. Brotherston third with Foster's Seedling. In competition for the prizes for peaches Mr. Elphinston, gardener to E. M. Munday, Esq., Shipley Hall, Derby, was first with Royal George; Mr. Wallis, gardener to Rev. R. Sneyd, Keele Hall, second with Hale's Early; and Mr. Miles third with Barrington. The awards for a dish of nectarines were made in favour of Mr. Miles, Mr. Bannerman, and Mr. McIndoe, all of whom had large, well-coloured fruit of Lord Napier. Melons were plentiful, and the premier award in the scarlet-flesh class was made in favour of Mr. Miles, who presented a good fruit of Scarlet Hybrid; Mr. McIndoe was second with Scarlet Premier; and Mr. Hare, gardener to R. H. C. Nevill, Esq., Grantham, third. In the green-flesh class Mr. Miles was first with Burghley Pet; Mr. Hare second with Dell's Hybrid; and Mr. McIndoe third with Best of All. Cherries were not shown largely, but those staged were of high quality. Mr. Hare was first with Black Tartarian, and Mr. Miles second with Elton. The prizes for a dish of strawberries were awarded to Mr. Paine, gardener to Captain Dixon, Chelford, Mr. Dawes, and Mr. Miles, the varieties being President, La Grosse Sucree, and Sir Joseph Paxton. Messrs. Dickson, Brown, and Tait, Corporation Street, Manchester, exhibited a good fruit of Penrhyn Seedling melon, a large and handsome white-fleshed variety, for which they were awarded an extra prize; and Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, contributed a fruit of Harefield Court melon, a variety of good appearance and remarkable for its productiveness and high quality.

Miscellaneous Contributions from trade and other cultivators were very numerous, and formed an important part of the exhibition. Mr. B. S. Williams exhibited a collection of ornamental plants, in which the nepenthes and sarracenias were conspicuous. Messrs. R. Smith and Co. had a large and very attractive collection of clematis. The Liverpool Horticultural Company and Messrs. F. Sander and Co. contributed beautiful groups of orchids; Messrs. W. and J. Birkenhead, Sale, sent a collection of new and rare ferns; Messrs. R. P. Ker and Sons, Aighurth, had a group of fine foliage plants; Messrs. J. Laing and Co., Forest Hill, exhibited several of their new begonias, to which reference has been recently made in these pages; and Messrs. J. Waterer and Son and Mr. J. Hooley had immense displays of rhododendrons.

BUTLEY TULIP SHOW AND CHESHIRE TULIPS.

This exhibition took place in the Orange Tree Inn, Butley, on Friday, June 4, and it is worthy of remark that this was the sixty-first consecutive show that had taken place in this house. The president, Mr. Nunnerley, is quite a veteran among tulips, and has been connected with the Butley Tulip Show almost from the commencement. It was here that on May 29, 1852, Mr. Samuel Barlow, J.P., of Stakehill House, won his first prizes with tulips. Two things are required of exhibitors at this exhibition: one is that they must be ready to prove on oath, if required, that the tulips shown are their "own property and blooming"; the other is, they are required to send a list of the names of the flowers they intend to exhibit to the secretary three days before the show. Butley is near to Macclesfield, and this particular exhibition is one of a large number held during the tulip season in Cheshire and Lancashire. The landlady of the Orange Tree Inn is Miss Kitchen, and she is also the treasurer of the society. The society has existed mainly for the mutual enjoyment of exhibitors and subscribers. Of the former there were originally a good score; but the vicissitudes of time have reduced them to half a-dozen. The premier prize, as can be gleaned from a well-kept minute book, has invariably been a silver cup; the general prizes copper kettles, and it was one of these that Mr. Samuel Barlow carried off on the occasion above referred to. The copper kettles so won are proverbial in the district, and it is said that there is scarcely a house without one won at the Butley Show. On the occasion of the tulip exhibition, "a grand dinner" (to quote from a local record) takes place at the Orange Tree Inn (alias "The Flash," and a noted house of call in the old coaching days); and this dinner is one of the features of the institution, on which occasion Mrs. Kitchen, the mother of the present treasurer, her children and grandchildren used to form a large section of the company. This venerable lady, who died on March 14, 1883, acted as the treasurer of the society from its commencement until her death, and during that long period she acquired an immense amount of tulip lore, which was always at the service of inquiring strangers; and she kept the accounts with scrupulous and amusing accuracy. "He would be a churl who could cavil at the modest sums put down for 'liquor before dinner,' the peppermint drunk by the young exhibitors, and the moiety of tobacco smoked by the judges and the elder members of the company." Mrs. Kitchen's own subscription of a guinea stood well up in the list of subscribers for something like 58 years. The president, Mr. Nunnerley, is a veteran tulip grower also, and has been associated with the society for many years.

Tulips are still somewhat largely grown in this district. "The tulip beds in the gardens of the exhibitors—some of whom are cottagers—are perhaps the most naturally interesting features of the institution. These are made up with the utmost care, protected on the sides by close wire netting, and overhead by an awning of canvas to shield the tender flowers during rough weather. Where the flowers have a tendency to grow awry and unevenly a little shade of wood is placed over the bloom to give it a desired lean, or correct the fault." The utmost solicitude in the growth of the tulips is shown by the owners, who know each flower and its precise habit and conditions. One grower, so intent upon the welfare of his blossoms, was known to have worn the knees out of his trousers creeping round the beds and peering eagerly into their petals under the awning which screened them from wind and rain. Another anxious grower, on giving vent to his fears respecting the success of his blooms, was piously consoled by his spouse with the reflection that the flowers had had "au t' sup as ivver God could give 'em;" for, indeed, the good lady had been up by sunrise every morning for many weeks, removing the awning, and giving the tulips the benefit of the sunlight. The approach of the show-day naturally increases the anxiety of the growers, lest anything should happen to injure the flowers intended for exhibition. A story is told of an exhibitor who actually slept by the flower beds for several nights for fear some malicious person should come and damage them. More innocent occupation or pardonable solicitude could hardly be conceived than growing tulips, or having a nap along with the flowers just to keep them company.

Some promising new tulips have been raised in the Stockport district by Mr. William Dymock and others. Of the former's raising, two are feathered byhlœmens, viz.: King of the Universe, a somewhat pretentious name it must be admitted, has a shining raven's black feathering, but is apt to come with slightly-tinged stamens. John Hart is a superior flower to the foregoing, being of greater purity, rich in colour, and handsomely feathered; it was awarded a first-class certificate of merit at the National Tulip Society's meeting at Manchester in 1885. Lord Randolph gained this award at the recent exhibition at Manchester, on June 5th. It is a handsome feathered bizarre, and is said to have broken from an ugly coarse breeder, a seedling raised from two byhlœmens, Adonis and Maid of Orleans; it has great purity, and fine form and marking. But some of the best broken flowers have come from ugly breeders, while lovely breeders like Alice Grey, Glory of Stakehill, and Mrs. Barlow yield rectified flowers of a worthless character.

TULIPS AT OLD TRAFFORD.

Two very fine collections of Tulips—one of breeders and one of rectified flowers—were staged by Mr. Samuel Barlow, J.P., of Stakehill House, at the recent great exhibition at Manchester, and they represented some of the finest varieties in cultivation. Of bizarre breeders there were Horatio, one of the late Richard Headly's seedlings. Very fine indeed as a breeder, having a bright yellow base, and light orange-red petals; actually a red bizarre breeder, but quite worthless when broken; Richard Yates, Hepworth's Seedling; Criterion, Lea's No. 1 and No. 2, and Sir J. Paxton. Rose breeders: Lucretia, Mabel, Lady Grosvenor, Mrs. Barlow, one of the late John Hepworth's seedlings, a lovely breeder, of a clear silken rose colour, perfect as to purity and form but worthless when rectified, it breaks badly, the colour is right, but the flower has no character; Annie McGregor, Nancy Gibson, and Industry. Bybloemen breeders: John Dalton, one of Dr. Hardy's seedlings, breaks both into a good feathered and flamed character; Glory of Stakehill, one of the late Luke Ashmole's seedlings, perhaps the best breeder grown, but breaks into a weak rosy bybloemen destitute of character, a tall grower, perfect in form and purity; Hepworth seedling, William Parkinson; Alice Grey, raised by the late John Walker, of Winton, colour very light lavender, it breaks into a fair byhloemen, both feathered and flamed, but it is not to be relied upon, and so perfect is it in the breeder state that it has taken the premier prize many times; David Jackson, and Adonis.

Of rectified flowers there were bizarres—William Wilson, one of the late Dr. Hardy's, both feathered and flamed; it will come good at times, but not always reliable; when in form a bold flower. Dr. Hardy, Sir J. Paxton, Orion, Gill's Seedling; Commander, a feathered bizarre raised by Marsden, sometimes quite pure, but often stained on the stamens; a grand commanding flower. Excelsior, another of Dr. Hardy's, sometimes feathered only, but oftenest flamed, makes a grand breeder; best in its feathered character only, but apt to come a little stained on the stamens. Richard Yates, Sir Samuel Romily, and Storer's Lord Stanley. Roses: Aglaia, Annie McGregor, Rachel, Charmer, Miss Burdett-Coutts, Mr. Lomax, Modesty, Lady Wilton, Mdme. St. Arnaud, and Heroine, a very pretty and attractive lot indeed, but, as a rule, under-sized through the lateness of the tulips in getting into flower. Bybloemens: Mrs. Jackson, a feathered bybloemen that was never in the breeder stage, having broken into character at the first time of flowering; Adonis, a seedling rosy bybloemen (Thurstan); Adonis, David Jackson, Musle, George Hardwick, William Parkinson, and Nimbus; a first-class commendation was awarded to this fine collection, in all about sixty flowers.

SUGAR.

By G. Buchanan.

The sugar-cane had, and not so very long ago, the monopoly of sugar production. The enjoyment of a monopoly is seen, only too often, to be inconsistent with progress; and the sugar-cane industry continued to be carried on in the old-fashioned way, with unconcern and disregard for the development of a rival product. The magnitude to which the latter has attained so recently and suddenly seems almost abnormal. If it be as permanent as great, the planter, it is pretty plain, will have to take special care, or leave his place to ruin. Coffee and cotton have ceased in our West Indian colonies, are we to acquiesce quietly in the increased loss of the sugar also? The cane is not beaten on its merits. No agricultural product, it used to be said, gives a return equal to that from a good sugar estate. And when we see how much has been accomplished by its favoured rival, the beet, it would be unreasonable to doubt the capability of the cane, with like invention in machinery, selection of seed, and technical skill in workmen, to fulfil a similar success. All classes would benefit by an increased supply of cane sugar, and energetic workers ought not to let the country be dependent for price on the adventitious supply of beet. The over production of beet sugar in Germany, which ensued from the opportunity of making large profits under the system of sugar duties and drawbacks, will, by the attending abasement of the price, and from which it is probable there never will be a complete recovery, reduce the area sown for the coming and succeeding crops, and the sowings are likely to be diminished in another way. The German Government, it is understood, are not satisfied with the share of the profits of the beet sugar manufacture that accrues to the State, and have in contemplation the raising of the duty from 80 pfs. to 93 pfs. per centner, or hundredweight of roots. The drawback upon export of the sugar to be kept as it was, on the basis of an assessment of 10 marks per centner of sugar made. This indicates that 10¾ cwt. of roots will then be taken officially, instead of 12½ cwts, as formerly, to make 1 cwt. of sugar. And the proposed increase of tax, if sanctioned by the Reichstag, would thus, in years of ordinary fertility, greatly lessen, if not do away with, the bounty on export, which has been so long and loudly complained of in this country, as a grievance. Though bounty, it was not in the meaning of a premium from the State to encourage sugarmaking, but simply a benefit to the producers from their own skill and ingenuity, obtained by turning to profit the chance they had of getting more sugar from the roots than the excise assessment; a thing that has happened before now nearer home, when the march of improvement has outstripped legislation in such matters. The advantage taken of the Netherlands' system of duty by classification of colour, to bring beet sugar from Germany, artificially coloured in the lowest class, and ship it for drawback, has now been put a stop to. And the bounty obtained in the United States from the drawback being unchanged when the duties were altered cannot continue long after public attention is directed to it. But there is not the objection there is with beet to receive pure granulated cane sugar from our friends there if they please to supply us at a cheaper rate than they pay themselves. However, the returns of the last two seasons show that the beet yields a larger percentage of sugar than is represented by the figure 10¾; for the last two years were good and plenteous years, and if the years to follow should happen to be characterised by the same exuberant richness and weight of roots our cane sugar growers and refiners will find things more comfortable than before. The enterprise of the beet cultivators and fabricants, and the better modes of procedure followed in their work, have given them a perfection of process against which the cane sugar producers will find it hard to contend. But the excellence attained by the former is perhaps now at its best, both in cultivation and manufacture, and in the struggle to recover their old supremacy in the markets the latter will have the advantage of knowing the lessons taught by the practice of their opponents. Here "our antagonist is our helper."

In any near view of the case the enrichment of the sugar-cane naturally comes first for consideration. There are more than half a-hundred varieties of the plant, differing much in the quantity of fibre and the amount of sugar they furnish. And the advantages of selection and good cultivation of the fittest is shown by the immense improvement made in the beet, which has, by the use of Vilmorin seed and high farming, been brought to yield, it is said, one cwt. of sugar from 8·34 cwt. of roots. This was in Germany, where they may be, it will be readily owned, great in theory and speculative research, but are held to be somewhat wanting in the practical acumen we note complacently in ourselves, which enables us to carry out a thing when once it is taken up, and leave foreign nations behind. The object is sugar, and experience says much for the system of cultivation upon which the German fabricants lay stress. It requires the farmer to content himself with growing a comparatively small crop of roots per acre, and to develop the sacchariferous quality of what he grows to the utmost by "forcing." The care for quality rather than quantity in the cultivation effects a saving in the labour and fuel that would otherwise have to be expended in manufacturing a large crop of watery, unsweetened roots. To the planter, his big crop of canes is likewise, as regards time or money, a heavy charge and great inconvenience. To speed the work and labour of crushing, the three-roller steam mill was designed, and it made quicker work with the canes, but not better work than the two-roller cattle mill, which has been known to squeeze out 60 per cent. of juice. To get better results it was screwed up, and strengthened, and enlarged, and more rollers added. Yet the outcome of all the improvements is a roller mill, and nothing more. It is still an unsettled question how far pressure may be exerted commensurable with profitable effect. And invention has not sought out a more perfect instrument. To make a reduction in the number of canes, and no diminution in the weight of sugar per acre, would answer well for the planter. And of his wishes there can be no doubt, could these be realized. Nor is the thought utopian, for it appears that in Louisiana, two or three years ago, an overflow, and consequent loss of growing cane, left the planters with little hope of regaining expenses; but the canes, though short and slim, were found to contain an unexpected quantity of saccharine matter, and the result was an agreeable surprise. The sugar in the cane, it seems to be agreed, is not drawn from the earth, but is elaborated from the carbonic acid in the air by the direct influence of the sun on the green leaves. Thus Nature herself points out to us the need of room and space for the growth of the cane in all its fulness, and that too close planting, by keeping out sunshine, prevents a healthy vegetation. Without a free access of air and sunlight the power of the plant to produce sugar is weakened. And since there is no exhaustion of the soil by the formation of sugar, and plants take up only the nourishment they actually want, no more manuring is demanded than will restore the wastage of the other matters taken up from the soil by the crops of cane raised from it. If canes are ill-fed a low vitality might not be able to withstand disease. And this is not a groundless apprehension, for in Java it has lately been discovered that the growing canes were affected by a disease, the precise nature of which is as yet not known.

Single crushing is inadequate to express the full amount of juice from the cane, and it was supplemented by double crushing. But neither did double crushing suffice, and then the megass was drenched with water and steamed preparatory to the second pressure. But even so, imbibition did not effect a saving of all the remaining sugar; there is left from 10 to 12 per cent. in the present refuse. The next step is diffusion pure and simple. In this process the water put into the first vessel with the slices of cane is weight for weight the same, and takes out one half the sugar from the first into a second vessel, containing other slices of cane, from which it takes out one-fourth the sugar into a third vessel, also holding fresh slices, and so on until in the sixth vessel the water has in solution the whole amount of sugar, excepting about 1½ per cent. The sugar, as it is taken out, is replaced by water in the slices of cane. By this is manifest the excess of water in diffusion juice beyond what is in mill juice. With more changes of vessel the difference would decrease, but there would always be an excess of water to be evaporated. Practical working is said to have shown this to be from 15 to 20 per cent. On the other hand, in the mill, the water imbibed by the megass previous to the second crushing is not far short of half the amount of juice contained originally in the cane, if not as much as the quantity expressed by the first pressure, and therefore an excess of from 50 to 60 per cent. What then becomes of a chief objection to diffusion, the great diluting of the cane juice. The dilution is greater by imbibition, and yet one moiety of the sugar got by imbibition pays the cost. The other moiety is found money. Much capital is fixed in mill machinery, doubtless, and it remains to make the most of it. The greater number, by far perhaps, of planters work with borrowed money, and they are not at present likely to obtain further advances, in order to make changes, or set up new apparatus. Yet the time will come for them, or new men, to try increased production, by using the most recent and approved methods and appliances. The benefit to be derived from new inventions is not always immediate or certain. But the cane sugar producers have had the beet sugar producers in the way before them, to hear the burden of experiment and demonstration. Cane sugar, it will not be gainsaid, can be, even now, produced at less cost than beet sugar. The varieties of soils yielding, some more, some less, and the diversities of mills working, some better, some worse—make it almost impossible to strike the balance of expenditure. But the make-weight on the side of the cane will be equal, it may be fairly assumed, to 2s. per cwt., the supposed bounty on beet, if not more. Nor will it be denied that there is more room for the cane than is left for the beet, to develop and improve, in growth and manufacture. The beet has no future to look to in comparison with the possibilities in view of the cane.

But the cane sugar planter and the merchant have little encouragement given them to embark more capital and skill in the enterprise of the production by the refiner who has the distribution of the sugar. Cane sugar or beet sugar it is all "David and Davie" to the refiner. He mixes the one with the other in the manufacture of loaf or lump sugar, and says there is no difference. The mixture may even seem to be an improvement, like chicory with coffee, to debased tastes; and unfortunately there is no pure cane lump to be had nowadays to correct the standard of taste. Beet sugar is, nevertheless, inferior to cane sugar in many ways. It is not equal in sweetness, the crystals are smaller, and it is of a duller, more opaque colour. To brighten up the colour the practice of "blueing" was borrowed from the laundry, and as one's linen so the sugar is imbued with a factitious liveliness of appearance. Cane sugar can do without this artificial aid, and the blueing might be for a sign to the consumer which of the two sugars to choose. The treacle too, or drainage, from the refined beet has not the sweet smelling savour of that from the cane, and though in the form of golden syrup it is made enticing to the eye, it is neither so pleasing to the taste, nor so wholesome as pure cane syrup. And treacle is, or was, pre-eminently the sweet of the children of the poor. The sugar planter has perhaps no claim on the refiner for active aid and assistance in his contest with the beet grower. But a business feeling, it might be supposed, would incline the refiner towards the exercise of a benevolent neutrality. And yet the refiner is so inconsiderate as to subsidise the common adversary of himself and the planter. For what else is it but a subsidy to give money to receive goods in aid of his trade. If the refiner will be apparently so impolitic, it is hardly reasonable in him to complain of the business going out of his power and failing him. But it is shrewdly thought that we cannot be doing a very unprofitable trade with cane sugar at the reduced prices so long prevalent.

The conclusion of the whole matter is that we have been unable to hold our own, and have retrograded. But the supremacy that has passed into the hands of the beet sugar producers cannot be left unchallenged. It will not be creditable to the spirit and enterprise of this country, the most deeply engaged of any in the cane sugar industry, if the technical perfection exhibited in all the work of beet sugar production is not attained to in cane culture and manufacture. The beet sugar cultivators and fabricant have secured a firm footing, fixed on and buttressed by the agricultural and fiscal systems of their country, but none can doubt that with a long pull, a strong pull, and a pull altogether by planter, merchant, and refiner the tug of war would end in favour of the cane.—*Journal of Society of Arts.*

MARMALADE—ORANGES VERSUS TURNIPS.

"First of all," said Mr. Moir, "I wish you to understand that there is nothing true in the old story of marmalade being adulterated by the substitution of turnips and carrots for oranges. It is a standing joke with people to ask marmalade manufacturers how much of their marmalade is made of turnips. Now the simple fact is that we can make pure marmalade with less expense than if we were to use any turnips. For a hundredweight of bitter Seville oranges—those are the oranges used for marmalade, they are different from the sweet eating-oranges—we pay, as a rule, 5s. Surely we could not buy turnips cheaper. Besides, in using turnips we should want a much larger quantity of sugar in order to prevent fermentation, so that it is easy to see that it would be by no means to our advantage to adulterate marmalade.

"We do not, as it is mostly done, import the fresh fruit from abroad and have the entire manufacture of marmalade done in England. The reason for this is that if the oranges are imported as they come from the trees there are always a larger or smaller quantity of them which begin to get bad before they arrive in this country. This not only means that these tainted ones have to be thrown away—which, of course, compels us to raise the price of the marmalade—but they also affect the flavour of the rest of the fruit, and conse-

quently that of the marmalade. King Alphonso XII. granted us in 1877 the concession of preparing our fruit for export in Spain. We have a large factory at Seville, where the fruit is reduced to a pulp, in which state it is sent over to us in tin drums, each of which holds two and a-half gallons. Why don't we prepare the marmalade altogether in Spain? Because the duty on sugar there is 300 per cent., and marmalade would be anything but cheap if we had to pay the Spanish sugar prices. At Seville we contract with the gardeners in the neighbourhood for our supply of fruit. At the beginning of December they begin to bring oranges in on mules, and till March and April they continue to do so day by day. Those are the busy months for marmalade making. Another advantage of having a factory in Spain is that we can wait till the fruit is ripe before we use it, whereas the oranges which arrive here are taken from the trees while they are still green. By the time they arrive they are ripe, but they cannot naturally be equal to those which have ripened in the natural way. When the fruit is brought in it is first well washed; after that our girls and women begin their work. In one department the workers do nothing but quarter the orange peel; in the next the peel is quite removed and thrown into wooden barrels, where it is steamed till it is soft enough to be chipped into thin strips. The oranges themselves are also steamed till reduced to a pulp, and are then passed through a machine which retains all the pips and the fibres. There is so much acidity and gelatinous matter in the pips that they are often boiled again for the sake of their juice. The pulp and strips of peel are then mixed, and arrive here as you shall presently see."—*Pall Mall Gazette.*

Replies to Queries.

Sticks and Ties.—R. B.—As you are "dead heat" in trying to keep your plants in order, we propose to you a rough and ready plan: Drive in stout stakes at convenient spots and run stout tarred cord from stake to stake to afford lateral support. This will be an easy task, and will be very nearly as effective as a forest of sticks. Many gardens are made ridiculous with machinery for supporting plants.

Satyrium carneum.—M. A. W.—This is a fine plant when well grown, and a good companion for it is *S. aureum.* The treatment recommended for the disa will be nearly right for them, but they need a rather loamy soil, say a mixture of peat, loam, and sand in equal proportions. As frame plants they are occasionally to be met with in a quite prosperous state. A few of the Bahianas may be grown on a dry, sheltered border, but, strictly speaking, they are frame or greenhouse plants.

Grapes.—J. M. sends berries much affected by rust, for which there is no cure. The cause in this case is probably over-firing, but sudden blasts of cold air will cause rust, and therefore people who leave doors open carelessly should be excommunicated. J. M. does not say if he has been using sulphur, which will certainly cause rust when put on hot flues, or otherwise injudiciously used. His best course now will be to thin out all the rusted berries and bunches, and in so doing to be careful not to touch any berries with his hand or his beard, for rough usage of young grapes will cause rust equally with too high a temperature or strong sulphur fumes.

Names of Plants.—Hortus.—1, Cedrus Libani; 2, Cryptomeria Japonica; 3, Tsuga Canadensis; 4, Tsuga mertensiana, also known as Abies Albertiana. T. J.—1, Bird cherry, Prunus padus; 2, White beam tree, Pyrus aria; 3, Yellow currant, Ribes aureum; 4, Staphylea pinnata; 5, Veronica gentianoides v. alba. R. H. Morton.—1, Pyrethrum roseum; 2, Prinos lucida; 3, Osmanthus illicifolius; 4, Phyllerea ligustrifolia. J. R. J.—1, Dianthus cæsius; 2, Armeria cephalotes; 3, Gentiana acaulis; 4, Dryas octopetala. R. Benson.—The grasses are all British, and figured in Lowe's "British Grasses." The one without flowers is a festuca.

Disa grandiflora.—M. A. N.—This plant grows "like a weed" in some gardens, and in others will not grow at all. For the present the greatest uncertainty prevails as regards complete success, but we can advise you that a cool house is the proper place for the disa, and the plants should be in shallow pans, in rough, fibrous, peaty soil. In the growing season water must be given liberally, and the best way to water them is with the syringe overhead, and not with the water-pot at all. When the plants have flowered they should be put out of doors for a few weeks and have a shower overhead twice a day. When at rest they must be kept moderately moist, certainly not dry.

HOW ODONTOGLOSSUMS ARE COLLECTED.

Although the geographical range of Odontoglossum crispum is comparatively limited, there is a marked difference in the varieties found in various localities. The Pacho Mountains is the home of the finest forms, and here the plants grow on the lower branches of the forest trees in company with O. gloriosum and O. Lindleyanum, two inferior species in point of beauty, but which have, perhaps, in a great measure, been instrumental in producing the beautiful narrow-petaled supposed hybrids, such as Andersonianum, Ruckerianum, Jenningsianum, and others. It is peculiar that, whereas the starry-flowered forms, similar to Lindley's type specimen, abound exclusively on the north of Bogota, the woods on the south, about ten days' journey distant, are rich in the fine round-flowered varieties. Although this orchid is imported in larger numbers than any other from South America, the risks and expenses are not slight even now. In our case, we purchase the exclusive right to collect plants in the woods in certain districts; natives are employed to gather them, for which purpose parties of from four to eight go into the woods, returning in about a fortnight with the result of their labours. After the plants have been cleaned and prepared, and kept on wooden stages for several weeks, they are ready for packing.

They are then fastened to stout sticks, and these are fixed in wooden boxes, so as to leave air space around them. The cases are carried on mule-back to Bogota, a journey of about ten days, and here they are received by an agent, who sends them by mules to Honda, which is reached in another six days. This place is situate on the River Magdalena, and here the cases are put on board a river steamer, which takes them to the seaport town of Savanilla, a journey occupying about five days. Owing to the intense heat on the river journey the plants often perish. The cases then come, as a rule, by mail steamer, *viâ* Colon and St. Thomas, to England, the passage being made in about twenty-seven days. The risks, therefore, of importing this orchid are great, and owing to the peculiarly soft nature of the plants they are so liable to decay that in some instances seven-eighths of the consignment are dead on arrival here. The havoc made in the native forests, too, must be considerable, for we calculate that for every three plants actually established in European gardens a tree has been felled.—*Reichenbachia.*

Literature.

Sophocles. With Critical Notes and Translations in English Prose. By R. C. Jebb. (Cambridge University Press.) Now that scenes from the Iliad have been dramatized, and a complete play cast in a Greek mould has been presented with singular success in aid of the funds of the British School of Archæology at Athens, there is likely to be a revival of interest in the Greek drama. In speaking of a possible "revival," we do not imply that English readers have ever been enthusiastic on the subject. Indeed, such a revival as we now behold is in the nature of a new passion, resulting on the discovery that great plays were written in days anterior to Shakespeare, and were in high favour with the founders of European civilization in days when the English people did not yet exist. The new passion is only too likely to prove evanescent. But should it continue and spread, we should hope to see reprinted Potter's admirable translations, and there would be a public ready for a selection from the whole body of Greek drama, comprising such works as the two tragedies on Œdipus of the author now before us, the Prometheus of Æschylus, and the Alcestis of Euripides. Professor Jebb gives the best prose version of the great master of tragedy that we have seen, and we must confess that we prefer it to the admirable translation in verse of Mr. Plumptre, or the nearly successful experiments of Mr. G. C. Fox, who has versified Prometheus and Electra. The following passage from Œdipus at Colonus will suggest that the present translation is truly touched with the spirit of the original:—

"Stranger, in this land of goodly steeds, thou hast come to earth's fairest home, even to our white Colonus; where the nightingale, a constant guest, trills her clear note in the covert of green glades, dwelling amid the wine-dark ivy and the god's inviolate bowers, rich in berries and fruit, unvisited by sun, unvexed by wind of any storm; where the reveller Dionysus ever walks the ground, companion of the nymphs that nursed him.

"And, fed of heavenly dew, the narcissus blooms morn by morn with fair clusters, crown of the great goddesses from of yore; and the crocus blooms with golden beam. Nor fail the sleepless founts whence the waters of Cephisus wander, but each day with stainless tide he moveth over the plains of the land's swelling bosom, for the giving of quick increase; nor hath the Muses' quire abhorred this place, nor Aphrodite of the golden rein.

"And a thing there is such as I know not by fame on Asian ground, or as ever born in the great Dorian isle of Pelops—a growth unconquered, self-renewing, a terror to the spears of the foemen, a growth which mightily flourishes in this land—the gray-leafed olive, nurturer of children. Youth shall not mar it by the ravage of his hand, nor any who dwells with old age; for the sleepless eye of the Morian Zeus beholds it, and the gray-eyed Athene.

"And another praise have I to tell for this the city our mother, the gift of a great God, a glory of the land most high; the might of horses, the might of young horses, the might of the sea.

"For thou, son of Cronus, our lord Poseidon, hast throned her in this pride, since in these roads first thou didst show forth the curb that cures the rage of steeds. And the shapely oar, apt to men's hands, hath a wondrous speed on the brine, following the hundred-footed Nereids."

TRADE CATALOGUES.

E. G. Henderson and Son, Maida Vale, W. *Plants for Conservatory and Hothouse.*

W. B. King and Co., Wherstead Road, Ipswich. *Universal Horticultural Manures and Plant Composts.*

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Cauliflowers ... per doz.	2s. 6d.	,,	3s. 6d.
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Horse-radish ... per bun.	3s. 0d.	,,	4s. 0d.
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Lettuce, Cos ... per doz.	0s. 9d.	,,	1s. 0d.
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Parsley ... per bun.	0s. 3d.	,,	0s. 4d.
Peas ... per quart	1s. 0d.	,,	2s. 0d.
Radishes ... per doz. bunch	0s. 6d.	,,	1s. 0d.
Rhubarb ... per bun.	0s. 4d	,,	0s. 6d.
Small Salading ... per pun.	0s. 3d.	,,	0s. 4d.
Spinach ... per bushel	2s. 0d.	,,	2s. 6d.
Tomatoes ... per lb.	0s. 8d.	,,	0s. 9d.
Turnips ... per bunch	0s. 4d.	,,	0s. 6d.

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Abutilons ... per doz. bun.	1s. 6d.	to	2s. 0d.
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Carnations, per doz. blms.	1s 0d.	,,	1s. 6d.
Eucharis, per doz. blooms	3s. 0d.	,,	4s. 6d.
Gardenias, per doz. blooms	2s. 0d.	,,	3s. 0d.
Heliotropes, per doz. sprays	0s. 6d.	,,	0s. 8d.
Iris ... per doz. bun.	5s. 0d.	,,	7s. 6d.
Lapageria, per doz. blooms	1s. 0d.	,,	2s. 0d.
Lilium longiflorum, per doz. blooms	4s. 0d.	,,	6s. 0d.
Lilium candidum, per doz. blooms	2s. 0d.	,,	3s. 0d.
Marguerites, per doz. bun	3s. 0d.	,,	6s. 0d.
Mignonette, per doz. bun.	3s. 0d.	,,	6s. 0d.
Pansies ... per doz.	1s. 0d.	,,	3s. 0d.
Pæonies ... per doz. bun.	5s. 0d.	,,	15s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d.	,,	0s. 8d.
Pelargoniums, per doz. trusses	0s. 8d.	,,	1s. 0d.
Pyrethrums ... per doz.	2s. 0d.	,,	4s. 0d.
Ranunculus, per doz. blms.	1s. 6d.	,,	3s. 0d.
Roses ... per doz. blms.	1s. 0d.	,,	2s. 0d.
Roses, Tea ... per doz. blms.	1s. 0d.	,,	1s. 6d.
Stephanotis per doz. sprays	1s. 6d.	,,	2s. 6d.
Tropæolum ... per doz. bun.	1s. 0d.	,,	2s. 0d.
Tuberoses ... per doz.	0s. 6d.	,,	1s. 6d.

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Jersey Rounds, New ... per cwt.	8s.	,,	10s.
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Lisbon Rounds ... per cwt.	7s.	,,	9s.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. temp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.	Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.		1886
27	S	**1st Sunday after Trinity.**	3 46	2 44	8 18	1 6	3 5	9 34	10 7	6 24	6 59	62·3	Calantho Dominii ..... Gar. hyb.	178
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3	S	Dog Days begin.	3 50	3 55	8 17	5 52	9 14	2 31	2 54	11 56	—	62·9	Calantho masuca grandiflora ..... India.	184

ROYAL HORTICULTURAL SOCIETY.
PATRON—HER MAJESTY THE QUEEN.
The GREAT PROVINCIAL SHOW of PLANTS, FRUITS, FLOWERS, VEGETABLES, HORTICULTURAL IMPLEMENTS, and APPLIANCES will be held in the BOTANIC GARDENS and WAVERTREE PARK, LIVERPOOL, From JUNE 29 to JULY 5, 1886, inclusive.
PRICES OF ADMISSION—June 29, 5s.; June 30, 2s. 6d.; July 1, 2, 3, and 5, 1s.

NOTICE.
ROYAL HORTICULTURAL SOCIETY'S SHOW, LIVERPOOL, JUNE 29 to JULY 5.
Messrs. W. B. KING and Co., IPSWICH, beg to announce that they will display samples of their "UNIVERSAL" HORTICULTURAL MANURES, SPECIAL COMPOSTS, and "FERTILIZING MOSS;" also a group of Plants growing in their Composts and in Fertilizing Moss at the above show. See advertisement in the general official catalogue.

CRYSTAL PALACE.—GREAT ROSE SHOW OF THE SEASON, SATURDAY, JULY 3. For Schedules, Entry Forms, &c., &c., apply to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace, S.E.

GRAND ROSE SHOW, NORWICH, TUESDAY and WEDNESDAY, JULY 13 and 14 (during visit of Royal Agricultural Society). £150 offered in prizes, including: Roses, 72 vars., £10; 48 vars., £5 5s.; 36 vars. (amateurs), £5 5s. 83 classes in all. Entries close July 8.
Bank Plain, Norwich. ARTHUR W. PRESTON, Hon. Secretary.

HUDDERSFIELD CHRYSANTHEMUM SOCIETY.—The THIRD EXHIBITION will be held in the TOWN HALL, HUDDERSFIELD, on FRIDAY and SATURDAY, NOVEMBER 12 and 13, 1886. Schedules and Entry Forms are now ready, and may be had on application to Mr. JOHN BELL, Hon. Sec., Marsh, Huddersfield.

HULL AND EAST RIDING CHRYSANTHEMUM SOCIETY—PRIZES to the value of £170. Four Silver Cups. Schedules now ready, and may be had on application to the Hon. Secs., R. FALCONER JAMESON and WM. HAWKESWORTH, Queen's Dock, Hull.

RICHMOND (SURREY) HORTICULTURAL SOCIETY, 1886.—The TWELFTH ANNUAL SUMMER EXHIBITION of PLANTS, FLOWERS, FRUITS, VEGETABLES, DINNER TABLE DECORATIONS, &c., will be held in the OLD DEER PARK, on WEDNESDAY, JULY 7. PRIZES amounting to £250. Large Prizes for Dinner Table completely laid out. Almost all Classes are Open. For Schedules apply to J. H. FORD, Hon. Sec., 22, George Street, Richmond.

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SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.
Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.
ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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The Gardeners' Magazine.

SATURDAY, JUNE 26, 1886.

GARDENERS' ROYAL BENEVOLENT INSTITUTION is nearing the fiftieth year of its age, and may be said to be now in the infancy of its prosperity. In a certain sense it has prospered from the time of its foundation, in the year 1838, but within quite recent years the gardeners have discovered it and shown it some amount of favour. Their persistent holding aloof, we have taken care to explain, was in its way reasonable, and their adhesion, though late, is equally reasonable, for in truth the thing has been modified in both plan and working, very much to the advantage of the cause, and the gardeners have shown their appreciation of the improvements by more generally and more liberally assisting it than heretofore. By means of a great effort, admirably sustained, the pensions, formerly of twelve and sixteen pounds respectively for women and men, have been raised to sixteen and twenty pounds, a most important advancement, largely brought about by the co-operation of gardeners. Not less important is the practical abolition of the election of pensioners. The canvassing for votes did certainly advertise the affair, and thus may have proved at least not an unmixed evil. But the canvassing was an evil, everybody knew it to be both costly and painful, and a severe tax on the friends of candidates; for wire pullers were, of course, always wanted, and by reason of the excitement that accompanied it the pangs of the disappointed ones were rendered peculiarly poignant. Added to these improvements, there must be mentioned yet another, that made perhaps a more direct appeal to the constituency, or, say, to be plain, the gardeners. The placing of candidates on the pension list without election brought in partially the theory of insurance; for candidates who had subscribed a few pounds to the fund in the time of their prosperity were selected as of right entitled to a share of the fund in the time of their adversity. The case of Mrs. Squibbs, of Godstone, who died the other day, is an interesting illustration of this view of the subject. Her husband had subscribed to the institution the sum of fifteen guineas, and at his death she was placed on the pension list without election. She enjoyed her pension long enough to draw from the fund the sum of £300, and, therefore, in the cold-blooded view of the husband's subscriptions it may be said he made a good investment. It should be understood, moreover, that there is nothing of caprice in placing on the fund those who have established a claim to it by certain payments or subscriptions, as rules 6 and 7 provide a distinct course of action in the interests of those "who have been contributing to assist others." It is assumed, of course, that no subscriber anticipates for himself or his widow to be placed upon the fund, for while we point to this feature and liken it to the working of an insurance scheme, this is not an insurance, but precisely what it calls itself, a "benevolent institution."

Peculiar interest attaches to the anniversary dinner announced for July 2, for here again we have evidence of the increased friendliness of the horticulturists. The president of the festival is N. N. Sherwood, Esq., of the firm of Hurst and Son, holding first rank in the seed trade, and having the key doubtless to the sympathies of many of the horticultural persuasion. We have been careful not to complain of the comparatively rare appearance of a horticulturist as president of the annual dinner. Every new friend is welcome, and the honour of presiding is inscribed in the records in connection with the president's contribution. But we do not disguise or hesitate to declare our opinion that a gardener of some sort, whether a wealthy amateur or a trader or a man accustomed to work with his hands and manage men and plants in the garden, should be seen in the chair more often than such an one is seen. In a list of forty-three presidents, only seven of the number are such as we should speak of as by habit of thought or employment specially fitted for this office. They are—taking them in chronological order—John Noble, 1844; Sir Joseph Paxton, 1851 and 1856; Charles Lawson, 1864; Rev. Canon Hole, 1872; Dr. Hogg, 1876; Sir Trevor Lawrence, 1877; Robert Marnock, 1878. As for the rest, to use the words of Marc Antony in a more generous spirit than animated his famous speech, they are all "honourable men," and the cause is deeply indebted to them for their generous help. It would not be well to shut up the office of president of the festival to "the cloth," whether blue or green; the outer world should know of this thing, and should be stirred by its claims. Nevertheless, in a total of forty-three names, seven is a small proportion of horticulturists, and the fact adds piquancy to the welcome Mr. Sherwood will receive. We shall beg of our friends to be ready in time with subscriptions, donations, friendly words, and, not least of all, suitable appetites for a dinner that has become famous by reason of careful organization and good practical management.

And the mention of the management reminds us of the devotion to this cause through long years of Mr. E. R. Cutler, the truly "indefatigable" secretary. His splendid success affords a fine lesson of the value of constancy and "pegging away." The list of officers commands respect and confidence, but the secretary is the man of all work who cannot stand still, who cannot do the perfunctory thing, but must be always a reality and an inspiriting manipulator of opportunities and events. The sum collected for the augmentation fund was within a trifle of £5,000, and this represents more of Mr. Cutler's work than of all other workers put together, for he pegged away from day to day until the thing was done, and then we should hope

he rested. But the jubilee year is nearing, and this will make occasion for a new appeal, and we hope the energetic secretary will be found sufficiently young and ardent and vigorous to secure a jubilee purse for the president at the banquet; and we will add the hope that on such an important occasion a conspicuous horticulturist will be secured for association with it.

The Institution has now a reserve fund amounting to £21,100, the interest of which insures the safety of those who have subscribed under the sixth rule, should they eventually come upon the fund. The committee regard the reserve as for the present sufficient, and they propose to devote the whole of the annual income to the general purposes of the institution. Every contributor, therefore, has a guarantee of the direct application of his contribution to the kindly offices that age and infirmity call for, and in respect of which the call is loudest to those who are nearest by reason of vocation and surroundings.

Winter Weather in June is not a novelty in this country. But it is none the less unpleasant for our being in some degree trained to expect and to endure it. The English housekeeper has been heard to declare that it is not safe to give up fires or winter clothing until Midsummer Day, and we have realized the value of the traditional wisdom. In our issue for March 6 we suggested the probability of the events that have followed, and to which we directed attention in connection with the prospects of the season at page 289 of the issue for May 22. In our issue for March 6 we gave reasons for anticipating a cold spring, and that those reasons agree with the facts is so far a justification of the study of probabilities. It may now be said that when winter weather prevails up to Midsummer Day there is but slight hope of either a pleasant or a fruitful season. We have yet before us the warmest time of the year, and it is never too late even for the weather to mend.

All Europe has shared in our unpleasant experiences, and in not a few places great disasters have accompanied unwonted atmospherical phenomena. We had the longest winter known to living men, and the coldest month of February on record. It was the continuity of cold that made it so, and not any extreme temperature for a brief space of time. At the May meeting of the Meteorological Society Mr. Charles Harding gave some interesting particulars of the past winter, and directed attention to the fact that in the month of March, 1886, there were in London sixteen skating days, while there were only twelve in the cruelly cold month of March, 1845. As regards rainfall, we are scarcely as yet prepared to say we have had a wet spring; but it is certain that from May 11 to 13 the country was deluged, and in the Severn basin the floods were greater than any that have occurred since 1792, an interval of 94 years. As compared with the averages of twenty years, the differences in whole degrees in the temperature of the past five months in the twelve districts to which the operations of the Meteorological Office apply were, with only one exception, below the proper standard. In the South of England the temperature of the month of May was not below the average, that is the only exception; the differences in all other cases ranging from one to as much as seven degrees! The following statement will make this plain, The marks all through are minus marks; only in one district and in one month did the temperature reach a fair average; in no case did it rise above it:—

Differences in Whole Degrees of Actual Temperature, 1886, from the 20 years' average for each month.

	Jan.	Feb.	March.	April.	May.
Scotland, N.	—4	—3	—1	—1	—2
Scotland, E.	—3	—4	—2	—2	—2
England, N.E.	—3	—5	—2	—2	—1
England, E.	—3	—7	—3	—3	—1
Midland Counties	—2	—6	—3	—2	—1
England, S.	—2	—7	—4	—2	0
England, W.	—3	—5	—3	—2	—2
England, N.W.	—3	—6	—4	—2	—3
England, S W.	—4	—6	—4	—2	—1
Ireland, N.	—3	—3	—2	—2	—3
Ireland, S.	—3	—3	—2	—2	—3
Channel Islands	—2	—4	—3	—2	—1

The Rose Walk at Kew, figured in G.M., November 14, 1885, is now glorious with fresh flowers, and will be good for a fortnight.

Horticultural Club annual excursion will include a visit to Heckfield and Strathfieldsaye, and will take place July 29.

Dr. Gravis has been appointed professor of botany at Liège, in the room of the late Professor Edward Morren.

Lambeth Flower Show will be held in the Palace Gardens, July 27.

Oxalic Acid as produced in plants is the subject of an important paper by MM. Berthelot and André in the *Comptes Rendus* for May 10.

Mr. Fawkes's Treatise on Construction of Horticultural Buildings has been revised by the author, and a new edition is announced by Messrs. Swan Sonnenschein and Co.

Canterbury Gardeners' Society's autumn show of chrysanthemums, fruits, &c., will be held in the Foresters' Hall, November 12 and 13.

Nepenthes Mastersi, shown at R.H.S. on Tuesday, had pitchers of a rich chocolate brown colour exactly 12 inches long. They would probably hold a quart each.

Society of Arts Conversazione at the Colonies, July 16, will be provided for by some special entertainments, mostly musical. A reception will be held by Sir Frederick Abel, C.B., F.R.S., near the principal entrance in Exhibition Road, commencing at half-past eight p.m.

Botanists take notice, the official guides to the Royal Gardens, Kew, are being reproduced in an admirable manner, showing renewed activity in the literary department of the noble institution. We have just received No. 1 of "Guide to Economic Botany," price 4d. It is cheap enough to eat.

A model label has been adopted by the National Rose Society, and all who are interested in such matters may be advised to take note of it when visiting the N.R.S. rose show on July 6. This label is printed by Blake and Mackenzie, School Lane, Liverpool, and is supplied in accordance with the society's catalogue of roses at 10s. per set of six each.

Potato Growers are often advised on the value of potash as a constituent of soils adapted for the production of the noble tuber. In the report on "Potash as Plant Food" that we are enabled to present our readers from the operations of the Massachusetts Horticultural Society there is some new information on the subject. The facts given illustrate the cooking, as well as the growing, of potatoes.

Doronicum Draytonensis was certificated at R.H.S. on Tuesday. This variety was established by the late Rev. Harpur Crewe, and may be said to be well known, though as yet very few gardens possess it. The flowers are larger and handsomer than those of any other doronicum, and the award of the certificate will give the plant the importance it deserves.

The Dandelion is praised as a window plant in the *American Gardeners' Monthly*, and some of our noble colleagues are inclined to "adopt the notion." To us it appears mere foolishness, for the very sufficient reason that the dandelion makes the best display of its beauties on the sunny bank where Nature has planted it; and when grown in a pot we see it, not at its best, but at its worst. However, as a bit of cheap nonsense, a dandelion may be as good as a stuffed lion.

Azalea occidentalis shown at R.H.S., on Tuesday, by Mr. Anthony Waterer, has the special merit of flowering late and escaping the spring frosts. It is a Californian species in the way of A. calendulacea; the leaves are glabrous and glossy, the flowers in compact heads, white or creamy pink, or pale pink with a little yellow, sweet scented, and very pleasing in appearance. It is the only azalea of North America met with west of the Rocky Mountains.

Fasciated Roses are certainly not common, and therefore we are the more interested in a twin specimen of Paul Neron, with which we are favoured by Mr. James Martin, gardener to C. N. Kidd, Esq., Dartford. The stout stem shows a distinct suture, marking the junction, and it acquires the breadth of one inch at the point where it divides, the result of the division being two separate and nearly perfect flowers, each with a distinct calyx, one lobe of which is much enlarged in the endeavour to become a proper leaf.

The Picture Gallery at the Colonies obtains less than its fair share of attention. We advise all our friends who can spare an hour for it, and can command breath enough to ascend to the top floor of the Albert Hall, to "do" this part of the affair leisurely. The pictures represent the colonies in various ways; they comprise a considerable number of good things, and they are capable of teaching lessons of larger import than the average of pictures, however good, are likely to suggest.

A Black-boy or grass tree now flowering in the succulent house at Kew is worthy the attention of the few who take interest in such things. It is *Xanthorrhœa Preissi*, a plant of moderate growth, with rigid, horny, arching, rushlike leaves of a dark glaucous green colour, and flower scape three and a-half feet high, as stiff as a broomstick, the upper third or more closely studded with white star-shaped flowers mixed with dark brown hairs. It is labelled "Chiswick," and we conclude therefore that it came over in connection with contributions from West Australia to the Colonial Exhibition.

Sunday Exhibitions are curiously illustrated by the experiences of the art exhibition at Folkestone, where Sunday opening appears to have signally failed. On the first Sunday the visitors numbered 200, which was certainly a small number, but in the course of three weeks the number fell to 30, and the probability is that very soon a new rule will be adopted to close the doors on Sunday. The subject is one of great interest, more especially seeing how public gardens are frequented on Sundays. It may prove that the Folkestone test is of no value, but for that we will wait and see.

The Weather has improved at last, and there will be no division of opinion as to the desirability of a continuance of the conditions that set in on Tuesday, which was the first mild day that has occurred for several weeks past. It must be confessed that vegetation has not suffered in any serious degree from the long continued cold, but everything is late, and the plum crop that was so tremendous in its first promise has in many places been very nearly extinguished, while the cherry crop has also had a considerable thinning. So far as can be judged at present this will not be a fruitful season, but it may come up to a fair average. As regards the weather, there are indications of a changeable term tending to seasonable warmth with flying showers.

Indian Produce, as represented in the Economic Court of the India group at the Colonies, will have systematic attention in a series of examinations and conferences, and persons interested will be welcomed to assist without any special invitation. The conferences will be held in the Commercial Room, attached to the economic court, and, for the present, the proceedings will be of an informal character. We fear this court does not obtain the attention it deserves. In our sketch, published June 12, the third paragraph refers to this court, the entrance to which is immediately opposite the turnstiles of the subway —that is a little to the left of the vestibule as entered from Exhibition Road.

Show Tulips Perfect at Midsummer!—It is a question if one note of admiration is sufficient, and it will cost very little more to have three!!! We have received from Mr. Samuel Barlow, of Castleton, near Manchester, a box full of noble flowers, comprising breeder and rectified tulips, representing his fine collection, which is now at its best. Mr. Barlow, writing on the 21st, says, "I venture to say that never before have five boxes of tulips been cut from one collection and sent away in sound condition on the 21st of June. This feat I have done to-day, having despatched 150 blooms in all. I send you one of the boxes so that you may, by the evidence of your own optics, be able to verify one-fifth of this statement." The flowers reached us in the best possible condition and now fill a fine old Dutch jar, in which they appear perfectly at home.

Liverpool Exhibition of the Royal Horticultural Society will be opened to Fellows of the Society at the hour of noon on Tuesday next, June 29; and to the general public at one p.m. the same day, closing at seven. The show will continue open from day to day (Sunday excepted) until July 5. On days subsequent to the first day the hour of opening will be ten, and of closing seven. On the first day the charge to the public will be 5s., on the second day 2s. 6d., and remaining days, that is July 1, 2, 3, and 5, the charge will be 1s. Of the general scope of the show and the terms of the schedule we have said enough; in fact, we have given our readers the fullest information, and we have now but to express the hope that the weather will be kind, and human nature in a sweet mood, to ensure for this important affair complete success. It goes without saying, that whatever the weather, or the temper of mankind, or the course of events political, this will be a great affair, and in respect of variety strikingly interesting. On Wednesday there will be held a conference on the nomenclature of orchids, and a meeting of the Floral Committee. As the Shipperies are not only near by, but actually connected by means of a special causeway with the horticultural show, the convenience of visitors intending to see both displays has been thoughtfully consulted. It may be that the promenade display in the gardens will want more sunshine than it will have to bring it into proper colour, but it is proper to say that Liverpool Botanic Gardens and the adjoining Wavertree Park have attractions of their own, and it is likely that visitors will find plenty to occupy them in the endeavour to experience a happy day. Of the music and miscellaneous entertainments we have nothing to say, except to express a hope that there will not be too much festivity, for the human constitution is a thing of limited liability, and fair flowers do not need much garnishing to render them presentable and satisfying.

TULIPS OLD AND NEW.

I have just been looking over some lists of tulips, representing the best sorts then in cultivation, given, in 1852, by such noted London growers as John Goldham, of Sydenham; S. Sanders, of Staines; R. J. Lawrence, of Hampton; G. F. Delaforce, of Kentish Town; and J. T. Willmer, of Sunbury. Those were the palmy days of London tulip growing, when many a small bed of choice tulips was grown in Camberwell, Walworth, Brixton, Camden Town, and elsewhere of the suburbs of London. I can remember, as late as 1863-64, when travelling daily from Blackfriars to Walworth Road by the London, Chatham, and Dover Railway, looking down from the railway carriage on a bed of tulips here and there between the Elephant and Castle and Walworth Road. Alas! where is a bed of tulips to be found in the London district now? Mr. James Douglas grows some at Ilford, but I doubt if another collection is to be found within a radius of twenty miles of the General Post Office. Slough knows tulips no longer, and has not known them for years past.

Not a few old sorts are still to be met with in Lancashire, Cheshire, and Yorkshire; and they put in appearance at the tulip shows. At the Abbey Hey Tulip Exhibition, near to Manchester, I used to see a goodly number of old varieties, for the show brought an array of small growers in competition for the prizes offered. Besides, it was a kind of tulip festival. The flowers were all shown in bottles of water, and they were arranged for the purpose of judging on tables in a dancing room connected with the Abbey Hey Hotel. When the judging was completed, and the gay-coloured prize cards tied securely to the bottles containing the winning flowers, they were all removed to a room at the rear of the bar, having in its centre an oblong stand like one can still see in an old-fashioned greenhouse, the shelves rising above each other all round until they come to a point at the top, and on this the flowers were staged; and so one saw a pyramid of tulip flowers arranged in a certain fashion, but with a kind of grim monotony about it. The show took place on a Saturday, and on Sunday St. Tulip held high festival, and many came to inspect the flowers; and here they remained for three or four days. I think one of the most enjoyable events of the tulip show day was the dinner after, when exhibitors, judges, and committee sat down to dine, and dine substantially too; and then came pipes and glasses and tulip talk, unsparing criticism, quaint tulip lore, racy reminiscence, which made the three or four hours so spent pleasant in the highest degree. One saw how thoroughly these men understood tulips, for they had grown and petted them for years. The names of all the winning flowers were entered in a book by the secretary, and this was a formidable task. This record is still kept at the meetings of the Royal National Tulip Show at Manchester, but the rapid penmanship of James Bentley soon disposes of the task. It was very different in the case of the grey-headed old secretary at Abbey Hey, who went about his business seriously, demurely, and accurately, as became the compiler of such an important record.

To make such a record the writer needs to have a good knowledge of tulips, or he would be sorely puzzled over some of the spelling of names. At the recent Tulip Exhibition at Manchester one exhibitor of a flower named Andromeda had spelt it "Hand drum," in two words; but this was of comparatively easy translation compared with some others. Aglaia is commonly pronounced "Haglea," and spelt that way.

But to refer to the list of flowers given in 1852. Of those named the following may still be met with in the north: Bizarres—Polyphemus, King, Everard, and Pilot. Roses—Triumph Royal, Aglaia, and Madame Vestris. Bybloemens—Rachel, Walker's Duchess of Sutherland, Salvator Rosa, and Maid of Orleans. But since these were popular, Dr. Hardy, Luke Ashmole, Storer, Martin, Headly, Hepworth, and others have done wonders with tulips, and there is now being grown varieties of great beauty and high quality that leave far in the rear of the march of advance those that were so popular a half-century ago.

Here, then, is a list of some of the newer tulips, and it may be taken as representing the cream of those now in cultivation: Bizarres, feathered—Commander; Masterpiece; Asclepius (Thurstan), a flower obtained in all probability from a cross between Sulphur and Dr. Hardy, having the fine shape of the former, very pure golden base and rich red feather, having, too, all the purity of Dr. Hardy (this broke from a grand buff breeder); Masterpiece, raised by the late Dr. Hardy; Royal Sovereign; George Hayward, an old but occasionally very fine variety, broken for the first time in 1853, by the late Mr. R. J. Laurence, of Hampton — a bloom of this, shown by Mr. Samuel Barlow, was awarded the premier prize at the recent Tulip Show at Manchester. Mr. Barlow did not think it good enough to go into his pan of twelve blooms, and so showed it in the class for single blooms of feathered bizarres, where it was awarded the first prize—Nonpariel, Sir J. Paxton, and Dr. Hardy. Bizarres, flamed—Sir J. Paxton, Dr. Hardy, Orion (a very bright and striking flower, when shown as the Rev. F. D. Horner had it at Manchester), Excelsior, and Dr. Dalton. Roses, feathered—Nancy Gibson, Mrs. Thurstan (probably one of the finest feathered roses in cultivation, obtained from Sarah Headly and Kate Connor, very fine in form, and beautifully marked), Julia Farnese (a taking flower to the eye, pure and good in form, but not so dense a feather as to be what the florists term "plated"; it is in the style of Old Rachel; this is a Stockport raised flower), Industry, Modesty, and Leah. Roses, flamed—Annie McGregor, Old Heroine (still very good), and Lady Catherine Gordon. Bybloemens, feathered—Mrs. Cooper, Talisman, Adonis, and John Hart, described on page 355. Bybloemens, flamed—Adonis, Lord Denman, Talisman, and Chancellor.

A few very fine breeders will be found in the following: *Bizarres*—Sir J. Paxton, Dr. Hardy, Horatio, and Excelsior. *Roses*—Miss Burdett-Coutts, Thomas Parker, Mrs. Barlow, and Annie McGregor. *Bybloemens*—Glory of Stake Hill, Alice Grey, Talisman, Beauty of Whitchurch, and Miss Hardy.

R. Dean.

New Plants, Flowers, and Fruits.

Larix Griffithi (*Gard. Chron.*, 1886, 718).—The Himalayan larch, discovered in the Bhotan Himalaya by Dr. W. Griffith, is a small tree with the habit of L. europæa pendula, which it resembles closely. Many attempts have been made to establish the tree in Europe, but hitherto without success.

Adenocarpus decorticans (*G.C.*, 1886, 725).—A handsome hardy shrub resembling the common gorse, but without spines, the leaves linear, the flowers yellow.

Odontoglossum crinitum sapphiriatum (*G.C.*, 1886, 752).—A variety in the way of *O. blandum*.

Todea grandipinnula (*G.C.*, 1886, 752).—A handsome fern, probably of hybrid origin. It is of rapid growth, and has a peculiarly leafy character which gives it an aspect quite unlike that of other known species of Todea.

Selaginella gracilis (*G.C.*, 1886, 752).—An elegant species from the South Sea Islands, closely allied to *S. Wallichi*.

Spinovitis Davidi (*G.C.*, 1886, 753).—A spiny stemmed vine from Ningpo, considered the same as that figured in *Revue Horticole*, 1885, p. 55.

Ottelia ovalifolia (*G.C.*, 1886, 753).—An Australian aquatic plant allied to the British *Stratiotes*.

Impatiens Hawkeri (*G.C.*, 1886, 761).—A fine plant from the South Sea Islands, the flowers rich carmine with white eye.

Anthurium splendidum (*Botanical Magazine*, 6,878).—A magnificent plant with richly mottled leaves, figured and described in *G.M.*, May 26, 1883.

Grevillea Hookeriana (*B.M.*, 6,879).—A handsome branching shrub from West Australia, flowers green and red.

Sophronites violacea (*B.M.*, 6,880).—An elegant little species with bright purple-tinted rosy flowers.

Roydsia suaveolens (*B.M.*, 6,881).—A course rambling bush of the caper family; the flowers are agreeably fragrant.

Tillandsia (Vriesea) inflata (*B.M.*, 6,882).—A handsome bromeliad; inflorescence red and yellow.

Notes of Observation.

NEW GAZANIAS.

In the large and highly interesting group of alpine and herbaceous plants exhibited by Messrs. Backhouse, at Manchester, were several gazanias, which are so thoroughly distinct and possess so much beauty that they were by no means the least attractive of the many good things with which they were associated. They differ widely in general character from the well-known G. splendens, the growth being more neat and compact, and the flowers larger in size and more refined in appearance. They are not quite hardy, and require protection during the winter, although well able to bear exposure to a few degrees of frost without injury. But probably the best course will be to lift the plants in the autumn and winter them in a cold frame, where they can be kept safe from an excess of moisture both at the roots and overhead. The Peacock Gazania, G. pavonia, and its several varieties are perhaps the best; but the varieties of G. longiscapa have much to recommend them to the notice of cultivators. G. pavonia is dwarf in growth, and under favourable conditions forms dense tufts of bright green foliage, from the midsts of which rise innumerable flowers, large in size, of a rich orange colour. G. pavonia major, a superb form, differing from the species in having much larger flowers, which are quite circular, and have a marone band round the disc. G. pavonia aurea resembles the type in the size and shape of the showy flowers, but differs from it in being of a bright yellow hue. G. longiscapa has freely branching woody stems and narrow deep green leaves; the growth is compact, and the flowers, which are about three inches in diameter, and produced in profusion, are of a bright golden yellow, deepening to orange at the disc. G. longiscapa stellata, an elegant variety, differing in bearing flowers with narrow petals; and G. longiscapa spiralis, which has slightly twisted leaves, and is a taller growth. For planting on ledges in the rock garden and along the front of the herbaceous border they possess a high degree of value. They must, in all cases, have the advantage of a sunny position, for it is only when they are fully exposed to the rays of the sun during the greater part of the day that they bloom freely. G. G.

RARE ALPINES.

The large assemblage of alpine plants at Manchester during the Whitsun week comprised several new and rare kinds of special interest to cultivators. One of the most beautiful of the several kinds that are as yet but little known is Edraianthus serpyllifolius, a very handsome species which reminds one of the beautiful Campanula Allioni. There was a good specimen in Messrs. Backhouse's collection, and Messrs. Paul and Son have it very fine in their collection at Broxbourne. The growth is wiry, and the stems, which are prostrate, attain a length ranging from four to six inches in length, and produce a cluster of flowers at their points. The individual flowers are bell-shaped, about one and a-half inches in length, and stand quite erect; the colour is bright violet-purple. It is very much finer than the comparatively well-known E. pumilio, which also is highly effective when placed under the conditions favourable to its fullest development. Saxifraga lantoscana superba, shown by Messrs. Paul and Son, is a much-improved form of this pretty silvery-leaved species. It is similar in growth to the type, but it has larger and more finely-formed flowers and much denser racemes. Consequently it is far superior to the specific form, and for choice positions should invariably have the preference. Lithospermum graminifolium, which also was well shown by Messrs. Paul and Sons, is a charming species, and well deserved the certificate conferred upon it. The leaves are rather long and grass-like, and the flowers, which are produced very freely in drooping clusters, are of a bright blue colour. The plant attains an average height of nine inches, and makes the most satisfactory growth when planted on sunny ledges in the rock garden and provided with calcareous loam. Another of the gems in the Cheshunt collection was Ramondia pyrenaica alba, which differs from the species in having white flowers, and is exquisitely beautiful. Saxifraga Maweana, which was well represented in the collection from Messrs. Backhouse, is a free-growing species, producing a profusion of large, pure white flowers. Agave Utahensis does not possess the attractiveness of the foregoing subjects, but it is very interesting, as it differs very considerably from the species in general cultivation and in being quite hardy. It is of dwarf growth, and has erect dark green leaves. G. G.

CLEMATIS AT MANCHESTER.

Clematis were not particularly well shown at Old Trafford in the class specially provided for them, but the collection contributed by Messrs. Richard Smith and Co., of Worcester, was so good as to make ample amends, and to give the visitors a good idea of the exquisite beauty of the finest varieties when well grown. The firm exhibited a group comprising medium-sized plants, and exhibition specimens which, placed on one of the mounds of the upper end of the exhibition tent, produced a singularly pleasing appearance, and, judging from the attention bestowed upon it, was unrivalled in attractiveness. Chief amongst the many beautiful varieties represented in the group was Beauty of Worcester, a double variety with dark blue flowers, raised by the firm, and now introduced for its special adaptability for bedding purposes. As shown by the plants exhibited, this variety has a robust constitution, and is very free in blooming, the flowers being also produced in succession for a longer period than in the case of the majority of the varieties at present in cultivation. The varieties represented consisted almost exclusively of those belonging to the Lanuginosa and Florida sections, and from them the following were selected for their exceptional excellence: Duchess of Teck, a charming variety with finely formed white flowers marked along the centre of each petal with a pale mauve bar; Fairy Queen, an attractive variety with immense flowers of a delicate flesh colour marked with a pink bar down each petal; Gloire de St. Martin, white, tinted with mauve, a large and effective variety; Lord Nevill, a distinct and pleasing variety with flowers of a rich plum colour; Marie Lefebvre, a handsome variety bearing pale mauve flowers; Princess of Wales, a superb variety, the flowers of fine form, and the colour a pleasing shade of lilac-blue; Sensation, the flowers large and of a bright mauve hue; Countess of Lovelace, a beautiful double variety of a bright lilac-blue colour; Duchess of Edinburgh, a robust growing and free blooming variety, bearing large, pure white, and highly fragrant double flowers; Enchantress, white, flushed with rose, a fine double flower; and Venus Victrix, a beautiful variety, the flowers double, finely formed, and of a delicate shade of lavender. G. G.

ROSE GLOIRE DE DIJON.

I have just paid a visit to a friend in whose garden this fine old rose is grown in various forms. He has it growing against his house, where it blooms most profusely, and also as unpruned standards and on its own roots, with the branches pegged down on the surface of the bed. I do not know when I have seen a finer display produced by one variety of rose. I am afraid to give the number of the flowers that one standard tree is carrying for fear I might be thought to exaggerate. I would, however, mention that it had several branches from two feet to four feet in length, which were quite covered with buds and flowers. My friend does not prune the standards of this rose further than to cut out the old and exhausted wood. He does not shorten the young branches, but trains them somewhat loosely to a roughly-constructed iron frame arranged in the form of an umbrella. The plants growing in the bed have the long shoots bent over and the point pegged down to the soil. To the fact that he does not cut away any of the strong growth until it has flowered once must be attributed his success in getting such a wonderful show of roses. J. M.

CROWNING THE ROSE QUEEN.

The tenth annual Rosière fête and fancy bazaar in connection with the Work Girls Protection Society, which has its home at Walworth, took place at the Crystal Palace on June 21, and was patronized by a large number of the friends of the institution. Among those present at the interesting ceremony of the crowning of the Rose Queen were the Duchess of Marlborough, Lady Colin Campbell, Lady Foley, Mrs. Ernest Hart, and the Rev. Father Nugée, the founder of the society. The custom of crowning the Rosière dates its origin from the year 525, when it was instituted by St. Medard, Bishop of Noyau, France; but in the course of three or four centuries, owing chiefly to the stringent conditions required of the candidates, it fell into disuse. It was, however, revived under the patronage of Louis XIV., and is still kept up at Nanterre. In the case of the Walworth Rose Queen, Father Nugée selects the work girl who has most distinguished herself for her good character and industry, and his selection is afterwards submitted to the votes of the club girls and final approval of the assembled congregation, after which she receives the Benediction before them in the Church. Father Nugée's selection this year was approved on Sunday night with hearty unanimity. The institution of the Rose Queen in this case is a source of much good, as it enables Father Nugée, year after year, to bring before the public the hard lot of the ill-paid work girls and seamstresses of London. The bazaar, which was opened without any formal ceremony, is of an attractive character, comprising some 25 well-laden and prettily-decorated stalls.

NORTH OF SCOTLAND HORTICULTURAL SOCIETY.

The last meeting of the session of this society was held in the Upper Hall, Christian Institute, Aberdeen. Mr. P. Harper, president, occupied the chair. There was a good attendance of members. Messrs. Milne, Ellon Castle, Arthur, Inverdon, and Archibald, Aberdeen, were admitted as members of the association. Mr. A. Murray, Causewayend, Aberdeen, read an able and most interesting paper on "Lichens," for which, after an animated discussion, he was accorded a hearty vote of thanks. A few exhibits were adjudicated upon by the executive committee. and the following awards made: Calceolaria, shown by Mr. Taylor, Aberdeen (amateur), cultural certificate; Crassula, exhibited by Mr. A. Gregor vote of thanks; two lettuces, shown by previously-mentioned gentleman, commended; geraniums, sent by Messrs. James Mavor and Sons, Holborn, Aberdeen, vote of thanks. The meeting afterwards resumed the adjourned discussion on the paper read by Mr. Farquhar, at last monthly meeting, on "Peas." The usual vote of thanks having been accorded the president, the proceedings and the session, which has been a most successful one, terminated.

Exhibitions and Meetings for the Ensuing Week.

Tuesday, June 29.—Canterbury Rose Society.—Annual Exhibition.
Tuesday, June 29.—Bagshot Rose Society.—Annual Exhibition.
Tuesday, June 29.—Diss Horticultural Society.—Annual Exhibition.
Tuesday, June 29.—Oxford Horticultural Society.—Commemoration Show.
Tuesday, June 29.—Twickenham Horticultural Society.—Summer Exhibition.
Tuesday, June 29, to Monday, July 5.—Royal Horticultural Society.—Exhibition at Liverpool.
Wednesday, June 30.—Royal Botanic Society.—Evening Fête 8 p m.
Wednesday, June 30.—Croydon Horticultural Society.—Summer Exhibition.
Wednesday, June 30.—Farningham Horticultural Society.—Annual Exhibition.
Wednesday, June 30, and Thursday, July 1.—Lewisham District Floral Society.—Summer Exhibition.
Wednesday, June 30, to Friday, July 2.—Leeds Horticultural Society.—Annual Exhibition.
Thursday, July 1.—Shepperton Horticultural Society.—Annual Exhibition.
Thursday, July 1.—Reigate Rose Society.—Annual Exhibition.
Thursday, July 1.—Wanstead Floricultural Society.—Annual Exhibition.
Friday, July 2.—Tunbridge Wells Horticultural Society.—Annual Exhibition.
Friday, July 2.—Gardeners' Royal Benevolent Institution.—Anniversary Festival.
Saturday, July 3.—Crystal Palace.—Rose Show.
Saturday, July 3.—Eltham Rose Society.—Annual Exhibition.
Saturday, July 3.—Brockham Rose Society.—Annual Exhibition.

SHOWY FLOWERS FOR THE GREENHOUSE.

By J. C. Clarke.

Herbaceous Calceolarias.

The present is a good time to sow seed of the herbaceous calceolarias. The seed being very fine there is some risk of washing it up by watering unless the pans are very carefully managed. Therefore, it is worth considering whether it would not be much less trouble for many small gardeners to purchase a few plants later on than to buy seed and take the trouble to raise a stock for themselves. As an old practitioner I am well aware of the care that such small seeds require, and I know that in cases of failure to secure a sufficient number of plants from a packet of seed, through mismanagement, the seed has had to bear the blame when it has not deserved it. I will not, however, dwell on this part of the subject any further than to say that a couple of dozen plants may be purchased at the proper time for a very trifling outlay; and, speaking from experience, I can say that I have had excellent plants and flowers when I have bought plants. Nevertheless, some may wish to raise their own, and to them I have to say that it is not a serious undertaking, but it must be set about in the right way. First obtain a pan not less than six inches in depth, as the soil in shallow pans dries up very quickly. Place one large crock over each hole, spread a layer of small crocks over the bottom of the pan, and cover them with a little rough peat. Then fill the pan to within half an inch of the rim with fine sandy soil. Make it moderately firm and water it well, sow the seed thinly and cover with some fine sandy soil from the potting bench, and place a square of glass over the pan. The next question is where to place the pan. If we think for a moment it will not be difficult to understand that as we are in the middle of summer there is heat enough anywhere to ensure the germination of the seed. The cooler the soil is kept the smaller will be the quantity of water required, therefore the less risk of washing up the seed. A shady place under a cool wall is the most suitable position for the pans, which should have a handglass over them. Under these conditions, with a very little attention, the plants will come on in due time. All the attention they will want is to keep the soil just moist, and to have increased ventilation as they gain in strength. When large enough put them in three-inch pots, and shift them on as they require more root space. Well drain the pots, and use a compost consisting of three parts turfy loam and one part well-rotted manure, with the addition of some coarse sand. In October let them have a cold pit facing the south, where, if possible, they should remain throughout the winter. If sufficient covering is used the frost will not reach them. Herbaceous calceolarias are better without fire heat than with it, providing frost can be kept out of the pit.

Cinerarias.

Cineraria seed sown at the present time will produce plants that if carefully managed will flower early in the spring. There is nothing gained by sowing earlier, unless one wants a long succession of flowers. According to my experience, the best time to have cinerarias in flower is from the middle of March onwards. They can then have air enough, and this, with the increased solar light and a naturally rising temperature, will keep the plants dwarf in growth and promote the production of plenty of side shoots, which will help to form a well-balanced head of flowers. But to have cinerarias in bloom in February they must be subjected to a comparatively high temperature, and as they cannot have a free circulation of air they invariably become drawn up and produce small heads of flowers. With regard to sowing the seed and the after management of the plants, the details are similar to those I have given for calceolarias until the end of the autumn. But cinerarias are very tender, and it is not safe to keep them in cold pits after there is a danger of severe frost. In a general way they are safe in a well-covered pit until the middle of November, and they always grow faster in such a structure than when in a heated house, so that all the time they are safe in the pit they may remain there until the flower trusses begin to rise, when they should be removed to the front stage of a cool, airy greenhouse. It is very important not to let cinerarias become pot bound until they are put into the pots in which they are to flower. It is not a good plan to give them liquid manure or any kind of stimulant, or the plants will produce large leaves instead of developing a fine head of flowers.

Primulas.

Primula seed sown now will produce nice plants for flowering in March and April, and forming a succession to those sown early. The seed should be sown in pans filled with fine rich soil, and lightly covered with fine soil. A little more warmth is required by primula seed than is necessary for that of calceolarias, as it takes longer to germinate. A cool shady corner in the greenhouse is the best place for it until the young plants appear, when the pan must be brought forward to the light and be placed where the plants can have a little more air, but the pans must still be shaded. As soon as the plants are large enough to handle they should be pricked off into another pan, using a compost consisting of half loam and one quarter each of rotten manure and peat, with a good sprinkling of sand. The same description of soil will do for subsequent pottings. The plants will be large enough by the beginning of September to be put singly in three-inch pots, in which they can remain till about the new year, when they must be shifted into five-inch pots, in which they are to flower. Primulas do not like a damp confined air, and they had therefore better be kept in the greenhouse after the middle of September. A light airy shelf near the glass is the best position for them. A rich soil, plenty of drainage, and careful watering constitute the main features in cultivating primulas.

Mignonette.

When fairly large plants of mignonette are required for flowering in the late spring months the seed should be sown at once. But if neat little specimens are required in five or six inch pots the early part of August will be soon enough for making the sowing. It is better in every way to sow mignonette seed in the pots in which the plants are to flower, as there is some risk attending the fresh potting of mignonette. It does not like its roots to be disturbed, and it sometimes resents the treatment by dying away a few days after being repotted. Speaking from experience, I am able to say that I have grown as good specimen plants when the seed has been sown in large pots as ever I grew by shifting them on. At the same time, the risk of losing my plants has been avoided. The best variety to grow is Miles's Spiral, as it is more erect in habit than the ordinary kind. Specimens of good size can be grown in eight-inch pots, which must be well drained, and be filled with a compost consisting of three parts loam, one of manure, and a good proportion of sand. Sow about a dozen seeds in each pot, and if there are too many plants reduce the number to five for eight-inch pots, and to three for those six inches in diameter.

I like to raise mignonette plants in a frame placed in the shade of a wall and to allow them to remain there until the end of August. If they are growing in a pit or frame standing in the full sun the glass has to be shaded so much to keep down the temperature that the plants are so much in darkness that they become drawn. They are weaker also than those which have more light, and a frame placed on the north side of a wall or building requires no shading at all. At the time I have just stated I like to have the plants in a pit in the full sun and to shade them for a few hours each day until they can bear the sun without flagging. Early in November the plants had better be taken to the greenhouse and placed on the front stage because they require plenty of light and air. During the winter water must be given sparingly, just enough to keep the soil moist is all that is necessary. As they begin to grow in the spring more moisture will suit them, and regular doses of weak liquid manure will assist them in developing longer flower spikes. The long shoots will require to have the tops taken off in the early part of the year, which will make the plants more bushy, but stopping must be discontinued at least eight weeks before they are wanted in flower.

SUMMER MANAGEMENT OF VINERIES.

By William Cole, The Grove Vineyard, Feltham.

One of the principal matters to consider in management during the summer is the temperature, because unless this is regulated to the requirements of the several kinds the crops will, in some respects, be more or less unsatisfactory. There are, of course, other points that must have due consideration, as, for example, the supply of water to the roots and the regulation of the ventilation; but the temperature is of so much importance as to require the most careful consideration. It is especially necessary this point should have due attention this season and the vines be liberally assisted with artificial heat, for unless this is done the earlier crops will not be available for the table until considerably after the usual time, and they will probably be wanting in finish. The late crops will certainly not attain maturity early enough in the autumn to insure the grapes keeping well should the winter be unfavourable. I have on one or two previous occasions urged in these pages the importance of having the crops intended for the supply of the table during the winter and early part of the spring well ripened before the autumn is far advanced; and I would again direct attention to it, for unless the crops of late-keeping varieties, such as the Muscat of Alexandria and the Alicante, are ripened under conditions favourable to their attaining perfect maturity the flavour will not only be inferior, but the berries will begin to decay at a very early period, especially if the weather is close and damp during any considerable portion of the winter.

This season it appears probable that the vines will require as much assistance from fire heat as they have done for several years past, for, owing to the extremely low temperature which has prevailed up to the present time, the progress has been very slow indeed where the hot water apparatus has not been kept steadily at work. I have not any recollection of such low night temperatures in June as we have had this year, for there have been two or three frosts, and on several occasions the thermometer very closely approached the freezing point. The cold at night has not been counterbalanced by the heat of the day, for the weather has been so uniformly cold as to remind one of the early spring rather than the summer. We have had, in consequence, to keep the fires going night and day to insure the vines having the temperature which long experience has shown to be necessary. The practice of growers of experience has undergone considerable modification of late years, and artificial heat is now employed more liberally in the production of late grapes than was at one time considered necessary.

In speaking in detail of the temperature most suitable for the several kinds from the end of June until the end of September, when the grapes should have reached maturity, I must not be understood as advocating an excessively high temperature or an extravagant use of fuel. I shall simply advise the maintenance of that degree of warmth which is absolutely necessary in the production of first-class samples. In the case of the Muscat of Alexandria, which reflects the cultivator's skill more clearly than any other variety, the day temperature should range between 80 deg. and 85 deg., with a rise of 5 deg. during periods of brilliant sunshine, accompanied by liberal ventilation to prevent scorching of the foliage. The night temperature should be maintained at 70 deg., or as near that point as circumstances will permit. Black grapes to be kept during

the winter, such, for example, as Lady Downes and Alicante, should have a day temperature ranging from 70 deg. to 80 deg., with, as in the case of the Alexandrian muscat, an increase of 5 deg. when the sun is shining brightly, and the vinery ventilated freely. Gros Colmar, so much admired for its handsome appearance, should have, as nearly as circumstances will permit, a temperature intermediate between the black sorts and the muscat mentioned. When planted in the same house as Lady Downes, and subjected to the temperature best suited to that variety, as is usually done, it does not have warmth enough to ripen it thoroughly, consequently it frequently happens that samples although fairly well coloured are indifferently flavoured, and complaints are made as to the inferiority in flavour of the variety. It must be admitted that when at its best it is not really first-class in flavour, but it is much better when fully ripe than it is generally supposed to be, and to ensure its ripening it must enjoy a liberal degree of warmth throughout the several stages. Where not required in sufficient quantities to justify a separate house being devoted to it, Gros Colmar should be planted at the cool end of the muscat house, where it will enjoy the conditions most favourable to the production of well-coloured and highly-flavoured samples. When there is no alternative other than to grow Gros Colmar in the house devoted to Alicante and Lady Downes it should be planted at the end at which the pipes enter from the boiler, that it may enjoy as much heat as it can have in the structure without injury to the other kinds.

The water supply must be liberal, and both inside and outside borders must be well attended to. An examination some distance below the surface should be made at intervals, and when it is found that the border is becoming dry, proceed at once to give sufficient water to moisten the soil throughout its entire depth. The watering must not be overdone, for if the border is kept in a constant state of saturation the roots will probably suffer, to the injury of the crop. Some amount of care must, of course, be exercised in watering to avoid extremes, as in carrying out details, but it will be well the cultivator should bear in mind that healthy vines, growing in efficiently-drained borders, require considerable quantities of water during the time they are in full growth. Particular attention should be paid to the state of the border where the subsoil is natually light and favourable to the rapid passage of water, because it frequently happens that vines growing in borders which rest on a gravelly or otherwise loose subsoil suffer materially during the summer season from drought. A moderate degree of atmospheric humidity is essential to the health of the vines, and this is readily obtained by sprinkling the walls, paths, and surfaces of the inside of the borders when the houses are closed in the afternoon, and at other times when the weather is so hot as to render it desirable. The ventilation must be regulated by the weather, but it is advisable to admit air freely when it is practicable to do so without injury to the vines. No attempt must be made to keep the temperature down by the use of shading materials, or by stippling the glass with whitewash or other mixture, as is occasionally done. The grape vine is well able to bear full exposure when the house is efficiently ventilated, and the border maintained in a proper condition as to moisture. A little air should be admitted by the roof ventilators at night, to ensure the maintenance of a sweet and buoyant atmosphere. In wet weather the ventilators must be nearly if not quite closed, especially when the grapes are approaching maturity, as a saturated atmosphere is decidedly unfavourable to their finishing properly.

ROUND ABOUT LIVERPOOL.

Those horticulturists who have to be in Liverpool during the exhibition of the Royal Horticultural Society, and whose engagements do not necessitate their constant attendance on the show ground, will not find the time hang heavily on their hands if they make the attempt to see the chief objects of interest within the city and to visit some of the more important places in its suburbs. Good gardens abound in the neighbourhood, the principal public parks are of great beauty and well able to afford practical lessons of the utmost value, and there are several nurseries which will amply repay a visit even if of the briefest description. It is not necessary to devote exclusive attention to horticultural matters as a means of passing the time. Supposing the horticulturist is not disposed to imitate the railway porter who spent his holidays in travelling up and down the line on which he was engaged to visit other stations, but, instead, is anxious to get away from garden and nursery and devote the time at his disposal to matters outside horticulture, Liverpool will afford him plenty of entertainment. First to claim attention is the International Exhibition, illustrative of the history and development of travelling by land and sea, which immediately adjoins the Botanic Garden and Wavertree Park, in which the show of the Royal Horticultural Society will be held. To those familiar with the Colonial and Indian Exhibition at South Kensington, the "Shipperies," as it is popularly designated, will perhaps appear rather small, and it is therefore a matter of some interest to state that the exhibition has devoted to it an area of thirty-five acres, of which six are covered by the main buildings. The objects the promoters had in view in projecting the exhibition have been ably carried out, and the immense assemblage of models of steam and sailing vessels, and the boats, carriages, and appliances generally required in the conveyance of passengers and goods by land and sea, are full of interest, and serve to show in a very marked manner the immense improvements that have been effected in all directions during the nineteenth century. There are plenty of attractions besides those which constitute the main features of the exhibition. Horticulture is not very strongly represented within the buildings and grounds. There is a fine group of palms from the South of France in one of the courts on the western side of the great transept; there are a few attractive groups of evergreen shrubs and coniferous trees from neighbouring nurseries, and two or three firms have glass structures which are devoted to cut flowers and plants for trade purposes. Especially interesting are the grass slopes sown down by Messrs. E. Webb and Sons, as illustrating the rapidity with which a good turf can be obtained from seed when the work is properly done, for the turf is now in splendid condition, and its deep green hue affords a pleasing relief to the rich colouring that meets the eye on all sides.

The International Exhibition is not the only object outside gardening matters to which horticulturists, in common with other visitors, may profitably devote a short time. There are the docks, which form a long chain alongside the Mersey, and are, in some respects, quite unsurpassed, and the numerous public buildings in the city. Of the latter may be mentioned as especially worthy of attention St. George's Hall, in which the magnificent exhibitions of the Liverpool Horticultural Association are held in spring and autumn, the Museum and Art Galleries, and the Royal Institution. But if anxious to get away for a short time from the city, with its noise and turmoil, to enjoy the invigorating sea breezes, it will be a very easy matter to give expression to the wish. Southport and New Brighton, which enjoy the advantages of good positions and bracing air, are both within an easy distance, one being readily reached by railway from the Exchange Station and the other by boat from the Pierhead. Liverpool is so well provided with hotels that the visitor has no difficulty in suiting both his taste and his pocket, and as the streets are traversed in all directions by tramcars and omnibuses any part of the city can be readily reached without a heavy expenditure of either time or money.

Botanic Garden and Wavertree Park.

These possess special interest at the present time as the scene of the exhibition of the Royal Horticultural Society, which will be opened on Tuesday next. They both belong to the Corporation of Liverpool, and are practically one, for they are simply divided by a brick wall, with gates at several points by which free passage is obtained from the one to the other. The two enclosures extend over a considerable area, the smaller portion being devoted to the Botanic Garden, which is in a high state of keeping, and reflects much credit upon Mr. Richardson, the able curator. The entrance to the garden is from Edge Lane, and the building contiguous thereto contains the important collection of dried plants presented by Mr. Roscoe, and a capital library of works on botany and the allied sciences. There is a large conservatory devoted to palms and other subjects that require plenty of space for development, and there are several glass structures devoted to plants proper to a botanical garden. The garden is well furnished with trees and shrubs, and in the several geometrical schemes Mr. Richardson provides for the entertainment of the visitors a series of bedding displays, which appear to be highly appreciated. Owing to the low temperature which has prevailed throughout the current month, the plants have made such slow progress that they will not be at their best during the exhibition week, but they will be sufficiently advanced to show how attractive the several arrangements will be when the plants are fully developed.

Wavertree Park, which was purchased and laid out in 1850, occupies a space of twenty-five acres, and has its principal entrance at the corner of Botanic and Wavertree Roads. Very little appears to have been done in converting it into a park beyond enclosing it with an iron fence, and making the roads and walks; and it is certainly the least attractive of the Liverpool parks. But as a recreation ground Wavertree Park is highly esteemed by the citizens, and is, undoubtedly, the most convenient of access by tram and 'bus, besides having the advantage of contiguity to the International Exhibition and to the Edge Hill station of the London and North-Western Railway, at which nearly, if not quite all, the trains to and from Lime Street stop. An additional entrance has been made into the park immediately opposite the principal entrance to the International Exhibition. The tents provided for the various subjects invited by the schedule, with but one exception, are erected in the Wavertree Park, in which also the horticultural erections and implements will be arranged and the boiler trials conducted. A large tent of four spans has been erected near to the south-west corner of the Botanic Garden, and has been laid out by Mr. Barron in the natural style with grassy slopes and winding walks, and it is not difficult to imagine that when fully occupied it will present a surpassingly beautiful appearance. The tent for fruit and cut flowers will be near the principal entrance to the Botanic Garden from the park, and the remaining tents will be erected within a short distance of it. The horticultural buildings, which are already erected, are near the roadway leading from the principal entrance from Wavertree Road, and the implements and appliances will be placed near to them.

Sefton Park.

This park, which is the largest of the open spaces belonging to the city, is within a convenient distance of the Botanic Garden, and will well repay a visit from those who are interested in the work of the landscape gardener. The south-western entrance is about one and a-half miles from the Botanic Garden, and the most direct route is by way of Lodge Lane, which is a continuation of the road that intersects the Wavertree Road, a point very near to the eastern end of the Botanic Road. Sefton Park extends over an area of about four hundred acres, and although it has not been formed a sufficient length of time for the trees to attain to their full dimensions it can be readily seen that in laying it out full advantage was taken of its natural characteristics. The ground is more or less undulating, timber trees have been freely employed in large masses, and the view obtained in the direction of Mossley Hill from the entrance at the south-west corner is surprisingly beautiful. Large open spaces have been provided for reviews and other gatherings, and ample provisions made for cricket, lawn tennis, and other out-door games. The ground was traversed from east to west by a stream known as the Jordan, and in laying out the park this was converted into a chain of small lakes extending nearly the whole breadth of the park. The lakes are connected by waterfalls of varying height, which, if not particularly striking in consequence of the comparatively small quantity of water passing over them, produce a very pleasing effect, and add much to the charm of the walks by the water edge. Alongside the lakes are highly-kept enclosures with choice shrubs and trees of various descriptions; rhododendrons and scarlet and other thorns being very strongly represented. Weigelas have also been planted with a liberal hand, and their adaptability to the positions is fully exemplified by the vigour of their growth and the profusion with which they bloom every season. This year they have flowered very freely, and a few days since were singularly attractive. Weeping elms appear to be quite at home in the enclosures, where, sheltered from the gales which sweep across the park from the south-west, they have made a most satisfactory growth, and are now showing true character. The best idea of the water scenery is obtained by walking across the park from the Otterspool entrance to that in Lodge Lane.

Princes Park.

Princes Park is within a very short distance of Sefton Park, and although of comparatively limited extent enjoys a full share of popularity. It is one of the oldest of the Liverpool parks, and was purchased and laid out in 1843 by Richard Vaughan, a wealthy resident, whose memory is honoured by the granite obelisk and two drinking fountains, which were erected by public

subscription fifteen years after the park was thrown open. It is admirably kept, and reflects much credit on Mr. Mason, the superintendent.

Sheil and Newsham Parks.

Returning to the Botanic Garden and proceeding westward, Sheil and Newsham Parks are reached after a very short walk. The first-mentioned, which occupies an area of about fifteen acres, is on the south side; and Newsham Park, which is of much larger extent, is on the north side of the road. They do not possess any special features, but their pleasant walks and large breadths of springy turf ensure for them a high degree of popularity with the citizens.

Stanley Park.

Still further westward is Stanley Park, which is very tastefully laid out, and has the advantage of occupying a position from which extensive views can be obtained. In clear weather the mountains of Cumberland and Westmoreland can be seen with the aid of a good glass. This park is about one hundred acres in extent, and was opened in 1870; the cost of the land, buildings, and laying out amounting to £155,000.

Birkenhead Park.

This is justly acknowledged to be one of the most beautiful parks, not only in and near Liverpool, but in the country, and should certainly not be missed by those who devote any part of their time to the open spaces. It is very readily reached, and the visitor can go either over or under the Mersey, as he may prefer. If it is determined to go by the ferry, the best way of reaching the park is to take the tram or 'bus to the Pier, and cross over to Birkenhead. Close to the landing stage is the terminus of the tramway, running past the park, and those who are anxious to make the most of their time are advised to take advantage of the assistance the cars afford, for it is a long uphill walk to it. There appears to be a very general impression amongst horticulturists who visit Liverpool occasionally that the park at Birkenhead is close to the landing stage; but it is fully one and a-half miles to the Conway Street entrance, which is the nearest to the riverside. In proceding by the Mersey railway, the train should be taken from St. James's Street to Hamilton Square, thence to the park proceed by tram car. Birkenhead Park extends over about two hundred acres, and was laid out by Sir Joseph Paxton, who certainly turned the natural advantages of the ground to the best possible account. The combination of wood and water is singularly happy, and in passing along the walks by the side of the lakes a continuous succession of views of surpassing beauty is obtained. The park is very thickly wooded, and a liberal use has been made of flowering trees and shrubs. The double and single thorns were planted very largely, and as they have now attained their full dimensions an adequate idea can be obtained of their value in the production of scenic effects in park and garden.

Garston Vineyard and Nurseries.

The Garston Vineyard and Nurseries belonging to the Liverpool Horticultural Company (Limited), of which Mr. John Cowan is the manager, is one of the most important of the trade establishments in the district, and contains plenty to interest both trade and private grower. The establishment is about six miles to the south-west of Liverpool; and as there are three railway stations and the terminus of a line of omnibuses within a short distance there is no difficulty in reaching it. The quickest route is by railway from Lime Street or Central stations, but the most pleasant is by the omnibus which runs hourly between Castle Street, Liverpool, and Garston, the time of starting at either end being the even hour.

The principal features of the Garston Nurseries are the orchids, tea roses, grape vines in pots, and the ferns, all of which are grown in such immense quantities that it is difficult to imagine where they all go to. The orchids comprise the remains of the famous "Percival" collection, which was placed in the hands of the company for disposal on the death of the owner. Amongst the plants still remaining, a considerable proportion consists of cattleyas and lælias, in which the collection was particularly rich. The numerous houses devoted to the general stock of orchids will not fail to interest the visitor if it does not fill him with surprise. Much attention has of late been devoted to the importation of orchids, and the plants that have been started into growth and are more or less established may be numbered by tens of thousands. In still larger numbers are the newly imported plants, which are arranged according to their kinds and sizes for disposal in a dry state or before they are established. These not only fill several glasshouses of large dimensions, but have the spare sheds and lofts devoted to them, and their numbers help to show that the cultivation of orchids is still undergoing a marvellous development in this country. The established plants comprise all the kinds in general cultivation, and chief amongst those imported are Odontoglossum crispum, O. Pescatorei, O. citrosmum, O. gloriosum, Lælia anceps, L. anceps alba, Cattleya Mossiæ, and various denbrobiums, amongst the latter being a new form which is supposed to be a natural hybrid between D. tortile and D. lituiflorum. The imported lælias are remarkable for the immense size of the masses and the splendid condition in which they have been received, some of them being between three and four feet in diameter, and have foliage so fresh and are breaking so freely that one can hardly believe that they have had recently to travel long distances under conditions not particularly favourable to the preservation of the freshness of their foliage.

The large span-roof houses devoted to grape-vines in pots will not fail to interest grape growers, for they contain about 3,000 examples in the best possible condition. At Garston the pot vines are grown without the aid of bottom heat, and they are allowed sufficient space to ensure the full development of their foliage and the thorough ripening of the wood, points of special importance, whether the vines are required for fruiting in pots or for planting out. Of great interest also to the grape grower is the immense vine of Madresfield Court black muscat, which fills two houses one hundred and twenty feet in length, and is carrying a crop of upwards of five hundred splendid bunches. The tea roses in pots are not less noteworthy than the pot vines, and the ferns and general stock of indoor plants are remarkable for their extent and the immense quantities in which the several kinds are grown. The outdoor stock is chiefly grown in the company's nurseries at Gateacre.

Messrs. R. P. Ker and Son's Nurseries, Aigburth.

The interesting nurseries of this well-known firm are on the direct road from Liverpool, and can be reached by rail to Cressington Station, which is within five minutes' walk of the nurseries, or by the Garston 'bus, which passes the gates. From the Garston Nurseries they are about two miles distant, and can be reached in a walk of half an hour or a ride by 'bus of about twenty minutes. The first objects of interest to engage the attention of visitors are the borders of coniferous trees and evergreen shrubs. The nurseries are intersected at various points by broad walks of great length, and these are skirted on each side by a belt, ten or twelve feet in breadth, of the choicest green and variegated shrubs and coniferous trees, which give a beautiful finish to the various quarters, and serve to show the rich effects that may be produced by a judicious combination of the various forms of the two classes of subjects enumerated. In passing by the quarters devoted to ornamental trees and shrubs, one is struck by the large breadths of hollies and aucubas, and the preponderance of these two classes of shrubs is explained by the fact that they are the best of all the evergreens for the Liverpool district. The most popular of the green hollies is that known as Hodginsi, which has a very hardy constitution and exceedingly handsome leafage. Rhododendrons also succeed admirably in the Liverpool district, and consequently receive much attention. The standard specimens placed at intervals in some of the shrubbery belts were singularly effective, at the time of our visit being in perfection and displaying glowing masses of colour.

The glass houses are numerous and well furnished, and within them are to be found stocks of the various subjects proper to a first-class nursery. Cyclamens form a special feature of the nurseries, and in the pits and houses are to be seen, on the one hand, immense stocks of old bulbs in a resting state and now ripening their seed; and on the other, young plants in immense quantities for flowering next season. The great feature of the nurseries, however, is the collection of crotons, which is not only thoroughly representative, but is remarkable for the vigorous condition and the splendid development of the leaf colouring of the respective varieties. Small examples and large specimens are alike well-coloured, and on entering the large house devoted to the collection the eye is quite dazzled by the splendour of the display. The crotons exhibited by the firm at Regent's Park a few years since were sufficient to show that their cultivation was well understood at Aigburth, but they gave a faint indication only of the remarkable character of the collection, which contains several very fine forms that have been raised by the firm.

Private Gardens.

Liverpool has long been an important centre of horticultural activity; and although the climatic conditions are not particularly favourable, gardens abound on all sides, in which the various operations are carried on with an amount of success that does the highest possible credit to those in charge. To refer even briefly to all the private gardens in the suburbs of Liverpool that well deserve notice would occupy more space than can be possibly spared, and it must therefore suffice to mention a few of the most important that can be readily reached.

Otterspool, the residence of Sir E. T. Moss, Bart., has attached to it gardens remarkable alike for their extent and high keeping, the approach from the Aigburth Road being unsurpassed in beauty. From the lodge gates to the mansion the drive is skirted on either side by a breadth of turf, on which are arranged huge rhododendrons, specimen hollies, and various coniferous trees, and beyond the turf are lofty sloping banks liberally furnished with rhododendrons and surmounted by masses of ornamental and timber trees. The pleasure grounds are extensive and attractively laid out, and command charming views of the Mersey, which bounds the property on the southern side. Fruit and plant culture are carried on with much success, grapes being especially well done by Mr. Lindsay, who has had charge of the gardens for many years past. Chrysanthemums are grown largely and with much success, as shown by the high position taken by Mr. Lindsay in the competitions at Hull and elsewhere last season. Otterspool can be reached by train to Otterspool Station, which is quite close, or by the Garston 'bus, which passes the lodge gates.

Wyncote, the residence of C. W. Neumann, Esq., is within a short distance of the Mossley Hill Station of the London and North-Western Railway, and can be reached from either Lime Street or Edge Hill. The gardens are of moderate extent, and, thanks to the skill of Mr. W. Mease, who has long been known as one of the most successful chrysanthemum cultivators, will afford much gratification to those who take an interest in high-class gardening.

Calderstone is also reached by way of Mossley Hill Station, from which it is one and a-half miles distant, and it is within a short walk of Wyncote. The gardens are extensive, and the pleasure grounds are remarkable for the rhododendrons, specimen hollies, and coniferous trees. Grapes and pines are most successfully grown by Mr. Tunnington, who is one of the leading cultivators of chrysanthemums in the district. A full description of the gardens of Calderstone appeared in the Gardeners' Magazine, October 23 and 30, 1869, from the pen of Mr. Mason, the superintendent of Prince's Park.

Elm Hall, Wavertree, the gardens of which are under the charge of Mr. A R. Cox, are within a very short distance of the Botanic Garden, and can be readily reached by tramcar. The gardens bear the impress of skilful management, and the high condition of the plants in the various glass structures is indicated by the high position Mr. Cox invariably occupies at the exhibitions of the Liverpool Horticultural Association.

Eddisbury, Hayman's Green, West Derby, the residence of Mr. J. Latham, is remarkable for the grand old specimen of the double white Camellia in the gardens. This specimen, which is said to be ninety years old, is nearly twenty feet in height and in diameter, and has a stem ten inches in diameter. It is one of the three plants first intoduced to this country, and was planted by Mr. E. Porter, who was then Mayor of Liverpool. As indicating in some degree the profusion with which the tree flowers every year, it may be mentioned that in thinning the buds last season upwards of 10,000 were removed.

Knowsley Hall, the seat of the Earl of Derby, is farther from Liverpool than either of the foregoing places, but a run of eight miles by rail is not a serious matter. The nearest station is Huyton, from which Knowsley Hall is about two and a-half miles distant. Fruit culture under glass is carried out on a large scale, there being no less than nine spacious houses devoted to grapes. Pine growing still obtains a large share of attention, and the condition of the plants and the excellence of the fruit in various stages of development show that Mr. Harrison, who has long had charge of the gardens, thoroughly understands the cultural requirements of the pineapple. The pleasure grounds are extensive and beautiful, and command extensive views of the surrounding country, and the kitchen garden and hardy fruit department contain much to interest practical cultivators.

SPURIOUS TEA.—The teas sold by Chinese merchants to foreign countries during the last four or five years have been so generally complained of on account of the adulterating material added to them, that the Inspector General of Maritime Customs, who is an Englishman, has warned the authorities that the tea business of China is likely to be entirely ruined. Good Tea is prepared from young leaves of the early spring growth, which alone yield the strong, rich, and delicious infusion for which Horniman's Pure Tea has for 50 years been so famous. See Local Agents, Chemists, Confectioners, &c., advertised in all papers, and at Railway Stations.—[Advt.]

CONGRESS PEARS.

Doyenné du Comice.

The noble pear here figured has acquired popularity in a comparatively brief space of time, for the original tree first fruited in the garden of the Comice Horticole, at Angers, in the year 1849, and yet in the exhibition of 1885 it was tenth on the list of favourites, and 102 dishes were shown. Its name will be seen in all lists of "select pears," for no one can with advantage do without it, more especially as it is a hardy variety, bearing well, and usually not needing a wall for its well-doing. Indeed, in the south it objects to the shelter of a wall, making finer fruit in the open.

Leroy states that from the first the high quality of this variety was recognized, and it was put into commerce with all possible speed, and it proved to be as good in America as in Europe. His figure agrees with ours in all essential particulars, but his sample is about half the size of ours, which represents one of the most typical fruits in the Congress Exhibition. The size is not extravagant, for Dr. Hogg reports that Mr. R. D. Blackmore has grown it at Teddington on heavily cropped trees to a weight of 14 ounces.

Doyenné du Comice is pyramidal or turbinate, the eye set in a considerable depression, the stalk fleshy, obliquely inserted, the skin lemon yellow, with dots and patches of pale russet. The flesh is white, tender, melting, rich, sweet, and emits a warm, spicy odour. Its season is from mid-October to mid-December.

DESSERT PEAR, DOYENNÉ DU COMICE.

Mr. John Waterer's Rhododendron Show in Cadogan Gardens, Chelsea, has been largely attended, and the visitors found it quite worthy of their admiration. Though a bad year for rhododendrons, the Bagshot nurseries have found no difficulty in sending to Sloane Street a number of splendid specimens, and their appearance, as tastefully arranged under canvas, is singularly fresh and pleasing. We noted, as the most distinct and beautiful amongst many fine varieties, the following, some of which are old favourites: Duchess of Bedford, crimson; Countess of Northampton, light pink; Helen Waterer, better than Alarm, which, however, is still so good that it must remain in the select list; Lady Eleanor Cathcart, one of the very finest, but a little peculiar in the fact that in many places it has disappointed; Duchess of Connaught, a superb white; Kate Waterer, Tom Agnew, Mrs. Charles Leaf, Baron Schroder, Duchess of Edinburgh, Charlie Waterer, Mrs. Charles Leaf, Duchess of Cambridge.

A BOWL OF IRIS.

A small affair this time to wind up the game of bowls. The word came to me "once more," for in the seed room were many pots and pans, and one huge thing in terra cotta that had for years and years accumulated the dust upon it, and, so far as I know, had never been used. It was proposed to "draw the line" between this creature of capacity and the profane yellow bowl, and thus establish another and a final lesson in this style of decoration. Done! The English iris were showing their first crop of delicious flowers—white, grey, porcelain, purple, lurid bronze, and mysterious ochre, passing into burnished gold. Done! The creature is gorged with flowers, holding about half a bushel of iris flowers that I cut recklessly and crammed in "anyhow." What a wondrous feast of colour we had. The denouncer of the yellow bowl was dumb, the parish was dumfoundered—that is to say, four leading ladies of taste, including the vicar's wife, lifted their hands in the style of the Greek chorus, and exclaimed in unison, "Oh my!" I, who write this solemn record, said nothing. My hands had been heavy, but now my heart was full. But I arose, and with a lip curling vengefully, seized the yellow bowl, and with one supreme effort flung it from the open window—open now for the first time in hopes that Spring might come in to take shelter against the winter that pursues her—and it fell with a mighty crash upon the parapet beyond, splashing its jagged débris in all directions, like bits of the sweepings of Ilium, Naukratis, or Tahpanes. The sound was greater than that of the "one gun" in Hood's immortal poem upon "Evening." I still hear it, and can say no more. The bowl is broken, but my heart remains sound to the core. W.

THE PEACH AND NECTARINE UNDER GLASS.

By James Douglas.

In some districts of the United Kingdom the peach and nectarine cannot be successfully cultivated out of doors, but everywhere the fruit can be cultivated better under glass than in the open air. Peaches and nectarines have been grown under glass for generations, but during the present century many different systems of culture have been recommended, and it says much for the facility with which peaches may be grown under glass that good fruits can be obtained by nearly all of them.

Pot culture is one of the latest methods. During the last quarter of a century this notion has been very extensively carried out. It has been condemned by some, treated with indifference by others, but by many cultivators excellent results have been obtained. My own ex-

perience has taught me that first-rate examples of peaches and nectarines can be obtained from pot trees, and a houseful of well-grown trees laden with their luscious fruits, ready to drop into the hands of the cultivator, is a sight worthy of admiration. This fruit had been cultivated from pot trees before the late Mr. Thomas Rivers, of Sawbridgeworth, reduced it to a system; but to that celebrated pomologist belongs the credit of showing how peaches could be grown profitably and well in unheated houses of the very simplest kind.

Peach House.—I have never recommended these rough-and-ready unheated structures. If it can be afforded it is much better to build a good house and to heat it with hot water pipes. The internal arrangements need not be very elaborate. If the house is under 18 ft. wide, a gravel path down the centre and a border on each side are all the arrangements needed. The pots stand on coal ashes or cocoanut fibre refuse. I used to have a bed of cocoanut fibre, and under the pots two bricks were placed parallel to each other, and the hole in the bottom of the pots was between the two bricks. This arrangement answered well; worms could not get into the pots, and the air could reach the roots freely. Our house was 24 ft. wide, and had a bed in the centre, and borders round the sides and end, the borders and centre bed being separated with a path going quite round the house. The trees may be planted out on those borders, provided they have been made up with good soil; but in that way they are not quite so well under the control of the cultivator; and, further, the house is not free in winter to be made into a winter garden of chrysanthemums and other plants.

The Principal Objection to Pot Trees is the large amount of attention they require during the summer months; but this objection is not so formidable as is generally supposed. They require no more attention than planted-out trees, except in one particular, that of watering. When the fruit is set, and the trees are growing freely, they certainly take large supplies of water during the hot weather, and if the trees suffer from inattention at that time the bright prospects of a season may be destroyed. But it must not be forgotten that all pot trees or plants require this care to grow them successfully. Show pelargoniums, for instance, require as much attention, and a houseful of auriculas requires more judgment still. Those who wish to study the character of a large number of varieties of peaches and nectarines will be able to do so much better when they are grown in pots.

Wintering.—When the fruit has been gathered, and the wood well ripened, they may all be plunged in a corner out of doors for the winter. The orchard house may then become a winter garden, filled with chrysanthemums and other choice flowers.

The Form of Tree may be a matter of taste, but some are better than others to expose the fruit to the influence of sun. Neither peaches nor nectarines will be coloured or of good quality unless the sun can shine upon the fruit during some portion of the day. The cordon or pyramidal form is perhaps the best. The foundation must be laid by beginning with "maiden" or one-year old trees. These can be purchased at a cheap rate in any nursery. A well-grown example will have a stout centre stem, furnished with numerous lateral growths. The strongest of these are at the base, the shorter and weakest ones are nearest the top. To form the foundation of a cordon or pyramid, cut about one third or more from the top of the main growth. The longer laterals at the base should be cut back to within six or nine inches of the stem, gradually cutting those higher up closer until those near the top are cut back to one eye. The cordons must be cut close back; or, at least, not more than two buds should be left at the base of each lateral from top to bottom. The summer pinching must be closer. The points of the growing shoots should be pinched at three leaves instead of at five.

A BOWL OF ENGLISH IRIS.

Peach Trees under Glass are very liable to be attacked by the peach aphis, a distinct species from that found on pelargoniums, and much more tenacious of life. It can be destroyed by filling the house with tobacco smoke three or four times, at intervals of three days. Red-spider does not usually appear until about the time the fruit is going through the stoning process. Thoroughly syringing the trees will destroy it. This must be done daily at the time of shutting up the house.

Surface-dressing.—Another detail of the work during summer is surface-dressing the trees. I may say here that, after having tried many preparations of manure for this purpose, the best of all proves to be that recommended by Mr. Rivers, of Sawbridgeworth, viz., malt or kiln dust and manure scraped from the roads. Instead of gathering it from the roads, I have the short manure saved from our own

stables, and to one part of manure we add one of the malt or kiln dust and one of loam. The three are thrown together, and are soon in a violent heat; even a barrow-load of each will give out a violent heat, but no harm will be done if it is turned over every day, and it will be ready for use in a week or ten days. This dressing may be applied a few handfuls at a time, beginning its use when the fruit begins to stone. That is always a trying time for the trees, and the extra stimulant will carry them safely through the crisis. Those who have not been accustomed to cultivate stone fruits have sometimes been nonplussed with the behaviour of the trees at stoning time. They have watched the fruit after it has got as large as skinned walnuts, for nearly six weeks, and to their dismay it has not increased in size. It has been growing, however, internally; the stones have been forming during the six weeks, and when the process is completed the fruits swell rapidly, and during that time a very warm atmosphere is best, with plenty of moisture until the fruit begins to turn soft, when more air and less moisture will cause the fruit to ripen well.

During the Growing Period I never allow any roots to ramble outside of the pots, and it is almost astonishing what splendid fruit can be obtained from even ten-inch pots. The potting soil must be the best loam; three parts of this, added to one of decayed manure, will grow them well, with the addition of the surface summer dressings. We are now growing planted-out and pot trees in one house; the planted-out trees being trained to a trellis of strained wires, fixed about ten inches from the roof glass. The trees are trained on what is termed the fan system, and perhaps there is no better plan than this to furnish the trellis with bearing wood from top to bottom.

Borders for Peach Trees.—We take as much pains with our peach borders as we do with those for the vines. They are made much in the same way, except that the vine borders are six inches deeper. We excavate the ground three feet three inches deep. Or it may be done in this way—The ground can be dug out two feet three inches deep, and the ground line of the house be raised one foot above the surface. When the bottom is cleared out it ought to slope gently to the front; and from back to front. At intervals of twelve feet, three-inch drain pipes should be laid down, and the entire foundations should be filled to the depth of nine inches with brickbats, and over these some turves with the grass side under. The compost should not be so rich as for vines; some crushed bones may be added to decayed turfy loam, but no manure whatsoever. The first year it will not be necessary to make up more than a width of five or six feet, one foot outside and four or five feet inside. That is the way ours was done, although the entire width of the borders, inside and outside, was cleared out. The inside border is the entire width of the house, and the outside as much. It is of the utmost importance that no stagnant water stands under the drainage; if it does at any season it must be drained away. It will not be necessary to add any more to the borders until the second year.

Summer Growth.—The trees grow and cover the trellis at a very rapid rate. Under a judicious system of summer pinching there is no difficulty in getting plenty of shoots; the question is of careful thinning out and not allowing more young wood to remain than will be required for the next year. It is bad management to allow two or three shoots to remain when one is enough. The foundation of a good crop of fruit must be laid the year previous by thorough ripening of the young wood, and this cannot take place unless each shoot is well exposed to the light. The leaves must also be kept clean and free from insect pests. I have already alluded to red spider and aphis. Brown scale will also do some mischief; it spreads rapidly unless it is removed from the wood when the trees are in a dormant state by washing it off by hand with soft soapy water. It would extend this article too much were I to go into all the minor details of culture. These should be looked for in the calender of operations, which are prepared with care, and should be from week to week copied out by young gardeners.

PLANTS OF THE ALPS.

By H. Correvon, Director of the Jardin d'Acclimatation, Geneva.
Translated by R. Irwin Lynch, A.L.S., Curator of the Botanic Garden, Cambridge.

Introduction.

There is not a country in Europe so favoured by nature as our little Switzerland. Nowhere else do we find comprised within so limited a territory such variety of interesting phenomena and picturesque beauty, and such a mass of material suited to guide and enlighten the naturalist in his researches. No country is known where civilization approaches so close to a wild and untameable nature as it does with us. This Alpine nature, so different from that displayed in our plains, offers in itself alone a field of study so vast that it is as yet scarcely explored. It is an immense domain which no man can study in all its parts, and which savans only touch, each working in his own sphere. Horace-Bénédict de Saussure, Necker-de Saussure, Buffon, Escher, Charles Bonnet, Conrad Gesner, Oswald Heer, De Candolle, Berlepsch, Tyndall, and Agassiz, have each from a particular point of view studied the Alps and their nature. In our day the number of these pioneers of science who have chosen the world of the Alps for their field of work has much increased. Each works in a special department, and then brings to a common centre the results of his researches and experience. Societies have been founded with the object of collecting all this information, to encourage the numerous naturalists who devote themselves to the Alps, and to work with them in the advancement of science. Then come the Alpine clubs, which during the last few years have displayed the most useful activity.

But let us leave the Alpine savans and naturalists at their noble work, and not attempt to trespass upon their rights. What we wish to do here belongs not to science but to practice. We are going to pass in review the results of study and experience in the domain of the Alpine flora, by one of its most humble, but also one of its most sincere admirers. The Alpine flora! Who can be insensible to your many charms? Who can help loving you, charming flowers of our Alps; you, the jewels of the Creator, who shine like so many pearls on the velvety slopes of our mountains as stars in the depths of heaven? Who can resist the temptation of taking you away, of bringing you with us, and taking possession of you? Delicate and charming jewels which glisten in the bosom of the grandest of natures, how can you be painted, how can your charms be described? Pardon the inelegance of a style so little in harmony with your corollas, which sway with the breath of the zephyr. What human language can express your charms and the grace of your contour? It is so sweet to speak of those one loves; but it is with so much the more pleasure when one can express freely, as from the heart. This pleasure continues, even when the object of love is distant, and to me it is very pleasing, at a time when you are buried high up under thousands of hundredweights of snow, to think of you, and to work concerning you, glorious flowers of the Alps.

May it then be permitted to me, the humble child of beautiful Helvetia, to bring my weak tribute to the edifice which has raised, and which raises still, so many friends of the arts and of nature, so many literary men and poets, to the end of making the Alps known, loved, and frequented. At Geneva, better than anywhere else, this wild nature is loved and known. It is in our French-speaking country, and in Geneva particularly, that the movement has arisen, which has caused the Alpine flora to be appreciated and brought into fashion. For some years it seems to have been taken to heart to bring down the flora of the Alps to the plains, and to diffuse a taste for it among the public, either by making it known through the pencil or brush, or by means of cultivation.

It seems, then, a favourable time to publish some information upon the subject of acclimatizing this flora in our gardens. Perhaps it would have been wiser to have left this care to the more able, or to have waited the acquirement of a larger amount of experience in this department. Such would have been my intention if I had not been stimulated to this enterprise by the zeal of some friends who consider that information on the culture of Alpine plants is greatly needed.

I have, then, joined to my own notes, taken at every opportunity, with the growth of my experience, whatever material I have got together during a dozen years, and the various information which those specially occupied with this subject have been able to furnish me. I hope that many will find useful information in the reading of what follows, and encouragement in many cases. That is my earnest desire.

CHAPTER I.—The Alps and their Nature.

The different regions—Spring in the Alps—The "föhn" avalanches—Landslips—Glaciers—The influence of these phenomena upon Alpine vegetation.

The chain of mountains which traverses the south of our continent, called the Alps, is a world apart, possessing a life of its own and a nature peculiar to itself, in which particular phenomena are manifested that we meet with nowhere else. This nature presents a perfectly distinct character, and has no relation with that displayed about our cities. Whilst with us vegetation is modified only by great distances, upon the heights these modifications obtain within a very limited area. Thus it is that a traveller who climbs the Alps may pass, in a few hours, from the nature of Italy and the south which characterises our Valais and Ticino, to the frozen regions of the higher zones. Switzerland possesses almost all the climates of Europe. Haller wrote as long ago as 1768, "Helvetia comprises almost all the regions of Europe, such as are met with from the extremities of Lapland and Spitzbergen to Spain."

In a single day, in some parts of Switzerland, a botanist may gather plants belonging to the most different floras, from those which include the opuntia, pomegranate, almond, rue, and hyssop, to those of the Arctic regions.

The world of the Alps has been divided into different regions, according to the modifications presented by their character. While certain naturalists multiply the number of them, others, like Tschudi, divide the Alpine world into three zones, thus—

1. The *mountainous* or *wooded region*, which rises, according to the district, to an elevation of from 3,280 feet to nearly 5,000 feet. It includes all the base of the Alpine chain, the greater part of the hills which serve as outposts to it, and the chain of the Jura to the upper limit of its forests.

2. The *Alpine region*, which rises to about 6,560 feet to 8,200 feet, and comprises the great belt of pasturage which lies on all sides of the Alps and separates the region of forests from the vast expanses of rock which dominate them.

3. The *region of snow*, which comprises the space situated above the pasturage. In this last zone organic life is poorly represented; there the awful mingles with the sublime, the grand with the terrible.

It is the flora of the two upper regions with which we are here concerned, that of the wooded regions accommodating itself, in most cases, without difficulty, to cultivation, and not requiring any special treatment. The species there met with grow under conditions which are often analogous to those of our plains, and they may be treated in our gardens as ordinary herbaceous plants.

Organic life in the Alps is subjected to laws that are entirely different from those which govern our surrounding nature. The conditions of existence for plants and animals approach a little to those of the polar regions, without, however, being identical with them. While on our plains the snow commences to disappear in February, and the workman may be seen in the fields on the first days of March, the Alpine pastures remain covered with their white mantle till May, June, and July. The great summits are never uncovered, and freedom from snow to this extent scarcely happens in the sub-Alpine region; some ridges exposed to the south and swept by the winds are free from ice for some weeks, during which a cryptogamic vegetation obtains development.

In the mountainous region the snow begins to disappear at the commencement of May. It is at this time only that the inhabitants of the large and rich villages which people these regions commence their agricultural labour. This explains to us why, in these parts, where the winter is very long, they are occupied in so many different industries, which have brought ease and prosperity to these valleys. The months of May and June are the finest of the year for vegetation. Everywhere life flourishes, nature is quickened and rejoices. The blue gentian spreads its brilliant petals beside the golden potentilla, and the farinose, or bird's-eye primrose, nestles beside the pale aconite-leaved ranunculus. All the powers awaken; everything lives and rejoices; it is springtime, radiant and bright, full of hope and joyous songs! It is not so in the upper regions; there all is yet still and frozen. It is only six or eight weeks later that vegetation appears divested of its frozen mantle and reclothed with its smiling robe of spring. The period of life and activity of vegetation in these regions is often very short. In certain of the upper valleys the summer lasts but a few weeks. There is in the High Alps even

more than one gorge which, in consequence of a succession of bad years, passes several summers beneath the snow. One therefore understands how much the conditions of existence differ from those the plants are subjected to in our plains. Before making a more particular study of these conditions, let us try to familiarize ourselves a little with this great Alpine nature, as well as with the flora which characterizes it.

It is the end of June, and we are in the Alpine region. The sun shines with all its brilliancy, and the intensity of his rays has already caused a great part of the white mantle which surrounds us to disappear. But how very terrible the resistance he has overcome to get the upper hand! What a hard struggle, and what tenacity on the part of the frozen element! The frosts of these long and cold nights, which characterize this time of the year on these heights, harden the surface of the snow to such an extent that the sun may dart his rays for many hours on this icy bed before softening it. It often snows still more, and it frequently happens that the bed of snow, diminished by the influence of some days of sun, increases afresh to a more or less evident extent. This struggle would be still longer and much more terrible without a powerful auxiliary, which, if wanting a single year, would cause the greatest misfortunes to all the country. This is the "föhn," the great benefactor of the Alps, which, of all our winds, is the most favourable to vegetation. Under its influence the beds of snow soften, melt, and disappear with astonishing rapidity. The "föhn" affords the one of all conditions the most favourable to organic life in the high Alps; it exercises a considerable influence upon Alpine vegetation, which it forwards and stimulates. It only makes itself felt where there is snow, and only when there is snow lying. Its action would become prejudicial to vegetation if maintained after the disappearance of the great humidity. It seems to seek out the places where it exercises its happy influence. When the sun has warmed the bottom of the valleys this beneficent wind is content to sweep the heights where there is yet snow. It seeks out the frozen places, and blows with greater violence during the night than during the day, without doubt because the warm air strata displaces the layers with which they are in contact, with so much the greater rapidity as the latter are colder.

The name given in Switzerland to the hot southerly winds of summer is the "sirocco." These winds, arising from the northern tracts of Africa, cross the Mediterranean, and impinge on the snow-clad Alps, thereby annually causing a rapid diminution of the lower glaciers. "Were the desert tracts of Africa again covered as they once were by the ocean," says Professor Phillips, "the wind would lose its excessive dissolving power, snow would gather on the Alps above, and glaciers extend below to levels and distances now quite unattainable without some great physical change."—Handbook of Geological terms, by David Page, Esq.

The "föhn" is a certain sign of spring; it often commences to blow in January, and is announced not only by the noise it makes, but also by the warmth of the atmosphere, the density of the air, and the rapid swelling of the torrents, which become roaring and dirty. During three successive winters I have studied in Eastern Switzerland the effects of the "föhn" upon vegetation, and I have been struck by the importance of its action. Its influence is felt in winter on the summits of the hills and mountains of low elevation; and thus, in the environs of Zurich, we sometimes find on the Utliberg, or the surrounding mountains, a spring flora in full bloom, while in the plains there reigns the most intense cold or the thickest fog.

The "föhn" exercises, besides, according to Dr. Christ, a certain influence on the flora of our Alps, to which it introduces a number of species of southern origin. That illustrious botanist has presented to the National Exhibition of Zurich, in the section of the Alpine clubs, a herbarium, composed of forty species, the presence of which, on the Alps, is due to the wind. This collection he has named the Föhn flora.

The föhn provokes also the formation of avalanches, those striking phenomena, which, if they sometimes cause disaster, are no less among the most powerful means of clearance in certain parts of our Alps. Tschudi says: "This natural phenomenon, by which the heights free themselves of incalculable tons of snow, is one of the means which contribute most efficaciously to render spring vegetation possible. If all these masses, of which it is impossible to calculate the volume, were only to melt slowly, the duration of this work of dissolution would extend till the summer is far advanced. There are many shaded exposures where the snow never disappears. Fields of snow and glaciers might form and grow without intermission, where, thanks to the avalanches, the mountaineer comes to-day carrying on his shoulders a heavy load of fragrant hay. If the avalanche has just carried down a field of snow from an elevated pasture the action of the sun is doubled on the cleared land, the soil is warmed, and the neighbouring fields of snow, mined from below and devoured by the rain and the 'föhn,' follow in their turn in the same way, or disappear on the spot."*

The snow has no sooner disappeared than the landscape is animated, becomes green and jewelled with the most lively colours. In the twinkling of an eye, as if by enchantment, life is manifested on all sides, and summer appears, as it were, suddenly and without any intermediate spring. The snow, which melts everywhere, often excites the occurrence of terrible catastrophes, such as the landslip. The remembrance of the landslip of Elm is yet too fresh among us for it to be necessary to insist on the danger of these downfalls of rock, which cover with their rubbish the richest valleys and reduce them in a moment to fields of desolation. With regard to vegetation, these frightful descents of rock present this peculiarity, that they transport to lower regions the species belonging to a more elevated zone. It is thus that one finds in the *débris* of the landslip of the Diablerets a certain number of plants, such as *Saxifraga oppositifolia* and *Androsace helvetica*, which descended from the heights at the time of the catastrophe.

Since we travel the Alps in order to initiate ourselves to their grand and savage nature, it is well to stop before the most important and most interesting phenomenon of these heights—that is to say, the glaciers. These vast expanses of ice, which feed the largest rivers and tributaries, have long been the terror of the herdsman, who dared not venture among them. At first the glacier seems to be the abode of death and desolation. No organic life is evident, and with the exception of some *Algæ* and Infusoria, all organized beings shun it as a dangerous habitation. This negative influence of the glacier is limited, however, to the ground it occupies, because it is, to the vegetation which surrounds it, a source of life and development. On the immediate confines of the glacier, which we may call its shore, we find a crowd of thriving and interesting plants. The moraine of each glacier is like a botanic garden, assembling within a more or less confined space a large variety of species. It is a privileged place, where the botanist will quickly make a rich collection. There the atmosphere, charged with moisture, seems quite peculiarly to suit the brilliant flora of the Alps. It is the ground of the moraine in which the Swiss Stone Pine (*Pinus Cembra, L.*) prefers to grow, and nowhere else is it ever so fine or so thriving. Sir Joseph Hooker has noted the curious fact that, in Syria, at the time of the prosperity of the forests of Lebanon (now nearly extinguished), the celebrated cedar, in which their glory consisted, grow on the moraines of glaciers, and to the disappearance of these is due the disappearance of the cedars.

Humidity of the air is the one, of all conditions, the most important for the life of plants on the Alps. Without vapour diffused in the atmosphere, the exposure to the rays of the sun, so strong on these heights, would be prejudicial to vegetation. The moisture of the air is a sort of sunshade, which breaks the effect of the solar rays without diminishing the amount of light. The brightest and most intense light is lavished on this vegetation to a degree which is not possible in our plains, and this is the reason of our seeing it develop with such rapidity. Alpine nature has this peculiarity, that the life of certain species is manifested and developed in much less time than is necessary for the same species in the plains. It is the characteristic of Alpine life to accomplish its annual cycle of existence in a much shorter space of time than is required by the organic life of our plains.

* Tschudi: Le Monde des Alpes, p. 320.

GREENHOUSE AND STOVE PLANTS IN FLOWER.

The houses are not so gay as they should be at this time of year, the lack of solar warmth telling the old tale that coke is a poor substitute for the life of nature, as, when spring returns, it does sometimes visit us from heaven. Many fine plants usually in flower at this time are sadly behind, but, on the other hand, subjects that have succeeded in showing their best attractions do not appear to lack quality in any special degree. Many popular flowers are plentiful, such as herbaceous calceolarias, gloxinias, achimenes, pelargoniums, begonias, and imantophyllums. The spring flowers proper, such as acacias, epacris, cytisus, epiphyllum, and the like are over, or only linger in late places to illustrate the great range in time of all flowering plants as climates, cultivation, and pedigree may affect them. The flowers now at command are summer flowers certainly, and we must confess there are not so many of them as we are accustomed to.

Sempervivums are grown in many mixed collections, and they make good greenhouse and conservatory plants if kept somewhat dry during winter. But the severe winter treatment to which cactuses and aloes are subjected is not needed; it is enough that they are protected against extremes of damp and cold, and they will prove welcome adornments to a comfortable plant house. *Sempervivum urbicum* is a fine tree-like plant that has lately put forth a grand head of diffuse racemes of white flowers. It is stately, and when fresh beautiful. *S. canariense* is also a fine tree-like species, with, at the present time, a profuse much-divided head of pale green or greenish-yellow flowers; the leaves are round and imbricated like the pictures on Chinese pottery of Rheum nobilis. We may place *Sedum formosissimum* here with propriety; it is a dwarf plant with rhomboid leaves and a spreading mass of long racemes carrying pale yellow flowers.

Indian Gentian may be a suitable colloquial name for the species of Exacum. On that point we are not particular, but we should like all the world to know how lovely are these plants. Being gentians, of course they are blue; and not being gentians, but exacums, they have not bell-shaped but salver-shaped flowers. And again we say we are not particular, but nature is very particular, and she has put into *Exacum macranthum* a sort of beauty that compels the beholder who sees it for the first time to pull a breath and say "Oh!" The species are not many. *Exacum tetragonum* is a lovely herb that, when in flower, bears a remote resemblance to a solanum. *E. Zeylanicum* is a Ceylon species of free growth, forming a leafy bush crowned with large and lovely flowers of a rich purplish blue colour. Probably E. macranthum is the best, its colour is marvellous; it is an easy plant to grow if you once begin with it, and its resemblance to Solanum amazonicum is wonderful. We repeat "if you once begin," for you will probably want seeds, and they are scarce. However, if you can obtain this beauty for the stove or intermediate house it will give a bit of colour that will cause ecstacies.

Peperomias are only seen in stoves that contain many good things. They are pepperworts loving low places, valleys, and the banks of rivers in tropical countries. A fine plant is *Peperomia clusiæfolia*, a robust grower, with spathulate leaves and green inflorescence. *P. marmorata* is of a neater growth, with handsomely marbled ovate leaves and green inflorescence. *P. argyrea*, figured in Hibberd's "Beautiful Leaved Plants," has orbicular leaves, marked with broad grey bands. *P. resedifolia* is probably the most interesting of all, and assuredly now is one of the jewels of the stove, for it is crowned with neat spikes of inflorescence, of a pure white colour and the most elegant construction.

Phyllanthus means flower-leaved; the genus is allied to euphorbia. Two pretty plants should be named as now flowering, *Phyllanthus turbinatus*, with ranks of roundish pinnated leaves, and small green flowers at the base of each; and *P. glaucescens*, leaves seemingly but not really pinnate, the flowers hanging below them; a little feast for a quiet eye.

Ipomæas are now asserting themselves, and we have examples of half a-dozen delightful species in flower. One we note as good for a rafter in an intermediate house, *Ipomæa Learei*, native of Ceylon, a vigorous grower, the flowers now before us delicate azure blue, with a tint of pale rose in the tube. *I. Horsfalliæ* and *I. Thomsoniana* are so nearly white that both are not wanted in the same place, and of the two Thomson's is the best. *I. paniculata* is now glorious, and it loves water like a fish.

Medinillas have been flowering for some time past, and *Medinilla magnifica* will always secure admiration, especially if standing away from all other plants so as to show its entire character. A very fine plant is *Medinilla amabilis*, with larger leaves than the other, and less colour in the panicles, which are delicate and waxy. This, perhaps, is the very best of the group.

Billbergias are like butterflies in two respects. They are "gentlemen" of the planthouse, but "of no very great repute." Many fine bromeliads are flowering now. *Billbergia variegata* is attractive; it is a lumpy plant, very leafy, the inflorescence consisting of green flowers, accompanied with large vermilion-scarlet bracts. *Tillandsia chrysostachys* is a good plant, with bold spikes of lemon yellow.

Cupheas are cared for as bedders more than as stage plants. But a precious little gem is *Cuphea Commersoni*, now flowering, making a heap of tiny flowers of a delicious rosy lilac colour.

Acanthads of the stove are mostly over, but *Jacobinia magnifica* is in perfection, with fine curlywig heads of flowers of a salmon-tinted rose colour. It may be labelled Justicia by those who have doubts about Jacob.

Imantophyllums are important now, and there are good and bad varieties that would really be good all through were they not so nearly alike. But they approach so nearly that we can afford to reject as bad such as are of poor colours or have narrow segments. One that delights us much now is *Imantophyllum* or *Clivia Lindeni*, the flowers pale orange-red, the form good.

Clerodendrons are making a grand show. Conspicuous amongst them is the lovely *Clerodendron Thomsonæ*, with its foaming masses of creamy white and red, changing with age to greenish white. Full of fire is *C. Kæmpferi*, and very near it in colour comes *C. speciosa*, a tremendously vigorous grower.

Pancratiums scarcely attain to the favour they deserve, considering how distinct and beautiful and how easy to manage they are. We are now rejoicing in the lovely flowers of *Hymenocallis macrostephana*, *H. littoralis*, and *H. glauca*, the first named of these three being the most desirable.

Allamandas are among the grandest of stove climbers, but never appear to advantage in a small place. Give them room above and below, or do not touch them; that should be the rule with the earnest plant grower. When well done no insects touch these plants, and yet it is no uncommon thing to hear of the attacks of yellow thrips, the consequence of unseasonable firing and rude ventilating, the heat pushed too much at one time and too much cold air at another. There are many species and varieties, but no one wants them all, and some three or four that are well known are certainly quite second rate. For example, we can do without A. Aubleti, and it is a question if A. violacea is worthy the space it should occupy to prosper. For the walls and rafters *Allamanda Chelsoni* and *A. Hendersoni* are the best. *A. Schotti* is a fine variety of the last, a superb, free flowering plant. For pot culture there is none so good as *A. grandiflora*. All these are flowering now, and are grandly delightful.

POTASH AS PLANT FOOD.

Abridged report of a Discussion of the Massachusetts Horticultural Society.

President Moore said that all that is needed to be supplied to plants as food is nitrogen, phosphates, and potash, in some form. Sometimes, if the first two are supplied, the crops will fail for want of potash. Feldspar soils have plenty of it. Some crops, such as asparagus, cabbages, and potatoes, require a great deal of potash. Dr. Goessmann's analysis of the ashes of the roots and tops of asparagus showed more than fifty per cent. of potash. This convinced the speaker that on many soils it is not supplied in sufficient quantity to asparagus, and now he has a bed of an acre and a half on a poor soil that naturally produced a growth of pitch pine and birch, and never had a shovelful of dung. It was dressed with potash and bone, and from it were cut the bunches which received the first prize last year. This treatment will be continued until signs of failure are perceived. The cabbage family and all fruits require potash, if it is not in the soil already; but if there is plenty already it is of no use to apply more, though some cultivators, who have increased their crops by applying it, have made the great mistake of thinking to secure a further increase by applying more when there was already enough in the soil. A gentleman in Dighton applied a large quantity of wood ashes to his ground, which added nothing to his crop; but he had previously dressed it liberally with muriate of potash. Market gardeners near large cities find stable manure the cheapest source of all plant food, and they use it very freely, and find little benefit from the use of ashes or potash.

Major Henry Emery said that he considered potash the most essential food for all vegetables, especially potatoes; one hundred bushels of which, with the tops, furnish by analysis one hundred and seventy-nine pounds of potash and fifty-one pounds of phosphoric acid. In boiling a bushel of washed and peeled potatoes it was found that they lost thirty-two per cent. of their potash and twenty per cent. of their phosphoric acid, and the water in which they were boiled killed grass when poured on it. In rich lands, or when manured with dung, potatoes are often scabby, but in land newly burnt over, or when manured with potash, they never are. He strews it along his rows of potatoes, and seldom sees a puncture of the skin. Potatoes need more potash than any other crop, but corn will not kernel out at the tips of the ears if there is not sufficient potash in the soil. Potash is excellent for grass, and, whenever applied to it, brings in clover, which contains a large quantity of nitrogen. Its action in this respect has never been explained. The speaker thought that potash or any other fertilizer would leach out of a sandy, gritty soil, unless some green crop, such as clover or buckwheat, was ploughed in, which would retain not only the potash, but the nitrogen and phosphates. He had used seventeen tons of commercial fertilizers in a year to advantage, and prefers potash in the form of muriate. When he uses stable manure he sprinkles potash over it.

William H. Hunt said that in common with most farmers away from cities he had found a deficiency of manure. He had bought a good deal of stable manure, which cost him eight dollars per cord at his farm in Concord, and at this price he considered it an expensive manure. Some years ago he began buying phosphates and other commercial fertilizers, but concluded that they paid only with exceptional crops. He then began with the elements, bone and ashes, buying a large quantity of the former at his farm, and using freely on grapes and strawberries, and was much pleased with the results. Since then he has bought from three to ten tons of bones yearly, and ashes when he could get them. He found that it did not pay to use acid to reduce bones; unlike potash, it is not valuable as a fertilizer, and the same money expended for potash would produce better results. Last year he used eighteen hundred or two thousand pounds of potash, which cost four and a half cents per pound. It comes in casks of about four hundred pounds each, and is as hard as stone. He used four or five parts of bone to one of potash. The bone, which is ground, but not very fine, is spread in the barn cellar. The potash is broken with a sledge-hammer, and dissolved to saturation in a large kettle of boiling water. It is then turned on the bone, and sets up a great heat, evolving nitrogen, to absorb which plaster is used. Kiesorite (sulphate of magnesia) is a better absorbent, but costs more. It is also itself a good fertilizer for grapes. The mixture of bone and potash is allowed to stand two or three weeks, and is turned over several times, and each time covered and mixed with plaster or loam. It is considerable trouble to reduce bones in this way, but it gives a better return for the money than buying fertilizers in the market. After the heap has fermented large pieces of bone can be crushed in the fingers. He uses no other fertilizer than this on his strawberries, and it is equally good on grapes. He has put no animal manure on his grapes since they were set out, but dressed either with ashes or bone and potash in some form, and this treatment has been so satisfactory that he will continue it. A neighbour has used a similar preparation of bone and potash on his pear trees, making the fruit better and fairer.

William C. Strong said all are agreed that potash and phosphates are useful fertilizers, but we want to know the best form. He enquired of the president whether he had used bone-black or fine ground bone undissolved.

President Moore said that he used bone-black pretty largely one year, and had also used bone in all other forms. In choosing he is governed largely by the price, and watches to see where he can get it cheapest. He can afford to apply it pretty freely, as it does not waste, but will come into use at some time. If steamed and ground fine it will last three or four years. Potash does not waste in a sandy soil, but combines with it. The best form of potash is wood ashes, if they can be got cheap and pure, such as Canada ashes, with five or six pounds of potash to the bushel; but it is not easy to get them pure. Wood ashes contain phosphates as well as potash, and this is why ashes are preferable to muriate of potash, and why leached ashes are sometimes nearly as good as unleached. He reduces bone by spreading three or four bushels of ashes, and then wetting the bone and putting it on the pile, using three pounds of ashes to one of bone. It will heat and give off ammonia, and will need turning over and covering with loam, peat, or plaster. It should have a pretty thick covering, in giving which you extend the fertilizer; but this you can afford to do when you can't afford to buy it extended. In Mr. Hunt's plan the potash is more caustic, and there is more danger of wasting the ammonia. Many people are deceived in buying muriate of potash, a high grade of which contains eighty-three per cent. of muriate of potash, which is equal to fifty-five per cent. of pure potash.

Bone-black is bone burnt as you would burn coffee, and is used by sugar refiners for filtering sugar; after it has been used it is burnt over to get rid of the impurities, and the fine part is screened out and sold as bone-black. It is bought by manufacturers of fertilizers to dry off their mixtures, being in the form of a fine, dry powder well adapted for that purpose. There is more phosphate in bone-black than in any other bone, but the ammonia is all burnt out of it. There is less ammonia in steamed bone than in fresh, but still a considerable quantity, so much that it will heat in a cask.

Major Emery was still of the opinion, though the president differed from him, that a very fine, sandy soil will not retain potash, but if vegetable matter is ploughed in the soil will hold the potash. Some soils will hold whatever is put into them. He had reduced bones by placing them in a pit and putting potash over them, and covering with two feet of loam. In this way he got his bone pure. The mixture was applied to cabbages with good results. In steamed bones three per cent. of the nitrogen is lost. It is true that the ashes of asparagus have a large proportion of potash, but, like all plants that grow quickly, asparagus makes very little ashes. Poplar wood ashes have a larger percentage of potash than oak wood ashes, but the slowly growing oak makes more ashes than the quickly growing poplar.

W. H. Hills said that he had tried the experiment of dissolving whole bones and succeeded, though a chemist said he could not do it. He first tried sulphuric acid, and burnt his fingers and his pocket. If a half-hogshead is used, and there is a nail driven through it, the acid will eat the nail and leak out. He recommended a wooden vat, made like those used by cyder makers, without any metal. The speaker uses bone and wood ashes as he does stable manure—all he can get. He thought bone and ashes should be applied in the fall, or in very early spring, to have the effect show the first year. The second crop is often benefited more than the first. It takes some time for it to become mixed with the soil. Bone alone is of little value the first year, even when ground fine. Ashes alone do not act as soon as he used to think they did. He does not think they benefit cabbages the first year. In an experiment with ashes applied late in spring, on a square rod of grass, the product weighed half a pound less than on the adjoining square rod; but after the fall rains the effect of the ashes was seen.

President Moore feared that Mr. Hills' statement in regard to the difficulty of dissolving bones in acid might be misleading. He had dissolved many tons of bones in acid, and there is no trouble about it when you know how. He used an old feed-trough, putting in a hundred pounds of bones, and then mixing fifty pounds of acid with the same bulk (not weight) of water in a tub, and pouring it on the bones, and stirring it up with long-handled hoes. The greatest difficulty comes from the mixture being in a wet state. He uses plaster or dry soil to assist in drying it. If too much acid is used it is left of the consistency of melted indiarubber. He had dissolved whole bones with acid, but it is very difficult, and he advised those present not to try to dissolve any but pretty fine bone. Bone cannot be ground fine enough for plants to take up without being dissolved. He thought that bone and potash are far better than stable manure for fruit of any kind. The colour and flavour of fruit are affected by the fertilizers used. He believes that the colour and quality of his peaches have been improved by the potash applied. When the Garden Committee visited the peach orchard of Mr. Miles, in Concord, which was then bearing a great crop, they were surprised to find the fruit on the speaker's trees much higher coloured and higher flavoured. This orchard was on the same sandy soil as the asparagus bed before spoken of. Excepting that they make cultivation more difficult, the stones are a benefit to the ground. They keep the soil moist, like a mulch.

Literature.

Les Plantes des Alpes. By Hy. Correvon, Directeur du Jardin d'Acclimatation, Genève. (Jules Carey, Genève.) The enterprising director of the Jardin Alpin, at Geneva, has, in this neatly-printed volume, given a general account of the distribution of Alpine plants and the climatic conditions under which they are produced, with a review of prevalent theories of their origin and a practical code for their cultivation. The ten principal divisions treat respectively of the characters of Alpine plants, the zones as determined by altitude, the relations of the plants to mountains generally, and the transference of the plants to gardens and their proper treatment as garden plants. M. Correvon writes with enthusiasm, and will infect many of his readers with the like spirit. And he writes with care, which he can the better afford to do seeing how thoroughly versed he is in the subject. This admirable work will be translated for the special advantage of our readers, for it is high time it had a place in English literature.

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Work for the Week.

CONSERVATORY AND GREENHOUSE.

Azaleas to be prepared for ripening their wood by giving more air. Put out the earliest in a shady place.

Camellias.—Treat the same as azaleas, and shift any that require it. Their roots may be refreshed without giving larger pots by turning out the ball, removing some of the stuff from it, and making it up again with fresh compost. Pot firm.

Cinerarias to be propagated from suckers; insert round the sides of the pots in very sandy compost, and keep close for a week. Sow for seedling plants.

Conservatory to have plenty of air night and day, and abundance of water for all growing plants, overhead as well as at the roots. Neglect of watering now will hereafter show sad results, especially among soft-wooded and lillaceous plants.

STOVE AND ORCHID HOUSE.

Stove.—Achimenes and Clerodendrons require weak liquid manure to keep them in full vigour and beauty; shade at midday, and keep up a moist heat. Ixoras done blooming to be cut in close and placed on a bark bed to break afresh. See that the plants for winter blooming are doing well, and pay especial attention to Euphorbia jacquiniæflora and Poinsettia pulcherrima. Give air at every favourable opportunity; plants newly potted to have very moderate supplies of water at the root, but to be aided with a moist warm atmosphere.

Orchid House.—Orchids that have finished their growth should now have such attention as is required to promote the ripening of the pseudo-bulbs. Many of the large specimens will be found to require sponging all over, and this had best be done at the first opportunity, and in the present lull of work there is a fair chance of its being done effectually. More air should be given now among orchids, and, to allow of a freer ventilation, put all the small and growing plants at one end of the house, where they can be kept close. Stanhopeas are about to commence their seasonal growth, which is a good time to repot them. As a rule, they do best in baskets, both because of their habit of growth and the downward direction of their flowers. There need be no fire-heat in either house this month, unless we have a long period of dull cold weather, in which case keep up the temperature by artificial means; but, as a rule, a judicious system of ventilating and shutting up will ensure a proper temperature for Indians and Mexicans alike, and better than by the aid of fire-heat.

FORCING AND ORCHARD HOUSE.

Pinery.—As pines colour the plants should be kept moderately dry. Plants shy of fruiting should be kept dry for awhile, to cause a check, and then be liberally soaked and kept warm and moist, and the new growth will result in the production of fruit. But to check them before they are well matured may cause premature fruiting, and should not be done until the plants have had a long course of liberal culture. Young stock must be encouraged to grow strong, by allowing plenty of room in which to expand their leaves; give plenty of water, and repot as necessary.

Vinery.—In vineries great attention must be paid to keeping the foliage healthy to the last, as on this depends the maturation of the buds that are to fruit next season. Maintain a moist atmosphere, and watch vigilantly against red spider. Vines heavily laden with fruit must have the assistance of strong liquid manure. Be careful not to cut away laterals too freely, as they are most useful in helping the maturation of the bunches. Be careful to keep the bunches shaded with a few leaves, by tying the laterals over when necessary.

FLOWER GARDEN AND PLEASURE GROUNDS.

Evergreens and shrubs of the free-growing kinds may be propagated from this time to the end of August; cuttings put in a shady place will root immediately. Prepare now to plant evergreens, which move well from the end of July to the end of September.

Hedges of all kinds, except holly, should now be clipped in. Hedges of large-leaved trees, such as laurel, aucuba, &c., ought to be cut back with a knife, as the shears will spoil their appearance for the whole season.

Pinks to be propagated from pipings, layers, or cuttings. The last is the simplest, most certain, and therefore the best method.

Rhododendrons and other hardy Americans may be layered now. Beds of Americans much exposed to the sun will be benefited by being mulched with moss or well-decayed cow manure.

Routine Work.—Cuttings of all kinds may now be struck out of doors; Antirrhinums, Phloxes, Pentstemons, Alyssums, Dielytras, &c., and cuttings of Laurels, Aucubas, and other shrubs may be struck in the shade. Annuals may be sown early in July, to keep up the gaiety of the borders.

FRUIT GARDEN AND ORCHARD.

Strawberry Runners struck in pots may now be cut off, and the plants be in due course shifted into a size larger, or turned out into beds. Strong rooted runners should, in the summer, be taken off to form new plantations, and be pricked out into well-manured beds, pretty close together, to strengthen, preparatory to making new beds in September; or they may be laid in small pots, with a stone or peg to fix them, and will root directly.

Wall Trees.—Tie in and train as needful, and use the syringe to wall trees if the weather should be dry, and especially with east winds. Continue to bud stone-fruit trees for orchard and pot culture. Thin out weak spray on all bush fruits, and foreright shoots on wall fruits. Maiden trees intended to be trained should be stopped, to make them break into side-shoots, as a whole season's growth is thus saved.

KITCHEN GARDEN AND FRAME GROUND.

Asparagus Beds to have plenty of liquid manure when available, and use the grass mowings from the lawn as mulchings to prevent the soil from cracking.

Plant Out Brussels Sprouts, Green Collards, Kale, Savoys, Cabbages, Broccoli, &c. If the plants are crowded in the seed bed it is best to get them out at once. Have all ready, and in the evening put out as many rows as possible, and give a little water to every plant. Next morning lay a few boughs or mats over them to shade off the sun, and the next evening get out more till the planting is finished. This is better than waiting for rain, which may be so heavy as to render the ground unfit to be trodden on, and if succeeded immediately by heat the plants will flag as much as if put out in dry weather, whereas, being already in the ground, the smallest shower benefits them.

Seed Beds for autumn spinach should now be made up and well manured, and the seed got in without delay.

Sow the last succession of French Beans; also Lettuce, Endive, Walcheren Cauliflower, Radish, Small Salads, Spinach, Peas, and Turnips.

Vegetables in Season comprise Broad and French Beans, Cabbage, Cauliflowers, Cucumbers, Lettuces, Mushrooms, Onions, Peas, Potatoes, Radishes, Spinach, Tomatoes, Turnips, and Vegetable Marrows.

HARDY PLANTS IN FLOWER.

The hardy plants that are conspicuous now include foxgloves, herbaceous pæonies, silenes, geraniums, day lilies, poppies, mulleins, dianthus, rock roses, a few saxifragas, the later pyrethrums, and the whole series of florists' anemones and ranunculuses. We shall make note here of interesting and beautiful subjects that cannot be said to speak for themselves so loudly as some of the more popular subjects.

Geraniums are not of great importance, but in a mixed border and in the wild garden and wilderness a certain number are indispensable for their rustic beauty. Our old friend *Geranium pratense*, in about half a-dozen forms, is now in perfection, and commands a halt as we walk through the garden. The common kind, as seen in the Derbyshire Dales, is the best for general purposes; the white is a delicate beauty, and the double blue and double white are good, while of pale blue and rose-tinted varieties there are perhaps half a-dozen. The finest of the rose-coloured species is *G. armenum*, which, with the blue pratense, should be in every garden where such plants are admitted. A third necessary of life to the hardy man is *G. sanguineum*, a brilliant Britisher, of which also there are several varieties, the most distinct and useful of these being the one named *Lancastriense*. The finest form of the pure G. sanguineum is to be found near St. Bees; it is one of the wonders of the world when the July sun is shining full upon a great mass of it. Another, and perhaps the last of the very best, is *G. Ibericum*, a splendid plant, with a rather solid leafage, and very large flowers of a fine tone of blue. The rosy-pink *G. Grevillea* is a respectable and cheerful plant.

Fleabanes do not command rapturous admiration, but *Erigeron glabellum* is a good plant of dwarf habit with rather large flowers, the rays purple, the disc yellow; and *E. philadelphicum* is also a good plant, a trifle smaller than the last, the rays pink, the disc yellow. Very beautiful now is *E mucronatum*, also known as *Vittadenia triloba*, of neat growth, and producing a complete cloud of "daisies" of various shades of delicate rose, purplish pink, and white. It is scarce, but as it is good enough for the most select rockery, we advise all and sundry to look after it.

Dianthus is still a great gun and will be thought well of when it "goes off" at the National Carnation Show. Until then one may find consolation in admiring a few that will be named. *Dianthus arenarius* is a little weedy in growth, the white flowers sweetly fringed. *D. cæsius* is now in perfection, and in half a-dozen varieties at least. The type is of very dwarf growth, the leafage greyish, the flowers smallish, well shaped, and of a very pleasing self-pink colour. *D. plumarius* is an old friend, to be seen everywhere in shapes innumerable, but there is a delicate beauty in what may be considered its normal wild form, with glaucous leafage, the flowers white or tinged with rose, or with a touch of warm colour in the centre. As a rockery plant it is perfect. *D. petræus* and *D. suffruticosus* are small varieties of D. plumarius, which is naturally variable, and spread over many regions of the South of Europe.

Catchflies may be considered to comprise for present purposes several genera of the caryophyllaceæ. One of the loveliest now is *Saponaria ocymoides*, a genuine rock and ruin plant, forming lovely cushions, sprinkled with small rosy flowers. *S. cæspitosa* is equally good, and is conspicuous for its beautiful green leaves, which form what may be called an "artistic" basis for its clusters of rosy flowers. In the same style of growth is *Arenaria pinifolia*, a lovely gem, with white flowers. The well-known *Silene alpestris* is now solid with flowers which are whiter than snow, a strange thing to say, perhaps, but true. A good rustic plant for half-wild places is *S. fimbriata*, growing four feet high, the puffy calyx purplish, the white corolla fringed. *S. gallica* is in the same way, but dwarfer. In this category will appear the brilliant and cheap *Lychnis flos Jovis*, unequalled in its way, and sometimes grand in a country garden. A pretty little thing is *L. alpina*, a small form of the gay L. viscaria. Very soon we shall see the fine flowers of *L. chalcedonica*, *L. grandiflora*, and *L. Lagascæ*, which are usually in flower at this time, but in common with many other things are hindered by the weather. There are weaker things in the world than the mouse ear chickweeds, and the one that is grown "everywhere" as a bedder, that is *Cerastium tomentosum*, is now, as a rockery plant, delicately beautiful. Equally acceptable is *C. arvense*, quite a common thing, but very charming in its spread of herbage, crowned with white flowers, looking as if trying to pass for a saxifrage.

Golden Rod is not to be thought of now, the veteran hardy man will say. But there is one now in flower that should be in the list of choice plants; it rises only six to nine inches, and is crowned with nice spikes of orange-yellow flowers. It is a variety of *Solidago Virgaurea* starved down to toy proportions.

Roscoea is quite unknown in the hardy garden, and is but little known as a cool greenhouse plant. It is worth attention, as although the greenhouse is its proper place, it belongs to the large class of tender plants that thrive in sheltered places and are easily managed by experienced cultivators. It may be likened to an iris. The flowers are purple. It is not an iris, but one of the scitamineæ.

Violas of many kinds are flowering freely, the cold, wet weather appearing to suit them very well. The best of the rockery kinds are *Viola calcarata*, blue; *V. flava*, yellow; *V. cornuta*, blue; and *V. cornuta alba*, white. The last-named is exceedingly pretty, and somewhat scarce.

Saxifragas are nearly run out, but we have still plenty of flowers on about a dozen kinds. *Saxifraga Hosti* has diffuse white flowers overspreading its encrusted leaves. *S. Valdensis* forms a grey patch with many short tufts of white flowers, *S. pedata* has bright green leaves and plenty of white flowers. The grand *S. cotyledon*, known also as *S. pyramidalis* and *S. nepalensis*, has not quite run out, for plants that occupy cool places on the rockery now show their glorious piles of white flowers, and make us wonder whence they come, so small is the plant as compared with its panicles. So again, *S. longifolia* may still be found in perfection. These two superb species are perfectly hardy, but have a way of dying out as though from exhaustion, and the lover of such pets should raise a few plants every year, to keep the happy game going.

Fraxinella shall close this list. It is now perfect and a good thing, although it does not rank with the choicest of hardy plants. Of *Dictamnus fraxinella*, there are two varieties, the white and the red. Both are good border plants, and both are "said to be" phosphorescent.

Exhibitions and Meetings.

CHERTSEY DISTRICT HORTICULTURAL SOCIETY, June 17.

This admirably managed and flourishing society held its twenty-first annual exhibition on the above-mentioned date in the beautiful grounds of Woburn Park, Addlestone, and a more thoroughly satisfactory display of horticultural produce could not well have been desired. In consequence of the show being held rather earlier than usual, combined with the lateness of the season, a few of the departments were hardly so strong as in previous years; but others were considerably above the average, and, regarded as a whole, the exhibition was in every way worthy of the district, which abounds in good gardens and horticultural skill of a high order. The weather, which has such a material influence upon horticultural gatherings was not particularly favourable, for although dry it was very cold. Under the direction of Mr. Rawlings, who has occupied the position of secretary since the formation of the society twenty-one years since, the arrangements were admirably carried out, and gave satisfaction to all who took part in the proceedings.

Stove and Greenhouse Plants are invariably above the average of those contributed to local exhibitions, and this occasion was no exception to the rule, for the competition was spirited in the several classes and the plants good. In the class for six Mr. J. Reeves, gardener to W. Hewett, Esq., Templemere, Oatlands Park, was first with good specimens of Kalosanthes coccinea, Statice profusa, Rhynchospermum jasminoides, Clerodendron Balfouriana, and Tabernæmontana coronaria fl. pl.; Mr. J. W. Reed, gardener to E. Pettett, Esq., Broadwater, Oatlands Park, was a capital second, with a group in which Stephanotis floribunda and Anthurium Scherzerianum were especially well represented. The premier award in the class for four was made in favour of Mr. J. Child, gardener to Mrs. Slade, Claygate, Esher, whose collection included an exceptionally well flowered specimen of the brightly-coloured Allamanda cathartica. To the classes for eight and twelve miscellaneous plants excellent collections were contributed by Mr. J. Reeves, Mr. W. Sutton, gardener to J. J. Sassoons, Esq., Ashley Park, Walton, and Mr. Reed.

Fine Foliage Plants were well represented both in numbers and the quality of the specimens. At the head of the competitors in the class for twelve was Mr. J. Reeves, who contributed Pandanus Veitchi, Caladium Prince Albert Edward, Croton majesticus, and Cycas revoluta; Mr. W. Reed was a close second with a very attractive group, in which Acalypha tricolor and Dracæna Bausei were especially good; Mr. W. Sutton was third. In competition for the prizes for six, Mr. J. Plowman, gardener to C. L. Smith, Esq., Oakfield, Walton, was first, staging, amongst other good things, Dracæna Shepherdi and Cocos Weddelliana in a high state of development.

Pelargoniums were shown in high-class condition, and the collections in the several classes produced a brilliant display of colour. The plants throughout were of rather large size, neatly trained, and superbly flowered. The first place in the class for six single zonals was occupied by Mr. J. Reeves, and in the corresponding class for six zonals Mr. Child and Mr. Millican were first and second respectively. The prizetakers in the class for single specimen zonals were Mr. Reeves, Mr. Reed, and Mr. Millican in the order of their names. Mr. Reed was at the head of the competitors in the class for six show varieties with admirable examples, and Mr. Reeves was second.

Fuchsias were considerably above the average, and the specimens were so free in growth and superbly flowered as to present a striking contrast to those previously met with at exhibitions held this season. Mr. Reeves was successful in occupying the post of honour in the class for six with exceptionally good specimens of Wave of Life, Grand Duchesse Marie, Mrs. Marshall, Gustave Doré, Beacon, and Display; Mr. J. Child and Mr. W. Reed were second and third respectively. Mr. J. Plowman was first in the class for four, with admirably grown specimens; and the awards for a single specimen were made in favour of Mr. Reeves, Mr. Plowman, and Mr. Reed in the order of their names.

Achimenes and Gloxinias were hardly so numerous as at some of the previous exhibitions, but those staged were highly meritorious. Mr. Child was first in the class set apart for the first-mentioned with excellent examples in which the several forms of Longiflora were presented in capital condition. Gloxinias were splendidly shown in the class for six by Mr. C. J. Waite, gardener to the Hon. Colonel Talbot, Glenhurst, Esher, and Mr. Stedman, gardener to Mrs. Verity, Moorcroft, Weybridge; and good examples were shown in the class for four by Mr. Sparrow and Mr. Carpenter.

Ferns were fully equal to the high average of previous years, and both exotic and indigenous species were admirably represented. For six exotics Mr. Reed was first with an excellent group, comprising Platycerium grande, Gymnogramma chrysophylla, and other good species. Mr. Reeves was second with a collection in which Adiantum concinnum latum was well represented. The premier award for four was made in favour of Mr. A. Millican, gardener to H. Cobbett, Esq., Walton, who staged a very large and exceptionally fine specimen of Todea superba. Mr. Sparrow, gardener to the Rev. A. Bramwell, Barrow Hill, Chertsey, was second, and Mr. W. Sutton was third. Mr. Millican was first in the class for four hardy ferns with fine specimens of Scolopendrium vulgare crispum, Athyrium filix-fœmina cristata, and Trichomanes radicans. Mr. Reeves was second, staging the elegant Adiantum pedatum in good condition. For six British kinds, Mr. Millican was first with a collection in which were excellent specimens of Lastrea filix-mas cristata, Athyrium filix-fœmina plumosum, Scolopendrium vulgare crispum, and Trichomanes radicans.

Groups of Plants were, as usual, of exceptional excellence, and, whilst forming one of the most attractive features of the exhibition, did great credit to the taste of the several exhibitors. In competition for the prizes offered by the president, G. F. Wilson, Esq., and Mr. Betteridge for a group occupying fifty square feet, Mr. Reeves was first, Mr. Plowman second, and Mr. Millican third with arrangements differing but little in relative merit. The first prize in the class for groups occupying ninety-eight feet was awarded to Mr. Sutton, who had an exceedingly beautiful arrangement, in which Canterbury Bells were employed to great advantage. Mr. Harvey was second.

Tuberous Begonias were presented in a condition evincing a thorough acquaintance with their cultural requirements. Mr. Child, Mr. J. Thorne, gardener to A. E. Flood, Esq., The Beeches, Walton, and Mr. Reeves, who were the prizetakers in the class for six, had collections of a very high degree of excellence. Mr. Carpenter and Mr. Harvey exhibited well in the class for four.

Cut Flowers were staged in large numbers, and produced a bright display. Roses were, for so early in the season, presented in capital condition by Mr. J. Sparrow, Mr. Carpenter, and Mr. Waite. These exhibitors and Mr. Reeves, Mr. Reed, Mr. Harvey, and Mr. Thorne also were the most successful exhibitors in the classes for miscellaneous cut flowers. Table decorations were remarkably tasteful, the most successful exhibitors in the several classes being Mr. Plowman, Mr. Millican, and Mr. Sutton. Good hand bouquets came from Mr. Carpenter and Mr. Millican.

Fruit was of good quality throughout. Messrs. Sparrow, Waite, and Sutton were the prizetakers for black grapes with Black Hamburgh. In the corresponding class for white grapes Mr. Sparrow, Mr. Reed, and Mr. Sutton were awarded the prizes in the order of their names for good clusters of Foster's Seedlings. Mr. Sparrow was first for a scarlet flesh melon with Benham Beauty, and Mr. Child was first for a green flesh variety with Hero of Lockinge; Messrs. Reed and Waite were second and third respectively in each class. Mr. Sutton was awarded the first prize for a dish of peaches and for a dish of nectarines. Mr. Sparrow was first with Pitmaston Orange, Mr. Reed was second with Lord Napier, and Mr. Sutton third. Strawberries were exceptionally fine, and Mr. Sharpe, Knowle Hill, Virginia Water, was first with very large and beautifully finished fruit of Marguerite; Mr. Harvey and Mr. Child were second and third.

Vegetables were plentiful and of high quality. Mr. C. J. Waite was first for eight kinds with a very fine collection, in which was a grand dish of Waite's Seedling tomato, a large fruited variety in the way of Stamfordian, and good examples of Carter's Telephone pea and Veitch's Early cauliflower. Mr. Waite was also first for a brace of cucumbers, closely followed by Mr. Child and Mr. F. Sparrow for second and third places. The first prize was awarded to Mr. Reed in the class for the best collection, without restriction as to the number of varieties.

Miscellaneous Contributions included a very effective group of orchids from Messrs. T. Jackson and Son, Kingston, and a collection of large-flowered pelargoniums from Mr. J. Wiggins, gardener to W. Clay, Esq., Kingston.

The judges were Mr. Puttick, Mr. Wright, Mr. King, and Mr. G. Gordon.

ROYAL HORTICULTURAL SOCIETY, June 22.

Exhibition of Roses and Pelargoniums.

The plants for which special provisions were on this occasion made in the schedule comprised show, fancy, and zonal pelargoniums, roses, and gloxinias; but the competition was very poor in all the classes, and, with very few exceptions, the collections were decidedly second-rate. Notwithstanding this, the exhibition was equal in interest and attractiveness to those previously held this season, for the contributions to the miscellaneous class were more numerous than usual, and of a high degree of excellence. Hardy flowers were, indeed, so well shown that it is quite safe to aver that they produced one of the finest displays that has yet been seen. Orchids were also well represented, and contributed materially to the attractiveness of the show.

Pelargoniums had four classes set apart for them, three of which were for plants and one for cut flowers, and in neither of them was the competition very spirited. The only exhibitor in the class for a group of not more than eighteen show, decorative, and fancy varieties was Mr. C. Turner, Slough, who staged plants comparatively large in size, exceedingly fresh, and splendidly flowered, and was awarded the first prize. The large-flowered varieties in the collection comprised Florence, a beautiful show flower, the lower petals rich crimson, the top petals dark marone; Mons. Demoulin, brilliant carmine; Comtesse H. de Choiseul, blush, with small purple blotch on top petals; Lady Isabel, rose-lilac, spotted with purple; Martial, bright crimson, with dark top, one of the best of the coloured show varieties for specimen culture; Pluto, salmon-pink, with dark top; Veteran, salmon-pink, with marone top; Robena, bright pink, very distinct and effective; Illuminator, scarlet, with black blotch on top petals, very effective in specimen form; Gold Mine, bright red, a free-blooming variety of excellent habit; and Confessor, a large and handsome show flower. The fancies comprised Delicatum, Irene, and other varieties equally well known.

One collection only was contributed to the class for eighteen zonals, and that was shown by Mr. F. J. Hill, gardener to H. Little, Esq., The Barons, Twickenham, to whom the second prize was awarded, the first prize being withheld. In the class for nine without restriction as to size of pot, Mr. Hill was first with a collection consisting of specimens of comparatively large size and well flowered. The varieties included Atala, Mons. C. Lowagie, Lotus, J. Miller, Paul Chabonier, Jules Simon, Mrs. Gordon, and Emilie Girardin. The second prize was withheld, and Mr. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill House, Ealing, was awarded the third prize for neat examples in six-inch pots.

The contributions to the class for cut blooms of zonals, twelve varieties, three trusses of each, were few in number but of fairly good quality. Mr. J. Morgan, gardener to Major Scott, Wray Park, Reigate, was first with finely-developed trusses, and Mr. Chadwick was second with a stand of flowers possessing much merit.

Gloxinias were represented by one collection, and that consisted of plants so indifferently flowered that no award was made by the judges.

Roses had two classes provided for them, and in both the whole of the contributions were of a high order of merit. For a group of thirty roses in pots not exceeding eight inches in diameter Messrs. Paul and Son, Cheshunt, were first with a beautiful collection consisting of standards and dwarfs in about equal numbers. The varieties represented in standard form were Mrs. Bosanquet, Belle Lyonnais, Celine Forestier, Marie van Houtte, Madame Villermoz, and Marechal Niel. Chief amongst the dwarf specimens were those of Francisca Kruger, Madame Cusin, Annie Laxton, Ulrich Brunner, Sunset, Merveille de Lyon, and La France. Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, was a very close second with neat examples remarkable alike for the freshness and high quality of the flowers.

There was a very spirited contest for the prizes for twenty-four cut roses, single trusses, and the premier award was made in favour of Mr. G. Prince, Oxford, who staged a box of very fine blooms of tea-scented varieties. The varieties were Comtesse de Nadaillac, Marie van Houtte, Madame Lambard, Jean Ducher, Alba Rosea, Homere, Souv. de Paul Neyron, Souv. d'un Ami, very deep in colour, Souv. de Elise Vardon, Marechal Niel, Anna Olivier, Francisca Kruger, Jules Finger, Niphetos, Reine Marie Henriette, Catherine Mermet, Princess of Wales, Devoniensis, and Perle des Jardins. Messrs. Paul and Son, Cheshunt, were a close second with finely developed flowers, those of Paul Jamain, Avocat Duvivier, M. Francisque Rêve, and Etoile de Lyon being especially meritorious. Mr. W. Rumsey third. Mr. G. Prince contributed seven boxes of cut roses, for which he was awarded the bronze medal. The flowers, which consisted chiefly of teas, were of high

quality, and included Lady Mary Fitzwilliam, Rubous, Souv. d'un Ami, Anna Olivier, Souv. d' Eliso Lovet, Madame Lambard, Madame Cusin, Ma Capuoln, Princess of Walos, Souv. do Mad. Pernet, Mons. Furtado, Adam, and the Hon. Editb Gifford.

Messrs. J. Carter and Co.'s Prizes for cucumbers and melons were well contested and created considerable interest. For Carter's Blenheim Orange melon, Mr. Lockie, gardener to the Hon. G. O. Fitzgerald, Oakley Court, was first with a large, handsome, and deliciously flavoured fruit; Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, was second. In competition for a brace of Carter's model cucumber, Mr. Lockie was first with fruit about eighteen inches in length, and perfect in shape. Mr. Phillips, The Deodars, Meopham, was second, and Mr. Bolton, gardener to W. Spottiswoode, Combe Bank, Seven Oaks, was third, both staging excellent examples of this fine variety.

Messrs. Sutton and Sons' Prizes for the best brace either of Sutton's Imperial Green flesh, Sutton's Scarlet Invincible, or Sutton's Hero of Lockinge were competed for in a spirited manner, and the whole of these excellent varieties were well represented. The first prize was awarded to Mr. T. Lookie, who staged a capital brace of Sutton's Imperial Greenflesh; Mr. Ward was second with Hero of Lockinge, which deservedly maintains its high popularity; and Mr. J. Douglas, gardener to F. Whitbourn, Esq., Great Gearies, Ilford, was third.

Hardy Plants and Flowers formed the largest and decidedly the most important part of the exhibition, and received a full share of attention from the visitors.

Messrs. William Paul and Son, Waltham Cross, exhibited a very interesting and beautiful collection of cut specimens of trees and shrubs with richly coloured leafage, and several boxes and baskets of roses. The roses included fine boxes of Harrisoni and Nipbotos, and baskets of Austrian briers and Scotch roses. The specimens of the trees and shrubs included Quercus concordia, the finest of all the golden trees, being rich in colour and free in growth; Quercus purpurea, a distinct form, with bright bronzy-red leafage; Prunus Pishardi, a distinct plum, with foliage of a deep red colour; Corylns avellana purpurea, the purple-leaved nut, so well known for its distinct character and effective colour; Castanea vesca foliis aureis, a distinct variety of the Spanish Chestnut, having leaves broadly margined with yellow; Ulmns Wredi aurea, a pleasing variety with soft yellow foliage; Lilium umbellatum and L. umbellatum incomparabilis were also well shown by the firm, to whom the award of the silver Banksian medal was made.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, contributed a collection of hardy plants and flowers, which formed a broad belt extending one half the length of the conservatory, and was awarded the silver gilt Banksian medal. The collection comprised campanulas, lilies, delphiniums, pyrethrums, irises, and herbaceous pæonies, and produced a very brilliant display. It included also numerous examples of the exquisitely beautiful Cypripedium spectabile, which received much attention.

From Messrs. Paul and Son, Cheshunt, came a collection of hardy plants and cut flowers, equally remarkable for its extent and attractiveness. Pæonies, pyrethrums, and poppies were staged in large numbers, and amongst the latter were several semi-double forms of the wild poppy, varying in colour from bright rose to brilliant scarlet and deep crimson, and so beautiful as to merit a place in gardens in which poppies are grown. These are known as the Broxbourne Poppies. Ulmus plnmosa anrea, a bright golden elm, and Philadelphus anrea, one of the most richly coloured of the golden-leaved shrubs, were well represented, as also were Dictamnus fraxinella, Centranthus ruber, Tropæolum polyphyllnm, one of the best of the hardy species, and Campanula glomerata dahurica. Messrs. Paul and Son also exhibited a good specimen of Sarracenia purpurea from their bog garden at High Beech, and a fine example of the lovely Disa grandiflora.

Messrs. Kelway and Son, Langport Nnrseries, Somerset, as at the previous exhibition, staged a collection of cut flowers of great magnitude and unsurpassed effectiveness, and were awarded the silver-gilt Banksian medal. Single and double pyrethrums were presented in large numbers and in a highly attractive condition, but the great feature of the display was formed by the glorious display of herbaceous pæonies. Gaillaidias were also well represented in the collection.

From Messrs. Hooper and Co., Covent Garden, came a beautiful contribution of herbaceous pæonies and gloxinias, and numerous examples of a very distinct petunia, which has received the designation of Empress. The award of the bronze medal was made to the firm. Messrs. E. H. Krelage and Sons, Haarlem, exhibited a collection of about two hundred varieties of single and double pæonies, and were awarded the bronze medal.

Messrs. Barr and Son, King Street, Covent Garden, W.C., contributed hardy flowers in large quantities and a highly attractive condition, and were awarded the silver Banksian medal. Ixias, irises, pyrethrums, poppies, and pæonies were especially good.

Orchids included a very beautiful group from R. J. Measures, Esq., Cambridge Lodge, Flodden Road, Camberwell, to whom the award of the silver-gilt Banksian medal was made. It included numerous examples of Cattleya Mendeli, C. Mossiæ, Masdevallia Harryanum, and Odontoglossum vexillarium. There was also a nicely-flowered plant of the beautiful Oncidium Jonesianum. Mr. West, gardener to Major Lendy, Sunbury, exhibited an immense mass of Cattleya Mossiæ, which was splendidly flowered, the spikes numbering sixty-two, and the flowers, which are remarkable for the rich colonring of the labellum, were well developed. The award of the bronze medal was made.

Wild Flowers were represented by several interesting and tastefully-arranged collections contributed by the boys educated in the Harpenden School, and a bronze medal was awarded to the master, J. Hensbaw, Esq.

Floral Committee.

Present: Mr. J. O'Brien in the chair; Major Lendy, Dr. Masters, the Rev. W. Wilks, and Messrs. Shirley Hibberd, J. Douglas, E. Hill, H. Turner, H. M. Pollett, J. Dominy, J. Hudson, H. Herbst, C. Noble, J. Walker, W. Bealby, H. Cannell, W. Holmes, H. Ballantine, H. Bennett, G. Paul, and R. Dean.

From Kew were sent specimens of Streptocarpus Dunni, a very singnlar plant from the Transvaal, and Exacum macranthum. The first mentioned has a very short stem bearing a single leaf, which is ovate, much corrugated, and of a greyish-green hue, and about eighteen inches in breadth by two feet in length. From the base of the midrib rise large clusters of reddish flowers, which, if not particularly attractive, add much to the singularity of the appearance of the plant. Exacum macranthum, popularly known as the Ceylon Gentian, is an exceedingly beautiful biennial, introduced in 1853. It has fresh green leafage, comparatively large flowers, of a deep cobalt-blue, with prominent golden anthers. The plants shown were about fifteen inches in height, and were very attractive.

Mr. Davenport, gardener to H. Hill, Esq., Arnold Hill, Notts, exhibited a fine form of Cattleya Wagneri and several beautiful varieties of C. Mossiæ. Mr. Little contributed a good specimen of "Little's variety" of Lælia, a form remarkable for the large size and fine form of the flowers. Mr. Douglas submitted several spikes of the beautiful Lælia majalis. Mr. O'Brien presented a plant of Cymbidium chloranthum, an interesting but comparatively unattractive species; and Dr. Duke, Lewisham, exhibited a variety of Odontoglossum vexillarium, of which the labellum had a large blotch of white, in which there were numerous crimson spots.

From Messrs. F. Sander and Co., St. Albans, came a good example of Odontoglossum cbocoense, a free-growing species producing spikes of large finely-formed flowers, the sepals and petals bright red with narrow golden margin, and the labellum pale yellow. Mons. H. Wendland, Hanover, exhibited Warscewiczella Wendlandi, a handsome species with greenish sepals and petals and purplish labellum. Sir Trevor Lawrence, Bart., M.P., contributed a good spike of the beautiful Cattleya Wagneri.

A specimen in flower of the singular Protea Hubbardi(?) was shown by Mr. S. Ford, gardener to E. Hubbard, Esq., Leonardslee, Horsham, who was accorded a vote of thanks. Several very beautiful stands of verbenas were shown by Mr. Stacey, Dunmow. From Mr. R. Owen, Maidenhead, came several fine stands of cut pelargoniums, comprising several beautiful ivy-leaved pelargoniums. Mr. Wright, Streatham Hill, contributed a good specimen of the elegant Gymnogramma Schizophylla, the plant shown being regarded by the exhibitor as superior to the type.

Fruit Committee.

Present: Harrison Weir, Esq., in the chair; Dr. Hogg, and Messrs. W. Warren, T. J. Saltmarsh, G. T. Miles, G. Norman, W. Paul, J. E. Lane, A. W. Sutton, P. Crowley, T. B. Haywood, F. Rutland, W. Denning, T. F. Rivers, J. Burnett, George Bunyard, R. D. Blackmore, and J. Woodbridge.

The duties of the committee were on this occasion very light, as they were limited to discussing the merits of a green flesh melon, shown by Mr. Lockie under the name of Oakley Court, but not considered of sufficient merit to justify its receiving the distinction of a first-class certificate, and two good dishes of Stamfordian tomato from Mr. H. W. Ward.

Novelties.

These were again numerous, and a considerable proportion possessed much merit. First-class certificates were granted as under:

To Messrs. Kelway and Son, of Langport, for the undermentioned herbaceous pæonies,

Princess of Wales.—A remarkably fine variety, the flowers very large and of globular form; the colour blush, deepening to flesh pink in the centre.

Princess Beatrice.—Very distinct and beautiful, the flowers globular, with light rose guard petals and cream-coloured centre.

Queen Victoria.—A handsome globular flower of a delicate pink colonr.

To Mr. C. H. Hill for

Cattleya Mossiæ Arnoldi.—A beautiful variety, the flowers rather above the average in size, the sepals and petals blush white, the labellum white with large purple blotch and yellow throat.

To Messrs. Hooper and Co. for

Petunia Empress.—A charming double variety; the habit is remarkably good, and the flowers, which are large and full, are of a pleasing shade of mauve-pink.

To M. Godefroy Lebeuf, Argenteuil, for

Begonia Arthur Mallet.—An ornamental-leaved variety; the leaves of which are of a bright rose colour with dark green veins.

To Messrs. J. Veitch and Sons for

Thunia Veitchiana.—An exquisitely beautiful hybrid, obtained by a cross effected between T. Marshalli and T. Bensoniæ. It is similar in general character to the first-mentioned, and the flowers have blush coloured sepals and petals, and a bright purple labellum with golden throat.

To Messrs. Paul and Son for

Doronicum Draytonensis.—A very fine form, with large and elegant flowers of the richest golden yellow.

To Mr. Slocock, Woking, for

Thuiopsis borealis lutea.—A distinct and handsome variety of this well-known coniferous tree, distinguished by the rich golden hue of the young growth.

YORK FLORAL FETE, June 23 to 25.

The great features for which the York Floral Fêtes have long been remarkable were fully maintained on this occasion, and the exhibition, regarded as a whole, was generally considered to be one of the best that has been held by the Floral Fête Committee since its formation twenty-seven years since. The stove and greenhouse plants in bloom, and remarkable for the beauty of their flowers, were, as for many years past, contributed in large numbers; roses and pelargoniums, which are invariably well shown, were fully equal to the average of previous years; orchids were more strongly represented than at any previous exhibition at York, and the groups of plants in which arrangement was the test of merit were so numerous and good that they constitnted a feature which, by a large proportion of the visitors, was regarded as one of the most attractive in the exhibition. Fruit was remarkably good, and vegetables were staged in a manner that did much credit to the cultural skill of those who took part in the competition for the prizes provided for them. The arrangements were admirably carried out, and reflected much credit on Mr. Wilson, the honorary secretary, and other members of the executive.

Stove and Greenhouse Plants had the most liberal provisions made for them in the schedule, and the competition in the principal classes was very keen. In the class for sixteen, of which ten were to be in bloom, the first prize of £20 was awarded to Mr. Letts, gardener to the Earl of Zetland, Aske Hall, Richmond, Yorkshire, who had a magnificent group. The specimens comprised Azalea Madame Cannaert d'Hamale, A. Queen of Roses, Ixora Williamsi, one of the best of the many good kinds in cultivation, the habit being remarkably good, and the flower trusses large and effective in colour; Anthurium Scherzerianum, Dasylirion acrotrichum, Encephalartos Vroomi, a remarkably handsome cycad, which tells well in an exhibition group; Erica depressa, well furnished with its pleasing yellow flowers; Kentia Fosteriana, and Croton Johannis, which is singnlarly effective when so well coloured as in this instance. Mr. J. Cypher, Cheltenham, was second with an effective group, in which occurred finely-developed specimens of Hedaroma tulipifera, Pimelia decussata, Erica tricolor Wilsoni, and E. Cavendishi. Mr. W. Dove,

Crown Cottage, York, was third with a collection in which Eucharis amazonica, Statice profusa, Acalypha musaica, and Vinca oculata were well represented. Mr. Letts was first also in the class for six stove and greenhouse plants in bloom, in which the competition was limited to amateurs, and had specimens evincing cultural skill of a high order; Mr. J. B. Hodgkin, Elm Bridge, Darlington, was second; and T. Fry, Esq., M.P., Woodhurn, Darlington, was third. The prizes in the class for three stove and greenhouse plants were awarded to Mr. E. Adams, Mr. W. N. Champion, and Mr. W. Bateman in the order of their names. Mr. Cypher was successful in occupying the first place in the class for three heaths.

Ornamental-leaved Plants were remarkably good, and comprised palms, cycads, and crotons of great excellency, the last-mentioned being especially well coloured. For six, Mr. McIntyre, gardener to Mrs. Gurney Pease, Woodside, Darlington, was first with a group in which were well-grown specimens of Cocos Weddelliana, Aralia elegantissima, and Croton Chelsoni; Mr. J. Cypher was a close second; and Mr. T. Fry third. For three, Mr. Letts and Mr. W. Bateman were first and second respectively. There was a spirited competition for the prizes for four dracænas, and the awards were made to Mr. T. Fry, Mr. Hodgkin, and Mr. T. S. Brogden in the order of their names. In the corresponding class for crotons Mr. Letts was first and Mr. McIntyre second, both contributing specimens remarkable for the splendid development of the leaf-colouring.

Orchids were far above the average and proved immensely attractive. The premier award in the open class for twelve was made in favour of Mr. G. Hardy, Pickering Lodge, Timperley, Manchester, who staged specimens of large size and splendidly flowered, the most noteworthy being those of Lælia purpurata, Cattleya Mossiæ, C. Mendeli, and Odontoglossum vexillarium roseum, a beautiful variety distinguished by its depth of colouring. Mr. J. Cypher was second with a collection in which were good examples of Saccolabium guttatum, Dendrobium Dearei, D. suavissimum, and the brilliantly-coloured Epidendrum vitellinum majus. Dr. Ainsworth, Broughton, Manchester, was third, and presented in his collection fine specimens of Phalænopsis amabilis and Odontoglossum cordatum. Mr. Hardy, Mr. Cypher, and Dr. Ainsworth were also first, second, and third respectively in the open class for eight. In competition for the prizes for four, Mr. W. N. Champion, Upper Shibden Hall, Halifax, was first with excellent specimens, the most important being perhaps that of the showy Dendrobium densiflorum. Mr. J. Sunley, South Milford, was a close second, having amongst others a finely spotted variety of Odontoglossum Alexandræ. Mr. Bateman, who was third, presented a very good specimen of Vanda tricolor. In the class for a single specimen orchid Mr. Letts was first with an example of Aerides ordorata bearing thirty-five racemes.

Roses in Pots were, as in previous years, very largely shown, and sufficed to fill nearly the whole of the available space in one of the largest tents. In competition for the prizes in the class for six plants in pots, unlimited as to size, Messrs. Pyhus and Son, Monkton Moor, Ripon, were first with neat examples bearing flowers of good quality, closely followed by Messrs. W. Jackson and Co., Scruton, Bedale, for second place. For nine roses in pots, not exceeding eight inches in diameter, the firm last mentioned were first, and Messrs. Pybus and Son second. Messrs. Pyhus and Son were successful in occupying the first place in the class for fifteen, in pots eight inches in diameter, and Messrs. W. Jackson and Co. were second. These two firms were also the most successful exhibitors in the several classes for single specimens. The chief awards in the classes in which the competition was limited to private growers were made in favour of Mrs. Tetley, Fox Hill, Westwood, Leeds, Miss Steward, Dr. Hingston, and Mr. J. Gowthorpe.

Ferns were particularly good, and included several gleichenias in a very high state of development. In the class for six exotic kinds Mr. Hodgkin was first with a very fine collection, Mr. McIntyre was a close second, and Mr. Fry third. For three the exhibitor last mentioned occupied the first place, and Mr. McIntyre and Mr. W. Dove were second and third respectively. Hardy ferns were especially good, and in the two classes set apart for them Mr. W. R. Robinson, Lowther Street, York, was first, and Mr. W. H. Rodwell was second. Both exhibitors contributed collections in which the finest of the varieties of Athyrium filix-fœmina, Lastra filix-mas, Scolopendrium vulgare, and Polystichum angulare were represented by specimens in a high state of development.

Pelargoniums were staged in splendid condition, and produced a brilliant display of colour. The large flowered and zonals were particularly good, and fancies, bronze zonals, and variegated varieties were well represented. The most successful of the large band of exhibitors was Mrs. Tetley, who was first in the classes for twelve show, six show, six fancy, three show, three fancy, twelve zonal, and six zonal varieties. The whole of the collections from the gardens of Fox Hill were of large size, and so densely flowered and highly finished as to surprise not a few of the visitors. Amongst the other exhibitors who specially distinguished themselves in the pelargonium classes were Mr. J. T. Hingston, Miss Steward, Messrs. Pyhus and Son, Mr. J. Sunley, Mr. J. Bellerby, Messrs. Simpson and Son, and Rev. G. Yates.

Cut Flowers included a good display of roses and a liberal contribution of hardy flowers. Mr. H. May, Bedale, was successful in occupying the first place in the open classes for forty-eight, thirty-six, and twenty-four roses, and staged medium sized flowers of good quality. Mr. J. House, Peterborough, was second for thirty-six, and Mrs. Tetley was second in the other two classes.

Groups arranged for effect contributed more to the attractions of the exhibition than for some years past, and did great credit to the several exhibitors. Mr. McIntyre distinguished himself by taking the premier award in each of the two classes. Mr. R. Simpson, Selby, was a good second in the class for a group to occupy an area of two hundred and fifty square feet; and Mr. J. B. Hodgkin was third; the arrangements in each case being very tasteful. In the class for a smaller group, Mr. T. Fry was second, and Mr. J. T. Hingston third.

Fruit comprised pines, grapes, peaches, nectarines, and melons of excellent quality. There was a keen contest in the great class for a collection of eight kinds, and in the result Mr. G. T. Miles, gardener to Lord Carrington, Wycombe Abbey, was first, and Mr. McIndoe, gardener to Sir J. Pease, Bart., M.P., Halton Hall, Guisboro', second. For a collection of six kinds the Hon. Mrs. Meynell-Ingram and Mr. McIndoe were first and second. In the remaining classes for fruit the chief awards were made in favour of Mr. Clayton, gardener to J. Fielden, Esq., Grimston Park, Mr. Miles, Mr. McIntyre, Mr. Allsop, gardener to Lord Hotham, Dalton Hall, Hull, Mr. R. H. C. Nevill, Lord Middleton, Mr. Black, and Mr. Sutton.

Vegetables were well represented both in point of numbers and quality. The competition was very spirited in the class for eight distinct kinds, and the first place was occupied by Mr. G. T. Miles, with a collection of great excellence; Colonel Thorpe was second; and Mr. Goodacre, gardener to the Earl of Harrington, Elvaston, Derby, third. In competition for the prizes in the two classes for cucumbers the prizes were awarded to Mr. E. Harrison, Mr. J. Sunley, Mr. McIndoe, Messrs. Simpson, and Mr. S. Hardcastle. Tomatoes were represented by good examples from Mr. McIndoe, Mr. G. Hardy, and Mr. Clayton.

Replies to Queries.

E. M. M.—Your strawberries appear to have been troubled with a slight shower of rain immediately followed by brilliant sunshine, and the globules of water upon them have acted as burning glasses, causing injurious disfigurement. The crop will probably ripen well, for this mischief will not seriously affect the proper function of the leaves.

Names of Plants.—M. A. W.—Ornithogulum umbellatum, the Star of Bethlehem. J. W.—1, Montbretia, that cannot be named without flowers; 2, Calceolaria pubescens; 3, Gymnadenia conopsea; 4, Orchis morio. R. Baxter.—1, Origanum dictamnus; 2, Robinia hispida; 3, Pachysandra procumbens. We cannot name the seeds of maize sent; probably a seed merchant could do it. For botanical purposes, they are all varieties of Zea mays. If the seeds are sown at once you will have a good leaf growth in the later part of the summer, but you must not expect to obtain ripe cobs from any of them. The seeds in papers are: 1, some kind of poppy; 2 is the pea-nut, Arachis hypogæa, described in G.M., Dec. 30, 1882; No. 3 is seed of the pepper plant, they appear to be fresh and would probably germinate. Plants in box: 1, Poterium sanguisorba; 2, Polygala vulgaris; 3, Listera ovata; 4, Orchis mascula. J. Harris.—1, Daphne altaica; 2, Rhododendron ferrugineum; 3, Euonymus echinatus; 4, Polygala major; 5, Ophiopogon Jaburan, a really nice plant when it prospers, and a warm sheltered nook is the chief requirement. The variegated leaved variety is as hardy as the green leaved, but neither are hardy enough to brave out all our winter weather. W. J. A. H.—1, Ophrys arachnites; 2, Cypripedium macranthum; 3, C. calceolus; 4, Habenaria ciliaris; 5, Gymnadenia conopsea; 6, Orchis maculata. J. Johnson.—They are all varieties of Campanula glomerata, and differ so little as not to be worth naming. There are several distinct varieties in gardens, dark blue, full starch blue, very pale blue, and pure white. You had better secure these before you select any more seedlings. Heal-all.—Your pretty flower is the feather hyacinth, Muscari comosum monstrosum. It is scarce and good. J. Bentall.—1, Doronicum austriacum; 2, Clematis montana; 3, Lilium martagon, a quite distinct plant from the "scarlet martagon," which is called Lilium chalcedonicum. Your martagon will never be scarlet, its range of colour is from dingy purple to a lovely purple-black, and when in its dark dress it is called Lilium dalmaticum. J. B.—When the botanical names are given the readers may, if they please, hunt up the histories of their plants. If we were to attempt to give the history of every plant sent to be named we should have to load the pages with matters in very many cases of no interest or importance whatever. F. T.—Philadelphus Gordonianus.

Obituary.

Recently, at Duffield, Derbyshire, Mr. Llewellyn Jewitt, F.S.A., the eminent antiquary, and author of valuable works on ceramic art and of a life of William Hutton. He was in his 71st year.

Auction Sales for the Ensuing Week.

Tuesday, June 29.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

Tuesday, June 29.—Mr. J. C. Stevens, at Johnson Hall, Eccleshall; Orchids, Stove Plants, &c.

Thursday, July 1.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

Friday, July 2.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

Markets.

COVENT GARDEN.

Fruit.

Apricots	per doz.	0s. 6d.	to 0s. 8d.
Cherries	per lb.	0s. 4d.	,, 1s. 0d.
Figs	per doz.	2s. 0d.	,, 3s. 0d.
Gooseberries	per quart	0s. 3d.	,, 0s. 4d.
Grapes	per lb.	2s. 0d.	,, 4s. 0d.
Lemons	per case	10s. 0d.	,, 20s. 0d.
Melons	each	1s. 0d.	,, 2s. 6d.
Peaches	per doz.	2s. 0d.	,, 10s. 0d.
Pine-apples, English, per lb.		2s. 0d.	,, 2s. 6d.
Pine-apples, St. Michaels, each		3s. 6d.	,, 7s. 6d.
Strawberries	per lb.	0s. 8d.	,, 2s. 6d.

Vegetables.

Artichokes, Globe, per dz.		2s. 6d.	to 3s. 6d.
Beans, French	per lb.	0s. 6d.	,, 0s. 9d.
Beet	per doz.	1s. 0d.	,, 2s. 0d.
Cabbages	per doz.	1s. 6d.	,, 2s. 0d.
Carrots	per bun.	0s. 4d.	,, 0s. 6d.
Cauliflowers	per doz.	2s. 6d.	,, 4s. 0d.
Cucumbers	each	0s. 4d.	,, 0s. 6d.
Endive	per doz.	1s. 0d.	,, 1s. 6d.
Herbs	per bunch	0s. 3d.	,, 0s. 4d.
Horse-radish	per bun.	3s. 0d.	,, 4s. 0d.
Lettuces, Cabbage, per doz.		0s. 8d.	,, 1s. 0d.
Lettuce, Cos	per doz.	0s. 9d.	,, 1s. 0d.
Leeks	per bun.	0s. 3d.	,, 0s. 6d.
Mint, Green	per bun.	0s. 3d.	,, 0s. 4d.
Mushrooms	per basket	1s. 0d.	,, 1s. 6d.
Onions	per bunch	0s. 4d.	,, 0s. 6d.
Parsley	per bun.	0s. 3d.	,, 0s. 4d.
Peas	per quart	1s. 0d.	,, 2s. 0d.
Radishes	per doz. bunch	0s. 9d.	,, 1s. 0d.
Rhubarb	per bun.	0s. 4d.	,, 0s. 6d.
Small Salading	per pun.	0s. 3d.	,, 0s. 4d.
Spinach	per bushel	2s. 0d.	,, 2s. 6d.
Tomatoes	per lb.	0s. 8d.	,, 0s. 9d.
Turnips	per bunch	0s. 4d.	,, 0s. 6d.

Cut Flowers.

Bouvardias	per bunch	0s. 6d.	to 1s. 0d.
Carnations, per doz. blms.		1s 0d.	,, 1s. 6d.
Eucharis, per doz. blooms		3s. 0d.	,, 4s. 6d.
Gardenias, per doz. blooms		2s. 0d.	,, 3s. 6d.
Heliotropes, per doz. sprays		0s. 6d.	,, 0s. 8d.
Iris	per doz. bun.	5s. 0d.	,, 7s. 6d.
Lapageria, per doz. blooms		1s. 0d.	,, 2s. 0d.
Lilium longiflorum, per doz. blooms		3s. 0d.	,, 5s. 0d.
Lilium candidum, per doz. blooms		2s. 0d.	,, 3s. 0d.
Marguerites, per doz. bun.		3s. 0d.	,, 6s. 0d.
Mignonette, per doz. bun.		3s. 0d.	,, 6s. 0d.
Pansies	per doz.	1s. 0d.	,, 3s. 0d.
Pæonies	per doz. bun.	5s. 0d.	,, 15s. 0d.
Pelargoniums, Zonal, per doz. trusses		0s. 6d.	,, 0s. 8d.
Pelargoniums, per doz. trusses		0s. 8d.	,, 1s. 0d.
Pyrethrums	per doz.	2s. 0d.	,, 4s. 0d.
Ranunculus, per doz. blms.		1s. 6d.	,, 3s. 0d.
Roses	per doz. blms.	1s. 0d.	,, 2s. 0d.
Roses, Tea	per doz. blms.	1s. 0d.	,, 1s. 6d.
Roses, Moss, per doz. bun.		5s. 0d.	,, 10s. 0d.
Stephanotis, per doz. sprays		1s. 0d.	,, 2s. 6d.
Tropæolum	per doz. bun.	1s. 0d.	,, 2s. 0d.
Tuberoses	per doz.	0s. 6d.	,, 1s. 6d.

BOROUGH AND SPITALFIELDS.

Potatoes.

Regents	per ton	60s.	to 80s.
Magnum Bonum	per ton	70s.	,, 80s.
Scotch Champion	per ton	50s.	,, 65s.
Jersey Kidneys, New	per cwt.	1s.	,, 1s.
Jersey Rounds, New	per cwt.	8s.	,, 10s.
St. Malo Kidneys, New, per cwt.		9s.	,, 12s.
St. Malo Rounds, New, per cwt		7s.	,, 9s.
Lisbon Rounds	per cwt.	6s.	,, 8s.

D. of M.	D. of W.	ANNIVERSARIES, FESTIVALS, OCCURRENCES, HISTORICAL NOTES, &c.	SUN. Rises.	SUN. Souths After Noon.	SUN. Sets.	MOON. Rises. Morn.	MOON. Sets. After.	HIGH WATER AT London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. temp. avrg. of 40 yrs. Chiswick.	ORCHIDS IN FLOWER.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
4	S	**2nd Sunday after Trinity.**	3 51	4 6	8 16	7 8	9 53	3 19	3 43	0 19	0 44	63·0	Aerides affine	India.	185
5	M	Princess Helena married, 1866.	3 52	4 17	8 16	8 26	10 26	4 8	4 32	1 8	1 33	63·1	„ quinquevulnerum	Manilla.	186
6	Tu	Oxford Trinity Term ends.	3 53	4 27	8 15	9 45	10 56	4 56	5 21	1 57	2 21	63·1	Acineta Barkeri	Mexico.	187
7	W	John Huss burnt, 1415. [died, 1790.	3 54	4 37	8 15	11 0	11 22	5 47	6 14	2 46	3 12	63·2	Dendrochilum filiforme	Manilla.	188
8	Th	☽ First Quarter, 1h. 18m. after. Adam Smith	3 55	4 47	8 14	After.	11 50	6 38	7 6	3 39	4 3	63·2	Mormodes citrinum	Mexico.	189
9	F	Fire Insurance duo.	3 56	4 56	8 14	1 29	Morn.	7 34	8 3	4 31	4 59	63·2	„ luxatum	„	190
10	S	Columbus born, 1447.	3 57	5 4	8 13	2 40	0 18	8 34	9 8	5 28	5 59	63·3	Angraecum caudatum	S. Leone.	191

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

GRAND ROSE SHOW by the NATIONAL ROSE SOCIETY, in the CONSERVATORY, on TUESDAY, July 6.

Doors open at One o'clock. Admission 1s., which includes entrance to the Colonial and Indian Exhibition.

NOTICE.

ROYAL HORTICULTURAL SOCIETY'S SHOW, LIVERPOOL, JUNE 29 to JULY 5.

Messrs. W. B. KING and Co., IPSWICH, beg to announce that they will display samples of their "UNIVERSAL" HORTICULTURAL MANURES, SPECIAL COMPOSTS, and "FERTILIZING MOSS;" also a group of Plants growing in their Composts and in Fertilizing Moss at the above show. See advertisement in the general official catalogue.

BRIGHTON AQUARIUM.—GRAND ROSE EXHIBITION, FRIDAY and SATURDAY, JULY 9 and 10, 1886. Schedules on application to J. WILKINSON, Manager and Secretary.

GRAND ROSE SHOW, NORWICH, TUESDAY and WEDNESDAY, JULY 13 and 14 (during visit of Royal Agricultural Society). £150 offered in prizes, including: Roses, 72 vars., £10; 48 vars., £5 5s.; 36 vars. (amateurs), £5 5s. 83 classes in all. Entries close July 8.
Bank Plain, Norwich. ARTHUR W. PRESTON, Hon. Secretary.

HUDDERSFIELD CHRYSANTHEMUM SOCIETY.—The THIRD EXHIBITION will be held in the TOWN HALL, HUDDERSFIELD, on FRIDAY and SATURDAY, NOVEMBER 12 and 13, 1886. Schedules and Entry Forms are now ready, and may be had on application to Mr. JOHN BELL, Hon. Sec., Marsh, Huddersfield.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, JULY 6.—NATIONAL ROSE SOCIETY.—Metropolitan Exhibition at South Kensington.
WEDNESDAY, JULY 7.—CARDIFF ROSE SOCIETY.—Annual Exhibition.
WEDNESDAY, JULY 7.—EALING HORTICULTURAL SOCIETY.—Annual Exhibition.
WEDNESDAY, JULY 7.—FARNHAM ROSE SOCIETY.—Annual Exhibition.
WEDNESDAY, JULY 7.—OXFORD ROSE SOCIETY.—Annual Exhibition.
WEDNESDAY, JULY 7.—RICHMOND HORTICULTURAL SOCIETY.—Summer Exhibition.
WEDNESDAY, JULY 7.—SUTTON ROSE SOCIETY.—Annual Exhibition.
WEDNESDAY, JULY 7.—WIMBLEDON HORTICULTURAL SOCIETY.—Annual Exhibition.
WEDNESDAY, JULY 7, AND THURSDAY, JULY 8.—LEE AND BLACKHEATH HORTICULTURAL SOCIETY.—Annual Exhibition.
THURSDAY, JULY 8.—AYLESBURY HORTICULTURAL SOCIETY.—Annual Exhibition.
THURSDAY, JULY 8.—BATH FLORAL FETE COMMITTEE.—Rose Show.
THURSDAY, JULY 8.—HITCHEN ROSE SOCIETY.—Annual Exhibition.
THURSDAY, JULY 8.—IPSWICH HORTICULTURAL SOCIETY.—Summer Exhibition.
FRIDAY, JULY 9.—HEREFORD ROSE SOCIETY.—Annual Exhibition.
FRIDAY, JULY 9.—MAIDSTONE ROSE CLUB.—Annual Exhibition.
FRIDAY, JULY 9, AND SATURDAY, JULY 10.—BRIGHTON AQUARIUM.—Rose Show.
SATURDAY, JULY 10.—CRAY VALLEY HORTICULTURAL SOCIETY.—Annual Exhibition.
SATURDAY, JULY 10.—WIRRAL ROSE SOCIETY.—Annual Exhibition.

Auction Sales for the Ensuing Week.

TUESDAY, JULY 6.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
WEDNESDAY AND THURSDAY, JULY 7 AND 8.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.
FRIDAY, JULY 9.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London, E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

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ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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The Gardeners' Magazine.

SATURDAY, JULY 3, 1886.

PROVINCIAL EXHIBITIONS BY THE ROYAL HORTICULTURAL SOCIETY have been successful in every instance, as judged by scientific and moral considerations, although from the financial point of view the success has been less decisive. Therefore, it is not in any way a surprise to learn that the exhibition now in progress at Liverpool is all that can be desired as regards the display and its appreciation by the public. For the financial results we will wait, for when politics clash with horticulture that part of the subject is likely to suffer. With many who have witnessed or assisted in the Liverpool exhibition the question will arise, Why do we not have a provincial show annually instead of intermittently? Why? One reason is, perhaps, that a thing of this sort cannot be accomplished by paper persuasions or even by formal resolutions. Somebody must do the work, and somebody must incur the risk of pecuniary failure. The R.H.S. is not exactly in the position of the centurion, who said "go," and was immediately answered by action. It is probably taking too much out of its best men already, and less rather than more work would be consistent with its present capabilities. Moreover, there is now no special fund for the purpose of a provincial show, as there was once upon a time. When the special fund, subscribed by earnest men for this particular purpose, was improperly appropriated to the payment of interest on debentures, the work of the society received a shock from which even now it has not recovered. Men of business who play fast and loose expiate their misdeeds in the bankruptcy court, but with a society dependent on public approval and sympathy the punishment is neither so sharp nor so decisive, but it is none the less sure, and in the case before us the records clearly demonstrate that folly and wrong have to be paid for. To look forward is perhaps more profitable now than to look backward, save and except for the instructive truth that history is philosophy teaching by example. In this case we may learn from history two lessons. The first is that enthusiasm in a good cause is easily checked, but not easily extinguished. It might be possible now to originate and pile up a special fund for the provincial show, and one of its objects should be to obtain for it the needful talent and strength without diverting hands from Chiswick at the very time they are most wanted there. As the exhibitions have usually paid their way and have occasionally shown a surplus, the fund is wanted as a nest-egg and a guarantee on the speculation that once established it would prove self-supporting. The second lesson is that the council of R.H.S. should have no final power over the fund. The trustees should cease to be such in event of being appointed on the council. Should it prove that the lawyers are unable to fence the fund against any possible appropriation for any other than its legitimate purpose, we should prefer to ignore the whole business, and leave the provincial show to flounder in the mud or slip out of existence. But any such apprehension is in the nature of foolishness. The provincial show is wanted, and it can only be sustained by the aid of a fund instituted for the purpose.

THE DISSOLUTION having been accomplished in accordance with anticipations, there appears to be but one consoling circumstance to compensate for the consequent disturbance of trade and pleasure, and that is that the turmoil will soon be over. While it rages in the world at large all other subjects are excluded from men's minds; but, however fiercely the fire may burn within the House, the world at large is not greatly affected; the storm does not devastate the fields, nor endanger the work of harvesting. The final reports of Parliamentary proceedings have many points of interest for the public, apart from politics; and one of considerable importance is the rejection of a Bill for authorizing the construction of a railway from Shanklin to Chale, in the Isle of Wight, for which it appears there is no probability of a profitable business—but, on the other hand, the certainty of much damage to Isle of Wight scenery. Mr. R. Chamberlain led the way in opposition, on the twofold ground that the thing was likely never to pay a dividend, while it would ruin a considerable extent of seaboard views and some of the most beautiful chines in the island. He had been urged, he said, to take this course by the Commons Preservation Society, and it is gratifying to learn that when special reason for action arises the society is capable of useful activity. The Bill was rejected without a division.

Questions in respect of Kew Gardens were put by Mr. Bradlaugh to Mr. Leveson-Gower, one of them having special reference to what is known as the Queen's gate, adjoining Miss North's picture gallery. The residents in the district urge that this gate should be opened to the public, while the First Commissioner is not prepared to make such an addition to the expenditure as the use of the gate will

necessitate, and he put the question aside by promising "some day" a new gate opposite the Lichfield Road, which will be especially convenient for the railway station. The inhabitants of Kew are not seriously inconvenienced in having to enter by the Cumberland Gate to reach the picture gallery, and it may not be unfair to remind them that the gardens are maintained in aid of science and not as any especial embellishment of the locality.

The Preservation of Native Plants is a subject that stirs many minds, both at home and abroad. We hear from the Cape that botanists and plant collectors are in alarm at the rapid diminution of Disa grandiflora; and were there any sensitive persons in the homes of the tropical orchids, we should hear some loud protests against the doings of the collectors who supply the cultivators of this country. It is quite within the province of the Commissioners of the Colonial and Indian Exhibition to take up this question, with a view to put a check on the destructive system that is pursued in collecting orchids—a system that not only dries up the fountain by exterminating the orchids, but tends to the destruction of forests also, for some half-dozen pieces often represent a great tree that has been felled to obtain them. M. Correvon, Director of the Jardin Alpin at Geneva, and author of the treatise on Alpine plants that Mr. R. T. Lynch will translate for the advantage of our readers, has made a new protest in defence of Alpine plants in anticipation of the return of the season for their destruction by tourists. M. Correvon makes special mention of Primula longiflora, Eryngium alpinum, Anemone Halleri, Lychnis alpina, and Senecio uniflorus as in danger of extermination, and he calls upon lovers of Alpine plants to protect them and others that are in similar circumstances. This sort of appeal is of little use, for it enhances the value of the plants and quickens destruction. But M. Correvon has set his head and hands to a practical work that is of a thoroughly conservative character, while it promotes rather than checks the cultivation of Alpine plants. He cultivates the rarities in the Jardin Alpin, and supplies tourists with plants that are likely to travel well and live afterwards, and thus save them the trouble of tearing up specimens that will probably perish on the journey home, and therefore are not likely ever to find a place in the garden. He agrees with other observers at least in this, that inexperienced collectors labour hard for no result beyond effecting a certain amount of destruction. Some plants bear the rude handling of the tourist better than others, and there are, of course, many clever persons among amateur plant collectors. But the tendency of collecting is directly towards extermination; it is cruelly wasteful, and if we can persuade people to buy what they want, the floral beauties of the world may be the better preserved for general enjoyment. We heartily agree with M. Correvon that the aid of the law is not to be desired. If we make any impression by persuasion and example, it will be a thousandfold more genuine and lasting than any impression or outward show of it obtained by less pleasant means. We are too much governed already, and have no particular wish to be watched by the policeman when wandering amongst the wild flowers.

Grantham Horticultural Society will hold its annual exhibition on the 22nd inst.

Mr. H. W. Pitcher has succeeded the late Mr. Croxford as gardener at Allbury House, Surbiton, the residence of Mrs. Dannage.

Mr. D. Dowdeswell has been engaged as gardener by R. Lake, Esq., Newlands, Sittingbourne.

Waltham Abbey Horticultural Society will hold its first annual exhibition on the 22nd inst.

The Great Tulip Tree, near the Brentford Ferry gate, Royal Gardens, Kew, is now in flower. The beautiful Magnolia umbrella in the Azalea garden is also in flower.

The American Fruit Crop is reported to be abundant, but, like the English crop, it is as yet on the trees, and must not be weighed and measured very precisely at present.

The Protea labelled "Hubbardi" at the last meeting of R.H.S. is recognised by Mr. Watson as *Protea cynaroides* (B.M., 770). It is something to know that there lives a man who carries proteas in his head; the race of such will soon be extinct.

Century Plant.—A specimen of *Agave Americana* is now in flower in the garden of Mr. George Casey, Auburn, New York. It has pushed its head through the roof the greenhouse, and is about eleven feet high. The plant is about 62 years old.

Completion of Sowerby's English Botany.—The new edition of Sowerby is now completed, Messrs. Bell and Sons having announced the publication of Part 89, containing the index. The work contains 1,937 drawings life size.

Society of Arts Cash Account for the year completed May 31 shows a prosperous state of things. Subscriptions amounted to nearly seven thousand pounds, and the total of cash for the year was £13,450. The outgoings were so much less that further investments were made and a cash balance of £780 was carried forward. The excess of assets over liabilities is estimated at £13,092.

Royal Botanic Society.—The evening fête was held on Wednesday, and proved a splendid success. The weather was more favourable than for some years past, and the attendance of Fellows and their friends was very large. There was a good display of table decorations, bouquets, and flowers arranged for personal adornment. The fête will be repeated on Wednesday next, when the Duke of Teck, president of the society, will receive distinguished Indian, Colonial, and other visitors.

Laxton's "Noble" Strawberry gives promise of exceeding usefulness. The raiser reports that he made his first gathering of fruit in the open ground on the 16th of June. Sample fruits forwarded, and received by us on June 23, were somewhat over ripe, and being large, handsome, and of excellent flavour there does appear to be a decided gain in this new variety.

European Seeds exported to the United States of America are estimated to average in value four and a-half million dollars, or say £900,000. Probably the total may be reckoned at a round million. America does not export so much, although in clover and potatoes the aggregate is considerable in a run of years. European seeds are in high repute in the States, and for very many purposes are preferred to home-grown seeds.

Covent Garden Prices have been considerably affected by the term of abnormally cold weather that happily came to an end at Midsummer. Peas rose in price from twenty to thirty per cent.; all the vegetables proper to the season were in reduced bulk, and made higher prices than the averages for the season; very much of the stuff, as, for example, onions, lettuces, and cabbages have been throughout the season noticeably small, and only the abundant importations saved the Londoners from a famine.

What is the Fleur-de-lis? It suggests a lily, of course, and botanical distinctions are never allowed to hamper the interpretation. Hence the conventional form of the symbol is allowed to suggest an iris, and it is pretty well agreed that the iris will serve the purpose better than any other flower. In a paper, not less penetrating than learned, by Mr. R. Sewell, of the Madras Civil Service, read at a meeting of the Asiatic Society, June 21, the fleur-de-lis is traced to far Eastern sources, as derived from the *trisula*, an Asian sun symbol, which is regarded as a conventional scarab.

The Tree of the Period was heard of in the Queen's Bench Division in the case of Spong *v.* Melnotte, in which the scene painter claimed from the lessee of the Comedy Theatre certain moneys for painted scenery. The defence was that the work was not satisfactory, and, amongst other things, the village scene was too bare; there was nothing in it but a long stalk with a bunch of foliage at the top like a cabbage—no character in it. The artist replied it was the tree of the period. Not having seen this particular work of Mr. Spong's we cannot pretend to criticise it, but we cannot resist the suspicion that our reports on the horticulture of the Channel Isles have been the means of placing on the stage, to play the part of a tree, a first-class Jersey cabbage. Mr. Justice Smith awarded the plaintiff the amount claimed, with costs.

RAMONDIA PYRENAICA AND ONOSMA TAURICUM.

Long experience teaches me to coincide with every remark made on page 312 about Ramondia pyrenaica. In the English climate rough gardening does not suit it, but in its native place it is more accommodating, for I saw it last month at Eaux Bonnes filling a spring bed in the public garden there. It was a flat bed of ordinary soil, in shade (all Eaux Bonnes is in shade) and the plants were the largest I ever saw, and had flowered freely. The fact is Ramondia is not a very hardy plant, and does not like our winters and springs, which often brown the ends of the leaves. As a wild plant it is not found at great elevations, and always grows on sheltered rocks; generally on a nearly perpendicular face. In my garden in Cheshire, when established, it does fairly well, and I have at least a hundred growing in different parts of the garden. I obtain seed every year from my plants, and it comes up slowly when sown, taking three or four years to reach flowering size. The finest specimens I ever saw in England were at Floore, growing on the face of a limestone sunk fence. It may be grown finer in a pan in a cold frame than out of doors, as it certainly likes both warmth and shelter, and abhors drought. As for Onosma tauricum, I have never found cuttings hard to strike, but unless struck early they are very apt to damp off in winter. Last autumn I covered three or four of my best plants with bell glasses, of course so as not to exclude air, and all of these are now very large plants full of flower. Unlike ramondia, onosma abhors damp. I have found it do better in soil mixed with two thirds of granite gravel than soil mixed with the same proportion of limestone gravel, and I recommend other growers of Alpines to test the respective merits of limestone, granite, and sandstone mixed with the soil. I hardly ever use the latter, as encouraging damp, but it is necessary for some plants, such as Arenaria balearica, which will not grow on any other kind of stone.

Edge Hall. C. Wolley Dod.

ROSES.

The rose season is late, but on the whole it will be a good one, especially if the weather is sufficiently warm to enable the very full flowers to open properly. The plants are fairly vigorous, and the flower buds quite equal in number to those produced in the best of previous years. So far, considering the rather low temperature for the time of year, the flowers have opened in good form. Such delicate tinted roses as La France, Madame Nachury, and Captain Christy are, as I write, very beautiful on a warm south border, while Boule de Neige is perfect. J. C. C.

CULTURE OF THE PEAR.

By James Douglas.

The old Biblical truth that there is nothing new under the sun is constantly confirmed in our every-day experience. I have before me a curious old pamphlet, "Paradise Retrieved," written by Sam. Collins, Esq., of Archester, Northamptonshire; "Printed for John Collins, seedsman, over against the May Pole, in the Strand, and sold by him and R. Burleigh, in Amen Corner. 1717." It is written by one who has evidently been very successful in all kinds of fruit culture, including the pear. The following remarks on the relations of gardeners to their employers are worthy of study at the present time: "Unless a gentleman understands the pruning part of trees himself, I will venture to say (if he does not keep his gardener for many years) he shall difficultly be furnished with fine trees or much fruit. This year's gardener prunes contrary to the last, and the next to both of them, so that amongst them all most of your promising wood is frequently cleared off. I have known a good gardener turned off for an unhappy word, and a fine fellow succeeded him, who has pruned off almost all the bearing wood in one season. In a word, where a gentleman loves the products of his garden, a gardener is not to be removed." Budding or grafting on the quince is thought to be a recent discovery, but it was well known to Mr. Collins. He says: "The stocks of quinces are usually budded or grafted on, but I think are not good for this purpose, a free, viz., a pear stock produces a finer tree, longer lived and better fruit." So far this is good enough advice if the trees are required for walls or orchards, but for garden culture the quince stock is invaluable. McIntosh, who studied minutely the culture of fruit trees, says that the pear is probably the longest liver of all our fruit trees; it is much hardier and less nice of its situation of growth than the apple, and will grow in all soils and situations. McIntosh says the pear was probably grown in England before the Roman invasion. This may be problematical, but it is a fact that Parkinson enumerates 64 sorts of pears, and the monks knew well where to plant them and how to grow them, although their system of culture was too slow for nineteenth century ideas of it.

We Purchase Fruit Trees one year old from the bud or graft, and expect to gather good fruit from them in two years; but in the case of the pear the trees should be worked on the quince or double-grafted. Some varieties will not grow satisfactorily on the quince, but they can be made to succeed by grafting first on the quince a variety that does take kindly to it and after twelve months regrafting on the pear that has been grafted on the quince.

The Best Class of Trees for small gardens are those trained in the bush or pyramid form. The last is the form which I prefer; the whole of ours have been trained in that way, and the system of culture, as far as the preparation of the ground, is the same.

The Pear will certainly succeed where the apple will give no satisfaction; nevertheless, there is no doubt of the superior quality of the trees and fruit produced on well-prepared ground. When the ground has been well prepared by draining and trenching, the next thing is to obtain the trees. Some people graft their own, but, after some experience of this method, I have no hesitation in saying that it is false economy. Not only the best, but the cheapest way in the end is to purchase the best trees that can be obtained at a respectable nursery. One set of trees may cost less money than another set, but it does not follow that the first-named is the cheapest. I would not plant a fruit tree unless it was clean and perfectly healthy if I could have it for nothing. The best selection can usually be made from two-year old trees, but these cannot be expected to bear very large crops until they have been established three or four years. I planted a number of trees last season which were six and eight years old. They had been carefully cultivated and transplanted, costing only about 5*s*. to 7*s*. 6*d*. each, but we will expect good crops from them very soon.

In Planting the Trees, which ought to be done in November or December, let all bruised roots be cut off, and the whole of the roots should be spread out carefully to their full extent when planting. This requires the hole to be of a larger radius than is usually allowed. The fine soil ought also to be worked well in amongst the roots under the bole of the trees with the fingers. We hear a good deal about farmers cultivating fruit trees. I know some of them have tried it; but it is quite certain if they are to do any good they must do their work with more care. I was looking at an acre of young trees planted by a farmer the other day. He had planted two year-old trees about twelve feet apart on a piece of pasture land. Evidently the work had been done at so much for the job, as the trees had been pushed into the holes and a spadeful or two of lumpy mould thrown over the roots. I could not see any chance of them doing well. Such trees ought to have been carefully planted about a yard apart on a corner of the field, to be ultimately thinned out as they increased in size to twelve feet or more.

The Quince Stock is specially adapted to light soils, and some sorts of pears, such as Louise Bonne of Jersey, succeed best on the quince, and give larger fruit in any soil or situation. This stock has a habit of surface rooting, and in the case of light shallow garden ground success is rapid and certain. The roots are further encouraged to work close to the surface by a mulching of decayed manure placed round the stems of the trees as far as the extent of the roots. It is also much easier and safer to remove trees on the quince stock. They may be removed every alternate season, and do not seem to receive any serious check, but will produce good crops of fruit all the same. I managed to grow excellent pears in a garden where the gravel lay in some places less than a foot below the surface. The gravel used to work up to the surface, and kept the soil so open that it had very little holding power. The trees were kept firmly in their places by the aid of some good clayey loam placed round the roots when planting the trees, or at each time of transplanting them. Those who are working with an eye to profit may say that all this labour of planting and transplanting will not do for us. Will it pay? The fact is, fruit culture will not pay anywhere unless it is well done. I can see quite clearly that farmers who are attempting fruit culture for profit are afraid to do the work well. They take more care and spend more in preparing for and planting a field of cabbages than they are willing to pay for preparing and planting a field of fruit trees. They keep the cabbages clean and free from weeds, but do not trouble about the trees unless they happen to have spare time.

Pear culture would probably pay farmers in the south of England, if only the most popular sorts were grown, such as Williams's Bon Chretien, Louise Bonne of Jersey, Beurré Hardy, Pitmaston Duchess, Beurré Superfin, Doyenné du Comice, &c. A farmer who knew his business would be careful to grow lettuces, radishes, and other small crops between the rows of trees at first. Strawberries and even raspberries might be cultivated. The latter I have tried amongst the trees, but it is necessary to be careful to remove the suckers, which are produced much too freely at a distance from the base of the stools. I do not strongly recommed raspberries to be planted amongst the fruit trees, but as I write I can look out on a quarter planted in that way, and both are giving satisfaction.

Summer culture of the trees is of great importance. We do all our pruning in summer; none is needed in winter. When the trees are received they are of a pyramid form, but I do not care to keep them strictly to it; the branches are allowed to grow out near the top of the trees, and even if they are somewhat irregularly placed the effect is much more pleasing to some persons. I do not believe in too early pinching of the growing shoots of pear trees, unless, as sometimes happens, the growths at the base are weakly in proportion to those near the top, when it may be necessary to stop the top shoots, in order to throw vigour into those at the base, and thus maintain the equal balance of the growths throughout. It is a good plan to thin out the growths before the fruit ripens, as in some cases they keep the sun's rays from reaching the fruit, causing it to lack colour and flavour, which greatly detracts from its value. Many persons cut the young wood back too much; in many cases it is not necessary to take more than an inch or two from the point of the young wood. Indeed it would not be necessary to cut back the young wood at all, except to furnish the trees regularly with bearing wood. Some cultivators seem to have got the notion into their heads that the shoots must be cut back once a year in the winter, and this they do sufficiently to furnish the trees with a mass of young wood, so that they resemble gigantic osier stools.

Wall Trees.—The system of culture I have detailed above answers well and produces good fruit, but the produce cannot be compared with that obtained from well-managed wall trees. There are two ways to be recommended for furnishing a wall with the bearing wood of pear trees, viz., by oblique and upright cordons, or by what is termed horizontal, or fan-trained, trees of large size. The cordons may be planted eighteen inches apart, but the horizontals must have about twenty feet to develop themselves well. The cordons will succeed either on low or high walls. The best I ever saw are now in the gardens of the Dowager Lady Howard de Walden, Mote Park, near Maidstone. They were producing large, handsome fruit of the best quality when I visited that garden in August last. The pruning is of the very simplest description, and that is also best done in the autumn. It consists in cutting back the young wood to within two or three buds of its base.

Horizontal training consists of planting trees with a centre stem, and lateral growths or branches from nine inches to a foot apart. These lateral growths are trained to the wall in quite a horizontal position; each branch is a cordon pure and simple, and must be trained in the same way. There is a considerable advantage in planting cordons where the space is very limited, as a much greater variety can be grown in a given space, whereas the selection of varieties must be small when each tree occupies 20 ft. to 24 ft. of wall run.

Orchard House.—The best pears I was ever able to produce were not grown on walls or in the open garden, but in pots in the orchard house. Many persons consider this to be playing at gardening, but the results of good culture are truly astonishing. Large, handsome fruit was produced of both late and early varieties. Indeed, I never saw good specimens of such varieties as Josephine de Malines until we grew the trees in pots. The sizes of the pots were from ten inches diameter to sixteen inches. The most successful cultivator of pear trees in pots was G. F. Wilson, Esq., of Heatherbank, Weybridge Heath, and he did most of the work himself during his spare time. He describes one of his trees, a Louise Bonne of Jersey, as bearing 118 fruits. It was growing in a 13-inch pot. The fruits were of full size, the largest being 5½ inches long and 9½ inches circumference. Another pot tree of this variety bore 82, and another 42, fruits. Winter Nelis, Easter Beurré, Glou Morceau, Maréchal de la Cour, Williams's Bon Chretien, and Marie Louise were the varieties principally grown by Mr. Wilson. I cultivated the above, with the addition of the early-ripening Beurré Giffard; also Beurré Superfin, Doyenné du Comice, Beurré Hardy, Madame Treyve, Souvenir du Congres, Fondante d'Automne, Gratioli of Jersey, Beurré Rance, Josephine de Malines, and Bergamotte Esperen. I have grown all the above in pots, and do not think the selection could be improved by any other varieties known to me being added to them. The culture is simple enough. Pot the trees firmly in good loam, enriched with a fourth part manure. Water freely and surface dress when the trees are growing and ripening their fruit. The merest glass sheds grow the trees as well as substantially-built houses. They like plenty of ventilation from all parts of the house.

AMERICAN BLIGHT.

By Professor W. G. Klee, University of California.

Among the many diseases to which the apple tree is subject, none is as persistent and hard to eradicate and more widespread than the woolly aphis, *Schizoneura lanigera*. The home of this pest seems to be obscure. In England it is supposed to have come from America, and there it goes under the name of American Apple Blight. It is found in France and Germany, and wherever met is regarded as one of the most formidable of pests. The Chilian Consul of San Francisco stated several years ago that in Chili it had destroyed whole forests of the wild apple.

It seems almost unnecessary to describe this pest, unfortunately so common, yet a few words to novices in horticulture will not be out of place. In form, the woolly aphis resembles closely the green aphis, so common on roses and other plants; but its colour is reddish-brown, and when crushed it yields a red juice, hence the German name *Blutlaus*, or blood louse. The insects are always surrounded by a whitish woolly substance, hence the name "woolly" aphis. Like all aphides, this species increases with astonishing rapidity, and only a few need be left on a tree to soon spread all over it. While the presence of the woolly aphis makes itself so conspicuous above ground, on the branches, covering them as if with snow, yet the most serious trouble lies out of sight, at the roots, which in our dry climate they inhabit as freely as they do the branches, sapping the vitality of the tree to such an extent that the fruit becomes small and valueless. If allowed to go on unchecked the trees gradually die. To the apple tree the woolly aphis is what the phylloxera is to the grape vine, sucking and causing swellings and knobs all over the roots, as well as at the root crown.

Remedies.

A pest as serious as this has naturally been long fought, and many are the remedies suggested for its extermination. When young trees first become infested, and it is discovered in time, a number of remedies may be effectively used.

Rubbing or brushing kerosine on the infected spots, or washing them with lye, three-quarters of a pound to the gallon, or with strong solution of whale-oil soap, or sulpho-carbonate of potassium, may effectually arrest the disease. When, however, the roots of a large tree once become thoroughly infested (and in this State, unfortunately, that requires but little time), almost all the remedies usually recommended prove wholly insufficient, and, on a large scale, impracticable. For a number of years we have tried, at the experimental grounds of the University, various remedies, including tobacco decoction, hot water, common lime, ashes, bi-sulphide of carbon, and several proposed remedies of unknown composition.

On the whole, we have found no remedy as inexpensive and efficacious as gas lime—the refuse of gas works. Outside of its penetrating odour, this material has but one objection: it is a strong medicine, that must be used with care, and the dose must be regulated somewhat according to the soil and subsoil, and the age of the trees. There is necessarily some difference in its strength, according to its freshness, as it gradually loses some of its ingredients by exposure to the air, and especially to rain. Nevertheless, when applied to a given spot, it will retain its efficacy for at least three years.

The dose of gas lime to be given to a tree should vary according to its size and age, and the nature of the soil. In a porous, deep soil there is less danger of injury than in a clayey one, where the water charged with the antidote permeates the soil very slowly, and has time to corrode the bark. In the case of some old trees in the Santa Cruz Mountains, treated last season according to our suggestion, although the gas lime had been put right on the roots after the soil had been taken away, the roots were perfectly sound and the aphides killed. The soil was a sandy loam, underlaid by limy sandstone. Thus, the exact dose to be recommended is a little difficult to determine. It is always safe to use a small dose first—from one shovelful on a small tree to four on a very large one, spread over the surface, according to the spread of the root, will generally be found right.

It should be stated that a thorough treatment of the top was never made, because we wanted to see how far we could depend upon the ladybird (*Coccinella*) for extermination there. From observation during the last few years, I believe that in this locality this useful little beetle can be depended upon for keeping the crown of the tree free from aphides. We cannot recommend too highly the protection of the Coccinella. During more than one year we have seen them annihilate the aphis above ground in a very few days. It is generally stated that their larvæ are the most destructive to the latter. We ourselves have witnessed what an enormous quantity of aphis the fully developed ladybird will consume. As the Coccinella hibernate on evergreen trees, I very strongly recommend the planting of these trees (conifers especially) around the orchard, to give the necessary shelter. I have often seen them congregated on the Monterey cypress in such quantities that they could be taken up by the handful. Should the ladybirds not appear in numbers sufficient to exterminate the aphis, it may be necessary to kill the latter with washes. As it is impossible to accomplish this with one spraying on badly infested trees I recommend two or three sprayings. This should be done in the following manner: For the first application use hot water of 140 deg. in the tank sprayed with great force. This will wash off the greater number of the insects. For the second application take tobacco water and whale-oil soap in the following proportions: In a decoction of tobacco (one gallon of water to one-half pound of tobacco) put half a pound of whale-oil soap. Apply this mixture at about 130 deg.; in about a week give another similar application. If early varieties of apples are in question, leave out the whale-oil soap, as, especially in a cool climate, the odour of the whale-oil will not leave the fruit.

Varieties Resisting the Aphis.

There is a vast difference in the many varieties of Apples, as regards their resistance to the woolly aphis. The late John Llewelling, of Napa, claims to have found by experience that seedlings of Golden Russet and Rawle's Janet are exempt. We have no personal experience in the matter, but for several years, at the experimental grounds of the University, we have had growing two apple trees of an unnamed variety, propagated and donated by John Rock, of San Jose. Although purposely and repeatedly infected with the woolly aphis, these insects never remain either on the top or on the roots. The latter are tough and wiry, and perhaps for this reason resist the aphis, much as the wiry grape roots resist the phylloxera. The only manner in which this resistant variety can now be propagated is by grafting. Although healthy, these trees have been of rather slow growth. Doubtless there are among the many varieties of apples others equally resistant, and it would be well to pay close attention to this point.

ANEMONES AND RANUNCULUSES.

Reports in G.M. on flowers sent over from Ant. Roozen and Son, of Haarlem, fired me with a desire to grow a few. Having seen thousands at exhibitions in the country, and occasionally a few in London, I was in no fog as to their beauties in general, but I can now truly say that my knowledge of them was only just enough to conceal from myself my own ignorance. Like many other people, or, say, the world at large, a little knowledge proved a dangerous thing, for it made me for years and years satisfied that I could do without anemones and ranunculuses, and now I learn from the book of Nature that I have been a loser, a tremendous loser, through having no practical acquaintance with this subject.

But now I have a long border filled with clumps of both these flowers, and they compel me to visit the garden as many times a day as I can steal five minutes, for in truth a new world of floral beauty has been opened to me. My anemones and ranunculuses are of the "florists'" types, but are not in all cases florists' flowers, for they comprise singles and doubles; flowers that, for all I can say to the contrary, are "perfect," with others that I know to be imperfect, but withal are so lovely that I could not afford to be without them. Every day discloses new beauties, for while some of the clumps began to flower before May was out, there are some that have not yet disclosed their characters; but the great round flower buds are rising, and I have surprises yet in store. For an outdoor delight, costing almost nothing (for my collection consists only of the cheaper sorts), there is nothing, so far as at this moment I can see, to equal anemones and ranunculuses, and because of the revelation of the fact to me, an old frequenter of gardens and flower shows, I send you this note "on account," for I can never hope to discharge my full debt to the beloved G.M.

The soil of my garden is a deep sandy loam, rather poor, but quite fertile to subjects that strike deeply. I did not prepare it in any way for the flowers I now speak of. I did not even dig it. In the month of March I obtained the roots (which perhaps I ought to have obtained in the autumn), and I at once planted them by simply opening the ground with a trowel and putting the roots in clumps of threes and fives along the front line. The only attention I give my borders, which are filled with all kinds of good things, is to keep them free from weeds and to put a stake occasionally to something that very much needs it. I never give water, and I never tie a plant if it is likely to look decent sprawling about in its own way. The new comers had to submit to this "short and easy method," and they have not had one drop of water nor one particle of any kind of manure.

The long run of about one hundred clumps may be described as a complete success. But I note that the anemones have made a better growth than the ranunculuses, from which I infer that the last-named would prefer a heavier soil. A near friend who has often advised me in gardening matters tells me that my inference is just, but, he adds, the anemones also would prefer a stouter soil, and, as a matter of fact, anemones, when growing wild, are more often found on heavy than on light soils. However, I see that my anemones are in grand condition, the leafage abundant and of a deep green colour, the flowers large and lovely, while the ranunculuses have a rather poor leafage, and while the flowers are extremely beautiful they are smallish as compared with such as I have become familiar with. Next year I shall not grow them in the same border. The anemones I shall put into the ground in the same way as before, but the ranunculuses I shall prepare a bed for, putting on a good dressing of manure, and should the weather be dry in their time of growing I shall help them with water. There is nothing like experience. I might have learned all this, and much more, from your pages, but I was fired by your reports on flowers sent over from Holland, and I at once went to the best school in the world—the school of Practical Experience, where the lessons are taught in Observation and Work.

When I contemplate describing my flowers, I feel how impossible is the task. No, I leave that for the abler hands that feed us from week to week with delightful criticism and useful information. But I must speak of the endless variety of characters my flowers display. In the anemones I have flowers so exquisitely coloured and shaded that it would be impossible to paint them, much less describe them properly: one variety has flowers of great size and of a beautiful goblet form, the colours of which remind me of the lovely grass of Parnassus. From deep purple selfs to brilliant rose, carmine, crimson, and mysterious shades of buff and creamy pink, there are all imaginable, and many unimaginable, gradations. Very different are the ranunculuses, both in forms and colours. As regards forms, indeed, they are almost objectionably perfect, every flower a finished rosette, but the colours

range from the most brilliant golden yellow to the deepest bronzy-brown, or fiery orange or delicate alabaster tipped with rosy-pink. Why are these flowers so seldom seen when they are so lovely, so cheap, and so easily grown? Why? I will not press the question, lest someone should ask how it is I have been so lately converted.

J. E. Saunders.

ROSES FOR WALLS AND FESTOONS.

By W. Bradbury.

So much time and space are devoted in gardens generally to the cultivation, as bushes and standards, of the hybrid perpetual and other roses producing flowers of large size and fine form, that comparatively few rosarians are able to give much attention to those of scandent habit, which, as a rule, have flowers that are not remarkable either for their size or their shape. There is so much to admire in a finely-developed flower of Marie Baumann or Alfred K. Williams that I am not disposed to fine much fault with those who use every effort to have flowers of these and other varieties in the highest perfection. But I would impress upon cultivators the fact that by systematically neglecting the climbing roses they lose one of the principal charms of rose growing. I admire roses, whether grown in the form of standards or bushes, and when arranged in beds with their shoots pegged down to the surface; but in no way do they present a more pleasing appearance than when clothing the walls of buildings or forming festoons alongside walks. When trained to chains supported by posts of iron or wood they present an extremely elegant appearance at all seasons of the year, except perhaps during the winter, when, with the exception of the free-growing evergreen varieties, they are leafless. When in full bloom the effect produced by the wreaths and festoons is simply delightful, and I have invariably found that visitors will not turn to the more formal bushes and standards until they have thoroughly enjoyed the beauty of the climbing varieties. We have alongside a promenade, a hundred feet in length, a series of festoons of free-growing roses, and the appearance presented at the present time by the fresh green foliage and the clusters of various-coloured flowers is surprisingly beautiful. The "rose walk," as it is now generally called, is, indeed, considered to be one of the best features of the garden, and I am well satisfied with the results of my labours. The masses of flowers we have on the walls during the greater part of the summer enhance in no small degree the attractions of the garden, and, moreover, convince me that roses sufficiently vigorous to be employed in the adornment of walls and pillars and for the formation of festoons should be grown more generally than is at present the case.

I am frequently asked whether considerable difficulties have not to be surmounted before the same degree of success can be attained as in our case, and my answer is invariably No. You cannot clothe a large wall space, or a tall pillar, or form a festoon from fifteen to twenty feet in length so quickly as you can produce an effective bed with dwarfs or standards. It is in fact rather slow work, and a certain degree of patience must be exercised. In fact, I consider patience during the early stages one of the chief elements. There are various details that must have attention, but the two matters of special importance are the selection of varieties well adapted to the positions in which they are to be grown, and the other to provide a thoroughly rich soil. The necessity for planting suitable varieties will be sufficiently obvious to those who know anything of roses, but the importance of providing a soil rich enough to promote a vigorous growth is so frequently overlooked that it cannot be too strongly insisted upon. In preparing the stations the soil should, if of average quality, have a liberal addition of half-rotted farmyard or stable manures; but if very light and poor a portion of the staple should be removed and be replaced with a compost consisting of rather heavy maiden loam and manure in about equal proportions. The roses ought also to have the assistance of liberal top dressings of either farmyard manure or some good artificial, such as Clay's Fertilizer, for it is when they are maintained in a thoroughly robust state of health that the climbing varieties produce the best possible effect. Those trained to walls should receive three or four liberal waterings in the course of the summer, unless the weather happens to be very wet, for it almost invariably happens that roses against high walls suffer more or less from drought during the time they are in full growth. When growing against pillars in the open they are less likely to suffer from an insufficiency of moisture, as the roots receive the full advantage of the rainfall; but in most cases two or three waterings early in the season will prove highly beneficial to them.

In the formation of festoons provide pillars of iron or wood of sufficient height to stand about nine feet above the ground lines, and rather strong chains for the support of the shoots. The best effect is produced when the pillars are placed from twelve to fifteen feet apart and the chains are fixed six inches from the top. Although the pillars may be of wood or iron I would strongly advise the use of the latter, for it is very troublesome to replace the wooden pillars as they decay after the roses are established. The iron rods must be short enough to bear without bending the strain that is imposed upon them when the festoons are swayed to and fro by rough winds.

In selecting roses for walls, pillars, and festoons some degree of care is necessary, as a few only of the many varieties in cultivation are really suitable. For festoons the Ayrshire, Boursault, and Evergreen roses are decidedly the best. They do not bear flowers that are very large or of fine form, but they bloom very profusely, producing their flowers in large clusters. They have the free-running habit so essential in the formation of satisfactory festoons. The varieties in the three groups that have been found the best are Dundee Rambler, Madame Viviand Morel, a beautiful Ayrshire, producing a profusion of bright cerise flowers, and blooming until late in the autumn; Virginian Rambler, a useful variety of the same character as the first-mentioned, but bearing flesh-pink flowers; Felicite Perpetue, Rampante, Crimson Boursault, and Gracilis. Gloire de Dijon may be associated with the foregoing, but it is hardly so suitable. A good effect may be produced by planting, in conjunction with the free-growing varieties forming the sections mentioned above, some of the varieties that will be advised for the pillars and walls. The first-mentioned can be taken up with one or two stems, and then trained over the chains, whilst the growth of the teas and hybrids is confined to the supports.

When it is desired to cover large wall spaces quickly, the Ayrshire, Boursault, and Evergreen varieties will be found to do good service, but generally speaking the selection for both walls and pillars should be made from the teas and hybrid teas and perpetuals. The hybrid teas contain several excellent varieties, the most generally useful being Cheshunt Hybrid, Reine Marie Henriette, and Reine Olga de Wurtemberg, all of which have a very robust habit, and are free in flowering. From the tea-scented varieties may be selected as especially desirable Gloire de Dijon, Madame Berard, and the Waltham Climbers, of which there are three. The Waltham Climbers, which are described as seedlings from Gloire de Dijon, have a very vigorous habit, and bloom freely and continuously until quite late in the autumn. The flowers are about equal in size and form to those of Gloire de Dijon, and are of various shades of rose crimson. The flowers of No. 2 are the most fragrant. In warm positions, where the shoots can be protected during the winter, a considerable number of tea-scented varieties may be selected, but the only varieties that I have mentioned are those which are not very particular as to the situation, and do not require protection. The hybrid perpetuals of special excellence are Glory of Waltham, Climbing Captain Christy, Red Rover, Red Dragon, and Climbing Bessie Johnson.

THE JUNGLE PRODUCTS OF BORNEO.

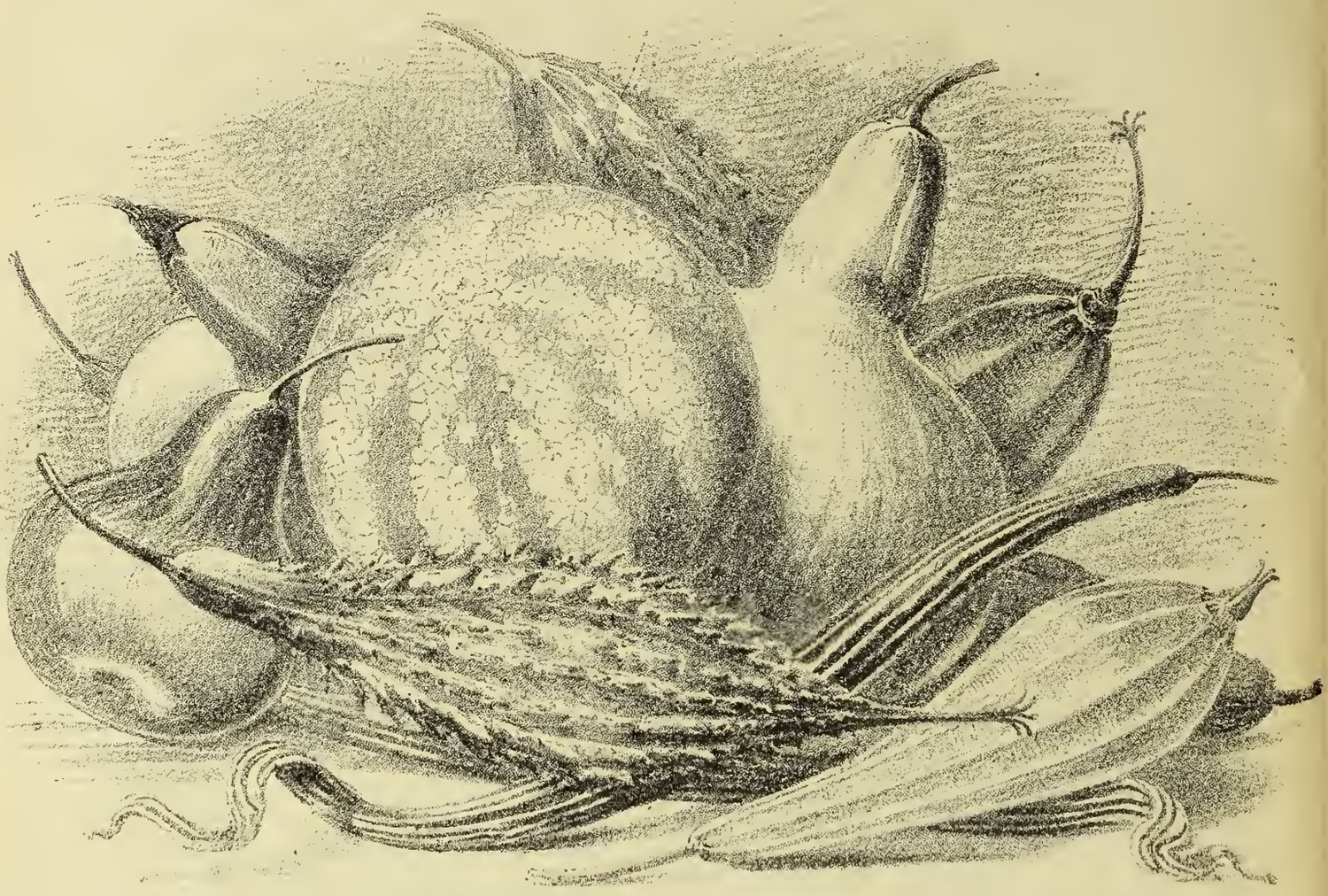
Consul-General Leys, writing on the trade, commerce, and productions of North-West Borneo, says that the chief articles of jungle produce, in which a large export trade is carried on, are gutta-percha, india-rubber, rattans, and birds' nests. Gutta-percha is the inspissated juice of tall forest trees belonging to the natural order *Sapotaceæ*. Various kinds and qualities of gutta are afforded by various sapotaceous trees, but the pure red Bornean gutta is yielded by the species *Dichopsis gutta*. Other species of the genus *Dichopsis*, however, yield guttas, which, being of inferior quality, are frequently mixed by the native collectors with the more valuable red variety. This red variety is obtained from red and rough-stemmed trees, which are generally found growing among old jungle on hill-sides to a height of from 100 to 150 feet. The following is the method employed by the natives in collecting the raw product: On finding a tree old enough to be cut, one having a diameter of about twelve inches, they fell it, cut off the top, and ring the bark at distances of about a foot. The sap for two or three days gradually drains away, and as it does so is collected in any convenient vessels, such as leaves, cocoanut-shells, &c., from which receptacles it is transferred to a pot and boiled for the space of half an-hour with a little water. The milk is boiled to prevent it from hardening on exposure to the air, as if allowed to do so it becomes comparatively valueless. It is difficult to estimate the average yield of each tree, as the quantity varies according to the size of the tree and time of the year, the flow of sap being greatest when the tree is producing most leaves; but a small tree will generally yield a quarter of a picul, the picul being equivalent to 133 lbs. avoirdupois, while the largest may yield as much as three-quarters of a picul each. The value of the red gutta varies, according to its purity, from 40 dollars to 80 dollars per picul. Another species of *Dichopsis* yields an inferior gutta of a white colour. This species has a smaller growth, attaining a height of from 50 to 60 feet, and a slightly different foliage. It yields proportionately less gutta, only about twenty-six pounds per tree. India-rubber, or caoutchouc, is obtained from three varieties of rough-stemmed woody climbers or *manungans*, which attain a length of over 100 feet, and a thickness of about eight inches. The juice is obtained in much the same way as gutta, and is prepared either by boiling like gutta, or by steeping in a solution of salt. The wasteful method of collecting guttas and rubbers has naturally caused an exhaustion of the supply from the more accessible districts; the rubber trees are not, however, so thoroughly exterminated as the gutta trees, owing to the greater tendency of the former to be reproduced from suckers, from cuttings of the stem taking root accidentally, and from the fruit which, being edible, is much sought after by monkeys, birds, wild pigs, &c. Rattans, or canes, are the stems of various species of *Calami*, which are found in profusion throughout the whole of North-West Borneo. Birds' nests, well known as the edible production of the Indian swallows, are found principally in the water-worn limestone and sandstone caves that exist in considerable numbers all over the district of North-West Borneo. Consul-General Leys says, "Although highly esteemed by the Chinese as a luxury in health, and as having curative qualities in sickness, I believe that these birds' nests have no more nutritive or medicinal value than so much wholesome isinglass, which substance they strongly resemble in every way. Many very absurd theories have been mooted as to the way in which the substance forming the nest is procured by the bird, I am strongly inclined to believe that it is formed from the saliva of the birds. an opinion founded chiefly on the fact that the saliva-producing glands are, during the nesting season, always immensely enlarged, and evidently in very unusual functional activity. When it is remembered that a viscid secretion is usually found covering the inside of the mouth and the throat of birds—living, as the swallow does, on small insects caught while on the wing—and that the nature of their food is peculiarly fitted to supply the substance of which the nest is chemically composed, and that the nest, though strong, is very small, thin, and light, such a theory is more probable than one would suppose." It appears, from the import and export returns of Borneo for the year 1882, that the value of gutta-percha and india-rubber exported during that year amounted to £62,600, of rattans £24,500, and of birds' nests £10,000.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 6d. and 1s.—[Advt.]

ORNAMENTAL GOURDS.

It is an interesting fact, not without many a parallel in nature, that the edible gourds are the least attractive to the eye, while the more ornamental are not only not edible, but in many instances offensive to the palate and dangerous to health. Happily the palate is generally a safe guide in dealing with these interesting fruits, for the dangerous kinds are insufferably bitter, and probably all partake in some degree of the drug colocynth, which is more particularly the produce of *Citrullus colocynthis*, the bitter cucumber. Only two of this large family, however, are of any special importance in medicine, and they are the colocynth above named, and the squirting cucumber, *Ecbalium officinarum*, from which the drug known as elaterium is obtained. These products operate powerfully on the alimentary system and the excretory organs; the first is a powerful purgative, acting more especially on the large intestine, and is largely used in medicine; the second is especially valued in dropsy and gout; both are dangerous—poisonous—and have at various times, and in various ways, produced mortal effects. The cultivator of gourds does not need detailed information about their medical properties, but some general knowledge of the kind is of universal value, if only to safeguard us against the possible dangers of our own amusements. And here, having warned the reader against indiscriminate banqueting on the fruits of ornamental gourds, we will add a word of advice that may be useful in case of an accident. A mild case of poisoning by colocynth, or elaterium, or any other of the active principles of these fruits, may be carried through by the aid of demulcent drinks alone, such as weak barley-water, milk and water, weak water gruel, and the like. The action of such will soon carry the poison out of the frame. A severe case will require the speedy aid of an experienced medical man, and, while waiting for his arrival, demulcent drinks should be administered with the warm bath, warm fomentations; and should the circulation decline, brandy must be administered to sustain the heart's action.

It will be agreeable to turn from a danger of rare occurrence to consider another side of the subject. The cucumber, the melon, and the vegetable marrow are truly ornamental gourds, for they have some special beauties that commonly escape observation, because, when we criticise these things, we think through the palate more than through the eye, for surely a well-grown netted melon and a ripe custard gourd are decidedly ornamental. The bottle gourds, which should be classed amongst the ornamental fruits, are as wholesome as vegetable marrows, and are commonly sold in the markets in tropical countries. The bottle gourd shown in the figure is *Lagenaria gigantea*, one of the favourites for supplying the vessels known as calabashes, the preparation of which consists in scooping out the contents and drying the shell; it is then a tough, horny kind of vessel, that renders the owner independent of the aid of the glass-blower, and, in fact, is in many respects better than a glass bottle, because it can be put upon the fire.* The snake gourd, of which there is an example, *Trichosanthes anguina*, at the foot of the group in the engraving, is commonly regarded as poisonous—perhaps on account of its appearance—is in reality perfectly wholesome, and may be eaten raw or cooked, or pickled. The dangerous elaterium has some near relatives in *Mormodica echinata*, the "gooseberry gourd," occasionally seen in our markets, and *M. Charantia*, the prickly fruit seen at the foot of the group presented, makes an agreeable pickle. And again, *Luffa acutangula*, at the foot of the group on the extreme right, the fruit divided by longitudinal lines, is considered by the Arabs one of the best of pickles, although, perhaps, at an English table it would not be appreciated on the instant.



Trichosanthes anguina. *Citrullus vulgaris.* *Mormodica charantia.* *Lagenaria gigantea.* *Luffa acutangula.*

GROUP OF ORNAMENTAL GOURDS.

An example of the interest attaching to this subject is afforded by the spherical mottled fruit in the centre of the picture. It was labelled last year "spherical fruited," which means nothing. Some twenty years ago a beautifully-mottled gourd was shown at South Kensington as the "Prince of Wales," a name that, begging the gracious pardon of an august personage, in this connection also means nothing. This and that, that and this, were and are the same; and

* Calabashes are of many kinds. The Lagenarias are chiefly known as such; but the fruit of the calabash tree, *Crescentia cujete*, is much used in tropical America. It was a calabash of the crescentia that was presented to Thomas Moore on his quitting the island of Bermuda. The fruit of the Baobab, *Adansonia* is also used as a calabash.—Ed.

both are examples of the true Water Melon, *Citrullus vulgaris*. There are innumerable varieties of water melons in cultivation, of which the Americans can boast of at least a dozen. The oval black-seeded variety grown on the shores of the Mediterranean is the one commonly seen in London and Paris and in the cities of Northern Europe generally. The mottled variety here figured is variable in form, but always roundish, and one of its common characteristics is the beautiful variegation so admirably represented in the figure. This is the red-seeded, large-leaved water melon, a fine variety for making marmalade or jam, and also a fine variety for a rafter in a tropical plant house.

Nor should we look for fruit only, whether to admire for its beauty or to take a place on the table. The flowers of many of the family are superbly—I might almost say supremely—beautiful. No one can despise the bold yellow flowers of a rampant pompion or pumpkin, spreading its orange vase to the July sun, but in such a flower as that of *Trichosanthes palmata* there is an appeal to the fancy, a challenge to art, a proposal to the painter, the potter, and the jeweller, of a new idea, for far away from all that is commonplace is this lovely creation. With flowers variously attractive, with fruits of many shapes, some ripening of the deepest scarlet colour, others richly mottled, or netted, or tesselated; many of them useful when wisely appropriated as food, there is every reason within reasonable bounds for the cultivation of ornamental gourds in gardens.

As regards the cultivation, it may be said whoever can grow a cucumber or melon will find no difficulty in securing a satisfactory growth of any and every kind of gourd. The common Orange Gourd, *Cucurbita aurantiaca*, which presents a most beautiful appearance in the garden, when the fruits are ripening, is grown in precisely the same way as a vegetable marrow, and many a cottager finds it as easy to manage as a pumpkin. The beautiful and decidedly edible Queen Anne's melon, *C. dudaim*, a distinct species from the melon proper (*C. melo*) may be grown to perfection in a frame slightly warmed with a bed of litter or grass mowings, and may be used to advantage for decorative purposes, while young people will eat of it freely, even if its flesh is not quite tasty enough for more cultivated palates.

SEED PODS OF JUDAS TREE, *Cercis siliquastrum*. (*See page* 380.)

A good lesson in the cultivation of these interesting plants was given last year, and is repeated this year in the lily house at Kew, where the rafters are adorned with many beautiful sorts, which, being overhead, are displayed to advantage. The cucumber grower will have for one moment, as it were, to regard them all as cucumbers, and then he will perceive that the atmospheric moisture, the warmth, and the periodical action of the syringe fully account for the healthy growth and fruitfulness of these plants. The seeds are started in heat, and the plants are grown on in the usual way of cucumbers and melons, and are planted out in a rich loamy soil when large enough, after which warmth and moisture accomplish the rest. W.

THE JUDAS TREE.

Cercis siliquastrum.

It is one of the negative surprises for the wanderer in search of interesting trees to observe how rare is the Judas tree in gardens. It may be said to lack beauty of contour and proportion, but it is rich in beauty and detail, and acquires a peculiarly venerable appearance with age, as we have evidence in the aged trees in the Jardin des Plantes. The sixteenth century botanists were partial to it, though they figured it very badly, and the bad figures were frequently copied. For a student of that part of the subject there is a capital list of references under B.M., 1,138. Castor Durante copied Lobel's figure, but added that of Judas suspended from one of the branches, to illustrate the tradition that it was on this tree the unhappy man sought relief from his burden of remorse.

Although generally regarded as an oriental tree, *Cercis siliquastrum* is European, and when met with as a wilding in Italy, Spain, or Portugal is more of a shrub than a tree, and perhaps it rarely attains to the stature of a tree without the aid of cultivation. It has three special attractions. The foliage is as distinct in its way as that of the tulip tree, the leaves being kidney-shaped or orbiculate, distinct from all other trees. In spring it produces a profusion of brilliant crimson flowers, which, by the Spaniards and Italians, are occasionally added to salads because of their sweetish taste. In autumn appear the seed pods, which are highly ornamental, as they occur in large clusters, and are beautifully coloured in shades of red and purple mixed with bronzy green. The curious manner in which they are twisted causes a fuller display of these colours than would occur were they as orderly as most other seed-pods of the same great family of papilionaceous plants. It was said by Miller that the birds so persistently injured the flowers to obtain the honey that the tree rarely produced its fruits. We suspect, however, that seasons have more to do with this than the birds, for in the autumn of 1885 there were abundant crops of richly-coloured pods on trees in places where birds of all kinds abound, and are carefully protected. Again, we see in several widely-separated districts an abundant show of growing seed-pods, owing perhaps to the unusual lateness of the flowering, that being the consequence of the prolonged winter and cold spring.

The Judas tree is a good subject for the front rank of a mixed shrubbery border, as it flowers gaily, is very distinct in leafage, and may be kept down to a moderate size without damage to its natural expression.

PLANTS OF THE ALPS.

By H. Correvon, Director of the Jardin d'Acclimatation, Geneva.
Translated by R. Irwin Lynch, A.L.S., Curator of the Botanic Garden, Cambridge.

CHAPTER II.—Forests and Disafforestment.

Importance of the maintenance of forests from a commercial point of view, and of their beneficial influence on the country.—Descending movement of the upper limit of the forests.—The consequences.

All know how numerous and various are the scourges which ravage our Alpine regions. The inundations, the landslips, the torrents of mud, the descents of glaciers, &c., produce sometimes the most terrible effects. Disasters, continued without intermission, plunge whole populations into misery and terror, whose energy cannot strug le against the elements which appear to conspire for their ruin. These dange ous phenomena produce their effects with an intensity so much the greater in proportion to the length of time the country has been inhabited, and they are due in the greater number of cases to the want of thought and foresight in man. The more ancient the occupation the more complete and disastrous are the spoliations of nature. They may be greatly mitigated, if not entirely prevented, by the presence of an arborescent vegetation on the elevated slopes of the mountains. The wooded districts generally suffer little from these calamities. But it is a certain and formidable fact to state that the limit of the forests becomes lower and lower on our Alps. It is impossible to broach this subject, so important with regard to Alpine vegetation, without stopping a little and examining it. May the efforts being made at this moment, by Alpinists of all parts, be crowned with some degree of success before the evil grows so great that it is no longer possible to apply a remedy.

The vast belt of forest which surrounds and covers the base of our Alps has more right than any other vegetation to the place where it was planted by the Creator. The forest exercises its beneficial influence, not only on the very country which it dominates and protects, but further away, and frequently on the neighbouring mountain districts from which it receives the water. The terrible inundations, of which we sometimes hear accounts, either in France, Germany, Hungary, or elsewhere, proceed generally from the want of forests in the different countries. The existence of forests in the high mountains is of all importance for the prosperity of the lower regions.

Wood in the upper zones ought not to be cut down except by the shepherds for the needs of the milk industry. The Chevalier of Gutenberg, in a very interesting article on this subject, combats the idea accredited in certain quarters, that the protection of the forests results in a diminution of the timber trade. He demonstrates that the keeping up of the forests, is, on the contrary, the best means of developing this trade. The parts of the Tyrol where the valleys are the richest and the most prosperous are precisely those in which the number of protected forests is the greatest. There are districts where more than half of the forests are "Schutzwald," and it is in the lower regions of those districts that most wood is cut down. M. de Gutenberg asserts that in the Carpathians, where the half of the forests are unworked, they are not kept up, and are on the road to destruction, whilst in Saxony, Bohemia, and Alsace the timber-growing forces the inhabitants to keep up their forests and to increase the number of them.

The improvidence of man in certain parts of our Alps is such that, notwithstanding the laws made by the cantonal governments, the disafforesting pursues its course, and none dream of replanting. Sometimes it is the communes which desire to increase their pasturage, and to this end sacrifice the few acres of forest standing on the mountain—those which still protect the pasturage they wish to extend against the landslip and inundation. Or else it is individuals who, caring little for the well-being of the country or of the general interest, tear down, cut, and destroy for often very frivolous reasons. Or, further, it is the shepherds and the flocks—above all, the flocks of goats—which commit depredations so much the more fatal to the formation and maintenance of forests because they occur at the higher elevations. In the Pennine Alps I have seen striking examples of this thoughtlessness of the shepherd people, who, in their incredible egotism, impassive and careless, assist in the destruction of the most important protection of their pastures. A death blast seems to invade the elevated regions of our mountains, and tries to repel all organic life towards the lower elevations. Tschudi says: "Just as the Lebanon, formerly so richly wooded, presents to-day only some few of the cedars which have made it celebrated, so the forests have retired from our Alps, and even on the middle heights have given way in many places to glaciers and deserts of stone. There are in many of the upper valleys of the Valaisian Alps some districts at this time sterile and entirely uncovered, which thirty years ago were still protected by larches and Swiss stone pine (*Pinus Cembra.*) What must be said of the Upper Engadine, of the Rheinwald, and so many other parts of our Eastern Alps, formerly well wooded, and which at the present time are without trees! In certain parts of our Alps the peasants are reduced to burning the dried dung of their sheep and goats, and more than one elevated pasture is mentioned which must have been abandoned in consequence of the impossibility which the shepherds found of getting wood. Our milk industry feels the effects of it greatly, because it cannot do without fuel. In the upper part of the valley of Bagnes, where the rich pastures of Chanrion, Boussine, and Tzermontana are found, the herdsmen are obliged to descend three or four leagues into the valley to provide themselves with wood. There are many districts in our Alps which, formerly rich and abundantly wooded, are now sterile and invaded by ice. In proportion as the forest limit descends, so the desert and death invade the landscape. By degrees the storms, inundations, and avalanches sweep the soil and carry away the vegetable earth to the lower levels, so that nothing any longer holds to the ground. Then comes a time when the rock is exposed and no longer holds earth, except in the sheltered parts. In those places, however, we may yet see the prosperity of some meagre arborescent vegetation in the form of stunted pines, which, if allowed to live in peace, will be able to oppose a barrier to the devastating scourges. When all arborescent vegetation—which is to say, every obstacle—has disappeared, it is not surprising to find that masses of ice, snow, and rock precipitate themselves with crashes into the valley. Not only does the forest constitute an obstacle and form a barrier, but, in addition, the soil which it covers acts in the manner of a sponge, absorbing and retaining the water at the time of heavy rains or of the melting of snow, and letting it afterwards run off gradually. The bed of moss which generally covers the soil still further increases its spongy properties. In addition, it is proved that trees exercise a salutary influence upon the vegetation which surrounds them; they temper the climate and excite the downfall of soft and beneficial rains. It is certain that if the lower part of our Valais were better wooded than it is this canton would have less to suffer from dryness. The curious fact has been remarked that the fall of hail is common only in regions that are bare of wood, and that the devastating scourge of hail never happens in the forests. Who will be astonished, therefore, if, on account of the disafforesting practised on the summits which surround us, we often see the return of this terrible visitor? It is known that the Salève, the Pitons, the Vouache, and the Jura were formerly covered with a rich arborescent vegetation, and that the sterile and dry slopes of the French Jura have only taken the wild and desolate aspect which characterizes them since these mountains have been denuded of trees.

There exists in Valais, not far from Martigny, on the right bank of the Rhône, a dry and sterile slope, from which the eye turns with horror. Not a bush, not a grassy spot, breaks the terrible monotony of this parched landscape. For a distance of about two miles nothing is seen but the *débris* of rock and gravel which comes from the summit of the mountain. All is dry, dull, and sinister in this place, upon which there seems to rest an eternal blight. And yet it is not eighty years ago since the traveller in these parts sought the shade of the superb forest of chestnuts which commanded the rich little village of Rozet, to-day destroyed and buried beneath the rubbish of the mountain. We know what happened. One day a miserable speculator coveted the forest, and offered to the Municipal Council of Rozet the sum of £1,200 for the wood. The strange gold tempted the Municipal Council, which, in selling the chestnuts, sold the happiness of the country! With the felled trees disappeared the village, and at the end of a few years the successive landslips which buried the fields and the ground of the environs forced the inhabitants of the place to quit their habitations, which to-day are buried beneath heaps of stone. Now, according to an estimate made later by an expert, it was found that the forest was worth £8,000 for firewood*. We see that the consequences of forest destruction are terrible; it were time that the Confederation took the matter in hand and attended to this question, in order to protect the forests which remain to us, and it is quite time that certain cantonal governments took the matter to heart, and helped in a more energetic manner to preserve and reconstitute the forests.

In America, in Australia, and Algeria leagues have been formed for the protection of the forests, and this is a very certain sign that the question is one of capital importance for the well-being of an agricultural people. And if we wish further to raise the æsthetic and artistic side of the question, how much will there not be to say in favour of the maintenance of these beautiful forests, the verdure of which gives to our Alpine landscapes and wooded regions an aspect so pleasant and lovely. Let any one compare the aspect presented by the sterile flanks of the French Jura with that of the same chain of mountains in the cantons of Vaud and Neuchatel! Who does not delight more in the shade of the firs on the Voirons than in the barren brushwood of the Salève? Let us preserve the trees of our mountains and we shall maintain the prosperity, the wealth, and the life of our country.

TYING UP LETTUCES.

I bought to-day a box of thin elastic bands, one inch in diameter, and this evening I have "tied" a long row of lettuces in a few minutes by simply stretching the band over the top of the plant. I gave sixpence for the bands, and have 150 of them. I do not know if this is an original idea, but it is certainly a very successful one, and saves a great deal of backache. H. W. P.

* There still exists among the inhabitants of the neighbouring country towns three or four veterans who helped to fell the forest protection of their old homes. This is not a legendary account, but history easy of verification.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory will require to be freely ventilated night and day, unless there are many stove plants, in which case shut up while the sun is on the house. Use water in plenty, and liquid manure wherever it seems to be required.

Greenhouse Herbaceous Plants, such as cinerarias, primulas, heliotropes, and herbaceous calceolarias, must have frequent attention now. Prick out the seedlings into pans or singly in thumb pots; shift cuttings and rooted suckers; sow calceolaria and cineraria to succeed the first lot; a moist, cool, shady place will bring them on, and as they gain substance they must have more light and air. Use for all these plants a light rich compost, in a sweet and friable condition.

Hard-wooded Plants mostly require shifting, if only to remove a little of the worn-out stuff on the outsides of the balls, and repot them in the same pots. The soil should be lumpy, and with plenty of fibre in it. Take care the drainage is safe. After shifting sprinkle frequently, excepting the heaths, and give only a little water to the roots.

STOVE AND ORCHID HOUSE.

Orchids require now a free circulation of air to ripen the new growth. Use as little shading as possible, and keep the atmosphere moist by watering the paths and borders in the afternoon, after which shut up.

Stove.—Hard-wooded plants that have flowered and completed their growth to be placed in a light and comparatively airy position to ripen their wood. All plants intended for winter flowering to be shifted into the pots in which they are to bloom as soon as sufficiently advanced, to ensure their being well established by the autumn.

FORCING AND ORCHARD HOUSE.

Peach and other fruit trees from which the fruit has been gathered to have a free circulation of air, to promote a thorough ripening of the new growth. The trees bearing crops approaching maturity must also enjoy free ventilation, or the fruit will be more or less deficient in flavour.

Vines in early houses to be kept rather dry to promote the ripening of the wood, and to have plenty of air. In late houses encourage quick ripening, keeping up the heat, and ventilate well to prevent damp and mildew. Water and mulch the borders of late houses, and by all means abstain from cropping the borders, as the practice is most injurious to the roots of the vines, the best of which are near the surface.

FLOWER GARDEN AND PLEASURE GROUNDS.

Chrysanthemums require liquid manure now and frequent sprinkling overhead. Tie out specimens as fast as the side shoots break, for if they once harden out of shape it is no easy matter to restore them to a proper form.

Hardy Shrubs of all kinds may now be propagated by layers or cuttings, the latter preferably, and the smaller the better if the shoots are firm.

Rhododendrons.—In all cases, unless seed is wanted, the dead trusses should be removed without injury to the young shoots. If seeds are allowed to ripen the growth is checked, and there will be less bloom next year. As to the young growth, generally speaking, it is best to let it grow in its own way; there is no shrub so orderly in its habit as the rhododendron; but where the growth in any one direction is irregular the knife may be used now to cut it back, and it will be best to cut to the old wood in such a way that it will break and fill up any gap caused by the pruning.

Roses require a mulch of rich manure and plenty of water to assist the late blooms. Half-ripe shoots of most of the perpetuals may soon be struck with the help of a moderate bottom-heat; but it is full early yet, and better to wait a week or two than waste time in putting in soft shoots. Buds to be entered on briers with discretion; if either the buds or the shoots to be entered on are in a soft state they will not take; the bark must be firm or the work cannot be done properly. One night's heavy rain will do more to perfect the stocks and scions than a week of artificial watering.

FRUIT GARDEN AND ORCHARD.

Fruit Garden.—Put netting over currants, gooseberries, and cherries to keep the birds from the fruit. To retard or keep hanging currants and gooseberries cover with mats.

Raspberries to have their suckers reduced to three or four to every stool; those left will rise strong and ripen their wood well, but a forest of spray will be all weak alike. Never dig between raspberries, it causes them to throw their suckers a long way from the stools; but surface manuring at this time of year, and no disturbance of the earth, causes strong suckers to rise near home.

Strawberries, as soon as rooted in pots, to be removed to a frame and placed upon a bed of some moist material, where they will soon fill the pots with roots. Remove weak runners and peg down in pots or on the border a few more of the best.

KITCHEN GARDEN AND FRAME GROUND.

Asparagus.—Any more cutting of this crop will ruin the plantations. Where the beds have not had much attention, let them be at once pointed in with a fork, all weeds raked off, and the surface covered with a mulch of half-rotten dung. Manure rotted to powder should never be used as a mulch; there is no strength in it.

Broccoli must be put out to furnish a supply during autumn. Manure liberally, and if the planting is done in dry weather give water as abundantly as possible. Better, however, to get the ground ready and wait for showers, both to save labour and to give the plants a better start, for a free and natural growth is especially requisite with broccolis and cauliflowers. Transplant from the seed-bed to a piece of rich light soil the plants from the late sowings. Small clubs just appearing on the roots may generally be removed with the thumb-nail, but where clubs are formidable throw the plants aside and burn them.

Cauliflower.—Plant out and remember that for this crop the soil cannot be too rich; they will actually grow well in dung only, if well rotted. Hoe between those coming forward, but do not earth up the stems, except of such as are loose at the collar.

Celery requires a heavy watering where the ground is dry. If the fly has attacked the leaves pick them off and burn them; generally a few leaves only are touched, and they can be spared. But as no crop will bear to be entirely disleafed, where the grub has got the upper hand it will be in vain to expect much produce. Dustings of soot are useful to protect celery.

Cucumbers must have steady bottom-heat to produce fine fruit. It is a common fallacy that when the weather becomes warm the beds may be left to cool down, but it is rarely fine fruit are cut from frames that are never lined after the first heat is out. Keep a moist atmosphere, for cucumbers never thrive in a dry air.

Lettuce.—This useful salad is too much neglected after the early part of the season, through the tendency of the plants to bolt in hot weather. This may be prevented by planting in a rich cool soil and giving some amount of shade. Sow now and thin early, and let the crop stand without transplanting.

Leeks to be planted out in rows, nine inches apart every way, in very rich moist soil.

Sow last crop of Broad Beans, Walcheren Broccoli, Early York and Collard Cabbage, Kidney Beans (dwarf and runner), Lettuce for succession, any early kinds of Peas, Radishes, and Turnips. Keep the hoe in active service between advancing crops.

Winter Greens to be planted out at every opportunity. It is most important to get out good growths of Brussels Sprouts as early as possible.

Vegetables in Season include Kidney Beans, Broad Beans, Peas, Cauliflowers, Cabbages, Globe Artichokes, Lettuces, Cucumbers, Marrows, Onions, Mushrooms, Turnips, Tomatoes.

HARDY PLANTS IN FLOWER.

The hardy garden is now being reinforced by the lilies, the flowers of L. elegans, L. martagon, and L. candidum being already plentiful; while in the shrubberies we have the resplendent rose acacia, the crenate deutzia, two or three dogwoods, any number of philadelphus, and the best of the kalmias in full perfection. In many places the common robinia is so full of flower as to be comparable to a mountain of snow. The foxglove, perhaps, is the flower of the season.

Gypsophilas are not of the showy, but are certainly of the useful class. *Gypsophila repens* is like a Hutchinsonia, quite a little dear, and a perfect rock plant. *G. paniculata* is a border plant, valuable to cut from in bouquet making. The most distinct of the group is *G. cerastoides*, a free-growing plant, producing in the axils of the leaves flowers that are large for the genus, and prettily coloured with streaks and dots of rose or purple.

Anemones are becoming scarce in the wild garden, though in great force now in the dressed borders. *Anemone riparia* is a leafy spreading plant with pleasing white flowers, a little weedy in habit. *A. palmata* still shows a few of its yellow flowers, being much later than usual this year. *Anemone coronaria* is the king of the family now, and all the sections are fine, the single flowers having the highest beauty, while the double undoubtedly make the greatest show.

Primulas are so far past that it would be unfair to name them except for the interesting fact that we have not yet quite done with *Primula japonica*. We do not remember having before seen it producing fresh flowers up to July, but this is the case now in gardens near London, while in many places northward it will probably be good for two or three weeks to come.

Pentstemons have not as yet made any special display, but *Pentstemon ovatus* presents its bright blue flowers, and *P. barbatus* in two shapes, scarlet and white, has made a beginning. *P. Torreyi* is the best of the group, and may be regarded as a variety of barbatus.

Brooms should have a paragraph, for a few of the family are in full beauty now. *Genista cinerea* and *G. alata* are vigorous branching trees that with time develop into huge specimens ten to fifteen feet high, and as much through, being now a mass of deep yellow flowers, and as seen from a moderate distance solid with colour. They are, for all scenic purposes, the counterparts of our old friend *Cytisus racemosus*, perfectly hardy on a dry warm soil, giving no trouble whatever. The relations of these to *Genista canariensis* is probably as close as that of *Genista candicans*. As they have true leaves it would be proper to place them under Cytisus, for genista proper has only needles. But let us deal with the plants, and leave all the technical points for separate consideration. *Genista radiata* is a neat dwarf bush with needle leaves and yellow flowers, good. *Genista sagittalis* is a first-class rock plant, very neat in growth, and now crowned with a brilliant pile of golden yellow flowers.

Rock Roses have advanced conspicuously since the weather improved, all the varieties of *Helianthemum vulgare* are in high colour, and there is not a bad one amongst them. *Cistus hirsuta* may be likened to a dwarf alpine azalea as regards leafage, the flowers are white, with yellow centre, and make a fine show; as a rockery plant it is perfect. *Cistus vaginatus* has long leaves, and flowers of medium size, the colour clear rose-pink or rosy purple.

Gentians are few and far between, but they are not out of the list, for the lovely *gentianella* is still flowering in many country gardens. It is enough that we record the flowering of *Gentiana Burseriana*, one of the finest even of this fine family; the leaves are broad and longitudinally striated, the flowers are in a grand head on a stout stem; they are large, bell-shaped, the colour a delicate buff-yellow.

Senecios include now *S. concolor*, which is very gay with its purple flowers; *S. abrotanifolia*, with flowers of a strong orange colour, and the brilliant little *S. doronicum*, which makes the best show when half starved on the rockery, for want makes it humble but does not extinguish its virtues; in fact the starved plants make the best show of flowers.

Rest Harrows are represented now by the pretty *Ononis arvensis*, of which there are several varieties, the principal being the pink and the white. *O. rotundifolia* is a good stout plant of a quite rustic character, and *O. frutescens* is at once humble and pretty. The spiny and lively *O. campestris* will not flower near London, but it must make a gay rosy garland by this time in many a pleasant place.

Meconopsis of several kinds are now showing flowers. Of the Welsh poppy, *Meconopsis cambrica*, it must be said that to see it in perfection one must see it not far from home, for in the east of England it looks like an unhappy foreigner. *M. aculeata* is a lovely plant that cannot be depended on for hardiness; but *M. Wallichi* is glorious, and the more interesting because various. Its stately growth, its exceeding distinctness, its several shades of blue, lilac, and blush white, its long continuance in flower—these are points that establish it in the front rank of plants worthy of the special attention of an eclectic hardy man.

Horse-shoe Vetch deserves a place here. It is *Hippocrepis comosa*, a quite scarce but useful rock plant, forming a mat of herbage, overspread at this time with yellow flowers. Any of the bird's-foot trefoils are suitable as com-

panions for it, and the double *Lotus corniculatus* is the best of them, and a capital rockery plant.

Spiræas are of importance now, for the glorious *Spiræa palmata* is in flower. We see occasionally large masses of this delightful plant, and they always seem to do themselves an injustice, for in a mass, strange to say, it is less effective than when a few large plants are separated from their kindred and mixed with such things as Lobelia cardinalis, Rodgersia podophylla, and other fine things that love fat soil and moisture. We have now *S. aruncus*, as grand as ever, common and cheap, and as lovely as the starlight, which is also cheap. *S filipendula*, the double of which should be grown by the yard or the furlong where much cutting of flowers is practised. *S. ulmaria* is making a beginning, but its proper time has not come; and as for *S. venusta* or *lobata*, which is well-nigh lost to cultivation, it is just showing its flower heads, which presently will surpass crushed strawberry and the most delicate carmine tones even of the rose itself. *S. astilbioides* should be the proper companion to S. aruncus. It is figured in G.M., July 17, 1880.

Polygonums are as yet scarce, but note must be made of *Polygonum sphærostachyon*, a small growing plant with neat club-like spikes of rich crimson flowers. *P. Vaccinifolium* and *P. Brunonis* are just making a beginning.

Edelweiss is now established in the rockery, and may be pronounced a good plant independant of the adventitious circumstances that have contributed to its importance. It demands of the cultivator a moist soil, and that is about all that it needs to be happy in any garden, for it loves exposure, and a common border will suit it as well as the best nook in the rockery. Beware of rampant plants that may wage war with this *Leontopodium alpinum* or *Gnaphalium alpinum*, for it may soon be smothered. To make stock divide the old plants, this saves the trouble of looking (perhaps in vain) for seeds.

Columbines are flowering gaily, and it is only in the mixed border or at the foot of a good rockery that they look well; in clumps and beds they are poor; they want a back ground. Our best at this time are *Aquilegia cærulea*, lovely light blue and white; *A. glandulosa*, blue and white; *A. Skinneri*, yellow and orange; *A. Buergeriana*, pale yellow with bronzy spurs, probably a near relation to *A. chrysantha* and *A. leptoceras*. The very familiar cottage garden flower *A. vulgaris* must not be despised, for the doubles of this are the only aquilegias that make any effect in masses.

HISTORICAL TREES.

In the MS. letters of Dr. Richard Pococke, Bishop of Ossory, famous as a traveller in the East as well as over these islands, there are references to trees which it would be interesting to hear something of now from knowledge of the localities. The query is if there are relics or traditions still existing with regard to what the Irish bishop recounts, as under, in his autograph volume of 1757, preserved among the MSS. of the British Museum. In his letter dated "Dunkton, March 24, 1757," the following appears: "I left Southampton on the 21st, and passing through Eling came to the turnpike in Salisbury Road, in which I went for some time, and left it to the right to go in the road to Ringwood, which is made very good near as far, if not quite, as the castle of Malwood. The castle is only a large Roman camp. Towards the end of this road we saw the boundary stone between Eling and Minsted parishes. Ascending the hill, we passed through the castle of Malwood without knowing it, which is described as consisting of many acres, and that large oaks grow on the banks round it. But a little beyond it, half a mile to the right of the road at the summit of the hill, we were directed to the site of the famous oak which, it is said, blew on Christmas Day and withered before night. Palings were put up round it by Charles II., and the tree being quite decayed, and the wood taken away, a triangular pillar was set up, about sixteen feet high. These inscriptions are on the three sides of it: First, 'Here stood the oak on which an arrow, shot by Sir Walter Tyrrel at a stag, glanced and struck William II., surnamed Rufus, in the breast, of which he instantly died, on August 2, A.D. 1100'; second, 'King William II. being slain, as before related, was laid on a cart belonging to one Purchess, and drawn from thence to Winchester, and buried in the cathedral church of that city'; third, 'A.D. 1745, that where an event so memorable had happened might not hereafter be unknown, this stone was set up by John, Lord Delawarr, who has seen the tree growing in this place.'"

From Ellesmere, in Shropshire, with date of June, 1757, the bishop wrote an account of another tree associated with an important event in English history: "Seven miles from Wolverhampton is Boscobel, famous in history for being the place where Charles II. lay hid after the battle of Worcester. Richard Peverel, a wealthy farmer, who lived at Hubal, a mile to the east of Tongal, had the greatest hand in the transaction of this affair. In the house they show, up in the garret, the trap-door by which the king went down and sat in an enclosed place to which there was no other entrance, being separated from a closet below by a plastered partition, and the whole room was plastered over so that the trap door could not be seen. In a parlour below is the bed he lay in, to which the wainscot opens, and I suppose the landlord, Fitz-Herbert, a Roman Catholic, hung up over it a print of a young person with the ornament of a cross and this motto, 'Misero succumbere sæclo.' Opposite is another closet, where the king used to sit. We were then conducted to the site of the oak. Close to it is an oak about seventy or eighty years old, which they raised from an acorn of the tree. Upon a bough of that tree the king was hidden when they were searching for him in the house. The tree is enclosed with a wall, and over it is this inscription: 'Felicem arborem quam in asylum potentiss. Regis Car. Sec. D. op. max. p. quem reges regnant hic crescere voluit tam in perpet. rei tantæ memoriam quam in specimen firma in regis fidei muro cinctam posteris commendans Basilius et Jana Fitz-Herbert. Querens amica Jovi.'" To this dog Latin he adds details, such as that "Mrs. Jane Lane, who had so large a share in the transaction, lived at Bentley, near Walsall," and that in Wolverhampton Church, among "the statues of the family of Lane," is the "monument of Colonel John Lane, who assisted in the escape of King Charles II, after the battle of Worcester." There was an "elegant inscription" in 1757 relating to the event, the colonel having died in 1667. It would be of use to know if it is still legible.—*Notes and Queries.*

The People's Palace, that is to be erected in the Mile End Road, is the subject of an imposing picture in the *Illustrated London News* of June 26. The building is circular, with colonnade below and dome above, remotely resembling the Albert Hall, but with the addition of angular wings and towers touched with a slight Oriental expression, such as perhaps might be called minarets.

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY'S PROVINCIAL EXHIBITION AT LIVERPOOL, June 29 to July 5.

The exhibition now being held at Liverpool by the Royal Horticultural Society is not a new experiment, but a continuation of the policy initiated by the holding of a provincial show at Bury St. Edmund's nineteen years since, and continued intermittently, with certain modifications of plan and varying degrees of success, until the present time. The exhibition at Bury St. Edmund's, which was held in 1867 in conjunction with the annual gathering of the Royal Agricultural Society, evoked much enthusiasm throughout the eastern counties, and proved so great a success, both from a horticultural and financial point of view, as to enhance in a very marked manner the prestige of the society. Encouraged by results of the most substantial character, a second provincial show was held at Leicester in the year following; when, although the success attending the gathering was not, perhaps, so complete as that achieved at Bury St. Edmund's, it was sufficient to fully justify the council in carrying out their policy. In 1869 the provincial exhibition was held at Manchester, but—from causes to which it is not necessary now to refer, farther than to say that the horticulturists of Manchester were in no way to blame—there was a turn in the tide, and the show was far from successful. Financial failure was experienced at Oxford in 1870, and, in consequence chiefly of the expenditure being considerably in excess of the income, it was determined to make a new departure, and hold the exhibitions wholly independent of those of the Royal Agricultural Society. Accordingly the plan was modified, and in 1871 the exhibition was held at Nottingham, and the results were such as to show that the horticultural exhibitions were not only able to do without the contiguity of an exhibition of live stock and the implements and machinery required by the farmer, but that there was a decided gain in the society relying wholly on its own resources. The Royal Horticultural Society was well received by the municipal authorities of Nottingham, and by the energy shown by the various members of the influential local committee the prize fund was largely augmented by the contributions of residents within the district of which Nottingham is the centre, and the necessary steps were taken to make the fact of the exhibition being held well-known to all classes of the community. The display of plants, flowers, and fruit was of large extent, and the takings materially exceeded the expenditure. The most brilliant of the successes achieved by the society in its visits to the provinces was at Birmingham in 1872, for the show brought it much honour and a large sum to its exchequer. The Birmingham show was, indeed, eminently successful in all its details, a strong local committee affording, as at Nottingham, substantial aid in bringing it to a successful termination. With the exhibition at Bath in 1873 the first series of shows was brought to a close, as the results were not such as to encourage their continuance. During the next five years the provincial gatherings remained in abeyance, and it was not until 1878 that an attempt was made to revive them. In the year last-mentioned the society accepted an invitation to visit Preston, but from a combination of circumstances the exhibition was decidedly unsuccessful, and until the present year no serious endeavour has been made to again hold a provincial show.

With reference to the exhibition the Royal Horticultural Society is now holding at Liverpool it will be readily understood that as it remains open until Monday next it is practically impossible to do more than indulge in mere conjecture as to the financial results, and from this we shall, with the many important matters awaiting attention, refrain. But it may be safely said that it possesses the elements of success in a greater degree than any of the shows previously held with the exception of that at Birmingham. It is held in one of the greatest centres of commercial and industrial activity, and the society has been well supported by the municipality, chief amongst the facilities granted being the use of the Botanic Garden and Wavertree Park for the purposes of the show. If Wavertree Park is devoid of the picturesque features characteristic of some of the other open spaces provided for the enjoyment of the citizens of Liverpool, it is sufficiently spacious for the purpose to which it is now put, and is in connection with the admirably kept and highly attractive Botanic Garden. Moreover, Wavertree Park possesses the very great advantage of occupying a more central position than either of the other open spaces, and in being contiguous to the termini of the more important lines of trams and omnibuses that traverse the city and to the Edge Hill Station of the North Western Railway Company. It is also within the shadow of the International Exhibition, which will assist in making the fact of the horticultural exhibition being held widely known, and thus help, it is hoped, to greatly augment the number of visitors. The flower show has certainly the great advantage of being held in a city in which the citizens generally appreciate horticultural skill, as proved to demonstration by the large attendances at the three exhibitions held annually by the Liverpool Horticultural Association. In referring to this admirably managed body it is satisfactory to know that its aid has been obtained in carrying out the present exhibition. Instead of holding a show in Sefton Park at the end of the month and the beginning of July, as in previous years, the executive decided to abandon it for this year and pay the Royal Horticultural Society £450 for admission to its exhibition of the subscribers to the Liverpool Association.

The arrangements which have occupied a large share of the attention of Mr. Barron and the leading members of his staff for some time past are remarkable for their completeness, and it would be unjust to speak of them otherwise than in the highest terms of praise. For the accommodation of the plants, cut flowers, fruits, and vegetables, four principal tents have been provided, and are erected at convenient distances from each other. The large marquee which is erected near the south-east corner of the Botanic Garden is 260 ft. in length and 130 ft. in width, and, as stated last week, is laid out in a natural style from Mr. Barron's plans, under the superintendence of Mr. Richardson, Curator of the Liverpool Parks and Gardens. The tent devoted to cut flowers and plants of small growth is 200 ft. in length, by 40 ft. in width; that for vegetables, 100 ft. in length by 40 ft. in width; and that for table decorations, 90 ft. in length by 40 ft. in width.

The schedule of prizes offered for competition was very comprehensive, and contained ample provisions for all classes of subjects that can be successfully shown at this season of the year. It included 135 classes, in addition to those set apart for cottagers; of these 61 were for plants, 90 for cut roses, 25 for fruit, and 16 for vegetables. The prizes amounted in the aggregate to £1,200, and of this sum £100 was set apart for stove and greenhouse plants in bloom, £127 for orchids, £71 for ferns, £24 for new plants, £113 for fine-foliage plants, £50 for groups, £71 for hardy trees and shrubs, £69 10s. for cut roses,

£119 10s. for fruit, and £74 for vegetables. The prizes are, with few exceptions, contested with much spirit, and both competing and miscellaneous collections are of a high order of merit. Horticultural structures and appliances are largely represented, and form a very important and highly interesting part of the exhibition.

OPENING CEREMONY.

The exhibition was opened at one p.m. on Tuesday, by Sir Trevor Lawrence, Bart., president of the society, there being present the Mayor of Liverpool, Sir D. Radcliffe, and the members of council of R.H.S. In the course of the proceedings,

The President said he had been requested to offer the warmest thanks of the society, and he might say of the horticultural world at large, to his Worship the Mayor for the invitation for the society to visit the city, and for the hospitable reception he had given them, a reception, he need scarcely remind them, which was inseparable from the hospitality of Liverpool. As horticulturists, they had the greatest pleasure in coming to Liverpool, and they desired, as far as was possible, to extend a knowledge of the science and art of horticulture throughout the United Kingdom. They regretted that the visit of the society should have happened to coincide with the period when his worship's time was largely occupied with what politicians considered most important matters. However that might be, his worship would find that a walk through the show would be a pleasant temporary respite from his more important engagements.

The Mayor, in returning thanks, said that on behalf of the city of Liverpool he offered the society a hearty welcome. He felt sure the work the society was engaged in would prove beneficial, not only to the immediate neighbourhood, but throughout the length and breadth of the land. The action of the Royal Horticultural Society since 1851—he believed that was the time when it received the dignified title of "royal society"—had been one of the most magnificent character. It had shed its softening influence among all classes, and he was sure it tended to promote not only happiness but everything that could possibly conduce to the well-being of the people. With regard to the society visiting Liverpool at a time when a political fight was being engaged in, he might say that it rendered it all the more pleasant to be present during that time, and the show would greatly soften the labours of all engaged in the contest, because the society was not political, and those who gathered to see its work threw aside for the time all politics. He hoped the show would be a real success, and that the society would, on another occasion, visit the city.

The President remarked that it was the opinion of persons acquainted with horticultural science that in every department the show was the most interesting, varied, and successful ever held by the society.

STOVE AND GREENHOUSE PLANTS.

COLLECTIONS to consist wholly of plants in bloom, and to comprise equal numbers of flowering and fine foliage plants were remarkably good, and as they are assigned, as become their importance, a prominent position in the great tent, they produced a striking effect. There are three competitors in the great open class for twelve to comprise six in bloom and six with ornamental leafage, and the first place is occupied by Mr. James Cypher, Cheltenham, with one of the best collections he has staged this season. The whole of the specimens are of large size and in a high state of development, and the plants remarkable for the beauty of their leafage comprise Latania Borbonica, a very fine specimen which, placed in the centre, produces an excellent effect; Kentia Fosteriana, K. Australis, Croton Queen Victoria and C. Prince of Wales, both richly coloured; and Cycas revoluta. The plants in flower include Erica affinis, E. tricolor Wilsoni, Allamanda Hendersoni, very densely flowered and singularly telling in appearance; Anthurium Scherzerianum, Dipladenia amabilis, a good companion to the Allamanda; and Ixora regina, a distinct hybrid, producing huge trusses of salmon-red flowers. Mr. J. F. Mould, Pewsey, Wilts, is second with specimens of medium size, but very fresh and otherwise good. Particularly noteworthy are the specimens of Erica Fairreana, Ixora coccinea, the flower trusses exceptionally well developed; Stephanotis floribunda, Dipladenia amabilis, the flowers very bright; Bougainvillea glabra, Erica aristata, Gleichenia rupestris, and Dracæna Shepherdi. Mr. H. James, Castle Nursery, Lower Norwood, third with an excellent collection.

Two classes were provided for stove and greenhouse plants in bloom, and in that for nine, in which the competition is limited to trade growers, Mr. J. Cypher is first with a very bright and highly-finished group, the specimens comprising Anthurium Scherzerianum well furnished with its brilliantly-coloured spathes; A. Scherzerianum Cypheri, a very distinct form, with spathes of immense size and very rich in colour; Ixora Williamsi and I. Pilgrimi, two hybrids of special value for specimen culture, the habit being compact and free-branching, and the flowers very freely produced in large, finely-formed trusses; Pimelia diosmæfolia, Azalea Brilliant (an old variety, bearing deep scarlet flowers), and Erica Cavendishi, the flowers plentifully produced and very fresh. Mr. H. James and Mr. J. F. Mould were second and third respectively. The first place in the class for six, in which private cultivators could alone compete, is occupied by Mr. A. R. Cox, gardener to W. H. Watts, Esq., Elm Hall, Wavertree, with a collection in every way worthy of the high reputation he enjoys as a cultivator of these plants. The specimens are of large size, well-bloomed, and very fresh, and consist of Allamanda Hendersoni, Statice Halfordi (seldom seen in such a vigorous condition as in this instance), Clerodendron Balfouriana, Ixora regina, Ixora Dixiana, and Ixora coccinea. With reference to the ixoras, it may be said that, good as they are, their appearance would be better were they less stiffly trained.

NEW HOLLAND PLANTS, for which a class was specially provided, are represented by one collection only. This is shown by Mr. J. Cypher, who is awarded the first prize, and as the twelve plants are well bloomed they have a bright appearance. Especially attractive are the examples of Hedaroma tulipifera, Dracophyllum gracile, Phænocoma prolifera Barnesi, which is now seldom seen at the public exhibitions, although very effective when at its best; Aphelexis macrantha rosea; A. macrantha rosea, A. macrantha grandiflora, and Pimelia diosmæfolia, a very beautiful species bearing flowers of a bright pink hue.

ERICAS are admirably shown in the class for six by Mr. J. Cypher, who has been awarded the first prize. The specimens, which are remarkable for their large size and the profuse manner in which they are flowered, represent E. ampullacea, E. ferrugineana, E. depressa, E. tricolor Wilsoni, E. Parmentieri, and E. ventricosa magnifica.

ORNAMENTAL-LEAVED PLANTS.

COLLECTIONS had two classes set apart for them, and although hardly so numerous as might have been expected, they contribute materially to the attractions of the exhibition. The premier award in the open class for nine has been made in favour of Mr. J. Cypher, whose collection contains well-developed specimens of Gleichenia Mendeli, Cordyline indivisa, Cycas revoluta, Croton Johannes, and other high class subjects, but is hardly bright enough. Mr. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton, Liverpool, is second with a collection in which the crotons are distinguished by their high colour; and Mr. H. James is a good third. In the class for six, Mr. A. R. Cox is the only exhibitor, but the collection is so good that the award of the first prize is well deserved. In the collection are Croton Disraeli and C. Queen Victoria, very large in size, and superb in colour; Latania borbonica, Seaforthia elegans, Alocasia macrorhiza variegata, and Calamus ciliare, a distinct and elegant palm.

PALMS are well represented in the class specially provided for them, as well as in the mixed collections, and the collections which consist of nine plants each form a fine bank at the eastern end of the large tent and affords a pleasing relief to the glowing colours of the zonal and other pelargoniums that have a place near them. Mr. Williams, gardener to S. Baerlin, Esq., Oak Dene, Didsbury, occupies the first place with medium-sized and well-developed specimens of Phœnicophorum Seychellarum, Kentia Fosteriana, Thrinax elegans, Phœnix rupicola, the most elegant of the date palms; Pritchardia pacifica, Cocos Weddelliana, and Kentia Mooreana. Messrs. R. P. Kerr and Son, Aigburth Nurseries, Liverpool, were a close second with excellent examples of similar kinds.

CROTONS, which are grown with exceptional success in the neighbourhood of Liverpool, form one of the most effective features of the exhibition, and attract much attention. There are two classes for them, one for twelve, in which the competition is limited to nurserymen, and one for six, in which gardeners alone can compete. There are three collections of twelve, all more or less good, but that from Messrs. R. P. Kerr and Son, who are awarded the first prize, is far in advance of the other two, and is unquestionably one of the very finest collections that has yet been staged at a public exhibition. The collection consists exclusively of large specimens, which are in the most vigorous condition and splendidly coloured from the rim of the pots to the tips of the highest branches. It comprises Mortfontainensis, a striking variety with large-lobed leaves, richly variegated, deep yellow in the young state, the variegation changing to brilliant red-scarlet as the leaves acquire age. Aigburthensis, very distinct, the leaves very narrow, more or less erect, and of a bright yellow hue, the leaf stalks coral red. Neumanni, a handsome variety, the leaves very large and very freely variegated with bright red; unsurpassed for specimen culture. Bergmanni, leaves large and freely variegated, pale yellow; forms a fine companion to the high-coloured varieties. Hawkeri, rather small grower, distinguished by the centre of the leaves being wholly yellow. Evansianum, a fine form, with large trilobed leaves freely variegated bright red. Countess, an elegant variety, with slender leaves of a bright yellow hue. Mosaicus, a very beautiful variety, the leaves rather long, about an inch in breadth, and freely marbled and veined with brilliant carmine. Weismanni, a well-known form, with narrow leaves freely variegated with gold. Interruptum elegans, very beautiful, the leaves of medium breadth and richly variegated orange and red; and Sinitzianus, a narrow-leaved variety, marked with yellow on a bright green ground. Mr. J. Cypher is second with a highly-effective group in which Sunset, Johannis, Countess, Interruptus aureus, an effective narrow-leaved variety, and Thomsoni, a large-leaved and effectively-coloured variety, the variegation bright red. Mr. J. F. Mould is third with rather small but richly-coloured examples.

DRACÆNAS were represented by several well grown collections. Mr. Lambert, gardener to Colonel Wingfield, Onslow Hall, Shrewsbury, is first in the class for six with rather large and very highly-coloured specimens of Gladstoni, Auerlyense, Baptisti, and other well-known kinds of a similar character. Mr. Williams is a very close second with a collection in which Cordyline indivisa and Dracæna Lindeni are remarkable for their high development. Mr. A. R. Cox is third with plants comparatively small in size, but exceedingly well coloured, and including the very distinct D. Goldieana.

CALADIUMS include an effective group from Messrs. J. Laing and Co., Forest Hill, to whom the first prize in the open class for six has been awarded. The collection consists of large highly-coloured specimens, which bear no trace whatever of the long journey they have had to make. Of the undermentioned varieties, Candidum, leaves large and pure white, veined deep green; Leopold Robert, white, veined bright red; Luddemanni, a very handsome form, the leaves large, with bright centre, and marked with spots and blotches of pure white; Ornatum, green, the midrib and veins bright red; Ferdinand de Lesseps, orange red with green margin, very distinct and effective; Madame Fritz Kachlin, a distinct variety, the leaves attractively coloured green, white, and red.

COLEUS are fairly good, and enhance the interest of the exhibition. The exhibitors are Mr. Thomas Parr, gardener to Charles Cotton, Esq., Lulworth House, Birkdale, and Mr. W. Bustard, gardener to J. Lewis, Esq., St. Ann's Road, Liverpool.

ORCHIDS.

The orchids far surpass general expectation, and constitute one of the most important and attractive features of the exhibition. The competition is limited to the cultivators resident in the neighbourhoods of Manchester and Liverpool, and it may be mentioned as a point of some importance that the collections contain a considerable number of *bona fide* specimens. The class for groups of twenty-five, arranged with palms, ferns, &c., is a remarkably good one, and the group exhibited by Mr. Hill, gardener to George Hardy, Esq., Pickering Lodge, Timperley, Manchester, is exceedingly beautiful. It includes large splendidly-flowered specimens of Cattleya gigas Sanderiana, one of the most effective of the cattleyas now in bloom. C. gigas Hardyana, a high-coloured form of surpassing beauty, C. Mossiæ, C. Mossiæ superba, distinguished by its high colour. C. Mendeli, Odontoglossum vexillarium, of which there were several magnificent specimens, O. cordatum, O. crispum, Saccolabium præmorsum, Masdevallia Harryana, Vanda Dennisoni, Aerides Veitchi, and Dendrobium Deari; Mr. J. Cypher is second with an effective group, in which Dendrobium infundibulum is well represented. The group is rather overdone with fine foliage plants, amongst them being several crotons, the colours of which are much too strong to harmonize with hues of the orchids.

The competition is very keen in the amateurs' class for twelve, and the several collections form a surprisingly beautiful bank. Here, as in the preceding class, Mr. Hill is first, and he has a collection in which the specimens are of immense size and profusely flowered. The species and varieties represented in the collection are Cattleya Mossiæ, C. Mossiæ superba, Odontoglossum vexillarium, O. vexillarium roseum, a very richly-coloured and beautiful form, Dendrobium suavissimum, D. Wardianum, Cypripedium Lawrencianum, C. Stonei, Cattleya gigas Sanderiana, C. Mendeli, and Aerides

odoratum majus; Mr. T. Worth, gardener to Enoch Hervoy, Esq., 12, Silverdale Road, Aigburth, Liverpool, is a good second, with a collection remarkable for the high quality of the specimens, which include Odontoglossum crispum, Aerides crispum, Lælia purpurata, Cattleya gigas Sanderiana, C. Mendeli, C. guttata Leopoldi, bearing three fine spikes, and Phalænopsis sp? bearing several racemes of comparatively large flowers of a bright rose-pink hue; Mr. W. J. Thomson, Ghyllbank, St. Helen's, Cheshire, occupies the third place with a group in which the plants are nicely flowered and very even. Amongst others are C. gigas, C. Mendeli, Anguloa Clowesi, the bright yellow flowers of which are very effective, A. Ruckeri sanguinea, rather sombre in colour but very distinct and pleasing, Cattleya lobata and Dendrobium Dalhousianum, and an unnamed Schomburkia, bearing rose-coloured flowers. Mr. John Alexander, gardener to Holbrook Gaskell, Esq., Woolton Wood, Liverpool, has been awarded an extra prize for a beautiful group. In competition for the prizes for six Mr. Hill is again first, staging huge densely-flowered specimens of Cattleya Mendeli, C. Mossiæ, C. gigas Sanderiana, Cypripedium barbatum, and Dendrobium crassinode Barberianum; Mr. Worth is second with a collection, in which Cattleya Mendeli, C. Warneri, Masdevallia Harryana, and Epidendrum Wallacei appear. In the trade class for twelve the premier award has been made in favour of Mr. J. Cypher, who has specimens, of large size and superbly flowered, of Odontoglossum vexillarium, O. vexillarium roseum, Epidendrum vitellinum majus, Aerides Lobbi, Dendrobium suavissimum, D. Jamesianum, D. Deari, exceptionally good, Anguloa Clowesi, and Cattleya Warneri; Mr. H. James is second with an attractive collection, of which the most noteworthy specimens are those of Aerides Fieldingi, C. Mendeli, C. Mossiæ, and Brassia verrucosa.

The Liverpool Horticultural Company (John Cowan) offered a special prize consisting of a silver cup of the value of twenty-five guineas, and £10 in cash for twelve *bona fide* specimens, and this valuable prize has been awarded to Mr. Hill for a group in which are magnificent specimens of Cypripedium Stonei, Dendrobium Devonianum shown, as it should be, with the pseudo bulbs hanging naturally over the sides of the basket, instead of, as is usually the case, tied up with sticks or fastened to a trellis, D. Jamesianum, Cattleya Mossiæ, C. Mendeli, C. Warneri, C. gigas Sanderiana, Cypripedium Stonei, and Odontoglossum vexillarium.

Ferns.

The most ample provisions were made for both British and exotic ferns, and as the whole of the classes are well filled this department is especially interesting.

Exotic Ferns have two classes devoted to them, one of which is open, and the other limited to private growers. In the open class for nine Mr. G. Rhodes, gardener to Mrs. Horsfall, Grassendale Priory, Liverpool, is first with a group consisting of remarkably well-grown specimens of Gleichenia dichotoma, Dicksonia squarrosa, Microlepia hirta cristata, Davallia bullata, D. Mooreana, Adiantum formosum, and Gymnogramma chrysophylla; Mr. A. R. Cox is second with a very fine group, in which occurs a finely-developed specimen of the elegant Goniopblebium subauriculatum. Of exceptional excellence is the collection for which Mr. Paul, gardener to C. Schloss, Esq., Osborn Villa, Bowden, has been awarded the first prize in the amateurs' class for six. In the collection are represented Brainea insignis, a dwarf tree fern of great beauty, Gleichenia rupestris, G. rupestris glauca, G. Mendeli, Cibotium regale, one of the most elegant of the large-growing tree ferns, and Dicksonia antarctica. Mr. Williams is a good second with a collection in which occur good examples of Davallia divaricata, Cyathea Birkei, Dicksonia antarctica, and Gleichenia flabellata.

British Ferns are so strongly represented and include so many distinct forms as to afford visitors a quite exceptional opportunity for becoming acquainted with the many beautiful varieties of the several species. There are five or six competitors in the open class for fifteen distinct, and the premier award has been made in favour of Mr. T. Bolton, Warton, Carnforth, for an exceptionally fine group, comprising Athyrium filix-fœmina plumosum, A. f.-f. plumosum, Axminster and Stansfield's varieties, A. f.-f. regale very finely crested, Polystichum aculeatum acrocladon, P. angulare Pateyi, P. a. venustum, Lastrea filix-mas angustata cristata, L. f.-m. grandiceps, L. f.-m. ramossima, Tricbomanes radicans, and Scolopendrium crispum. Messrs. C. Rylance and Co., Aughton, are second with an excellent collection, in which a fine specimen of Athyrium filix-fœmina Fieldi is conspicuous. Messrs. W. and J. Birkenhead, Sale Nurseries, Manchester, are third with a collection in which the specimens are in a high state of development, and include Athyrium filix-fœmina Pritchardi, which may be described as an enlarged form of A. f.-f. Fieldiæ. Mr. Foster, gardener to John Brancker, Esq., Green Bank, Liverpool, is first in the amateurs' class for six, and has medium-sized and well-finished specimens, as also have Mr. P. Barber and Mr. J. Hurst, who are second and third respectively.

New Plants.

The contributions to the class for new plants distributed during the past three years are few in number, and in that for plants not yet in commerce there are no entries. The premier award for twelve plants introduced in 1884-85-86 has been made in favour of Messrs. R. P. Ker and Son, in whose collection are nicely-developed examples of Adiantum cuneatum deflexum, an elegant variety with drooping pinnules, A. rhodophyllum, Davallia fœniculaceum, a very distinct species with deep green finely-divided fronds, Gymnogramma schizophylla gloriosa, Croton Aigburthensis, a narrow-leaved variety elegant in growth and rich in colour, Vriesia hieroglyphica, Medinella Curtisi, a small-growing species of great beauty, Selaginella neridangula, Croton ruberrimum, a very effective variety, the leaves long and narrow and richly-coloured, the variegation bright crimson, Anthurium carneum, a strong grower in the way of A. Andreanum, but with lighter-coloured spathes, and Ficus elasticus variegatus, the leaves of which are broadly-margined with pale yellow. Messrs. W. and J. Birkenhead are second with a highly interesting collection, consisting exclusively of ferns. It includes Adiantum Mariesi, a very elegant species introduced by the firm, Pellæa pulchella and Northochlæna aschenborniana, two charming ferns with elegant fronds, of which the under side is silvery, Nephrolepis Bausei, Nephrodium Sangwolli, Adiantum Neo-calodoniæ, A. Collisi, and A. digitatum.

Roses in Pots.

Those make a very bright and pleasing display. Mr. Charles Turner is first in the trade class for twenty with well-bloomed and very fresh examples of Le Havre, Madame Lacharme, La France, Edouard Morren, Beauty of Waltham, Duchesse de Valombrosa, Madame Laurent, Madame Gabriel Luizet, Madame Victor Verdier, Miss Hassard, Gloire de Bourg de la Reine, and Sir G. Wolseley. Messrs. Paul and Son are a close second, with a group in which Dr. Andry, Sunset, Ulrich Brunner, Francois Levet, Duchesse de Valombrosa, Victor Verdier, Cheshunt Hybrid, Catherine Soupert, and Queen of Queens are especially well represented.

Softwooded Plants in Bloom.

These comprise pelargoniums, tuberous begonias, and gloxinias, and as they are admirably shown they present a bright appearance and materially enhance the attractiveness of the large tent.

Large-flowered and Fancy Pelargoniums are of great excellence. For eighteen, in pots not exceeding six inches in diameter, Mr. C. Turner is first with a capital group in which Gold Mine, Illuminator, Lady Isabel, Martial, Mr. Ashby, and other well-known varieties are well represented. Messrs. C. Rylance and Co. are second with a good group. The premier award in the class for nine in also made in favour of Mr. C. Turner, who has large and densely-flowered specimens of Despot, Princess of Prussia, Mrs. Pottle, Madame Thibaut, Invincible, Ritualist, Comtesse Horace de Choiseul, East Lynne, Gold Mine, Princess of Teck, Roi des Fantasies, and Venus. Messrs. C. Rylance and Co. are second with a good collection, in which there is a remarkably fine specimen of Venus.

Zonal Pelargoniums are represented by numerous collections that reflect great credit on the cultural skill of the several exhibitors. The varieties shown are not equal in quality to those of recent introduction, and it is therefore not necessary to enumerate them. For eighteen, Mr. Rhodes is first with a beautiful group; in the class for six single zonals, Mr. E. Bridge, Green Hill, Huyton, and Mr. W. Bustard, Aigburth, are first and second respectively; and in the class for six double zonals, Mr. T. Gower, Minton Lodge, Mossley Hill, and Messrs. R. Fleming and Son, Maghull, are first and second.

Tuberous Begonias are splendidly shown in the several classes, and are singularly effective. Messrs J. Laing and Co., Forest Hill, S.E., have been awarded the first prize for a group of twenty-five, and also for nine, the collections in each class being in every way worthy of their reputation. The collections include Bridesmaid, White Perfection, Grace Darling, Ball of Fire, Cloth of Gold, Miss Amy Adcock, Marquis of Bristol, Mr. A. Forbes, and other of the fine varieties introduced by the firm. The collections contributed to the amateurs' class are exceptionally good, and Mr. J. Hunt, gardener to W. B. Bowring, Esq., Beechwood, Aigburth, Mr. Jellicoe, and Mr. A. R. Cox, who are the prizetakers in the order of their names, may be congratulated on the great success they have achieved.

Gloxinias and Achimenes are admirably shown by Mr. J. Agnew, Mr. T. Gower, and Mr. J. Hunt, to whom the principal awards in the several classes provided for these subjects have been made.

Annuals and Liliums are both represented by excellent collections from Messrs. J. Carter and Co., High Holborn, to whom the first prize in each of the classes for these flowers has been awarded. Messrs. Carter and Co. have also a very beautiful collection of annuals in the miscellaneous class, for which they have been awarded the silver medal.

Groups for Effect.

Two classes were provided for these, and in that for a group occupying a space not exceeding 300 square feet Messrs. R. P. Ker and Son are first with an exceedingly beautiful arrangement in which highly-coloured crotons are employed with good effect; Messrs. W. and J. Birkenhead are second with an excellent group, consisting wholly of ferns. In the amateurs' class, Mr. Williams, Mr. Cox, and Mr. Jellicoe are first, second, and third respectively with arrangements evincing much taste.

Hardy Herbaceous and Alpine Plants.

For fifty alpine plants Messrs. Paul and Son are first with a highly-interesting group, and in the corresponding class for hardy herbaceous plants Messrs. J. Dickson and Son and Mr. Harvey are first and second respectively, the groups from both exhibitors being remarkably good.

Hardy Trees and Shrubs.

The competition is not very severe in either of the classes for hardy trees and shrubs, but the collections are so good that they form a very interesting feature. Messrs. W. Barron and Son, Elvaston Nurseries, Borrowash, Derby, are first in the class for a group of coniferæ, with thirty-six well-developed specimens, comprising Abies Sieboldi, a hardy and handsome species; A. polita, a free growing and perfectly hardy species; A. Parryana glauca, a glaucous form of this fine species; A. Douglasi, a handsome variety distinguished by its glaucous foliage and more rigid habit; Picea magnifica, P. brachyphylla, Pinus parvifolia, Taxus baccata aurea Barroni, a richly-coloured golden yew, more pyramidal in growth than the other forms with golden foliage; T. B. Dovastoni aurea, a golden form especially suitable for standards when worked on the Irish yew, as in the case of the specimen exhibited; standard specimens are singularly effective. Cupressus Lawsoniana intertexta, C. L. argentea, C. L. lutea, C. L. gracilis pendula, are four distinct forms of this well-known coniferous tree, well deserving the attention of planters. Cedrus deodara albo-spica, is a distinctly-coloured form of the deodara. The several retinosporas also well deserve attention. Messrs. W. Barron and Son, are first also for fifteen hollies, and have finely-developed pyramidal specimens of the best of the green and variegated kinds. In competition for the prizes for hardy trees and shrubs, with ornamental foliage, Messrs. J. Dickson and Son are first with an attractive group, in which the golden oak, purple beech, the variegated form of Acer negundo, and several of the best of the Japanese maples are well represented. Messrs. W. Barron and Son are second.

Cut Flowers.

Roses were admirably shown, both as regards number and the quality of the blooms, and formed the largest and decidedly the most attractive of the cut flower department. There was a very keen contest in the trade class for seventy-two distinct varieties, and the premier award was made in favour of Messrs. Cranston and Co., Hereford, whose blooms were of large size and remarkable for their colour and finish. The varieties were: Constantin Tretiakoff, Annie Laxton, Dr. Andry, Pride of Waltham, Merveille de Lyon, Camille Bernardin, Mons. Noman, Countess of Oxford, Madame Montet, Mons. Fillion, Baroness Rothschild, Madame de la Marquis Hervey, Ulrich Brunner, La France, Auguste Neumann, Marie Cointet, Prince Arthur, Princess Mary of Cambridge, Magna Charta, Elie Morel, La Rosiere, Hippolyte Jamain, Madame Bravy, Madame Gabriel Luizet, Countess of Pembroke, Madame Ducher, Princess Charlotte de Tremouille, Mrs. Baker, Marquise de Castellane, Mdlle. Marie Verdier, Charles Lefebvre, Catherine Souport, Madame C. Wood, Mdlle. Eugenie Verdier, Heinrich Schultheis, Madame Levet, Abel Carriere, Marguerite de St. Amand, Auguste Rigotard, Caroline Kuster, Charles Darwin, Captain Christy, Princess Beatrice, Dingée Conard, Baron Hausmann, Souv. d'un Ami, Victor Verdier, Vicomte Vigier, Nardy Fères, Souv. de la Malmaison, Exposition de Brie, Marquise de Mortemart, Duke of Edinburgh, Comtesse de

Serenye, Violotto Bouyer, Duke of Wellington, Julio Touvals, Etoile de Lyon, General Jacqueminot, Madame Julio Dymonier, Madame Victor Verdier, John Hopper, Marie Baumann, Peach Blossom, and L'Esperance. Mr. G. Campbell, gardener to S. P. Budd, Esq., 8, Gay Street, Bath, was second with a capital stand of blooms; and Messrs. Paul and Son were a very close third. In competition for the prizes in the trade class for forty-eight Messrs. Cranston and Co., Messrs. Paul and Son, and Mr. J. House, Peterborough, were first, second, and third respectively with good blooms. The trade class for twenty-four was well filled, and Mr. George Prince, Oxford, had the premier award made in his favour for a box of magnificent teas, the varieties being: Comtesse de Nadaillac, Alba rosea, Jean Ducher, Madame Cusin, Anna Olivier, Souv. d'un Ami, Innocente Pirola, Marechal Niel, Princess of Wales, Souv. d'Elise, La Boule d'Or, Catherine Mermet, Niphetos, Bellefleur d'Anjou, Gloire de Lyon, Mons. Furtado, Marie Van Houtte, Madame H. Jamain, Francisca Kruger, Marie Finger, Caroline Kustor, Rubens, and Amazone. Messrs. Cranston and Co. were second; and Messrs. G. Cooling and Son, Bath, were third. Mr. G. Prince was first also in the nurserymen's class for twenty-four, staging finely-developed flowers, the varieties being chiefly the same as those enumerated.

Excellent blooms were contributed to the amateurs' classes. Mr. Campbell was first for twenty-four, with fine flowers of Violette Bouyer, Heinrich Schultheis, Comte Raimbaud, A. K. Williams, Merveille de Lyon, Star of Waltham, La France, Countess of Pembroke, Rubens, Arthur Dickson, Mons. Noman, Countess of Oxford, Captain Christy, Francois Michelon, Lady Mary Fitzwilliam, Duke of Wellington, Niphetos, Duchess of Bedford, Duchesse de Valombrosa, Dupuy Jamain, Charles Darwin, Marquise de Castellane, Alfred Colomb, and Catherine Mermet; Mr. R. E. West, Reigate, was a good second. The first place in the class for twelve was occupied by Mr. E. Claxton, The Rosary, Allerton, with a stand of finely-developed blooms; Mr. Campbell was second, and Mr. West was third. Mr. Claxton was successful also in taking the first prize in the class for twelve teas, and Mr. Campbell and Mr. Marshall, Chapel Street, Liverpool, were second and third respectively. Mr. Claxton contributed a good box of blooms of Madame Cusin to the miscellaneous class.

Miscellaneous Cut Flowers are contributed in large numbers, and produce an effective display. Mr. J. Cypher, Mr. J. Clagg, and Mr. J. Alexander are the prizetakers in the classes for twelve bunches of orchids. Mr. C. Turner and Messrs. C. Rylance and Co. are the most successful competitors in the classes for pelargoniums. Messrs. J. Dickson and Son, Messrs. Paul and Son, Mr. G. Eaton, and Mr. W. Bustard have been awarded the chief prizes for hardy herbaceous flowers. Messrs. Cocker and Son, Aberdeen, and Messrs. R. P. Laird and Sons, Edinburgh, are first and second respectively for twenty-five varieties of pyrethrums; and in the class for sixty blooms of pansies Messrs. J. Cocker and Son, Mr. J. Sutherland, and Mr. W. Storie are the prizetakers in the order of their names.

Fruit.

Collections were remarkably good, and formed a good feature of the fruit tent, which was admirably filled. In the class for eight kinds, Mr. R. Parker, gardener to J. Cobbett, Esq., Impney Hall, Droitwich, was first with a collection containing excellent Black Hamburgh and Foster's Seedling grapes, a well-finished Queen pine, good Brown Turkey figs, Pitmaston Orange nectarines, and Noblesse peaches, a handsome fruit of Blenheim Orange melon, and a very fine dish of British Queen strawberries; Mr. G. H. Richards, gardener to the Earl of Normanton, Somerley, Ringwood, was a close second; and Mr. Bannerman, Blithfield, Rugeley, a good third. In competition for the prizes for a collection of six dishes, from which grapes and pines were excluded, Mr. W. Iggulden, gardener to the Earl of Cork, Marston Gardens, Frome, was first with Hales' Early peach, Brown Turkey figs, Longleat Perfection melon, a large and handsome oval fruit, Elton cherries, and President strawberries; Mr. A. Miller, gardener to W. H. Long, Esq., Rood Ashton, Trowbridge, was a very close second; and Mr. Goodacre, Elvaston Castle, Derby, third. Mr. W. H. Divers, Maidstone, was awarded an extra prize.

Grapes were staged in considerable quantities and in excellent condition, and it is a matter much to be regretted that the prizes in the two principal classes should have been awarded so unsatisfactorily. The class for three bunches of Black Hamburgh was well filled, and the awards were made in favour of Mr. T. Lambert, Bryngynton, Oswestry; Mr. R. L'Anson, gardener to W. Bretherton, Esq., Renshaw Hall, Euxton, Chorley; and Mr. E. Gilman, Ingestre Hall Gardens, Stafford. But the finest bunches in the class were those from Mr. Louden, gardener to T. Barnes, Esq., The Quinta, Chirk, who failed to obtain a place. His grapes were far superior in size of bunch, size of berry, and colour to the second and third prize dishes, and were about equal in size of bunch and berry to the first prize dish, but much better in colour, every berry being perfectly black. Mr. Louden was first for three bunches of Madresfield Court, with fairly good clusters. The awards were as unsatisfactory in the class for a dish of Muscat of Alexandria as in that for Black Hamburgh, the first prize going to bunches that were unripe and wanting in finish; the second to clusters also unripe, and with small berries; and the third to bunches that were of comparatively large size, had good berries, and were of a colour that indicated perfect maturity and high finish. The exhibitors to whom the first, second, and third prizes were respectively awarded were Mr. G. Middleton, gardener to R. Pilkington, Esq., Rainford Hall; Mr. R. Mackellar, gardener to J. Walter, Esq., Abney Hall, Cheadle; and Mr. J. Louden. For three bunches of Foster's Seedling, Mr. G. T. Miles, gardener to Lord Carrington, Wycombe Abbey, was first, and Mr. L'Anson second; and in the class for any variety other than those enumerated, Mr. Louden was first with Golden Champion, large in bunch and berry, but wanting in colour, Mr. Churk was second with Duke of Buccleuch, and Mr. G. T. Miles was third with comparatively small clusters of Trebbiano. For a basket of grapes, Mr. L'Anson was first with well-finished Black Hamburgh; and Mr. Wildsmith, Heckfield, was second with the same variety.

Pines were well represented. Mr. G. T. Miles was first in the class for two with a fine brace of Queens weighing 9 lbs. Mr. Miles was first also for one Queen, with a fruit of which the weight was 5 lbs.; Mr. Parker, Mr. H. Morris, Mr. G. Rhodes, and Mr. J. Muir were also successful in the pine classes, staging excellent fruits.

Peaches and Nectarines were plentiful and good. There were six entries in the class for two dishes of peaches, and Mr. Divers, Ketten Hall, Stamford, was first with Early Albert and Stirling Castle, the fruit large and highly coloured; Mr. Goodacre was second with Royal George and Grosse Mignonne, and Mr. Stoney, gardener to Sir T. Earle, Bart., Allerton Tower, Woolton, was third with Royal George and Bellegarde. Mr. J. Wallis, Keele Hall, was first with large superbly-coloured fruit of Crimson Galande; Mr. Gilman second with an exceptionally fine dish of Violette Hâtive; and Mr. Stoney was third with Royal George, of high quality. For two dishes of nectarines Mr. A. Jamieson, Haigh Hall, Wigan, was first with exceptionally fine fruit of Lord Napier and Pine Apple; Mr. Bannerman was second with Lord Napier and Downton; and Mr. Gilman third with Violette Hâtive and Pine Apple. Mr. Jamieson was first also in the class for one dish of nectarines, staging Balgowan, large and good; Mr. Gilman was second with Violette Hâtive in fine condition; and Mr. J. Douglas, gardener to F. Whitbourn, Esq., Great Gearies, was third with highly-coloured fruit of Lord Napier.

Cherries included good dishes of Elton, Black Circassian, and Frogmore Early Bigarreau from Mr. Hare, gardener to R. H. C. Neville, Esq., Wellingore, Grantham, and Mr. G. T. Miles, who were first and second respectively in the two classes.

Strawberries were not shown in very large quantities, but the fruit staged was mostly of high quality. Mr. G. Garaway, Bath, was first for three dishes with large highly-coloured fruit of Sir Joseph Paxton, President, and Marguerite, and Mr. Iggulden was second with Vicomtesse Hericart de Thury and President. For a single dish, Mr. Wildsmith was first with President, and Mr. Garaway second with Sir Joseph Paxton.

Melons were admirably represented, a large number of excellent fruits having been contributed to the several classes provided. In competition for the prizes offered by the society for two melons, Mr. A. Bailey, Frome, was first with large, handsome, and well-ripened fruit of Longleat Perfection; Mr. Gilman second with excellent examples of Hero of Lockinge, and Mr. Rhodes was third with The Queen, a handsome greenflesh variety.

In competition for Messrs. J. Carter and Co.'s special prizes for a fruit of Blenheim Orange, Mr. T. Lockie, Oakley Court, Windsor; Mr. Lyon, Rock Ferry; and Mr. Park, Mariehorne, Wigan, were first, second, and third respectively. There was a keen contest for the prizes offered by Messrs. Sutton and Sons for two melons, and in the result Mr. Goodacre, Mr. W. E. Owen, Combermere Abbey, Whitchurch, and Mr. Iggulden were awarded the prizes in the order of their names, each staging fine fruit of Hero of Lockinge.

Vegetables.

Collections contributed to the two classes are so numerous and good as to produce a large and highly interesting display. In the society's class for eight kinds Mr. G. T. Miles is first with remarkably fine examples of Stamfordian tomato, White Elephant onion, Canadian Wonder bean, Pride of Market pea, New Intermediate carrot, Extra Early Forcing cauliflower Chancellor potato, and Asparagus. Mr. G. H. Richards is a good second, and Mr. Garaway and Mr. A. Miller are awarded equal thirds.

There are ten competitors for the prizes offered by Messrs. Sutton and Sons for twelve distinct kinds, and the produce is throughout of high quality. Mr. Miles is again first, staging in excellent condition Early Munich turnip, Early London cauliflower, White Elephant onion, Leviathan Longpod bean, Hathaway's Excelsior tomato, Canadian Wonder bean, Moore's Cream marrow, New Intermediate carrot, Pride of the Market pea, Telegraph cucumber, and Chancellor potato. Mr. J. Garland, gardener to Sir A. D. Acland, Killerton, Exeter, is second with a collection in which the examples of Walcheren cauliflower are especially meritorious. Mr. Miller is third, Mr. Iggulden fourth, Mr. Lambert fifth, and Mr. Wiekers sixth. Mr. Richards has a remarkably good collection, and would probably have been first had he not staged two dishes of potatoes. He was, however, awarded an extra prize.

Peas and Potatoes are remarkably good, as indeed are all the vegetables for which provisions were made in the schedule. For three dishes of peas Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, is first with Stratagem, Telegraph, and Telephone; and Mr. G. T. Miles and Mr. Iggulden are second and third respectively. In competition for the prizes for a single dish of peas, Mr. Miles is first with Pride of the Market, Mr. G. H. Richard second with Telegraph, and Mr. A. Miller third with Telephone. The first prize for three dishes of potatoes is awarded to Mr. F. Miller, gardener to J. Friend, Esq., Northdown, Margate, who has excellent examples of Royal Ashleaf, Ringleader, and Waterloo Kidney; Mr. Miles is second with Chancellor, Porter's Excelsior, and Snowdrop; Mr. Richards third. For a single dish of potatoes Mr. Goodacre is first with Royal Ashleaf, Mr. Miles second with Snowdrop, and Mr. Oldfield, Chirk, third.

Tomatoes are represented by about twenty dishes, and produce a bright display of colour. The prizes are awarded to Mr. T. Elsworthy, Mr. E. Bridge, and Mr. G. Park, and the varieties include Stamfordian, Hathaway's Excelsior, Carter's Perfection, and Hackwood Park Perfection.

Table Decorations.

The vases for the decoration of the dinner table and the bouquets are remarkably good, and prove very attractive to the visitors. In this section the most successful competitors are Mr. J. Cypher, Mr. J. Agnew, Mr. Hill, Mr. P. Barber, Mr. J. Prewett, Hammersmith, Mr. W. Brown, Richmond, Mr. E. Carr, Messrs. J. Perkins and Son, and Mr. John Cragg.

Miscellaneous.

The miscellaneous contributions are very numerous, and very materially enhance the attractiveness and interest of the exhibition.

Messrs. J. Veitch and Son, Chelsea, have a large and beautiful group of ornamental plants, and have been awarded the gold medal. The collection includes the exquisitely beautiful Nephrolepsis rufescens tripinnatifida, the singular Protea cynaroides, and numerous gloxinias and greenhouse rhododendrons.

Mr. B. S. Williams, Upper Holloway, contributes an extensive and attractive collection of which orchids are the distinguishing feature, and has received the award of the gold medal.

Messrs. Sutton and Son, Reading, have in the grounds a highly ornamental stand, nearly one hundred feet in length, on which are displayed a collection of vegetables comprising about 150 varieties in a high state of perfection, specimens of the various grasses best adapted for laying down land for permanent pasture and for the formation of lawns and tennis grounds, grasses in growth, and a large collection of models of vegetables. The award of the gold medal has been made to the firm.

Messrs. Backhouse and Son, York, have in the long fruit tent a beautiful collection of alpine plants and a charming group of filmy ferns, for which they have been awarded the gold medal. The alpines include Erinus nanus, a species new to this country, and bearing rose-pink flowers, Lonicera pyrenaica, the alpine honeysuckle, bearing lemon coloured bell-shaped flowers, Saponaria cæspitosa, Campanula speciosa vera, a very handsome species, attaining a height of about eight inches, and bearing large bell-shaped flowers of a bright blue-purple colour, Rosa pyrenaica, Dianthus alpinus, D. cruentus, a fine species, with brilliant scarlet flowers, Gazania pavonia major, very showy,

Linum provinciale, a charming species, the flowers deep blue, Saxifraga lantoscana superba, very fine, Cypripedium acaule, Campanula G. F. Wilson, a charming hybrid, Cistus alyssoides, a new species, with clear yellow flowers, Lychnis pyrenaica, Azalea Maxmowiczi, a beautiful little hardy species, and Orchis maculata superba. The filmy ferns comprise Trichomanes reniforme, a rare form of great beauty, T. maximum, T. trichoideum, very light and elegant, Hymenophyllum hirsutum, H. candiculatum, H. pulcherrimum, H. pectinata, H. flexuosum, and H. polyanthos.

Liverpool Horticultural Company (J. Cowan), Garston, exhibit beautif groups of orchids, tea roses, and petunias, for which they have been awarded the silver-gilt medal, the petunias representing a remarkably fine strain.

Messrs. R. Smith and Co., Worcester, have been awarded the silver-gilt medal for a large and highly attractive group of plants and cut flowers, comprising specimen and other clematis, roses, heaths, and other subjects.

Messrs. W. Cuthush and Son, Highgate, contribute a beautiful collection of hard-wooded plants, and receive the award of the silver-gilt medal. They have also a collection of ivies, comprising about fifty kinds.

Mr. Jennings, gardener to Mr. F. de Rothschild, Ascot, has a large and beautiful group of Carnation Souv. de la Malmaison, in the cultivation of which he is very successful, and has been awarded the silver-gilt medal.

Messrs. F. Sander and Co., St. Albans, have a very interesting group of orchids, and receive the award of the silver-gilt medal.

Mr. E. Bridge has an excellent collection of pelargoniums, and receives the award of the bronze medal.

Messrs. Kelway and Son, Langport Nurseries, Somerset, contribute a very effective display of pæonies, pyrethrums, gaillardias, and other cut flowers.

Messrs. T. Rivers and Son, Sawbridgeworth, have a large collection of fruit trees in pots, comprising peaches, nectarines, plums, apples, and cherries, which are of large size and carrying heavy crops of fruit.

Messrs. W. and J. Birkenhead, Sale, exhibit an extensive collection of British and exotic ferns which, arranged in front of the stove and greenhouse plants, present a very pleasing appearance.

Garden Implements, Tools, and Ornaments.

This part of the exhibition covered a great extent of ground, and was of more than average interest, owing to the appearance of several novelties, and the systematic trial of mowing machines and boilers. There were twenty-two sections in all, comprising plant houses, garden pottery, heating apparatus of every kind, cutlery, garden seats, tenting, shading, meteorological instruments, wirework, and miscellanies. The judges appointed to these classes were, on the part of the council, Sir Charles Strickland, Major Mason, and Wm. Lee, Esq., assisted by Mr. Miller, of Coombe Abbey; Mr. Bardney, of Norris Green; Mr. Marriott, of Glasgow; Mr. Barron, of Swansea; Mr. Shirley Hibberd, of Kew; Mr. Woolford, of Downside, Leatherhead.

Plant Houses, &c.

Messrs. Foster and Pearson, of Beeston, Notts, show a great number of houses, amongst them a substantial movable house thirty feet by twelve, adapted to serve as a tenant's fixture, and requiring no prepared foundations. A span-roof house, forty-six feet by eighteen, has abundant ventilation, entirely under control, for any degree of air giving, and worked with ease by simple leverage. The pits and frames from those manufacturers may be called amateurs' miniature greenhouses, for they are adapted for many purposes, and the ventilation exemplifies the advantage of a suitable application of mechanical principles, for by the action of a catch the lights are held firmly wherever the operator would have them, without the use of wedges or props, and without any risk of breakage by wind.

Messrs. Richardson and Co., of Darlington, have a series of useful houses, one in particular, a roomy span, with ventilating side and roof lights working by a crank, the roof lights running parallel with the rafters, and admitting air from the plate to the ridge. There is not a scrap of superfluous material to augment the cost, and strength is well combined with lightness. Here, too, is the Darlington wall cover for peaches and other trees on walls that need shelter, and, being constructed of glass, with ample ventilation, it really serves the purpose of a peach house at a merely nominal cost considering its usefulness. The wood shading attached to some of the houses displays its serviceableness since we have had a taste of unadulterated sunshine. This shading is made in the fashion of a rolling blind, and is drawn up or lowered by means of a cord; the intervals between the laths admit the light, which, practically, is constantly moving, so that the shade is nowhere constant, and there is not the slightest risk of the plants being drawn by it. In the large house from this firm the side lights hang on pivots, so that they admit air above as well as below.

Messrs. Wrinch and Son, of Ipswich, have a substantial plant house, rather heavy in construction, and an extensive assortment of garden seats, some of which are both novel and useful. For example, there are cheap chairs made of metal with flexible seats that are thoroughly comfortable in use, afford no lodgment for rain, are strong and serviceable, and can be folded up and carried away with the greatest ease.

Messrs. Crispin and Sons, 58, Milk Street, Bristol, have a pretty span-roof house fitted with Hunt's Automatic Ventilator. This is, perhaps, a modification of an apparatus invented by the late Dr. Arnott, but he used quicksilver as the source of motion; in this apparatus atmospheric air is employed, and we may properly assume that this cheap material is a thousand times more sensitive, and is certainly more manageable than quicksilver. A large cylinder, which is concealed from view, holds a certain bulk of atmospheric air. When, by the action of increasing warmth, this air expands, a portion escapes into a holder that is connected with an elastic diaphragm which expands and contracts in the most decisive manner, and regulates the ventilation by simply pulling or pushing as the case may be. Although complicated in detail, it is simple in principle, for it only amounts to this, that a body of air by its movements as acted on by heat works the ventilators as the changes may require, and the range of its action can be determined by the cultivator to suit the plants that occupy the house. From the same a heated propagating case, likely to be very serviceable to amateurs.

Mr. J. Goddard, of 13, Radipole Road, Fulham, shows a small plant house, the roof of which can be removed to serve as a frame light if required, and a roof may be improvised of any other material than glass, and is held in its place by metal clips.

Messrs. A. Peel and Sons, Wood Green, London, show a capital amateur's plant house, called the "Paxton"; it is span roofed, 12 feet by 8 feet, with sufficient head room, and combining simplicity with strength with a view to cheapness.

Messrs. Halliday and Co., of Middleton, Manchester, put up a handsome span house in wood and iron and a vinery of iron only, suitable to convert a wall into a grape house with the least imaginable trouble and expense. The ornamental conservatory is a beautifully finished structure with coloured tiles and minor decorations.

Messrs. Messenger and Co., of Loughborough, have plant house and vinery, both of the substantial sort, machine made, and combining all necessary features in respect of ventilation, &c.

Mr. S. Deards, of Harlow, illustrates his system of dry glazing, which appears to be steadily advancing in public favour, not only for plant houses but for glass roofs of every kind, as it can be adapted to exclude the weather complete, and yet admit a beneficial interchange of air from within to without; in other words, it is water-tight, but not air-tight, and proof, as regards jarring, against the strongest wind.

Mr. J. Webster, of Prince Alfred Road, Wavertree, has a lot of useful frames and pit lights, one of the good points being that they hang on pivots, so as to be easily removed, and by an ingenious catch the tilting bars hold the lights so firmly that a gale of wind makes no impression.

Garden Pottery, &c.

Mr. John Matthews, of Royal Pottery, Weston-super-Mare, has an extensive and attractive display of pots, vases, statuary, wall baskets, and edging tiles of the most excellent construction, the ornamental goods being in red terra cotta, finely finished and effectually fixed, calculated to be proof against weather and all ordinary accidents. The large pots are grand examples, and a few of them are so large that we suppose them to be examples of the possibilities of the Royal Potteries, because when a certain size is passed most cultivators prefer tubs to pots.

Mr. F. S. Trueman, of Edgely Station, Stockport, has a beautiful exhibition of Welsh and Derbyshire spar and of crushed spar for plant stages, and various materials for artistic work in coloured gravels. A considerable portion of the display consists of grand museum specimens of crystals, many of them exquisitely coloured, but the useful subjects are many, and of special importance in the finishing touches that high-class gardens require. The pots in this collection are of a hard vitreous ware, the colour excellent, the designs few but good.

Mr. James Crute, of 14, Knightrider Street, London, presents a series of interesting novelties. Amongst them are Crute's patent pot for first-class plant growing. The bottoms of these pots are concave, as in wine bottles, to prevent entrance of worms, and over the perforations is placed a loose convex cap. The drainage is thus rendered perfect, and a certain amount of air has access to the roots. Another feature of Mr. Crute's collection is the colouring of the ornamental boxes and vases, many of which are modelled to represent rustic woodwork, and the colouring is curious for its naturalness. Amongst the ornamental works are some exceedingly beautiful vases of antique form, that are finished in a style that may be described as unique.

Wirework, Temples, &c.

Messrs. W. H. Peake and Co., 25, Seel Street, Liverpool, have some capital arches for fruit trees, admirably adapted for cordon pears, plums, or apples, or for roses and climbing plants generally. With these are useful garden gates, substantial and cheap fencing, and other manufactures of the kind, noticeable chiefly for usefulness and cheapness.

Messrs. Bramham, 104, Dale Street, Liverpool, have a very showy lot of arches, flower stands, and fences. In the centre of the group is a temple or rose pavilion with four porches, the whole forming a distinct and handsome structure with some architectural pretensions, and with exceedingly beautiful details. For a display of vegetation elaborate work is perhaps less suited than bold and simple lines combined with substantial wearing qualities. But if we regard Messrs. Bramham's work as wirework, we must say it is surprisingly good, and the beautiful rose temple, if lightly covered with suitable vegetation, would be a most effective decoration for a summer garden.

Messrs. Brookes and Co., 4, Cateaton Street, Manchester, show good wire work, cheap garden chains, excellent steel stakes for plants, running from one to seven feet, and being hollow (steel tubing) they are very light, and as regards breakage capable of bearing a severer strain than solid stakes of the same diameter. In this group are cheap pea trellises, a number of which in use are now under observation, and we can report that they answer perfectly, but should be made secure against wind, because when densely clothed they hold as much wind as a sail cloth, this being the result of the close holding of the peas.

Messrs. Joseph Davis and Co., 6, Kennington Park Road, London, present a serviceable lot of barometers, thermometers, and other instruments in every variety of make and shape. The clock-face mercurial barometers are always in favour, and the exhibitors have endeavoured to render them lasting and useful, so that if protected against the housemaid's broom and the rapping knuckles of robust cricketers there is just no reason in the world why they should ever be otherwise than perfect in action. The aneroids are adapted for a thousand purposes for which mercurial instruments are unfit, and here we see them expanded to the size of a church clock for use in large places, and squeezed down to the size of a watch for the pocket, and in this form very serviceable to tourists to keep them advised of coming weather, as also to record the height attained in every stage of mountaineering.

Garden Engines, &c.

Messrs. Glassey and Co., of 54, Victoria Street, Liverpool, have an excellent lot of tubs, engine harrows, syringes, and other kinds of waterworks. Messrs. Barford and Perkins, Peterborough, water ballast rollers, from two hundredweight to two tons; also water engines of several kinds. Messrs. Colman and Morton, Chelmsford, hand water-cart and garden engine holding 35 gallons, a very handy thing for garden use. Messrs. Crispin and Sons, 58, Milk Street, Bristol, have, amongst many good things, a syringe for watering plants on shelves high overhead, and one form of this instrument is adapted for attachment to a hose to expedite the work where the indoor overhead watering is a big job. Messrs. Wrinch and Sons, of Ipswich, have serviceable water barrows and well-made syringes.

Summer Houses.

Mr. H. Cæsar, of Knutsford, Cheshire, exhibits a series of rustic garden houses of admirable construction and beautiful finish. They are all in selected woods in natural colours, or at the utmost stained and varnished; there is no paint employed. The walls are decorated with designs in hazel rods, canes, bamboos, and other suitable materials, for what may be called wood mosaic, and these decorations are at once tasteful and effective. The windows are cleverly adapted to afford views, and give perfect ventilation, and an additional preventive of undue heat is the roof of heather thatch. On the exterior they are adorned with selected gnarls, knots, portions of knees and burrs, and this work is as well done as that in the interior.

Mr. Inman, Salford, Manchester, also exhibits well-made summer houses, with rustic garden seats and other useful things of the kind.

Awards in the Department of Implements and Ornaments.

Horse Mowing Machines.—Only one was tried. This was a 35-inch Excelsior machine from Messrs. Chadborn and Coldwell, 223, Upper Thames Street, London. The gear is powerful, and the machine is adjustable to high grass and also for travelling by the addition of wheels on pivots, which lift it to any point up to a foot or so above the surface. It made good work on both rough and close grass, and was awarded the Silver medal.

Hand Mowers of three several makes were tried. The model Excelsior of Messrs. Chadborn and Coldwell proved a light serviceable machine, workable at 16 inches by one man, and doing excellent work. The Silver medal was awarded. Messrs. Barford and Perkins, of Peterborough, had Silver medal for their Godiva mower, of which the 16-inch size proved heavier than the Excelsior, but made perfect work. Messrs. Lloyd and Laurence, of 34, Worship Street, London, put their Pennsylvania mowers in the trial, and they made even and neat work, in this respect leaving nothing to be desired.

Cutlery.—An excellent show of tools and peculiar contrivances from the Standard Manufacturing Company, Strand Arcade, Derby, included efficient tree pruners, fruit gatherers, &c., for which a Bronze medal was awarded.

Pottery.—Mr. John Matthews, of Weston-super-Mare, obtained the Silver medal for his extensive and attractive exhibition of garden pottery. To Mr. James Crute, of 14, Knightrider Street, Silver medal for concave bottom pots and beautiful urns, vases, flower boxes, &c., in hard material, of a peculiar and very pleasing dun brown colour.

Garden Tools.—Messrs. W. Glassey and Co., 54, Victoria Street, Liverpool, obtained Bronze medal for a good assortment of useful tools. Mr. F. T. Drummond, Coton Hall, Bridgenorth, had a patent turf-lifting machine, which was commended. Messrs. Leedham and Heaton, Armley Road, Leeds, put up a capital lot of spades, forks, shovels, and training tools, for which the Bronze medal was awarded Dr. H. Swete sent a serviceable barrow and soil box, likely to be often useful in potting plants out of doors during summer. This was commended.

Wire Work.—The beautiful temple and miscellaneous contributions of Mr. J. Bramham were distinguished by the award of the Silver medal. To Messrs. Peake, of 25, Seel Street, Liverpool, Bronze medal. To Messrs. Brookes, 4, Cateaton Street, Manchester, for steel plant stakes, &c., Bronze medal.

Garden Seats and Houses.—The serviceable garden seats of Messrs. Wrinch, of Ipswich, were distinguished by the award of the Bronze medal. The fine group of rustic summer houses from Mr. H. Cæsar, of Knutsford, obtained for him the Silver medal.

Meteorological Instruments.—Messrs. Joseph Davis and Co., 6, Kennington Park Road, Silver medal, for an extensive and useful display. Amongst the more interesting subjects were new maximum and minimum thermometers of the most simple construction, but perfect efficiency.

Garden Engines were shown by many, but no awards were made. Messrs. Barford and Perkins obtained the Bronze medal for their excellent water-loaded rollers, all except the largest size being cast in one piece, and the sizes running up to thirty-six cwt. One of these has lately been made for a special purpose, the weight being eleven tons. Messrs. Crispin, 58, Milk Street, Bristol, had a patent syringe for watering plants on shelves above reach. Commended.

Decorations.—A beautiful series of examples of decorative flooring, including a superb slab of mosaic; also examples of decorative glazing from Messrs. Halliday, Middleton Works, Manchester. Bronze medal.

Tenting.—Mr. J. Unite, of 291, Edgware Road, had an extensive display of garden tents, nets for fruit walls, also shading blinds, &c.; Silver medal. Messrs. Richardson's wood roller blinds were Commended.

Miscellaneous.—Mr. Pinches, 27, Oxenden Street, London, an excellent series of garden labels, with raised letters in uncorrodible metal. Commended. Mr. Harkin, 22, Dutton Street, Liverpool, useful teak tubs and teak orchid baskets. Commended. Mr. E. Sydney, 33, Janet Street, Edge Hill, Liverpool, parcel post boxes. Commended. Horticultural Company, Tonbridge, Kent, a new insecticide, consisting chiefly of paraffin in emulsion, free from acids and alkalies, and mixing freely with water. Commended. Messrs. Richardson, of Darlington, cheap and substantially-constructed wall-tree cover of wood and glass. Commended. Mr. F. S. Trueman, Edgeley Station, Stockport, useful earths for cements and walks, also spar dressings for asphalte walks and superb specimens of quartz crystal. Bronze medal. Mr. Bloxham, gardener to Sir Philip Duncombe, Bart., Bletchley, a fumigator, with long delivery tube to ensure coolness, the burner being fitted with bellows to promote combustion. Commended. Messrs. Bennett, Sir Thomas'

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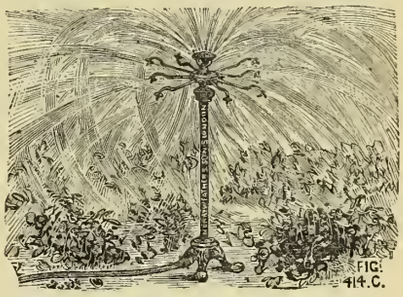

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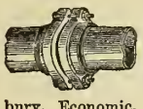

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Henry Robinson, Stewkins Iron Works, Andnam, Stourbridge.—Wire address, "Stewkins," Brettel Lane,

Buildings, Liverpool, an excellent collection of wire work. Bronze medal. Messrs. Blake and Mackenzie, School Lane, Liverpool, postal boxes and horticultural printing. Commended.

Heating Small Conservatories.—In this useful class Messrs. Halliday, of Middleton, Manchester, were awarded Silver medal for boiler and apparatus, adapted in one case to heat a conservatory ten feet long and in the other twenty feet long. Messrs. Messenger, of Loughborough, had a capital amateur's conservatory, with heating apparatus, for which a Bronze medal was awarded. Mr. Deards, of Harlow, presented his "Princess Louise" boiler, for which the Certificate of merit was awarded. Mr. Watson, St. Albans, presented a suspension gas boiler, for which he obtained Certificate of merit.

Hot-water Piping, &c.—Messrs. Foster and Pearson, Beeston, Notts, had a large assortment of pipes, junctions, valves, and other apparatus, for which they were awarded the Silver medal. Messrs. Messenger had Bronze medal for useful piping, valves, &c.

Plant Houses were shown in perplexing profusion, and with considerable variety of construction, genuine usefulness everywhere predominating over any merely fanciful notions. Messrs. Foster and Pearson were great in this department, and obtained the Silver medal. Messrs. Peel and Sons, Wood Green, London, were awarded Bronze medal for their capital "Paxton" greenhouse. Messrs. Low and Co., Chester Road, Manchester, Bronze medal for greenhouses, vineries, and portable plant house. Messrs. Stewart and Jack, Bronze medal for portable plant house.

Ornamental Conservatories were contributed by five competitors. Messrs. Richardson and Co., of Darlington, obtained the Silver medal for a pretty, well-built house forty-five feet by twenty-four feet. Messrs. Halliday had Silver medal for a very tasteful and quite roomy, though smallish, conservatory, with various decorations in colour, admirably associating with the plan and purpose of the house.

Movable Pits and Frames.—In this department Messrs. Foster and Pearson, to whom Silver medal was awarded, had a close competitor in Mr. John Webster, of Wavertree, to whom also the Silver medal was awarded. Messrs. Richardson obtained the Bronze medal. Mr. Crispin also had the like award for a heated propagating case; and again a Bronze medal for Hunt's automatic ventilator. Mr. Deards, of Harlow, had Silver medal for the dry "Victoria" glazing.

Floral Committee met on Wednesday in the great tent, and considered the claims of a number of interesting subjects, comprising new ferns, crotons, caladiums, florists' flowers, &c. Several certificates were awarded.

Orchid Conference proved thoroughly useful, for it tended towards the settlement of certain leading principles in nomenclature. Sir Trevor Lawrence, Bart., presided, and amongst the speakers were Mr. Ridley, Dr. Masters, Dr. Harvey, Mr. Shirley Hibberd, Mr. Goldring, Professor Michael Foster, and Mr. R. J. Lynch, of the Botanic Gardens, Cambridge.

"Gardeners' Chronicle" Prizes for essays on the functions of roots were distributed by Sir Trevor Lawrence at a special meeting on Wednesday. The first prize of £10 is taken by Mr. Bunyard, of the staff at Chiswick.

Replies to Queries.

Canterbury Bells.—Amateur.—Plants raised from seed sown now will attain a size sufficient to bloom fairly next year. You must not delay the sowing unnecessarily.

Cherry Trees.—T. S.—The roots of the two trees have evidently pushed down into a subsoil unfavourable to them, and we would suggest the lifting of the trees early in the autumn, as the best means of restoring the trees to a healthy condition.

W. Wilcox.—We cannot inform you of the progress of the colony at Juan Fernandez, but we call to mind a paragraph that appeared in the papers lately to the effect that affairs were going well there. It is a mistake to describe this place as the scene of Defoe's great story. The exact state of the case is explained in the paper entitled, "The True Story of Robinson Crusoe," in the "Golden Gate and Silver Steps."

Obituary.

Recently, at Stanstead Park, Forest Hill, S.E., Mr. James Laing, late of Tarbat, Ross-shire, brother of Mr. John Laing, in his 65th year.

SPURIOUS TEA.—The teas sold by Chinese merchants to foreign countries during the last four or five years have been so generally complained of on account of the adulterating material added to them, that the Inspector General of Maritime Customs, who is an Englishman, has warned the authorities that the tea business of China is likely to be entirely ruined. Good Tea is prepared from young leaves of the early spring growth, which alone yield the strong, rich, and delicious infusion for which Horniman's Pure Tea has for 50 years been so famous. See Local Agents, Chemists, Confectioners, &c., advertised in all papers, and at Railway Stations.—[Advt.]

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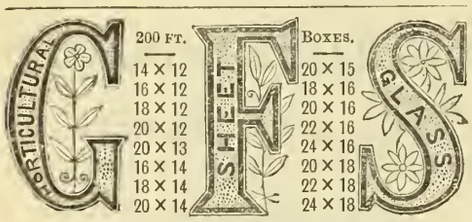

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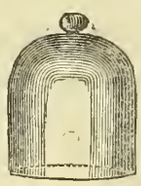

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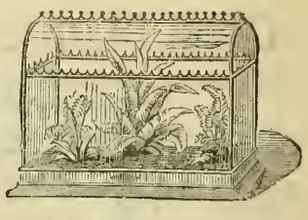

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1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
11	S	**3rd Sunday after Trinity.**	3 58	5 13	8 13	3 48	0 48	9 42	10 17	6 33	7 7	63·3	Anguloa Clowesi macrantha	Columbia.	192
12	M	J. Alex. Kinglake died, 1870.	3 59	5 20	8 12	4 52	1 22	10 50	11 25	7 42	8 15	63·3	Bolbophyllum Henshalli	Java.	193
13	Tu	John Cooper (actor) died, 1879.	4 0	5 28	8 11	5 50	2 0	11 57	—	8 50	9 22	63·3	Warrea tricolor	Brazil.	194
14	W	○ Full Moon, 6h. 24m. after. Bastille des-	4 1	5 34	8 10	6 44	2 44	0 25	0 52	9 50	10 17	63·3	Vanda tricolor	Java.	195
15	Th	St. Swithin. [troyed, 1789.	4 2	5 41	8 9	7 29	3 33	1 16	1 38	10 41	11 3	63·4	Stanhopea aurea	Guatema.	196
16	F	Sir Joshua Reynolds born, 1723.	4 3	5 46	8 8	8 9	4 29	1 59	2 18	11 24	11 43	63·4	,, Devoniensis	Mexico.	197
17	S	Dr. Watts born, 1674.	4 4	5 52	8 7	8 42	5 26	2 37	2 56	—	0 2	63·4	Cattleya amabilis	Brazil.	198

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.
NOTICE.—COMMITTEE MEETINGS: Fruit and Floral, at Eleven a.m., in the Conservatory; Scientific, at One p.m., in the Lindley Library; on TUESDAY next, JULY 13.
SHOW OF FLOWERS AND FRUIT.
N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

HUDDERSFIELD CHRYSANTHEMUM SOCIETY.—The THIRD EXHIBITION will be held in the TOWN HALL, HUDDERSFIELD, on FRIDAY and SATURDAY, NOVEMBER 12 and 13, 1886. Schedules and Entry Forms are now ready, and may be had on application to Mr. JOHN BELL, Hon. Sec., Marsh, Huddersfield.

NORTHAMPTONSHIRE HORTICULTURAL SOCIETY'S GREAT SUMMER SHOW, DELANE PARK, NORTHAMPTON, AUGUST 2 and 3 (Bank Holiday and following day). £250 in prizes. For best 16 Plants, £18, £10, £5; Central Group for Conservatory Decoration, £9, £6, £2 10s.; 24 Roses, £3, £2, £1, &c., &c. Entries close July 24. Schedules and full particulars from A. FORBES, Secretary. Northampton.

ROSE SHOW at MANCHESTER, JULY 17.
For Schedules apply to the undersigned,
Royal Botanic Gardens, Manchester. BRUCE FINDLAY.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, JULY 13.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.; Exhibition of Flowers and Fruit.
TUESDAY, JULY 13.—MORETON-IN-THE-MARSH ROSE SOCIETY.—Annual Exhibition.
WEDNESDAY, JULY 14.—BEDFORDSHIRE HORTICULTURAL SOCIETY.—Annual Exhibition.
WEDNESDAY, JULY 14, TO FRIDAY, JULY 16.—HULL HORTICULTURAL SOCIETY.—Annual Exhibition.
THURSDAY, JULY 15.—NATIONAL ROSE SOCIETY.—Northern Exhibition at Birmingham.
FRIDAY, JULY 16.—WEST OF SCOTLAND ROSARIANS' SOCIETY.—Annual Exhibition.
SATURDAY, JULY 17.—NEW BRIGHTON ROSE SOCIETY.—Annual Exhibition.
SATURDAY, JULY 17.—MANCHESTER ROYAL BOTANICAL AND HORTICULTURAL SOCIETY.—Rose Show.

Auction Sales for the Ensuing Week.

TUESDAY, JULY 13.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
THURSDAY, JULY 15.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.
FRIDAY, JULY 16.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

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ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line af

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The Gardeners' Magazine.

SATURDAY, JULY 10, 1886.

THE ORCHID CONFERENCE AT LIVERPOOL may be said to have advanced the cause of common sense and convenience in some degree, but the advance, such as it is, cannot be said to be characterized by any striking feature. Mr. Ridley, who presented the opening paper, followed in the beaten track of complaint that garden varieties such as botanists regard as "forms" are solemnly named in the same way as species, and thus bring into the working nomenclature a vast mass of deceptive, and in any case troublesome, material. Quoting from a sale catalogue he instanced certain well-known Cattleyas and Cœlogynes as bearing names that do not describe them, and therefore have not the warrant of usefulness, while these same names lead the mind away from the proper facts by conferring on varieties and forms the dignity of species. As regards the scientific definition of genera and species, there will be real and imaginary difficulties to the end of time, and no orchid conference can make an end of them. But a conference may, and indeed must, put the system of the nomenclature on a sound footing, and one of the first things that should be done is to deal with the genuine hybrids, the more distinctive varieties, and the "forms" that are now so often named upon a bad system or upon no system. Mr. Ridley did well to grapple with this part of the subject, for it may be regarded as a beginning at the lowest rungs of the ladder. He said that orchids, regarded as cultural forms, or the parallels of such, should be named as tulips, auriculas, and roses are, and always in the vernacular. But Mr. Ridley makes an exception in favour of such as may be regarded as permanent and quite distinct varieties, considering these worthy of scientific recognition, and therefore of names of classic origin. Some questions raised by Mr. Ridley, such as the relationships of Cattleya labiata and the distinctiveness of certain forms of Cœlogyne cristata, are somewhat intrusive, because when sharp points and leading principles have to be settled there is little hope of gain and much prospect of loss by entertaining considerations of a merely subsidiary character. Mr. Goldring, in the few interesting remarks he offered, made the same mistake of neglecting the primary proposition to discuss matters of mere detail and of quite secondary importance. It cannot much matter, in a discussion on nomenclature, whether cultivation alters the form of a pseudobulb, or whether Cattleya labiata is the specific basis of the group comprising C. Mossiæ, C. Trianæ, and others. Between the system of naming and the actual definition of a species there is a great gulf fixed, and in grappling with these secondary questions Mr. Ridley and Mr. Goldring fell into it together, and might have remained there save for the action of speakers who recalled them to the questions that were really at issue.

Dr. Masters led the way in the business view of the subject by insisting that orchids should be named as other plants are, and that consequently there is no new system required, but an adherence simply to the system that is understood and accepted by all scientific nomenclators. But he was not so wise as he was knowing, for he scolded the cultivators for not minding their own business, meaning thereby that people who are not skilled in the adoption or construction of Latin names would do well not to make experiments in classical nomenclature. The scolding was superfluous, because the persons who unwittingly burn their fingers in handling Greek and Latin adjectives are without a rule to guide them; and when a grower finds something new amongst his orchids he feels bound to give it a name, and so is thrust back on his own (perhaps insufficient) invention. The conference was held for the purpose of establishing a rule for the guidance of the unlearned, and perhaps also to warn the botanists that respectable behaviour is expected of them, for they sin often and wilfully by acting in direct opposition to the rules they profess to follow. But Dr. Masters made amends for his scolding by throwing the light of common sense on the subject by suggesting that the R.H.S. committees should reject all scientific and pseudo-scientific names not warranted by a competent authority, and that a register should be kept of all names with a view to their periodical revision, when their final acceptance or rejection might be accomplished in accordance with the facts established.

Mr. Enoch Harvey proposed that the R.H.S. should form a catalogue and herbarium of species and varieties of orchids. With dried specimens, drawings, and descriptions at command, the identification of any plant that has passed through the hands of a committee or had been otherwise formally examined would be an easy matter, and many of the difficulties now experienced would be removed. Mr. Shirley Hibberd objected to the proposal, on the ground that the cost would be beyond the mans of the society, and the business of the committees was generally of a too pressing nature to allow of reference to what must in the end prove to be a collection of great extent or a thing of no value whatever. A much better course, Mr. Hibberd said, was open to the scientific nomenclator, which was simply to repudiate the garden forms, for as dried specimens they would in most cases be worthless, because of the exceeding triviality of their characters. The possessor of an orchid differing in degree from the recognized type was justified in giving it a name and in selling it at an advanced rate because of its distinctness, but the commercial object being attained there was an end of the matter. The claims of science were no more affected by the naming for trade

purposes of an orchid than by the naming of a rose, a tulip, or an auricula. If the botanical names of orchids are to be subject to accepted rules, the garden names should also be subject to accepted rules; there were no new rules wanted, but there was wanted a reasonable adherence to the accepted rules. The tendency of orchidists was to repudiate all rules, and this was the cause of the confusion of the nomenclature.

Professor Michael Foster supported Mr. Harvey's proposal, and scolded Mr. Hibberd for having rejected the museum and the scientific recognition of garden forms. He would have them all recorded by names and numbers, accompanied as far as possible by dried specimens, and as we understood him he would treat the forms as of scarcely less importance than the species. We are bound to say in plain English that we were astonished at the repudiation of logic by Professor Foster. He appears to desire no reform, but merely an extension of the confusion that prevails. Mr. Hibberd's proposal would relieve the scientific catalogues, would ensure freedom to cultivators in naming their accidental varieties, and would simplify the nomenclature by placing it on the basis of reason. It is impossible perhaps to refuse recognition of such a distinct thing as the white Lycaste Skinneri, and the botanists may be invited to name and describe it; but the Cœlogyne cristata maxima referred to by Mr. Ridley would make a mockery of the museum and the catalogue, but would harm nobody and discredit no scientific system if named Daniel Lambert, and in this way left to find its place in the world. But Mr. Foster made amends by proposing that the names of hybrids should end in a consonant, for such a rule enlarges the capability of a name to convey useful information. Mr. Lynch also believes in the museum, and desires the R.H.S. to appoint a botanist to act as curator of the collection and general adviser. Should the museum ever come into being—which, without any fear of consequences, we will at once say we think very doubtful—a curator must also come into existence to take care of it. In that case we should expect and hope to see him act as secretary to the Botanical Committee we have several times proposed for the special consideration of nomenclature as applied in the garden.

Mr. Thomas Townend has been appointed head gardener to the Hon. Lady Alice Ewing, Coed-Derwen, Bettws-y-Coed.

Peas on Trial at Chiswick look well, and are in good condition now for critical inspection.

A New Potato Plague is reported from America. It is a beetle that eats the under side of the young leaves, causing serious debilitation of the plant.

Twin Fuchsias are by no means common, although the fuchsia has acquired a wonderful faculty of variation. From Mr. James Martin, gardener to C. N. Kidd, Esq., Dartford, we have received an example of two perfect flowers of the variety known as Mrs. Marshall, united at the base of the berries, and showing, as might be expected, traces of fasciation in the peduncle that carries them.

Newspaper Reports of horticultural exhibitions are often amusing by reason of the misapprehensions and downright blunders of the reporters. In the reports of R.H.S. exhibition at Liverpool there are many striking examples of this, but one of the number appears to us unique. The information is generously offered us that Messrs. Backhouse brought forward "the *Hymen* and the *Phyllum*." We accept the declaration with thanks, because we know it to be true.

Roses have given Satisfaction at Crystal Palace, South Kensington, and at the provincial shows, but if present weather continues the rose season will be abbreviated. Visitors from Melbourne at South Kensington on Tuesday reported that in form and colour the Melbourne roses are the equal of ours, but do not equal them in point of size. Our reports will show that a number of old favourites keep their places in the winning stands, and we must regard the present as a good test season of the merits of varieties.

Liverpool Exhibition of R.H.S. proves, as was generally expected, to be weak in the financial department. The business was commenced in good time for 1887, and the show took place just twelve months earlier than anybody was ready for it. There was no stint of effort on the part of all who were responsible for work, but proximity to the fisheries and the overshadowing of a tremendous political conflict combined to crush the money out of the concern. There is much for all concerned to be proud of and to remember with satisfaction, but no moral or scientific triumph can completely dispel the sense of gloom that accompanies, in such an affair, the failing to make all ends meet.

Royal Botanic Society.—The evening fête of June 30 was repeated on Wednesday last, July 7, with success equal to the first occasion. The conservatory was adorned with an inscription in brilliant lines of light, "Welcome India and the Colonies," and a considerable proportion of the visitors were representatives of "greater Britain." The competition in floral decorations was at once interesting and instructive, and the Duke and Duchess of Teck, with the Princess Victoria, made a careful inspection of them. The principal prize-winners were: Messrs. Lane, of St. Mary Cray; Mrs. Spurling, Southampton Row; Messrs. Dick Radclyffe, High Holborn; Messrs. E. G. Henderson and Son, Maida Vale; Messrs. Hooper, of Covent Garden; Messrs. Osler, J. E. Anderson, and Mrs. Gray.

Colonial Parcel Post was inaugurated on Tuesday by the despatch of parcels to the colonies of New South Wales, South Australia, and Victoria. In the month of August the Dominion of Canada will enter into the parcel post arrangement, and in September Newfoundland will come in.

Premier Roses at the National Rose Society's Show at South Kensington were, in the nurserymen's division, Boieldieu and Souvenir d'Elise, the former a hybrid perpetual and the other a tea variety. These secured the silver medals, and were exhibited by Mr. B. R. Cant, of Colchester.

The Ancient British Ship recently unearthed at Brigg has been the subject of an important legal inquiry that touches the whole question of rights to findings in the soil. Mr. Justice Chitty has decided (Chancery Division, July 6) that the ship is a chattel, and is not the property of the finders who were excavating for the Brigg Gas Company, but of the landlord, who has the same claim to it as though it were coal or any other mineral. This ship is cut from a solid block of oak, the like of which no tree now to be found in England could supply. It is 48 feet long, 4 feet 4 inches wide, and 2 feet 9 inches deep. Its age is estimated at 2,000 years.

The Weather has been illustrating the law of averages in a splendid manner. There was a terrible arrear of sun heat in the records of the year up to the end of June, and since then we have had a very liberal supply, a thorough tropical dry season, very much to the damage of the peas, and scarcely advantageous to the small potatoes. Anyone might have predicted the burst of bright weather, because it was so evidently due to us to establish the averages. But nobody did predict it, and we lament that our own overpaid, though not overappreciated, weather prophet missed the golden opportunity. However, now that he knows, he can with safety prophesy that July came in with a fairly good imitation of summer. If he were now awake to his duties he would probably promise us a little change in the way of a few storms of hail, rain, wind, lightning, and perhaps, between whiles, fiercer heat than we have had already. It is quite startling to learn from the weather office report that on Sunday last the maximum temperature in London (shade) was 86, because in many places the feelings registered a temperature of 860. There must be some advantage in taking the measure of heat with a thing that, so far as we know, is absolutely destitute of feeling, and registers zero or 86 deg. with equality of delight and evenness of indifference.

Gardeners' Chronicle Prizes give evidence of a healthy state of things in the rising generation of gardeners. Our contemporary remarks on the essays sent in on the somewhat occult subject of the functions of roots—"There are very few that can be considered bad; almost all have attained what we may call a fair average, and a few were certainly considerably above what could fairly have been expected." As a matter of course, a few of the essayists knocked their heads against spongioles, but that is pardonable, for it must be evident to all right-minded persons that Nature was indebted to our Brunel for the invention, the shield used in boring the Thames Tunnel having supplied the motherly old soul with the idea. But to leave the idea and return to the dull region of facts, we have pleasure in recording that the order of the prizes awarded in this interesting competition is as follows: 1st, Mr. P. Sewell, Royal Botanic Gardens, Edinburgh; 2nd, Mr. Harry A. Bunyard, Royal Horticultural Gardens, Chiswick; 3rd, Mr. John Duncan, Royal Botanic Gardens, Edinburgh. We shall mildly remind our excellent and now very radical contemporary that the number of competitors is not announced. It is of course none of our business, save and except that when somebody tells a story we demand the true story, the whole story, and nothing extenuate in or about the story, and we shall expect the G.C. to rise to the occasion as the story teller that omits nothing, not even the size of the grain of dust that troubled the left eye of Prince Silverwings when he saw the fairy queen at a disadvantage.

Notes of Observation.

LETTUCES FOR THE AUTUMN.

The cabbage lettuces are very useful for sowing now, to provide a supply of salading for the autumn, as they do not take up much space. I make one sowing early in July and another a fortnight later. These two crops occupy a north border where the soil is both fine and rich. When they are grown at this time of year on this cool border they do not run to seed so soon as when grown in the full sun. I make two more sowings in August, one at the beginning, the other in the middle of the month. These later sowings are made on a south border. It depends upon the weather during the autumn if the last lot will be early enough for use, but if not there is not much time or space wasted. I sow a space each time about six feet long and four feet wide. The seed is sown broadcast, and when it comes up too thick the plants are pulled when large enough to handle, so that they stand six inches apart each way. There is a lot of so-called different sorts, but I find none to beat Tennis Ball or Commodore Nutt, both of which produce compact little heads that are much appreciated for filling the salad bowl.

J. M.

FUCHSIA LORD BEACONSFIELD.

This is a highly-attractive variety when the plants attain a good size. We have several plants in bloom now, in nine-inch pots, and the flowers are so long and the colour so bright that they are very attractive. The best way to deal with this sort is to cut it down to within six inches of the pot every year, and then it flowers grandly on the young wood.

J. M.

THE WATER POT, ITS USE AND MIS-USE.

By Thomas Baines.

Nothing is more common with young gardeners than to imagine that when they have learnt the different sorts of soil required for the various plants usually met with in cultivation, with an insight into potting and training, and the particular temperature that each kind wants, and the necessity for giving it shade or otherwise in bright weather, little more is needed. It will be generally conceded that the matters named are of much consequence individually and collectively; but there is yet another operation that has more to do with the health and life of all plants subjected to pot culture than any of the matters mentioned—watering. A plant may be potted in soil that is not of a nature such as best suited to its requirements; it may be loosely potted when it should have had the soil rammed firm in the pot so as to make it close and solid; the potting may have been delayed for weeks, or months, or even years, after it should have been performed. A plant may be grown in a house that does not afford it as much light as necessary to give it that healthy vigour from top to bottom that is desirable; it may at some time be kept colder than is good for it, or warmer than is needful; it may suffer in any or all of the ways named, and still struggle on, presenting a better appearance than the indifferent treatment it receives would lead one to think was possible. There are a limited number of plants that are so proverbial for their submission to inattention that it might be supposed nature had so constituted them, with the intention of showing how much bad usage they could stand. Yet, with the exception of such as these, however well their wants are supplied in other ways, if there is a mistake in the use of the water-pot all the rest of the attention is of little avail; too little, or too much, ends in the death of the plants, or in a condition to which death would be preferable. It is only necessary to consider the varied conditions that the immense numbers of plants now in cultivation exist under in their native habitats in the matter of root moisture, to be able to realize the importance of a right use of the water-pot; as whatever the natural requirements of a plant may be in this respect, they will always remain with it unchanged by cultivation. Not only is each genus of plants usually found to differ from others in the water required, but it generally happens that some or other of the species which a single genus contains are as widely different in the amount of water they need as if they were in no way related. Further than this, it is invariably found that seedling varieties raised by crossing allied species in the way that has given us the limitless quantities of plants now in cultivation differ much in the amount of water requisite to supply their wants. Take, for instance, the different varieties of ericas, it would be difficult to point to any plants that require to be so differently dealt with in respect to water as they do; the free, strong-growing Cavendishi will literally starve to death if the soil in which its roots are placed is kept anything nearly so dry as such varieties as Eximia or Æmula require it to be to preserve them in health. This one example is enough to remind us of the vast difference that exists in the water requirements of plants so nearly related that they are only varieties which have sprung from crossing the species belonging to a single genus. If needful, one might point to a like difference in the wants of the plants belonging to every genus in cultivation that has many representatives.

It is not possible to convey in writing more than a general idea upon watering. To master the subject in a way that will enable anyone to be a successful cultivator there is no course but one, that is, to study the nature of the plants they have to deal with. I would say to every young gardener, do not be satisfied with simply becoming acquainted with the ordinary details of cultivation, but strive to acquire a knowledge of the nature and requirements of plant life generally. Without this, gardening, from a collective point of view, is no better than a game of chance, in which the player will oftener lose than win. Practice leads to proficiency, and when based on a knowledge of the nature of the plants to be grown success may be relied upon with a certainty unknown in the rule-of-thumb procedure. There is no lack of means by which the requisite knowledge of vegetable life may be obtained by those who care to acquire it. Returning more directly to the question under notice, there is one thing connected with the operation of watering plants that have their roots confined in pots or similar appliances that admits of general application, equally to those that take little as to such as require much, which is, that when water is given enough must be applied to moisten the whole of the soil. This has been urged before, but it cannot be too often repeated for the guidance of those who have had little experience in plant growing, as I find that when certain plants are described as not requiring much water, the construction frequently put upon the advice is that much should not be given at a time, whereas nothing in its way is more likely to lead to the destruction of plants so treated. If water is given in driblets the top of the ball is moistened, whilst the lower part, where most of the active roots are located, is liable to get so dry that the water will not enter it, a condition, needless to say, that precludes the possibility of the plant making healthy progress, even if it lives for a time. When water is applied enough must be given to moisten the whole of the earth within the pot.

The matter of first importance in watering is to know what degree of dryness the soil should be in before water is given—in summer, whilst active growth is going on, as in winter, when the plant is at rest, and consequently wants less, for the double reason that there is no young growth to sustain, and little is given off by evaporation through the leaves. It is scarcely necessary to say that during the former period it will not do to let the soil get so dry before water is applied as is necessary in winter, otherwise, with the young growth to support, and to make up for the moisture which the sun's rays and the dry air extract from the leaves, the roots would be unable to take up the quantity needful to prevent flagging, which, in the case of slow-growing, very hard-wooded plants usually means their destruction. Obviously, the knowledge in question can only be acquired by practice and close observation; but, as already said, an acquaintance with the conditions as to moisture under which the plants exist in their native countries, combined with a knowledge of plant life generally, is of marked assistance in pointing to the treatment required in this as in other matters connected with their cultivation. It may be taken as a rule that plants with fine roots, small hard leaves, and that are hard in the wood and make slow growth, take much less water, and require the soil to be much drier before water is given, than strong rooted, quick-growing plants that have large soft foliage, which collectively need a proportionate quantity of moisture for their support. In all such plants there is also almost invariably much greater tenacity of life, with an ability to bear at times more water than they require or like, and the opposite of suffering little through a deficiency that would be fatal to the slow-growing, hard-wooded section. The stronger vital powers which free-rooting, vigorous growing plants possess, as compared with those of the opposite character, are shown by the former recovering with little ill effects, after their leaves and young shoots have drooped for want of water. Whereas, if this occurs to a fine-rooted, hard-wooded plant, as already said, the chances are that it will die. This fact, so well known to experienced plant growers, points to the necessity for extra watchfulness with fine-rooted plants in the matter of water. The delicate-rooted things that require care and judgment in watering comprise numbers of the most beautiful species and varieties in cultivation, including the ericas and the best of the greenhouse hard-wooded section. The reason that many growers fail with these is, that they do not see the necessity for the difference in treatment required between these and stronger growing kinds, the result of which is that an all-alike course of treatment is followed, which, needless to say, is certain to fail. Watering plants in the estimation of some would seem to be looked upon as such a simple matter, that they scarcely see the difference between a hardy plant with its roots out in the open soil and a tender plant growing in a pot. Hence it is that inconsiderate or inexperienced hands are set to the work, who act on the principle that if all get plenty, whether they require any or none, it must be right. Where such a course as this is followed, all that are not able to live under indifferent treatment succumb, and even the commonest things have an unhappy appearance.

There is one thing connected with watering that young hands at plant growing will do well to bear in mind. Whenever a delicate-rooted plant, on a bright sunny day, is found to require water immediately, it should be shaded for some hours, as if water is given whilst it is exposed to the sun death often follows, sometimes in a few days, but oftener in a few weeks, when the cause of the mischief is lost sight of. In watering plants of all kinds, strong growers or those that are the reverse, they never should be left until the water is seen to come through the bottoms of the pots; if none appears after sufficient time to allow of its passing through the soil more must be given. If this is not attended to, especially with plants that require hard potting, in the case of which the water necessarily takes longer to find its way down, the dry condition of the lower part of the ball already spoken of is likely to occur. Mischief in this way frequently arises through the mistake in potting of filling the pots too full, the result being that there is not sufficient space to hold as much water as requisite to moisten the whole of the soil, occasioning the necessity for a second filling up, which press of time often causes being left undone. Although there is a vast difference in the amount of water required by plants that are different in their nature, and equally as much difference in the extent to which they suffer by having either too much or too little, strong growers being able to survive extremes that would be death to the delicate growers, still it must not be supposed from the fact of the former being able to bear that which would be fatal to the latter that strong growing plants can ever be seen in their best form when subjected to careless or mistaken treatment in watering. With them, as with the less vigorous, success can only be attained by their wants being rightly understood and attended to. Much more might be urged on the subject, but I think enough has been said to show those who aim at proficiency in plant growing that a right use of the water-pot is the key to success. I might add that the needful knowledge for this requires more thought and attention than any other matter connected with the cultivation of plants in pots.

The Trees on the Thames Embankment appear to give delight to the *City Press*, which speaks of them as "steadily increasing in size and beauty." We should be most glad were it possible to rejoice with our contemporary, but we see no special reason for satisfaction in the case presented. The plane trees on the Thames Embankment have been subjected to a vicious system of pruning, against which we have many times protested by the aid of facts and arguments and diagrams. The result of the vicious system is that the trees have a sharp pyramidal form like the wooden trees in the child's toy box, and their harshness of outline is aggravated by the thinness of their furniture. Any one of these trees might be stuck on the stage during a pantomime for harlequin and clown to leap through in chasing one another, for the gaps between the leading branches are such that not a leaf need be injured by the performance. There is not one tree on the Victoria Embankment that displays the natural freedom and delightfully unsymmetrical symmetry that we see in the plane when allowed to have its own way a little. Those planes are managed by a board that appears ambitious to prove that the abuse of nature is evidence of municipal sagacity.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

CINERARIAS coming up in seed-pans to be pricked out as soon as large enough to lift, and have separate thumb pots, with light, rich compost, and be put in a frame to grow on. By securing a vigorous growth from the first they will be less troubled with green fly, and make fine specimens. Those who have not sown seed yet must do so at once, or it will be too late.

FUCHSIAS must be syringed twice a day, and have moderate shade. Fine plants in comparatively small pots will be greatly benefited with weak liquid manure every three or four days. The stock must be propagated now in quantity for next year's supply. The smallest cuttings make the best plants, and there is no need to cut to a joint. A mild bottom heat will hasten the formation of roots, but it is not needful, as if shut up in a cold frame and kept shaded and regularly sprinkled they will be well rooted in a fortnight. It is a saving of time in the end to put all cuttings singly in pots at this time of year, as they can be allowed to fill the first pots with roots, so as to grow strong from their first start. In preparing pots for the cuttings, use smallest sixties or thumbs; put a mixture of turf and old dung over the crocks, and fill up with half sand and half leaf-mould, in which the cuttings will root as quickly as in sand alone at this season, and have something to live upon while filling the pots with roots. This is the best method for amateurs who are much away from home, as the single cuttings require less care when dibbled into sand only in shallow pans.

HARD WOODED PLANTS requiring a shift this season must have it at once, or the time will go by for them to derive full benefit from the operation. The most important matter of all is to secure good drainage, and to use the compost in as rough a state as possible consistent with the size and nature of the plant.

SHOW, FANCY, AND REGAL PELARGONIUMS, as they go out of bloom, to be cut down, and placed in a warm, sheltered, and rather shady place for a week; then to be put in the full sun, and kept rather dry at the root, with occasional sprinklings of the stems and leaves till they break, and then to be repotted back into small pots, with sound lumpy turf in which to make their new roots.

FORCING AND ORCHARD HOUSES.

PINES.—The bottom heat must be kept up, and there must be plenty of room between the plants for a free circulation of air. Maintain a moderate humidity among all advancing crops and young stock, and in giving air guard against drying winds and draughts by keeping one side close while the other is open. Where the fruit is swelling nicely sprinkle the surface of the paths and soil frequently; but where the fruit is changing colour discontinue the sprinkling, and give only just enough moisture to keep the plants in health. After cutting fruit earth up the stools and give a brisk bottom heat and plenty of moisture. Beds in which pines are plunged must be kept constantly moist, as the heat will not rise through any dry material.

VINES now require air night and day from the time the grapes are gathered, unless they are in poor condition and the wood very green. If so, shut up early, and in another eight or ten days the wood will be getting hard, and then there may be air on night and day. Grapes ripening not to be syringed, but to have a moderately moist atmosphere and plenty of air.

PEACHES AND NECTARINE TREES must be fully exposed to the atmosphere as soon as the fruit is gathered. Where the fruit is still hanging give plenty of air, and every morning a light skiff with the syringe over the leaves. Stop the strongest shoots a few at a time to swell the ripe buds. Wall trees are generally loaded with superfluous wood through the prevalence of a delusion in favour of plenty to choose from at the winter pruning. Choose now and remove all that will not be wanted, and what is left will ripen properly.

FIGS producing a second crop to be fed liberally and have a top-dressing of quite rotten dung. The top growth must be pinched back.

MELONS swelling fruit to have plenty of weak liquid manure; those ripening their fruit to be kept tolerably dry, but if kept too dry will get infested with red spider; so endeavour to keep them in good health on the smallest possible supplies, and give plenty of air. Those that have borne good crops may be cut back, and set to work again with the help of linings to the beds. Keep these rather close after pruning in, and frequently sprinkle the sides of the frames and the surface of the bed, and give only moderate waterings at the root. Never allow water to fall on the main stems. If the plants cut in appear rather poor, let them break moderately, and then remove a portion of the soil from one side of the roots, and replace with fresh turfy loam. When the roots have run into the new stuff, do the same on the other side, and they will swell a second crop admirably.

FLOWER GARDEN AND PLEASURE GROUNDS.

AGAPANTHUS to have abundance of water while throwing up flower-spikes, and until the bloom is over; then to be shaken out and parted, and the strongest crowns selected for next year's bloom. Pot these singly in small pots, removing with a sharp knife any of the straggling roots that cannot be got into the pots. The soil should be sandy loam, rotten manure, and peat, equal quantities. Shut them up, and re-shift as soon as the pots are full of roots. The small offsets and the fleshy roots may be used for increase of stock. Plant in shallow pans of sandy peat, and place in a gentle bottom heat for a fortnight; then separate them, and pot singly in sixties.

CHRYSANTHEMUMS in the open ground to be topped again, and the soil between them lightly pricked over with a small fork, and some quite rotten dung worked in. It will be found that they always root near the surface, and a dressing of dung will greatly help them, and save the labour of watering.

PHLOXES AND PENTSTEMONS may now be propagated in quantity, and the only satisfactory way is to take cuttings, and get them rooted with as little aid from heat as possible. They may be multiplied in autumn and spring. The usual practice is to propagate pentstemons in autumn and phloxes in spring, but these last may be done in autumn with the others, if young shoots can be got from the base. If the season is a dry one, however, very few can be obtained, but in spring phloxes throw up shoots from the root freely, and if these are taken off when a few inches long, and potted round the sides of pots, and placed in a gentle heat, they soon make roots, and must then be potted singly. Pentstemons generally produce plenty of nice shoots at the base in autumn, and if these are potted several together in a pot, and put in frames, they may remain till spring, and be planted out direct from the cutting pots to the places where they are to bloom.

KITCHEN GARDEN AND FRAME GROUND.

CELERY planted early to be earthed up as soon as the plants have attained a good size. If the ground is dry give a heavy soaking of water the day before intending to mould them, and be careful that the soil is nearly dry, or at most only moderately moist, when the moulding is to be done.

Sow cabbage, Green Curled endive, lettuce, Round spinach.

WINTER GREENS to be put out in plenty now, as peas, potatoes, and other crops are taken off. Coleworts, Brussels sprouts, and other quick-growing subjects that will mostly be used before Christmas, to be planted in manured ground; but those to stand till next spring, to furnish sprouts, not to be manured, as it renders them less able to withstand severe frosts. Continue to plant broccoli, Brussels sprouts, Scotch kale, and everything else of the kind from the seed beds.

VEGETABLES IN SEASON comprise Globe artichokes, Broad and French beans, cabbages, cauliflowers, lettuces, mushrooms, onions, peas, potatoes, radishes, spinach, tomatoes, turnips, and vegetable marrows.

CARNIVOROUS PLANTS.

AT the last meeting of the Littlehampton Gardeners and Amateurs' Society an interesting address was given by Mr. Paxton, of Chichester, on "Carnivorous Plants." He said that plants differed from animals very much in the way in which they get their nutrition. The carbon of which plants are mostly made is obtained from the carbonic acid of the air, while the nitrogen, which, however, is considerably smaller in quantity, is chiefly drawn in through the roots in the form of ammonia. Some plants, known as parasites, derive their nourishment from other plants. Our knowledge of the curious phenomena exhibited by these plants, is due, he remarked, greatly to Professor Darwin. It had long been known that an American plant forms a curious fly-trap, and it was suspected that the captures had something to do with the well-being of the plant, but it was left to Darwin to show what actually takes place, and that the same thing also takes place in other plants. There was a difference between digestion and putrefaction. If meat is left in water it will soon become offensive, and putrifies, but if a piece is put in a secretion which is formed by the stomach, and known as pepsine, the meat will dissolve, provided that the same heat as that of the body is maintained. Some plants which catch insects let them decompose, while others keep a secretion which appears to be like that in an animal's stomach. A plant which is found in our brooks belongs to the former class. It has a long slender stalk, and is found floating below the surface of the water. With the exception of its extreme tip, which sinks to the bottom of the brook, this dies in winter, but with the warmth of spring the small part left alive rises to the surface and commences to sprout. In the late summer it has a yellow flower. The plant has a semicircular valve, which entraps any animals that may happen to get into it, and animals are often found therein in part putrefaction. This plant is difficult to keep in aquariums, as these are usually kept clean, but the plant will not in that case thrive. [The plant is Utricularia vulgaris, figured and described in G.M., February 28, 1885.] The butterwort belongs to the second or digesting class. It is found in marshy places, and consists of little yellow butter-like leaves. The upper part of the leaf contains glands, in which small animals are caught, when the leaf turns inwards, and the animals are digested by a fluid possessed by the plant. Almost any substance will cause the leaves to turn inwards, and the plant will digest small animals and vegetable matters which contain nitrogenous food; but such things as glass or wood cannot be digested by the fluid. Dr. Paxton also mentioned other such plants, amongst others the "sundew," a few of which he exhibited to the audience.

A ROYAL BOUQUET.—In a dingy little street in the then poverty-stricken and somewhat grimy town of Leicester lived, thirty years ago, a pale, middle-aged "stockinger." In the front room of the little house—it contained only four rooms—were the stocking-frames at which he and his wife sat, back to back, busy with feet and hands the livelong day at the rattling, screeching machines. By dint of hard labour the pair would earn between them perhaps a dozen shillings a-week all told, and out of this would have to come rent, firing, candles, living, and clothing. A careful observer, however, would divine that this stocking-maker was no ordinary man, but a patient, thoughtful worker and waiter for the knock that Dame Fortune is supposed to give—once at least—at everyone's door. The man had an inventive genius, and employed his short but well-earned leisure in constructing tiny models of a machine that should utilize the properties of indiarubber in an elastic web. His invention was patented, large factories were built, and the industry within a few years gave employment to thousands of nimble fingers and willing hands. The erst stockinger rose rapidly to wealth and position, and was elected mayor of the ancient borough of Leicester. What now will he do with his leisure? What is to be his hobby? He had wealth and leisure, and intelligence enough to enjoy the fruits of them. It is scarcely matter of surprise that his hobby was an expensive one, yet, no more strange than true, it was orchids! His house was situate near the factory, and he at once set about erecting suitable houses, and engaged one of the foremost orchid growers of that time, Mr. Bullen, as his head gardener, sparing no expense in the purchase of the most costly species and varieties of this beautiful family of plants. With a view to competition at the Great Exhibition of 1862, Luke Turner—that was the name by which he was familiarly spoken of—did nothing by halves, and gave orders for the construction of vans specially suited for the conveyance of his pets. The magnificent bank of orchids was, it is needless to say, immensely admired by the multitudes of visitors, and won the gold medal awarded by the Horticultural Society. Among the many who lingered to admire Mr. Turner's orchids were the Prince and Princess of Wales. As they passed to their carriage the proud exhibitor, touching Sir Wentworth Dilke on the arm, asked him if he thought the Princess would accept a few blooms, and on being answered in the affirmative, took a knife from his pocket and cut from his plants an armful of the costly flowers, which he carried to the royal carriage. The gift was, as a matter of course, gracefully accepted and the donor especially thanked. Probably the magnificent sprays of bloom formed one of the most expensive bouquets ever presented even to Royalty, and, considering their beauty and rarity, might have been valued at a hundred guineas.—T. W., in *Gardeners' Chronicle.*

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 6d. and 1s.—[ADVT.]

MIXED FLOWER BEDS.

By J. C. CLARKE.

I AM very glad to notice in the Magazine, page 345, that Mr. G. H. Johnson has been advocating a more extended use of hardy flowers in the place of summer bedders. I do not want to see the tender bedders shut out of the garden altogether, but I agree with your correspondent when he says that there are many amateurs who spend money on bedding plants while they would secure a much longer show of flowers from hardy plants, and thus save the expense of purchasing fresh plants every year to fill their beds.

With a view to show what a lasting display hardy plants are capable of producing when suitable selections are made and the arrangement and treatment right, I propose to devote some space to the subject of mixed beds of flowers. In doing so I think I shall be rendering some service if I make a point of showing how separate beds may be made attractive for a great part of the year.

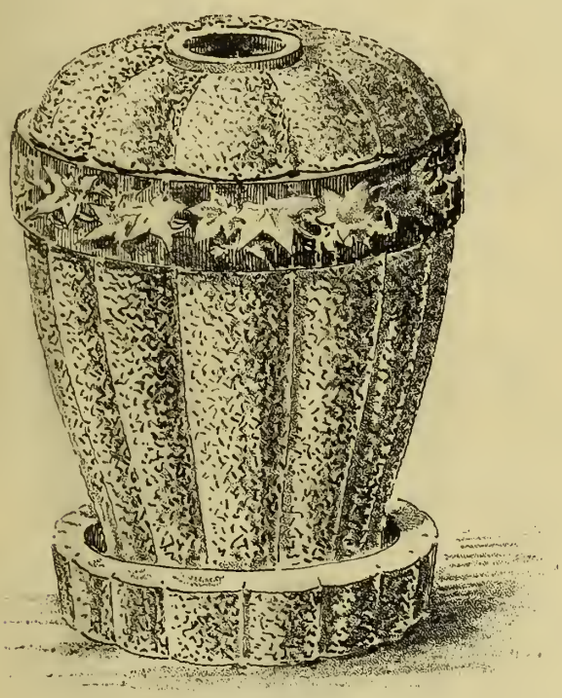
I will begin by supposing that there is a bed or a warm corner of a border that it is desirable to make attractive with the earliest spring flowers. The first plant I should select would be the Christmas Rose, Helleborus niger, as a dozen strong plants will make a capital centre for a fair sized bed, but the number of plants required will depend on the space to be filled. They must not be crowded, but space allowed for the leaves to develop. Plant them sufficiently far apart to allow of a small space to be unoccupied, as between the Christmas rose single plants of German asters are to be planted to flower at the end of the summer. Next to the Helleborus put a double line of snowdrops, and as an edging a wide band of the winter aconite, *Eranthis hyemalis*. With such an arrangement as this it will be seen that a charming bed of flowers is obtained as early as it is possible to get them in the open air. When the snowdrops and aconites have lost their leaves, which is generally about the middle of June, a line of Golden Feather should be dibbled in between the snowdrops, and blue lobelias between the aconites. With this arrangement it will be seen that a bed or border may be made attractive for a large portion of the summer. October is the most suitable time to plant the Hellebores, Snowdrops, and Aconites.

VIOLAS.—There are so many excellent varieties of these, and they are so easy to manage and last so long in flower that one may well express surprise that amateurs do not take to them more generally. There are few hardy plants of dwarf habit so readily increased, and that give such little trouble during the summer. In the north, and in many other parts of the country, where the soil is fairly strong, they commence to bloom in April, and continue to do so until the autumn. The most distinct varieties are Mrs. Gray, white; Souvenir, mauve, this is the earliest to flower, and, I think, the best of all in that shade of colour; Waverley, purplish blue, very free in growth and flowering; Sovereign, rich golden yellow; and Holyrood, deep rich purple. The simplest way for amateurs to increase the stock of violas is to cut down all the old shoots which have flowered. The time to do this is about the middle of September. A number of young shoots will rise from the centre, and a fortnight later the old plants may be taken up and divided. The youngest pieces should be selected for planting again. Violas should not be crowded, or the flowers are very small at the end of the flowering season. If they are to occupy a bed the plants should stand nine inches apart each way.

COLUMBINES.—The Rocky Mountain columbines are so much superior to the old forms that it is very certain that when they become better known they will be largely grown. Having devoted several years to the raising of seedlings my experience convinces me that the best thing anyone can do who wants a stock of these plants is to raise them from seed. The seed may be sown any time between March and the beginning of August. In my own case I sow the seed as soon as it is ripe, which is generally early in August, in pans, and during the winter the pans are kept in a cold frame. In the spring the plants are put out in a reserve border, and after completing one season's growth they are put out where they are to remain. Seed sown in the spring should be put in pans, and the plants raised in a greenhouse or pit. In June they will be large enough to be planted in the reserve border, but to induce them to grow strong the soil should be made light and rich, and in dry weather they must have plenty of water. Should any of your readers feel disposed to cultivate named sorts, I can thoroughly recommend the following: Chrysantha, yellow; Glandulosa, deep blue and white; Cærulea is very similar to the last named, the flowers are blue shaded with white. If the roots of these columbines get all the moisture they require the plants will flower well in May and June, and will continue to bloom all the summer; but in early summer they are seen at their best. If desired, a few bulbs of the hardy Hyacinthus candicans may be put in between the columbines. This bulbous plant flowers in August and September, and gives no trouble after being once planted.

WHITE JAPANESE ANEMONE.—To flower in August and September, no one could desire a more striking plant when grown in a mass. From eight to twelve strong clumps in the centre of a bed or in a line produce a very effective appearance when in bloom. Its handsome white flowers are borne in profusion, and the plant is fast becoming a general favourite. In a large bed or border this anemone may be planted alternately with Delphinium formosum, which reaches to a height of five feet in a good soil, producing long spikes of purplish blue flowers in June, and lasting in good condition for four or five weeks. The bed may have an edging of Iberis gibraltarica, which flowers early in May. With this arrangement one of the three plants would be in bloom from May until the end of September, and they would all last for several years in good condition without requiring anything done to them, except to put sticks to them when they are in flower. If the soil is good and deep they will do without the watering pot in dry weather.

RUDBECKIA NEWMANI.—One of the most useful and long-lasting herbaceous plants that I am acquainted with as suitable for massing is Rudbeckia Newmani. It is perfectly hardy, and not particular as to soil, provided it is fairly deep. It commences to flower in July, and will continue to bloom until autumn. To adapt it for flower beds or for forming lines in borders large pieces should be planted in the autumn. If it is to be grown in a bed which is wanted to be as attractive as possible through the year I may mention that a plant of taller growth should be selected for the centre. I know of no plant more suitable than the herbaceous pæony. The edging of the bed may be composed of white pinks, so that there would be an early and a late display of flowers. The bed when once planted will last for several years without much attention.



CRUTE'S ORNAMENTAL GARDEN POTS. (See page 394.)

CRUTE'S GARDEN POTTERY.

AN interesting feature of the R.H.S. exhibition at Liverpool was the collection of pots, jardinières, vases, and urns shown by Mr. James Crute, of 14, Knightrider Street, London, E.C. In awarding the silver medal for this collection the judges were impressed by two important features of the display, for it brought into the field two new ideas.

We have described Mr. Crute's method of ensuring perfect drainage, and at the same time excluding worms from flower pots, by making his pots with a concave bottom, which is covered with a cap in place of crocks. Pots of this construction, so admirably adapted for first-class plant growing, were exhibited on this occasion and obtained the emphatic approval of the judges. So far for one idea, which may be called scientific. The other idea may be called artistic, and we regret we must explain, because to *see* the things is far better than to read a description of them. However, the figures may in some degree assist the reader. They show that Mr. Crute has obtained original designs of some artistic importance. But we are bound to say that the *colour*

of this ware is a great feature. If imitation of nature in pottery is allowable then we have seen a great achievement in the imitation here of weather-worn stone; rugged bark with the red life in it; dry wood, sapless, but beautiful in its knots and corrugations—we know not how to praise Mr. Crute sufficiently for his triumph in colour, while his forms are always good and true, and often delightful for distinctive beauty. The colour is all burnt in, and it is no part of our duty to ask for the trade secret of its production. The stuff is hard, and absorbs so little moisture, that we will assume it to be frost proof and proof also against the vegetable growth that sometimes stains such productions over much. The mounting of a bunch of pæonies in one of the urns will suggest their suitability for decorative purposes.

THE BELGIAN HORTICULTURISTS who are on the way here to be personally conducted are expected to arrive on Thursday next. They have in their programme Elvaston, Chatsworth, Liverpool, Eaton Hall, and Trentham.

BANNER ORCHID.

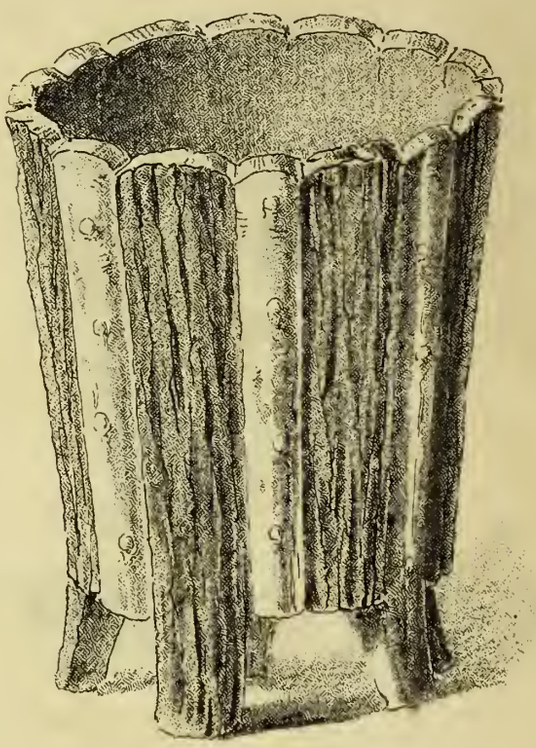
Odontoglossum vexillarium.

THE figure represents the specimen orchid, the history of which was given by Mr. James Douglas at page 351. At the exhibition of the Royal Botanic Society, June 9, this plant was not only much admired, but by many was considered the most important contribution, for it carried with it in addition to its exceeding beauty and completeness a great lesson in orchid culture. Being a good variety, it fully justifies the care bestowed upon it during a run of eight years by Mr. Douglas, in the interest of his generous employer, F. Whitbourn, Esq., of Ilford. On the day of exhibition the flowers were counted, and the total was put down at 287, but when the plant was cut down immediately after the show the number was found to be 289. The sketch from which the engraving was prepared was made by Mr. Alfred Slocombe, at the exhibition, and faithfully reproduces the contour and general expression of the plant. We cannot regret our inability to present the picture in colour, because no art of man could accomplish it with justice to the truth, and it would be waste of sentiment to sorrow over the unattainability of the impossible.

VITAL POINTS IN THE CULTIVATION OF LILIES.

By G. F. WILSON, Esq., F.R.S., Heatherbank, Weybridge Heath.

AFTER a month's absence in Scotland I have looked over our lilies, both at Weybridge Heath and at Wisley, and it is gratifying to find that after a winter unexampled in length and a spring too much like



winter, even to the dawn of July, they remain to us, and will renew their customary splendours. Many years ago Mr. McIntosh, of Oatlands Park, established the fact that, whatever the season may be, Lilium auratum and a good many other species will bloom well year after year if planted amongst thriving rhododendrons, the reason being that the leaves of these shrubs shelter the young shoots of the lilies from April and May frosts, and also from what is, perhaps, still more injurious, the strong sunshine that often follows close upon injurious degrees of cold. When gardeners speak to me about difficulties with lilies, I recommend them to keep to this safe ground, which cannot be difficult where only a few dozen plants are required. But when the requirements exceed this narrow range other methods of procedure must be adopted. But as our experiments have for years past been in the direction of growing lilies more in masses, and as recent experiences of trying weather are fresh in the minds of all, it is likely that some special interest attaches to the conclusions we have arrived at.

Having acquired a strip of woodland at the Cottage, Weybridge Heath, we made preparation three years ago for the formation of a lily garden. We dug out the soil to a depth of about five feet, and made a shelving bank of the natural staple, filling up the excavation with good lily soil, and planting therein a number of bulbs of L. auratum. These prospered, and we were so well satisfied that in the year following we made more beds in the same way, and planted them with L.

auratum, L. speciosum, L. tigrinum, L. elegans, L. Krameri, L. Batemannim, and L. longiflorum. These also prospered like their predecessors, and last year we made another large bed, and planted it with L. auratum.

What is a lily soil? It should be deep and moist and mellow, and rich without rankness. If needful to prepare a soil I should advise a mixture of equal parts light loam and peat, with some good leafmould added. Any lily will grow in such a mixture.

Now for the facts of the day in this particular lily garden. In all the beds, with the exception of those containing L. longiflorum, the lilies look as healthy as if they had been advantaged by the shelter of rhododendrons. There is no protection overhead, but the surrounding wood proves to have been enough. The spring foliage of the slightly shading trees suffices to ward off frost unless very severe, to soften the harshest winds, and to give just enough shade from bright sunshine to prevent the mischief it occasions when following on the heels of a keen morning frost. The exception in the case of L. longiflorum is interesting: it agrees with Mr. Shirley Hibberd's experience, as reported by him in G.M., Sep. 6, 1873.

Now, quitting Weybridge Heath, we will proceed to Wisley, where, at Oakwood, we have indulged in lily culture under various conditions. There are two beds in which L. auratum came up constantly stronger in one since 1881, in the other since 1882. Here a considerable number of lilies are damaged. For example, clumps of L. cordifolium that had fine strong shoots at the beginning of May, were subsequently killed to the ground, while L. giganteum, just opposite to them, had the leaves, which were then finely developed, frosted, and looked much distressed. They have, however, thrown up their flower spikes, and now look so well that remembrance of the injury they suffered really seems to be a delusion, which of course it is not. It may be taken for a fact, from our experience of now some years, through very varying seasons, that L. cordifolium, unless planted where evergreen shrubs will protect it from sun after spring frost, should be protected as may be needful by means of fir branches or any leafy spray that can be cut, for it cannot brave the vicissitudes of an English spring.

An interesting instance of the efficacy of a light protection has been afforded us in the case of two lots of Vallota purpurea planted near the water. Over them we placed wicker coops with bracken interlaced. Most of the bulbs are all right. A wren made her nest in the fern of one of the coops and brought out her young. Even some of the North American lilies, such as L. pardalinum for example, have some shoots frosted, though in some of the beds these lilies are untouched.

BANNER ORCHID, *Odontoglossum vexillarium.*
Specimen shown by Mr. James Douglas at Exhibition of Royal Botanic Society, June 9, 1886.

In the narrow field of L. auratum, where the protecting out gorse fence is kept low so that but little protection is afforded, most of the lilies have done better than when they had more, though insufficient, shelter. For several years past the winters have not been severe enough to try lilies fairly, but it may be agreed, perhaps, that the last winter was something beyond an average, and therefore of some importance as a test.

We planted L. tennifolium in all sorts of soils and situations. It has flowered everywhere, though with differing degrees of strength. It will require another year in the ground before the best treatment can be ascertained. I will close this letter by saying that a few days since I saw a stem of L. Krameri in one of Mr. McIntosh's rhododendron beds with nine flower buds. It may be remembered that when this lily was introduced it was considered one-flowering, just as was L. auratum, which, in fact, was named in the first instance in accordance with the supposition. Now I ventured to predict that as L. Krameri became established in the country it would pass beyond the one-flowering stage, and this has been verified. But I did not, nor probably did anyone, foresee the grand total of nine flowers on one stem. There are always surprises in store for those who love nature and are willing to work in obedience to her kindly suggestions.

Exhibitions and Meetings.

SHEPPERTON HORTICULTURAL SOCIETY, July 1.

This society appears to have entered upon a prosperous career, judging by the third annual exhibition, which was held on the above date in the grounds of Manor House, Shepperton, by permission of Mrs. Lindsay. There were several good features, the best being undoubtedly the roses, which on the whole were of superior finish and good colour. Inferior flowers amongst the hybrid perpetuals were very few; but a falling-off was noticeable in the teas. Fruit was shown to advantage, especially strawberries, and the vegetables were quite up to the average standard of merit.

Roses fully occupied a fair-sized tent, and there was good competition in the open class for forty-eight distinct varieties, Mr. Benjamin R. Cant, Colchester, staging excellent blooms. Those especially to be noted for good quality were: Lady Mary Fitzwilliam, Lord Macaulay, Horace Vernet, Mme. Eugene Verdier, Souvenir d'Elise, Marie Baumann, A. K. Williams, Innocenta Pirola, Souvenir de Therese Levet, Mme. Marie Verdier, Dupuy Jamain, Mme. Gabriel Luizet, Duke of Edinburgh, Countess of Rosebery, Catherine Mermet, Duke of Teck, Mme. Willermoz, Mme. Clémence Joigneaux, and Duchesse de Valombrosa. Mr. Charles Turner, Royal Nurseries, Slough, came second, and in his stand were fine flowers of Sultan of Zanzibar, Countess of Oxford, Marquise de Castellane, Dr. Sewell, Xavier Olibo, Fisher Holmes, Ville de Lyon, Duke of Edinburgh, A. K. Williams, and Francois Michelon. There was good competition in the class for twenty-four, Mr. C. Warwick, gardener to J. P. Kitchen, Esq., Manor House, Hampton, securing the premier award. The best varieties were: Mme. Clémence Joigneaux, Duke of Edinburgh, Prince Camille de Rohan, Mme. Marie Finger, Charles Lefebvre, Catherine Mermet, General Jacqueminot, Earl of Pembroke, Mme. Victor Verdier, and Marquise de Castellane. Mr. W. Davis, gardener to E. Rutter, Esq., Halliford, second, In the class for twelve Mr. C. Warwick was the most successful, staging satisfactory blooms of Star of Waltham, La France, Cheshunt Hybrid, General Jacqueminot, and Charles Lefebvre; Mr. W. Davis second. In teas the prizetakers for twelve were Mr. G. Harvey, gardener to Captain C. F. Terry, Shrublands, Hersham, and Mr. A. Gordon, gardener to Mrs. Lindsay, Manor House, Shepperton, in the order of their names. For six blooms, of any kind, Mr. C. Warwick came to the front, putting up well-finished flowers of General Jacqueminot; Mr. Alfred A. Bennett, Cobham, second. The principal prizetakers in the classes for amateurs were Messrs. G. Gyton Smith, Edwin Roper, and F. Goddard. In competition for the prizes offered for six flowers of any kind, Edwin Roper, Esq., came first, and Mr. F. Goddard second. Roses were also exhibited, not for competition, by Mr. W. Tayler, Osborn Nursery, Hampton, Mr. W. Fletcher, Chertsey, and Mr. H. Bennett, Shepperton. The last-named exhibitor deserves special mention, as his roses formed one of the best features of the show. A new variety from Mr. Bennett, named Viscountess Folkestone, was awarded a certificate of merit, and deserved the distinction. It is a pedigree tea rose, and a grand addition to the class. The flowers are full, large, pleasing in bud, and handsome when expanded; the petals broad, of a blush colour, shading to a lively pink towards the centre of the flower. Added to these good qualities is a remarkably fresh, agreeable, and powerful fragrance.

Fruit and Vegetables were well shown. In the class for three bunches of black grapes Mr. Thomas Osman, gardener to L. J. Baker, Esq., Ottershaw Park, Chertsey, was first, staging well-coloured bunches of Black Hamburgh. Mr. C. J. Waite, gardener to Colonel the Hon. W. P. Talbot, Glenhurst, Esher, second with the same variety. In the corresponding class for white grapes, Mr. T. Osman again came to the front, putting up Buckland Sweetwater; the second prize went to Mr. J. W. Reed, gardener to E. Pettit, Esq., Oatlands Park, who staged Foster's Seedling. For six peaches Mr. J. Sparrow, gardener to Rev. A. Bramwell, Chertsey, was first, exhibiting Royal George, the second award being made in favour of Mr. W. Sutton, gardener to J. Sassoon, Esq., Ashley Park, Walton. In the class for six nectarines Mr. W. Sutton again secured the first place, the variety exhibited being Elruge; Mr. J. W. Reid second. Strawberries were remarkably fine, the fruits of President, in the first prize lot, put up by Mr. Henry Buggs, being noticeable for immense size and rich colour. Mr. C. J. Waite was a close second. In the class for a single pineapple Mr. W. Sutton came first, and for a single melon Mr. G. Carpenter, gardener to C. J. Abbott, Esq., Walton-on-Thames, and Mr. C. J. Waite were first and second respectively. Tomatoes were well shown by Mr. C. J. Waite and Mr. J. W. Reed, who were first and second respectively in the class for six. For a brace of cucumbers the post of honour was occupied by Mr. W. Merricks, gardener to A. Stearns, Esq., Upper Halliford, the second prize going to Mr. C. J. Waite. The last-named exhibitor came first in the class for a collection of vegetables, twelve varieties, the tomatoes, peas, beans, potatoes, and cauliflowers displaying great skill in their cultivation; Mr. J. Batt, gardener to H. Cuthbert, Esq., was second. Vegetables were also exhibited by cottagers and amateurs, and the productions were of considerable merit.

Flowering Plants made a gay display, and in the class for six stove and greenhouse plants in flower Mr. J. Reeves headed the prize list, exhibiting Statice profusa, Brassia Wrayæ, Rhynchospermum jasminoides, Plumbago capensis, Tabernæmontana coronaria fl. pl., and Clerodendron Balfouri; Mr. J. Child, gardener to Mrs. Slade, Claygate, Surrey, second. Fuchsias were well shown by Mr. J. Reeves, who was first in the class for four specimens, Mr. J. Child coming second. Pelargoniums of various classes contributed greatly to the attractions of the show, the principal prizetakers being Messrs. C. J. Waite, J. Wiggins, and J. Reeves. Orchids were not numerous, but well grown. Tuberous begonias, both single and double, were conspicuous, the chief prizewinners in the several classes being Mr. Henry Bradley and Mr. J. Child. For twelve gloxinias Mr. H. Bradley was first, his plants being of sturdy growth and well flowered. Mr. J. Batt gained the first prize for six, the second award being made in favour of Mr. J. Reeves. The last-named exhibitor was first for a specimen plant in flower; Mr. J. W. Reed second. A collection of new seedling pelargoniums came from Mr. J. Wiggins, some of the varieties being of great promise.

Ferns and Ornamental Plants proved a good feature. For six stove and greenhouse foliage plants Mr. Reeves was first and Mr. J. W. Reed second. For six coleus Mr. C. J. Waite and Mr. J. Batt were first and second respectively. Adiantums were shown in capital condition by Mr. J. Sparrow, who was first for six, and Mr. H. Bradley the winner of the second prize. For six exotic ferns Mr. W. Reed was first and Mr. J. Reeves second. The last-named exhibitor was first for six caladiums.

For a group of plants arranged for effect Mr. W. Sutton was awarded the first prize for a pleasing arrangement. Messrs. J. Reeves and J. W. Reed were second and third respectively.

Bouquets and Table Decorations call for no special mention. The principal prizetakers in the classes for bouquets were: Miss Mary L. Watts, Mrs. C. Merricks, Miss Cuthbert, Mrs. George Taylor, Miss Heather Price, and Miss Alice Lendy. For the best table decoration Miss A. Lucas was first, and Miss Alice Lendy second. A special prize was awarded to Miss Nora Skene, who had a very tasteful arrangement. The judges were Messrs. Laing, Child, Baines, and Hibberd.

TUNBRIDGE WELLS HORTICULTURAL SOCIETY, July 2.

The high reputation which this important society has so long enjoyed was enhanced in no inconsiderable degree by the magnificent exhibition held on the above date. As for several years past, the Great Hall and the picturesque grounds adjoining were secured for the purposes of the show, which in extent and the excellence of the productions was considerably above the average. The Great Hall was devoted to the roses, table decorations, and the fruit, and had its capacity taxed to the utmost, and in the grounds there were three spacious tents. The largest of these was set apart for the stove and greenhouse plants in bloom, and remarkable for the beauty of their leafage, the ferns and the soft-wooded flowering plants, and as the whole of the collections were more or less good the effect produced was satisfactory. Groups occupied the second tent, and the third was devoted to cottagers' produce, and comprised a large number of collections of vegetables of a high degree of excellence, and fully justifying the substantial encouragement given by the society to this class of cultivators. The arrangements were as usual remarkable for the admirable manner in which they were carried out, and Mr. Loof, the secretary, and Mr. John Charlton, Mr. E. Charlton, and Mr. A. Charlton, who had charge of the staging arrangements in the several departments, may be heartily congratulated on the results of their labours. The weather was all that could be desired for a flower show, and the attendance was such as to show that the exhibition enjoys a high degree of popularity.

Stove and Greenhouse Plants in bloom were surprisingly good, and arranged in a broad bank along one end and side of the tent they produced a splendid effect. The principal class was for eight, and to this were contributed several remarkably good collections. The premier award was made in favour of Mr. A. Gibson, gardener to T. F. Barnaby Atkins, Esq., Sevenoaks, whose collection consisted exclusively of plants large in size, perfect in contour, densely flowered, and remarkable for their freshness. The subjects represented were: Clerodendron Balfouriana, Anthurium Scherzerianum Allamanda Hendersoni, exceptionally good, Statice profusa, Bougainvillea, glabra, Dipladenia amabilis, Ixora Fraseri, a distinct hybrid, remarkable for the large size of the flower trusses, and Clerodendron fallax, a magnificent example of this fine old species, about three feet in diameter, furnished with foliage to the rim, and bearing at least twenty fully developed spikes of the brilliantly-coloured flowers. It was unquestionably one of the finest specimens that has yet been placed on the exhibition stage, and in effectiveness was not equalled by any other stove plant in the exhibition. Mr. C. Rann, gardener to J. Warren, Esq., Handcross Park, Crawley, was a good second with a collection in which Statice Gilberti was represented by a specimen not less than four feet in diameter, quite solid with flower, and perfect in contour. Mr. S. Pope, gardener to J. Barron, Esq., Holmwood, Tunbridge Wells, was third with a capital collection in which occurred a fine specimen of Clerodendron Balfouriana. There was a spirited contest in the class for six, and in this Mr. Pope was first with a collection evincing cultural skill of a high order, which included an exceptionally good example of Allamanda Hendersoni. Mr. Bolton, Coombe Bank, was second, staging fine specimens of Clerodendron fallax and Kalosanthes coccinea. For four, Mr. Moorhouse, gardener to J. W. Temple, Esq., Leywood, was first with a group which included a specimen of Kalosanthes coccinea, quite five feet in diameter, solid with bloom, and furnished with deep green leafage to the rim of the pot. Mr. Bolton was second, and Mr. Aylward, gardener to Mrs. Foster, Boyne House, Tunbridge Wells, was third, both staging good collections.

Fine Foliage Plants were not less satisfactory than those grown for their flowers, and the specimens, which were chiefly of immense size, were sufficient to fill the whole of the space in the middle of the tent. In the class for eight Mr. Rann was first with a magnificent group in which the specimens of Croton princeps and Croton Evansiana were conspicuous, being of large size and very richly coloured. Mr. Pope was a close second, his collection including pyramidal specimens of Croton variegatum and C. angustifolium, fully eight feet in height, and so well finished and coloured as to leave but little to be desired; and a good specimen of Aloeasia Lowi. Mr. Rann was first also for six, his collection including Croton Williamsi and Bonapartea stricta in especially good condition. Mr. Moorhouse occupied the second place with a well-balanced collection, in which Cycas revoluta was especially well represented, the specimen being as near perfection as we can hope to see it. Mr. Goodman, gardener to Mrs. Crawshay, Riverhead, was third with a fine group, in which occurred a finely-developed example of the

noble Alocasia Thibautiana. Caladiums were represented by five or six collections, and the prizes were awarded to Mr. G. Hubbard, gardener to Captain Platt, Dene Park, Tunbridge, Mr. Shoebridge, Mr. Smith, gardener to Mrs. Bysse, Nevill Court, and Mr. J. Allan, gardener to G. H. Field, Esq., Ashurst Park, Tunbridge Wells, in the order of their names.

Ferns and Selaginellas were plentiful and remarkably good. Mr. S. Pope was successful in taking the first prize in the class for eight ferns, staging a collection in which were very fine specimens of Cyathea medullaris, Dicksonia squarrosa, Davallia Mooreana, and Leucostegia immersa. Mr. J. Bolton, was second, staging capital examples of Alsophila excelsa and Davallia polyantha. For six, the exhibitor last mentioned was first with a collection consisting of excellent specimens of Nephrolepis davallioides furcans, Cibotium Baromotz, Lomaria gibba major, Dicksonia antarctica, and Cyathea dealbata. Mr. J. Allan was a capital second. Selaginellas were especially meritorious, the whole of the specimens being of immense size and perfect in colour and finish. Mr. Scammell, gardener to G. Reily, Esq., Nevill Park, Tunbridge Wells, was first, and Mr. Aylward second, the more important kinds being S. cæsia, S. Wildenovi, S. apoda, and S. denticulata aurea. There was a spirited contest for the prizes offered for hardy ferns, and the premier award was made in favour of Mr. Scammell, who had well-grown specimens of Athyrium filix-fœmina multifidum, A. f.-f. cristata, Lastrea filix-mas cristata, Onychium japonicum, Asplenium marinum, Osmunda regalis cristata, and Onoclea sensibilis. Mr. J. Allan was a close second.

Soft wooded Plants in Bloom were of great excellence, the fuchsias and pelargoniums being particularly good. The first and second prizes for fuchsias were awarded to Mr. Shoebridge and Mr. Beilby. Varieties staged were Flower of the Flock, Avalanche, Mont Blanc, Rose of Castile, and Daniel Lambert. Both zonal and show pelargoniums were exceptionally good, and in the class for the last-mentioned Mr. G. Shoebridge and Mr. J. Wilkins, gardener to F. V. Williams, Esq., Shirley Hall, Langton, had specimens remarkable alike for their large size, excellent training, and the profusion with which they were flowered. The premier collection, which was contributed by Mr. Shoebridge, contained William Bull, Belle of the Ball, Duchess of Edinburgh, Rob Roy, Ninon de l'Enclos. Single zonals were grandly shown by Mr. J. Allan and Mr. R. Beilby; and double zonals were presented in equally good condition by Mr. Beilby and Mr. Smith. Tuberous begonias were on the whole fairly good, the plants being mostly of medium size and nicely flowered; but the majority of the plants were much over-potted, some being in pots at least three sizes too large. The prizetakers in the class provided for these flowers were Mr. J. Allan, Miss Kendrick, and Mr. Bolton.

Groups Arranged for Effect were numerous and of a high degree of excellence, and the tent devoted to them proved, as usual, immensely attractive to the large body of exhibitors. To speak of them in detail would require more space than can be well spared, and it must suffice to say that the prizes were awarded to Mr. Fennell, gardener to Mrs. Cazlet, Fairlawn, Tunbridge, Mr. Aylward, Mr. Waterman, gardener to H. A. Brassey, Esq., Preston Hall, Aylesford, Mr. Hubbard, and Mr. J. Snow, Wadhurst, in the order of their names. Mr. Coleman, gardener to Mrs. Arthur Potts, Bentham Hall, staged, not for competition, a very attractive group of specimen zonals, adiantums, and fuchsias; and from Mr. Webber, Tonbridge, came a pretty group of ferns.

Fruit was plentiful and of great excellence. In the class for collections Mr. A. Waterman was first with about fifteen dishes; and Mr. T. Hopgood, gardener to Sir J. Goldsmid, Summerhill, Tonbridge, was second with a representative collection comprising fruit of high quality. Black grapes were remarkably good, the bunches being of large size and the berries very large and superbly coloured. For black grapes, Mr. Hopgood, Mr. Moorhouse, and Mr. Hopkins were first, second, and third respectively. In the corresponding class for white grapes, Mr. Harvey, Warlingham, was first with Muscat of Alexandria; and Mr. Moorhouse and Mr. Bolton were first and second respectively with Foster's Seedling. Peaches were particularly good, and Mr. Bolton was first and Mr. Goodman third with Royal George, and Mr. J. Hopkins second with Grosse Mignonne. In the corresponding class for nectarines Mr. Moorhouse and Mr. Morris were first and third with Lord Napier, and Mr. Allan was second with Violette Hative. A capital dish of Black Tartarian cherries was contributed by Mr. Hopgood. The prizes for melons were very keenly contested, and at the head of the competitors was Mr. Gearing, gardener to R. Monckton, Esq., Oak Villa, Sevenoaks, who staged a remarkably fine fruit of Hero of Lockinge; Mr. F. Crossman second with La Favourite; and Mr. J. Allan third. Strawberries included a very fine dish of Sir Joseph Paxton from Mr. Scammell, to whom the first prize was awarded; and Mr. Amies, Maidstone, and Mr. Smith, Sevenoaks, were second and third with good fruit of James Veitch.

Cut Flowers comprised a very beautiful display of roses, which are specially encouraged at Tunbridge Wells. In the open class for forty-eight Mr. G. W. Piper, Uckfield, Messrs. G. Bunyard and Co., Maidstone, and Messrs. J. Cheal and Son, Crawley, were the prizetakers in the order of their names, with blooms of good quality. The premier award in the open class for twenty-four was made in favour of Mr. Ridout, gardener to T. B. Haywood, Esq., Reigate, who staged blooms of high quality. Mr. R. E. West, Reigate, was second, and Mr. Piper, third. Mr. Ridout was first also in the class for twenty-four, in which the competition was limited to amateurs and gardeners, with excellent flowers, and Mr. Simmons, gardener to the Rev. E. C. Hales, Henfield, and Mr. R. E. West, were second and third. For twelve also Mr. Ridout was first, and the second place was occupied by Mr. Warde, West Farleigh. Two silver medals of the National Rose Society were offered, one for the best hybrid perpetual in the open classes, and one for the best hybrid perpetual in the classes set apart for private growers, and both were awarded to Mr. Ridout for blooms of Alfred K. Williams. Mr. J. Charlton, Summervale Nurseries, Tunbridge Wells, exhibited, not for competition, a large and beautiful collection of hardy flowers, which attracted much attention.

Table Decorations were remarkably good, and formed a pleasing feature. The principal prizetakers in the several classes were Mr. F. Bishop, Croydon, Mr. J. R. Chard, Clapham, Mrs. Hatton, Mrs. Searing, Mr. G. Fennell, and Mr. Searing.

ROYAL OXFORDSHIRE HORTICULTURAL SOCIETY.

Commemoration Show, June 29.

This exhibition was held in the Trinity College Gardens. The bulk of the plants were ranged in a monster tent (170 by 40 feet), erected on the north lawn, a double stage being carried round the sides, and a central stage the full length of the tent for fuchsias, which were flanked with smaller examples of tricolor and bicolor geraniums. The general character of the exhibits was creditable, the great feature being the stove and greenhouse plants, large heaths, &c., in the classes "open to all England."

Plants.—For nine specimens the £10 prize went to Mr. W. Chapman, Hawkesyard Park, Rugeley, for a prime group, including Hederoma tulipifera, an immense bush laden with drooping dusky purple tulip-like blossoms, Phœnocoma plolifera Barnesi, Pimelia diosmœfolia, Aphelexis gracile, Erica magnifica, Anthurium Scherzerianum, furnished with fifty blooms, and Erica eximia superba; Mr. J. F. Mould was awarded second; Mr. Chapman again leading in Class 2 for six Cape Heaths, his half-dozen plants being marvels of horticultural skill, the varieties being Cavendishi, yellow; Cocoinea minor, scarlet; Parmenteria rosea, rosy purple; Aurantiaca, orange; Wilsoni, and Paxtoni. Mr. Mould, who staged one very fine group of ornamental plants, secured the card to Mr. G. Jacob, Mill Lane Nursery, Witney, Oxon.

Pelargoniums.—Decorative pelargoniums were staged in large numbers by local growers, the only twelve in the "open" class being staged by Mr. Mattock, who put up healthy, well-flowered half specimens of Emperor of Russia, Duchess of Bedford, Triomphe de St. Mande, Digby Grand, Mad. Thibaut, Mrs. Coombes, Marie Knight, Mrs. Bradshaw, Edward Perkins, Duchess of Edinburgh, and Violet. Fancies were not entered in the open classes, but in the members' division Mr. Mattock took the premier award.

Fuchsias made a great show, forming a line down the centre, their clusters of pendulous blossoms being most graceful. The premier award went to Mr. Walker, Thame. His group of six comprised robust bushes of Little David, Schiller, Rose of Castille, Mrs. Rundle, Charming, and Mrs. Marshall. J. W. Watson, Esq., Norham Gardens, Oxford, second with Alba coccinea, Beacon, Monarch, Rose of Castille, Avalanche, and Mrs. Marshall; the third card falling to the Warden of Wadham College, Oxford, for Wave of Life, Star of Wilts, Mrs. Marshall, Gustave Doré, and Mrs. Beranges. For three, Mr. E. Thorne, Kingston Road, Oxford, Mr. J. Green, Adelaide Street, Oxford, and Miss Gresswell, 39, St. Giles's Street, divided the honours.

Cut Flowers.—The range of collections of bouquets made a great show, the hand bouquets, epergnes, and button-holes proving very attractive to the ladies, who were loud in their praises of the style in which these products had been staged. Garden flowers were represented by pinks and ranunculuses, and not less attractive were the collections of bunches of herbaceous perennials, a class of flowers now receiving considerable attention. The show of roses was very large, the competition being good in the "open" classes for twenty-four varieties, three blooms of each, and twenty-four single trusses. Mr. G. Prince, Market Street, Oxford, winning the premier prize in each class; high quality prevailed throughout, a number of splendid exhibits being ranged in the classes for amateurs only. Mr. Prince's box of twenty-four triplets contained plump flowers of Rubens, Grace Darling, Princess of Wales, Duke of Edinburgh, Comtesse de Nadiallac, Maréchal Niel, Lady Mary Fitzwilliam, Anna Ollivier, Edith Giffard, Amazone, Niphetos, Francisca Kruger, Marie Van Houtte, Jean Ducher, Mrs. Baker, Catherine Mermet, Mons. Furtado, Souv. d'Elise Vardon, Souv. d'un Ami, Mad. Hippolyte Jamain, Mad. Cusins, and Innocente Pirola. In his premier box of twenty-four single trusses he staged varieties not named above as follows: Adam, Mad. Gabriel Luizet, Princess Mary of Cambridge, Baroness Rothschild, Capt. Christy, Alba Rosea, Mad. Gubin, and A. K. Williams; Miss Watson-Taylor, Headington, second in both classes with a splendid assortment of bright blooms; Mr. C. Turner, Royal Nursery, Slough, third for the triplets, and Mr. J. Mattock third for the single trusses.

There were six entries for the prizes offered by Messrs. Webb and Sons, of Wordsley, Stourbridge, and the competition was keen, all vegetables being of first-class quality, and in addition to these their customers were fortunate in taking thirty-two first and second prizes in the open classes. Mr. Griffiths, the representative of the firm, had the honour of presenting Princess Christian with a copy of their "Illustrated Catalogue," which she graciously accepted.

The judges were: For general classes, Messrs. Turner and Daniels; for open class roses, Messrs. W. G. Emberlin, C. Patey, and J. Daniels; for cottagers' classes, Messrs. G. Neal and H. Wingrove; Mr. G. C. Druce making the awards in the wild flower class.

WANSTEAD FLORICULTURAL SOCIETY, July 1.

The Wanstead Floricultural Society, which has done good service in the district during the past twenty years, held its annual exhibition in the beautiful grounds of The Grove, Wanstead, on the above date, and a more successful horticultural gathering could not well have been desired. All classes of plants, flowers, and fruit for which provisions were made in the schedule were well represented both in point of numbers, the grounds were adapted to the purpose to which they were put on this occasion, and, as the weather was eminently favourable, the attendance of visitors was very large. The arrangements were more satisfactory than for some years past, and great praise is due to the newly-appointed secretary, Mr. J. W. Simmonds, who has long been a strong supporter of the society.

Flowering and Ornamental-leaved Plants were staged in considerable numbers, and in a condition that did credit to the cultural skill of the several exhibitors. For six stove and greenhouse plants in bloom Mr. Barton, gardener to H. W. Carter, Esq., Wanstead, was first, and in the class for four Mr. Mobsby was first, Mr. Tween second, and Mr. Fisher third, each exhibitor staging well-grown specimens. Mr. Cade was successful in occupying the first place in the class for six miscellaneous plants, and had in his collection a densely-flowered specimen of the beautiful Franciscea calycina major. Mr. Barton was second with a collection containing a fine specimen hydrangea, and Mr. Peters, who was third, presented Clerodendron Balfouriana in capital condition. There was a spirited contest in the class for a specimen plant in bloom, and Mr. Monk was first with a very large and densely-bloomed specimen of Clerodendron Balfouriana.

In competition for the prizes for four ornamental-leaved plants, Mr. Barton was first, staging capital examples of Maranta zebrina, Pandanus Veitchi, and Aspidistra lurida variegata; Mr. Fisher was second with a collection in which occurred a large and well-coloured specimen of Phormium tenax variegata. In the class for six Mr. Tween was first with a group comprising good specimens of Dracæna Baptisti, Pandanus Veitchi, and Cocos Weddelliana; Mr. Mobsby and Mr. Peters were second and third respectively. For a single specimen plant, with ornamental leafage, Mr. Mobsby was first with Cissus discolor in splendid condition; and Mr. Webb, Wanstead, was second with a large example of Latania borbonica. Coleus were especially good, and the awards were made in favour of Mr. Cade, Mr. Bass, and Mr. Fisher, the varieties including Pompadour, Flame, The Queen, and Mr. G. Simpson. Caladiums were admirably shown by Mr. Tween and Mr. Monk.

FERNS were as usual very strongly represented. The premier award in the class for six was made in favour of Mr. Peters, who staged well-developed specimens of Blechnum cerocvadense, Adiantum gracillimum, A. cuneatum, A. formosum, and Davallia disseota; Mr. Barton was a close second; and Mr. Cade, who was third, had a collection of great excellence. For four ferns Mr. Tween, Mr. Webb, and Mr. Fisher were the prizetakers in the order of their names with large well-finished specimens. Lycopodiums were admirably shown by Mr. Mobsby, Mr. Fisher, and Mr. Cade, to whom the awards were made in the order of their names.

SOFT-WOODED PLANTS IN BLOOM were all more or less good, and produced a rich display of colour. Fuchsias were remarkably good, especially those shown by Mr. Cade, Mr. Solomon, and Mr. Fisher, to whom the prizes were awarded in the class for six. Hydrangeas were well shown by Mr. Barton and Mr. Fisher; and begonias in flower included an especially good collection from Mr. Clark. Zonal pelargoniums were represented by excellent collections from Mr. Taylor, Mr. Cade, and Mr. Mobsby, to whom the principal prizes were awarded in the several classes provided for these showy subjects. Mr. Bass and Mr. Peters contributed excellent collections of calceolarias, the plants being of large size, dwarf, and densely flowered. Petunias included good collections from Mr. Solomon and Mr. Taylor. Gloxinias were splendidly shown by Mr. Cade, Mr. Solomon, and Mr. Monk; and in the class for six cockscombs Mr. Monk, Mr. Bass, and Mr. Tween were first, second, and third respectively with exceptionally fine examples.

GROUPS OF PLANTS constituted one of the most attractive features of the exhibition, and occasioned considerable difficulty in determining their relative merits. In the class for groups of fifteen plants there were nine or ten entries, and the awards were made in favour of Mr. Monk, Mr. Cade, and Mr. Solomon, whose groups differed but little in relative merit. For a group of nine plants Mr. Taylor was first, and Mr. Fisher and Mr. Webb were second and third.

CUT FLOWERS produced a large and very attractive display, and deserve a more detailed notice than it is now possible to give them. The most successful of the large body of exhibitors were Mr. Taylor, Mr. Mobsby, Mr. Peters, Mr. Tween, Mr. Fisher, Mr. Bass, Mr. Clark, and Mr. Monk. From Mr. Rumsey came, not for competition, a beautiful collection of roses.

FRUIT was represented by the excellent contributions of Mr. Monk, Mr. Smith, Mr. Tween, Mr. Fisher, Mr. Bass, and other exhibitors. The principal prizes in the several classes were awarded to the exhibitors whose names are mentioned.

The judges were Mr. George Gordon, Mr. Coomber, Mr. Tudgey, and Mr. Rumsey.

CRYSTAL PALACE ROSE SHOW, JULY 3.

The exhibition of roses held at the Crystal Palace on the 3rd inst. was, both in magnitude and the quality of the flowers, considerably above the average, and the display produced by the immense number of flowers staged in competition for the prizes was so beautiful that it is not likely to be soon forgotten by those who had an opportunity of seeing it. Both trade and amateur cultivators exhibited remarkably well, and on this occasion there was not so great a difference in the quality of the blooms staged by these two classes of exhibitors as is usually the case. The very dark flowers, such as the Sultan of Zanzibar, were not shown in very large numbers, owing probably to the sun having been rather too strong for them during the week, but all other classes were admirably represented. A different style of arrangement was adopted on this occasion, and instead of the whole of the roses being arranged on straight stages erected in the north nave they were arranged on a series of stages distributed throughout the two naves and the central transept. This change was decidedly for the better, for the general effect was more pleasing, and the visitors were able to see the roses more leisurely, and with a greater degree of comfort, than was possible under the old arrangements.

OPEN DIVISION.

The most important class in the open division was that for seventy-two varieties, single trusses, and in this there were nine or ten entries. The first prize was awarded to Mr. B. R. Cant, Colchester, for large, fresh, and well-coloured blooms of Antoine Ducher, Comtesse de Nadaillac, Duke of Wellington, Souvenir d'un Ami, John Hopper, Duchesse de Valombrosa, Mrs. Baker, Innocente Pirola, Magna Charta, William Warden, Fisher Holmes, Madame Cusin, Alfred K. Williams, Madame Bravy, Queen of Queens, Victor Hugo, Prince Arthur, Countess of Pembroke, Mons. A. Dumesnil, Madame Gabriel Luizet, Le Havre, Madame Lacharme, Madame C. Joigneaux, Madame Welche, Boildieu, J. S. Mill, Marie Cointet, Duke of Teck, Catherine Mermet, Ulrich Brunner, Lady Mary Fitzwilliam, Duchess of Bedford, Baroness Rothschild, Dr. Andry, Madame Lambard, Marie Baumann, Baroness Nathaniel Rothschild, Duke of Edinburgh, La France, Ferdinand de Lesseps, Devoniensis, Charles Lefebvre, Souvenir d'Elise, Pitord, Marchioness of Exeter, General Jacqueminot, Niphetos, Etienne Levet, Marie Verdier, Pride of Waltham, Lord Macaulay, Marie Finger, Annie Laxton, Marguerite Romaine, Marquise de Castellane, Merveille de Lyon, Heinrich Schultheis, Marie Van Houtte, Francois Michelon, Rubens, Ville de Lyon, Madame C. Meurice, Mons. Noman, Duke of Connaught, Madame de Watteville, Countess of Oxford, Madame Willermoz Emily Laxton, Marguerite de St. Amand, and Alphonse Soupert; Messrs. Paul and Son, Cheshunt, were a very close second with blooms of good size and finish; and Mr. F. Cant, Colchester, third.

There was a spirited contest in the class for forty-eight varieties, three trusses of each, and the flowers in the several boxes produced a very rich display of colour. As in the preceding class, Mr. B. R. Cant occupied the first, and staged blooms of magnificent quality. The varieties represented were Duke of Edinburgh, Madame de Watteville, John Hopper, Duchesse de Valombrosa, Ulrich Brunner, Marechal Niel, Marquise de Castellane, Lady Mary Fitzwilliam, General Jacqueminot, Marie Cointet, Emily Laxton, Duke of Teck, Etienne Levet, Souvenir d'Elise Vardon, Mons. Noman, Mons. A. Dumesnil, Marie Baumann, Madame Cusin, Dr. Sewell, Marie Verdier, Madame C. Joigneaux, Innocente Pirola, Ferdinand de Lesseps, Souvenir d'un Ami, Horace Vernet, Merveille de Lyon, Boildieu, Victor Verdier, Marie Van Houtte, Marie Finger, Edouard Morren, Heinrich Schultheis, Catherine Mermet, Countess of Rosebery, La France, Duke of Wellington, Baroness Rothschild, Madame G. Luizet, Francois Michelon, Marchioness of Exeter, A. K. Williams, Niphetos, Mrs. Baker, Marguerite de St. Amand, Dupuy Jamain, Countess of Oxford, and Countess of Pembroke; Messrs. Paul and Son were again second with excellent flowers; and Messrs. Keynes, Williams, and Co. were a close third. For twenty-four, three trusses, Mr. C. Turner, Slough, was first with superb blooms of Duke of Wellington, Heinrich Schultheis, Miss Hassard, Annie Laxton, Horace Vernet, Merveille de Lyon, Lady Fitzwilliam, Madame G. Luizet, Xavier Olibo, and Mons. Noman; Messrs. G. Cooling and Sons, Bath, were a good second; and Mr. W. Rumsey, Waltham Cross, was third with blooms of good quality.

Tea-scented and noisette roses were shown in magnificent condition in the open class for eighteen varieties, three trusses of each, and the numerous stands formed a highly attractive feature. Here Mr. G. Prince, Oxford, was first with blooms large in size and superb in finish of Alba Rosea, Francisca Kruger, Rubens, Princess of Wales, Niphetos, La Boule d'Or, Catherine Mermet, Marechal Niel, Souvenir d'Elise Vardon, Marie Van Houtte, Anna Olivier, Souvenir d'un Ami, Madame Hippolyte Jamain, Comtesse de Nadaillac, Hon. Edith Gifford, and Amazone; Mr. G. W. Piper, Uckfield, was second with a beautiful stand in which the blooms of Catherine Mermet, Souvenir d'Elise Vardon, Josephine Malet, and Madame Cusin were of exceptional excellence; Mr. C. Turner was third.

AMATEURS' CLASSES.

All the classes in which the competition was limited to amateurs were well filled, and the blooms were remarkable for their uniformly high quality. At the head of the great class for forty-eight varieties, single trusses, was Mr. W. J. Grant, Hope End Farm, Ledbury, who had superbly-developed blooms of Mons. Noman, Comtesse de Nadaillac, Marie Baumann, Rubens, General Jacqueminot, Niphetos, Countess of Rosebery, Marquise de Castellane, Alphonse Soupert, Marie Van Houtte, Alfred K. Williams, Marechal Niel, Clovis, Souvenir d'un Ami, Beauty of Waltham, Lady Mary Fitzwilliam, Ulrich Brunner, Captain Christy, Duchess of Edinburgh, Caroline Kuster, Horace Vernet, Victor Verdier, Prince Arthur, La France, Alfred Colomb, Madame Gabriel Luizet, Duchess of Edinburgh, Charles Lefebvre, Souvenir d'Elise Vardon, Sultan of Zanzibar, Bouquet d'Or Devienne Lamy, Heinrich Schultheis, Xavier Olibo, Madame Hippolyte Jamain, Auguste Rigotard, Violette Bouyer, Henri Ledechaux, Marechal Niel, Marguerite de St. Amand, Sir Garnet Wolseley, and Duke of Wellington. Mr. G. Campbell, gardener to E. P. Budd, Esq., 8, Gay Street, second, with superb flowers; and the Rev. J. H. Pemberton, Havering, Romford, third, with flowers of medium size and highly finished.

Each of the two classes for twenty-four varieties contained a large number of entries, and the flowers were of high quality throughout. In the class for twenty-four, single trusses, Mr. J. Ridout, gardener to T. B. Haywood, Esq., Reigate, was first with fine blooms of Francois Michelon, John Stuart Mill, Mrs. Laxton, Alfred Colomb, Duchesse de Valombrosa, Mrs. Baker, Duchesse de Caylus, Madame Victor Verdier, Mons. E. Y. Teas, Ville de Lyon, Captain Christy, Beauty of Waltham, A. K. Williams, Dupuy Jamain, Madame Lacharme, Duke of Teck, Mons. Noman, Charles Lefebvre, Xavier Olibo, Marie Finger, Ferdinand de Lesseps, Madame Isaac Periere, Marie Rady, and Camille Bernardin; Mr. R. E. West, Reigate, was a capital second with flowers remarkable for their brightness of colour; Mr. Gray, gardener to Earl Stanhope, Chevening Park, Sevenoaks, was third with well grown flowers. Mr. Ridout was first also in the class for twenty-four, three trusses of each, staging grand blooms, those of Alfred K. Williams, Marie Baumann, Madame Victor Verdier, Marie Rady, and Captain Christy being especially meritorious; Mr. W. J. Grant and Mr. J. Brown, gardener to A. J. Waterloo, Esq., Great Doods, Reigate, were second and third respectively, and Mr. W. H. Wakeley, Rainham, was awarded an extra. For twelve varieties Mr. J. Brown was first with an even stand of blooms, in which were represented Le Havre, Lady Mary Fitzwilliam, A. K. Williams, La France, Countess of Rosebery, Pride of Waltham, Marquise de Castellane, Merveille de Lyon, Eugene Furst, Madame Gabriel Luizet, Pride of Reigate, and Duchesse de Valombrosa; Mr. J. L. Curtis, Chatteris, Cambridge, was second; and Mr. J. Bateman, Highgate Road, N.W., third.

Tea-scented and noisette roses were presented in admirable condition, and in the class for twelve varieties, three trusses of each, the Rev. E. C. King, Madingly Vicarage, Cambridge, was first with superb blooms of Souvenir de Paul Neyron, Innocente Pirola, Princess of Wales, Marechal Niel, Triomphe de Rennes, Marie Van Houtte, Catherine Mermet, Souvenir d'Elise, Madame Cusin, and Jean Ducher. Rev. J. H. Pemberton, second with an excellent stand in which Madame Lambard, Rubens, and Jean Ducher were well represented. Mr. Wakeley was a good third, and had in his stand a superb bloom of Souvenir de Therese Levet.

SPECIAL CLASSES.

The classes provided for specified varieties and colours were all well filled, and the numerous stands produced a very pleasing effect. For a collection of pink roses, Messrs. Paul and Son were first with fine blooms of Duchesse de Valombrosa, William Warden, Lady Mary Fitzwilliam, Julie Touvais, Pride of Waltham, Madame Gabriel Luizet, Mons. Noman, and Captain Christy; Mr. R. B. Cant, second; and Messrs. J. Burrell and Co., Howe House Nurseries, Cambridge, third, with good blooms. In competition for the prizes for crimson roses. Messrs. Paul and Son were first with splendidly-developed blooms of A. K. Williams, Duke of Edinburgh, Dr. Andry, Duke of Teck, General Jacqueminot, Comte de Raimbaud, Marie Rady, Camille Bernardin, Ulrich Brunner and Marie Baumann. Mr. B. R. Cant was second, and G. Christy, Esq., Buckhurst Lodge, Westerham, third. For a collection of velvety crimson roses, Mr. B. R. Cant was first with Duke of Edinburgh, Fisher Holmes, Prince Arthur, Duke of Wellington, Maurice Bernardin, and Dr. Sewell. Messrs. Paul and Son were second, and Messrs. G. Bunyard and Co., Maidstone, were third. There was a spirited contest in the classes for white roses, and Mr. R. B. Cant was first with capital flowers of Hon. Edith Gifford, Niphetos, Devoniensis, Innocente Pirola, Madame Lacharme, and Madame Bravy. Mr. G. Prince was a close second, and Mr. G. W. Piper third. For a collection of yellow roses, Mr. G. Prince was first with Jean Ducher, Princess of Wales, Francisca Kruger, Etoile de Lyon, Marie Van Houtte, Amazone, Caroline Kuster, Perle des Jardins, Comtesse de Nadaillac, and Marechal Niel. Mr. J. Mattock, Headington, Oxford, second, and Mr. B. R. Cant, third.

In competition for the prizes for eighteen trusses of Marie Baumann, or other rose of similar colour, Messrs. Keynes, Williams, and Co. first with excellent blooms of Ferdinand de Lesseps, Mr. B. R. Cant second and Messrs. G. Bunyard third with Marie Baumann. For eighteen trusses of any rose similar in colour to Prince Camille de Rohan, Messrs. Paul and Son were first with Abel Carrière, Messrs. Keynes, Williams, and Co. second with Xavier Olibo, and Mr. B. R. Cant third with Fisher Holmes. In the class for eighteen trusses of Francois Michelon, or other variety of similar colour, Mr. Grant was first with Marquise de Castellane; Messrs. Cranston and Co., Hereford, second with Mons. Noman; and Mr. B. R. Cant third with John Hopper. The premier award in the class for eighteen trusses of any tea-scented variety was made in favour of Mr. B. R. Cant, who had superb flowers of Souvenir d'Elise Vardon,

The same exhibitor was first also in the class for eighteen trusses of Marechal Niel. Mr. G. Mount, Canterbury, Mr. W. J. Grant, and Mr. Prince were also very successful in these classes.

Begonias.

Prizes were offered for groups of tuberous begonias, but the only competitors were Messrs. J. Laing and Co., Forest Hill, who staged a large and highly-attractive collection, and had the premier award made in their favour.

NATIONAL ROSE SOCIETY, METROPOLITAN EXHIBITION, July 6.

The annual metropolitan exhibition of the National Rose Society was held at South Kensington on Tuesday, and having regard to its immense extent and the uniformly good quality of the flowers staged by both amateur and trade cultivators it may be described as one of the most thoroughly successful gatherings the society has yet held in the metropolis. Both light and dark flowers were presented in magnificent condition, and tea-scented varieties, to which increased attention has been paid of late years, were staged in large numbers, and proved immensely attractive to the general body of visitors. As in previous years, the flowers were arranged in the large conservatory; but, spacious as is that building, considerable difficulty was experienced in providing accommodation for the numerous stands staged in competition for the prizes.

Nurserymen's Division.

All the classes in which the competition was limited to nurserymen were well filled, and the flowers were on the whole of exceptionally high quality. In the great trade class for seventy-two varieties, single trusses, in which the premier award consisted of a challenge trophy of sixty guineas and £5, Mr. B. R. Cant, Colchester, was first with blooms remarkable for their large size, superb form, and bright colouring. The varieties staged were Madame Prosper Langier, Baroness Rothschild, Fisher Holmes, Edouard Morren, Sultan of Zanzibar, Comtesse de Nadaillac, Duke of Connaught, Ville de Lyon, Madame Lacharme, Boildieu, Innocente Pirola, Countess of Rosebery, Madame A. Jacquier, Dupuy Jamain, Madame Cusin, Lord Macaulay, Madame Willermoz, Duke of Teck, Hippolyte Flandrin, Beauty of Waltham, Pride of Waltham, Magna Charta, Marie Cointet, Hon. Edith Gifford, Marie Rady, Merveille de Lyon, Emily Laxton, La Boule d'Or, Xavier Olibo, Marguerite de St. Amand, Edouard Herve, Gloire de Vitry, Francois Michelon, Madame Bravy, Harrison Weir, Marquise de Castellane, Marie Baumann, Madame de Watteville, Niphetos, Prince Arthur, Duchesse de Morny, A. K. Williams, Heinrich Schultheis, Charles Lefebvre, Lady Mary Fitzwilliam, Auguste Newmann, Marie Van Houtte, Ulrich Brunner, Madame Gabriel Luizet, Maurice Bernardin, La France, Reynolds Hole, Caroline Kuster, Senateur Vaisse, Miss Hassard, Duke of Wellington, a grand bloom of this fine old rose, Captain Christy, Dr. Sewell, Devoniensis, General Jacqueminot, Marie Rady, Camille Bernardin, Souvenir d'Elise Vardon, a superb bloom for which Mr. Cant was awarded the silver medal offered for the best tea-scented rose exhibited by nurserymen, Souvenir d'un Ami, Dr. Andry, Mons. Noman, and Duke of Edinburgh. Mr. F. Cant, Colchester, was a good second with blooms of medium size, but very high in quality and bright in colour. Especially noteworthy were the flowers of Marie Baumann, Rosieriste Jacobs, Souvenir d'Elise Vardon, Prince Arthur, Dr. Sewell, General Jacqueminot, Jean Ducher, Mrs. Jowitt, Duchess of Bedford, Exposition de Brie, Souvenir d'un Ami, Camille Bernardin, John Bright, George Morean, a light rose of good quality when well grown, as in this case, Marie Van Houtte, Fisher Holmes, Rubens, Devoniensis, Horace Vernet, and La Havre. Messrs. Paul and Son, Cheshunt, were third with a capital collection, in which Dr. Hogg, Abel Carriere, and Marechal Niel were conspicuous. Mr. Charles Turner, Slough, fourth.

The collections contributed to the class for forty-eight varieties, three trusses, were very numerous, and produced a brilliant display. The post of honour in the class was occupied by Mr. B. R. Cant, with splendidly-developed blooms of Alfred K. Williams, Marie Verdier, La France, Mrs. Baker, Gloire Lyonnais, Horace Vernet, Niphetos, Marquise de Castellane, Madame G. Luizet, Countess of Rosebery, Charles Lefebvre, Marquise de St. Amand, Souvenir d'un Ami, Marie Baumann, Captain Christy, Devoniensis, Ulrich Brunner, Rubens, Emily Laxton, Dr. Sewell, Marechal Niel, Lady Mary Fitzwilliam, General Jacqueminot, Violette Bouyer, Prince Arthur, Countess of Oxford, Boildieu, Madame de Watteville, Duchesse de Valombrosa, Fisher Holmes, Etoile de Lyon, Dupuy Jamain, Francois Michelon, Prince Camille de Rohan, Innocente Pirola, Duke of Edinburgh, Marie Van Houtte, Le Havre, Baroness Rothschild, Ferdinand de Lesseps, Madame Cusin, Ville de Lyon, Duke of Wellington, Mons. Noman, La Boule d'Or, and Souvenir d'Elise Vardon; Mr. C. Turner second with flowers large in size and of good quality; Messrs. Paul and Son third, and the Cranston Nursery Company, Hereford, fourth with flowers of excellent quality.

There was a spirited competition in the class for forty-eight varieties, single trusses, and at the head of the large body of competitors were Messrs. Curtis, Sanford, and Co., Torquay, who had a very effective collection. The flowers were not exceptionally large, but were bright in colour and high in contour. The varieties represented were E. Y. Teas, Princess Beatrice, Catherine Mermet, Le Havre, Madame Lilievre Delaplace, Duchess of Connaught, Reynolds Hole, Madame de Watteville, Barthelemy Joubert, Duchesse de Morny, Beauty of Waltham, Jean Ducher, Senateur Vaisse, Lady Mary Fitzwilliam, Charles Darwin, Marie Verdier, Lord Macaulay, Violette Bouyer, Charles Lefebvre, Marie Cointet, Sultan of Zanzibar, Duchesse de Valombrosa, A. K. Williams, Aurelia Hoste, Magna Charta, Queen of Queens, Fisher Holmes, Abel Grand, Marie Baumann, Captain Christy, Ferdinand de Lesseps, Baroness Rothschild, Duke of Wellington, Madame Lacharme, Star of Waltham, Camille Bernardin, rather poor, Madame G. Luizet, Dupuy Jamain, Marguerite de St. Amand, Horace Vernet, Souvenir d'Elise Vardon, Ulrich Brunner, Merveille de Lyon, Marie Rady, General Jacqueminot, Francois Michelon, and Etienne Levet. Messrs. J. Burrell, Howe House Nurseries, Cambridge, were a close second; Messrs. George Cooling and Co., Bath, were a good third; and Messrs. Jefferies and Son, Cirencester, were fourth with flowers of good quality.

The two classes for twenty-four varieties were well filled, and in that in which three trusses of each variety were required Messrs. Curtis, Sanford, and Co. were first, staging fine blooms of Lord Macaulay, Marie Verdier, Mons. A. Dumesnil, Madame Hippolyte Jamain, Madame G. Luizet, Duke of Wellington, Marie Baumann, Abel Grand, Charles Lefebvre, Baroness Rothschild, Marie Rady, Jean Ducher, Merveille de Lyon, Dupuy Jamain, Marguerite de St. Amand, Horace Vernet, Reynolds Hole, Magna Charta, Beauty of Waltham, Duchesse de Valombrosa, Violette Bouyer, Annie Wood, Prince Arthur, and Francois Michelon; Messrs. Jefferies and Son were second with flowers of average size and grand colour; Messrs. George Cooling and Sons third, staging large, well-finished blooms. For twenty-four varieties, single trusses, Mr. G. Mount, Canterbury, was first with large, highly-finished blooms of Francois Michelon, Captain Christy, Xavier Olibo, Alfred Colomb, Souvenir de la Malmaison, Caroline Kuster, Madame G. Luizet, Louis Van Houtte, Duke of Edinburgh, Le Havre, Innocente Pirola, Madame Cusin, Souvenir d'un Ami, Dr. Andry, Marie Van Houtte, Lord Herbert, Violette Bouyer, Fisher Holmes, Baroness Rothschild, Lord Macaulay, Marechal Niel, Alfred K. Williams, Lady Mary Fitzwilliam, and Marie Baumann; Messrs. Harkness and Sons were second; Mr. Thomas Bunyard, Ashford, was third; and Mr. J. Mattock, New Headington, Oxford, fourth; the blooms being good throughout.

Tea-scented and noisettes were shown in large numbers in the trade classes, and the flowers were, on the whole, large in size and exquisitely coloured. Mr. George Prince was first in the class for twenty-four varieties, staging large and superbly-finished blooms of Marie Van Houtte, La Princesse Vera, Etoile du Lyon, Souvenir d'un Ami, Hon. Edith Gifford, Madame Hippolyte Jamain, Niphetos, Amazone, Madame Cusin, Madame Willermoz, Souvenir d'Elise Vardon, Marechal Niel, Anna Olivier, Princess of Wales, Reine du Portugal, Rubens, La Boule d'Or, Marie Sisley, Alba Rosea, Caroline Kuster, Marquise de Samina, Souvenir de Paul Neyron, and Comtesse de Nadaillac. Mr. F. Cant was a very close second, for although his flowers were hardly so large they were much fresher. Mr. B. R. Cant was third and Mr. C. Turner fourth. Messrs. G. Bunyard and Co., Maidstone, contributed a very beautiful collection to the class. In competition for the prizes for eighteen teas Mr. J. Mattock was first, with good blooms of Madame Berard, Innocente Pirola, Catherine Mermet, Niphetos, Marie Van Houtte, La Boule d'Or, Comtesse de Nadaillac, Jean Pernet, Jean Ducher, Madame Welche, Comtesse Riza du Parc, Devoniensis, Souvenir d'un Ami, and Madame H. Jamain. Messrs. J. Burrell and Co. were second and Mr. G. Mount third.

Amateurs' Division.

The competition in the classes for amateurs was very keen, and the flowers of grand quality, few blooms of a decidedly inferior character being staged.

The leading class for forty-eight distinct varieties, single trusses, was well filled, and the challenge trophy, value sixty guineas, and £5, was awarded to the Rev. Joseph H. Pemberton, Havering, Romford, who was allowed by the judges to exhibit two flowers of one variety, although the schedule stated that the varieties were to be distinct. The flowers were of superb quality, and comprised Francois Michelon, May Queenell, Camille Bernardin, Madame G. Luizet, Marie Rady, Niphetos, Hippolyte Jamain, Jean Ducher, Madame Victor Verdier, La France, Beauty of Waltham, Princess of Wales, Mrs. Baker, Madame Caroline Kuster, Annie Laxton, Lady Mary Fitzwilliam, A. K. Williams, Innocente Pirola, Horace Vernet, Magna Charta, Etienne Levet, Hon. Edith Gifford, Madlle. Marie Cointet, Captain Christy, Souvenir d'Elise Vardon, Dr. Andry, Comtesse d'Oxford, Countess of Rosebery, Baroness Rothschild, Etoile de Lyon, Merveille de Lyon, Duke of Wellington, Mons. Noman, Charles Lefebvre, Comtesse de Nadaillac, Louis Van Houtte, Devoniensis, Harrison Weir, Marie Verdier, Marie Finger, William Warden, Madame Hippolyte Jamain, Alphonse Soupert, Bouquet d'Or, Annie Wood, Duchesse de Valombrosa, and Marie Baumann. W. J. Grant, Esq., Hope End Farm, Ledbury, staged fresh, well-finished flowers, especially good being Louis Van Houtte, Constantin Fretiakoff, Dr. Andry, Le Havre, Madame G. Luizet, Niphetos, General Jacqueminot, Fisher Holmes, Lady Mary Fitzwilliam, Marie Baumann, and A. K. Williams. Mr. J. Ridout, gardener to E. B. Haywood, Esq., Woodhatch Lodge, Reigate, came third; and S. P. Budd, Esq., 8, Gay Street, Bath, fourth. For twenty-four distinct, single trusses, Mr. Gray, gardener to Earl of Stanhope, Chevering, Sevenoaks, was well to the front, exhibiting splendid blooms of Countess of Rosebery, Paul Jamain, Horace Vernet, Madame Gabriel Luizet, Abel Carriere, Alfred Colomb, Captain Christy, Etienne Levet, Louis Van Houtte, Baroness Rothschild, Marie Rady, A. K. Williams, La France, Camille Bernardin, Francois Michelon, Marechal Niel, E. Y. Teas, Lady Mary Fitzwilliam, Marie Baumann, Penelope Mayo, Comtesse Rembaud, Duke of Wellington, Ulrich Brunner, and Xavier Olibo. The second award was made in favour of Geo. Christy, Esq., Buckhurst Lodge, Westerham, who had superior flowers of Marie Baumann, Marie Rady, Duke of Wellington, Alba Rosea, La France, and Dr. Sewell. Mr. H. Harris, gardener to E. M. Bethune, Esq., Denne Park, Horsham, was third; and Mr. Gurney Fowler, Woodford, Essex, fourth. In the class for twelve distinct varieties, three trusses, there was a spirited competition, equal first prizes being awarded to W. J. Grant, Esq. and the Rev. J. H. Pemberton. The first-named exhibitor had superb blooms of Marie Cointet, A. K. Williams, La France, Le Havre, Marie Van Houtte, General Jacqueminot, Marie Rady, Madame G. Luizet, Anna Olivier, Horace Vernet, Beauty of Waltham, and Francois Michelon. The last mentioned exhibitor staged in grand condition Horace Vernet, Madame G. Luizet, Beauty of Waltham, Catherine Mermet, Marie Cointet, A. K. Williams, Marquise de Castellane, Marie Baumann, Etoile de Lyon, Charles Lefebvre, Countess of Rosebery, and Niphetos. T. B. Hall, Esq., Larch Wood, Rock Ferry, and E. W. Girdlestone, Esq., Sunningdale, Berks, were third and fourth respectively.

There was a sharp competition in the class for thirty-six varieties, single trusses, and the first honours were carried off by Mr. J. Brown, gardener to A. J. Waterlow, Esq., Great Doods, Reigate, who put up excellent flowers of Caroline Kuster, Marie Rady, Comtesse de Serenye, Camille Bernardin, Madame G. Luizet, Mrs. Baker, Marguerite de St. Amand, Charles Darwin, Mons. Noman, Duke of Edinburgh, Innocente Pirola, Charles Lefebvre, Duchesse de Valombrosa, Marquise de Castellane, Jules Finger, Duke of Wellington, Madame Lacharme, Fisher Holmes, Merveille de Lyon, Abel Carriere, Etoile de Lyon, Comte Rembaud, Captain Christy, Annie Wood, Madame Hippolyte Jamain, Reynolds Hole, La France, A. K. Williams, Eugene Furst, Marie Cointet, Duchess of Connaught, Lord Cavendish, Pride of Reigate, Lady Mary Fitzwilliam, Marie Baumann, and Catherine Mermet; the second prize went to Frederick Warde, Esq., Tutsham Hall, West Fairleigh, Maidstone, who staged excellent blooms, the most perfect in finish being Eugene Furst, Madame G. Luizet, Alfred Colomb, Caroline Kuster, Comtesse de Nadaillac, Triomphe de Rennes, Duke of Wellington, Annie Laxton, Marie Baumann, Madame Hippolyte Jamain, and Charles Lefebvre; Mr. Edward Mitchell, Romford, third. There was good competiton in the class for eight varieties premier award in favour of Mr. J. Brown, who staged Merveille de Lyon, Marie Rady, Lady Mary Fitzwilliam, Camille Bernardin, La France, Engene Furst, Etoile de Lyon, and Duke of Edinburgh. The second prize was gained by Mr. E. B. Lindsell, Bearton, Hitchen, whose stand included

well-finished flowers of Innocente Pirola, Caroline Kuster, A. K. Williams, Madame G. Luizet, La France, Captain Christy, and Madame Lacharme; Rev. E. L. Fellowes, Wimpole Rectory, Royston, and Frederick Warde, Esq., were third and fourth respectively. There were several competitors in the class for eighteen varieties, distinct, single trusses, and the first prize went to Mr. E. B. Lindsell, whose stand contained very fine blooms of Marie Baumann, Jean Ducher, Marie Rady, Madame G. Luizet, Xavier Olibo, Lady Mary Fitzwilliam, A. K. Williams, Marechal Niel, Prince Arthur, La France, Duke of Wellington, Captain Christy, Horace Vernet, Caroline Kuster, Le Havre, Baroness Rothschild, Lord Macaulay, and Madame Lacharme; Rev. L. Garnett, Christleton, Chester, was second; and Mr. J. Budgen, gardener to Miss Baker, Holmfels, Reigate, third.

In the third division set apart for amateurs there was a spirited contest in the class for eighteen distinct varieties, single trusses, the first prize going to Edwin Mawley, Esq., Rosebank, Berkhampstead, who exhibited, in good form, Charles Lefebvre, Le Havre, La France, Xavier Olibo, Souvenir de Paul Neyron, Marguerite de St. Amand, Comtesse d'Oxford, Marie Finger, Duchesse de Valombrosa, Rubens, Innocente Pirola, Caroline Kuster, Henri Ledechaux, A. K. Williams, Horace Vernet, Captain Christy, and Souvenir d'Elise Vardon. William Jackson, Esq., Slagsden Vicarage, Bedford, and Mr. W. Narroway, Headington Quarry, Oxford, were second and third respectively, and the fourth award was made in favour of Mr. H. Lister, gardener to Lord Brooke, Easton Lodge, Dunmore, Essex. The most successful competitor in the class for twelve distinct varieties, single trusses, was the Rev. Alan Cheales, Brockham Vicarage, Surrey, who put up well finished blooms of Marie Rady, Mons. Noman, Niphetos, Penelope Mayo, Marechal Niel, Charles Lefebvre, A. K. Williams, Captain Christy, Etoile de Lyon, Madame Lacharme, Star of Waltham, and Marie Baumann. Mr. H. Foster, Ashford, Kent, occupied the second place, and amongst the varieties staged there were fine flowers of A. K. Williams, Reynolds Hole, Duchess of Bedford, Marie Rady, Madame Hippolyte Jamain, and Alfred Colomb. The competition was severe in the class for nine distinct varieties, single trusses, and the winner of the first prize was the Rev. H. Biron, Lympere Vicarage, Hythe, who staged, in first-rate condition, Marie Van Houtte, Marie Baumann, Madame G. Luizet, Captain Christy, Marie Rady, Innocente Pirola, Duke of Edinburgh, La Boule d'Or, and Violette Bouyer. Charles E. Cuthell, Esq., Chapel Croft, West Humble, Dorking, was second, and amongst the best flowers in his stand were Marechal Niel, Madame Victor Verdier, Marie Rady, Camille Bernardin, and Madame G. Luizet. Mr. H. Shoesmith, gardener to the Rev. Canon Hodgson, Saltwood Rectory, Hythe, and Mr. E. Horne, Park House, Reigate, were third and fourth respectively. For six varieties, distinct, single trusses, the Rev. Frank S. Taylor, Littleton Vicarage, Evesham, was first, staging Marechal Niel, Madame G. Luizet, Charles Lefebvre, Jean Ducher, and Marie Baumann. Miss Alice Mary Lucas, Hitchen, came second.

Teas and noisettes were of high quality, the flowers being of good form, full, and noticeable for their freshness and delicacy of colouring. In the class for eighteen teas or noisettes, distinct varieties, single trusses, the first prize was awarded to the Rev. E. G. King, D.D., Madingley Vicarage, Cambridge, the varieties exhibited being Marechal Niel, Madame Lambard, Marie Van Houtte, Madame Hippolyte Jamain, Souvenir de Paul Neyron, Souvenir d'un Ami, Catherine Mermet, Anna Olivier, Innocente Pirola, Francisca Kruger, Princess of Wales, Sunset, Souvenir d'Elise Vardon, Adrienne Christophle, Niphetos Caroline Kuster, David Pradel, and Jean Ducher. The Rev. Joseph H. Pemberton, was second, and equal third prizes were awarded to Mr. H. Harris and the Rev. F. Page-Roberts, the Rectory, Scole, Norfolk. For twelve, E. Claxton, Esq., The Rosary, Allerton, Liverpool, was first, putting up Niphetos, David Pradel, Souvenir d'un Ami, Madame Hippolyte Jamain, Madame Cusin, Innocente Pirola, Madame de Watteville, Comtesse de Nadaillac, Princess of Wales, Madame Willermoz, Jean Ducher, and Caroline Kuster. The second prize went to Mr. J. Brown and the Rev. L. Garnett, and Mr. E. B. Lindsell were third and fourth respectively. In the class for six teas or noisettes, distinct, single trusses, the Rev. F. R. Burnside, Chipping Campden, Gloucestershire, was first, staging remarkably fine flowers of Madame Cusin, Marechal Niel, Comtesse de Nadaillac, Etoile de Lyon, Souvenir d'Elise, and La Boule d'Or. Mr. H. Shoesmith came second. Mrs. Fuller, the Vicarage, Bexley, Kent, and J. Sladden, Esq., were third and fourth respectively.

The silver medal offered for the best hybrid perpetual variety was won by the Rev. Joseph Pemberton, who had a magnificent flower, perfect in form, of A. K. Williams. There was also a silver medal offered for the best tea or noisette, and this was gained by the Rev. E. G. King, D.D., with a flower, of the famous Souvenir d'Elise Vardon, almost faultless in form, full and exquisitely coloured.

The winner of the first prize in the class for twenty-four distinct varieties, twelve hybrid perpetuals and twelve teas or noisettes, was Mr. Simmons, gardener to the Rev. R. C. Hales, Woodmancote Rectory, Henfield, Sussex; the second and third awards were made in favour of William H. Jackson, Esq., Stagsden Vicarage, Bedford, and W. J. Grant, Esq., in the order of their names. For a basket of teas or noisettes the most successful exhibitor was Charles E. Cuthell, Esq.; E. Claxton, Esq., came second; and the Rev. John A. Williams, Alderminster Lodge, Stratford-on-Avon, third. In the class for six distinct varieties, single trusses, in which only amateurs who have never won a prize at an exhibition of the National Rose Society were allowed to compete, the most successful competitor was J. H. Ashurst, Esq., Farningham. Samuel Tuke, Esq., Hitchin, was second; and L. Limes, Esq., Hitchin, and the Rev. F. F. Lambert were third and fourth respectively. Mr. H. Shoesmith headed the prize list in the class for twelve distinct varieties, single trusses; the second prize going to W. J. Grant, Esq., Ledbury.

Open Classes.

Collections of button-hole roses were admirably shown by Mr. J. Mattock and Messrs. G. Bunyard and Co., to whom the first and second prizes were awarded. Mr. Mattock had good bouquets of David Pradel, Comtesse de Nadaillac, Niphotos, W. A. Richardson, Marie Van Houtte, Innocente Pirola, Souvenir de Paul Neyron, Madame de Watteville, and Homer. The prize-takers in the class for moss roses were Messrs. Paul and Son, Messrs. G. Bunyard and Co., and The Cranston Nursery Company, all of whom had attractive stands of flowers. Collections of garden roses were not without interest, but they contributed but little to the attractiveness of the exhibition. The prizes were awarded to Rev. J. H. Pemberton, Mr. J. Sladden, Badsey, Worcestershire, and Mr J. Walker, Thame, in the order of their names. The winner of the piece of plate offered as the first prize in the open class for twelve teas, three trusses of each, was Mr. B. R. Cant, who had a remarkably good stand of flowers; Mr. F. Cant was a close second.

The whole of the classes for roses of specified colours were especially well filled, and the several stands presented a highly effective appearance. For twelve trusses of any yellow roses Mr. W. J. Grant was first with Marie Van Houtte, and Mr. W. H. Wakeley, Mr. J. Walker, and Mr. B. R. Cant were second, third, and fourth respectively with Marechal Niel. The exhibitor last mentioned was first for twelve trusses of any white rose with Niphetos, and Messrs. Curtis, Sanford, and Co. were second with Merveille de Lyon, Mr. Piper third with Niphetos, and Mr. C. Turner fourth with Alba rosea. For twelve trusses of any single rose Mr. B. R. Cant first, Mr. F. Cant second, and Messrs. Curtis, Sanford, and Co. third with Alfred K. Williams, and Mr. Wakeley fourth with Alfred Colomb. In competition for the prizes for twelve trusses of any velvety crimson rose Messrs. Keynes, Williams, and Co. were first with Reynolds Hole in superb condition, Messrs. G. Cooling and Sons, Bath, second, Mr. G Prince third, and Mr. B. R. Cant fourth. In the class for twelve trusses of any rose Mr. Henry Bennett, Shepperton, was first with magnificent blooms of Lady Mary Fitzwilliam; Messrs. Curtis, Sanford, and Co. were second with fine blooms of Ulrich Brunner; and Mr. B. R. Cant third with Souvenir d'Elise.

New Roses.

Roses of recent introduction were staged rather better than usual in the classes specially provided for them, but of those shown a few only were presented in a condition to justify the expectation that they will eventually take a high position. For twelve Messrs. Paul and Son were first, with a collection comprising Longfellow, Madame Norman Neruda, Madame Rawul Chandos, Pride of Reigate, Ella Gordon, Madame de Watteville, Marshal Wilder, Baronne N. de Rothschild, Grace Darling, Victor Hugo, Madame Julie Gaulin, and Etendard de Jeanne d'Arc. Messrs. Curtis, Sanford, and Co. were second with a stand of which the best blooms were those of General Appert, Victor Hugo, Madame Massicault, President Senelar, Souvenir de Reine Lévêque, and Gloire Lyonnais; Mr. B. R. Cant third, his two best flowers being Dr. Dor, General Appert, and Edouard Herve. For six new roses, T. W. Girdlestone, Esq., Sunningdale, Berks, was first with well-developed blooms of Gloire Lyonnais, Lady of the Lake, Joseph Metial, Grace Darling, Madame de Watteville, and Souvenir de G. Drevet; Rev. Alan Cheales, Brockham, was awarded the third prize. There was a keen competition for the prizes for twelve trusses of any new rose, and Mr. B. R. Cant was first with Madame de Watteville in superb condition. Messrs. Curtis, Sanford, and Co. were second with Benoit Comte, a hybrid perpetual of good form, a rich purplish rose colour; Messrs. Paul and Son third with Madame Norman Neruda.

Messrs. William Paul and Son, Waltham Cross, Herts, exhibited blooms of Grand Mogul, a very promising hybrid perpetual, the flowers large, full, and of fine form, the colour brilliant scarlet-crimson. Silver Queen, a distinct hybrid perpetual, the flowers of full size and fine form, and of a delicate shade of pink with carmine-pink centre.

LEWISHAM DISTRICT FLORAL SOCIETY, June 30 and July 1.

The first summer exhibition of the Lewisham District Floral Society was held on the above dates, and proved so great a success in all its details that a long and prosperous career for the society may be anticipated. The executive were fortunate in obtaining permission to hold the show in the beautiful grounds of Riverdale, Lewisham, which possess, in addition to other advantages, that of occupying a central position, and one great element of success was thus ensured. The schedule of prizes offered for competition was thoroughly comprehensive, and included several classes for cut roses, in which the prizes were very liberal, and the competition open to both trade and private growers throughout the country. In these, as indeed in the majority of the classes, the competition was very keen, and the productions generally were of remarkably good quality. As indicating the extent of the show it may be mentioned that the competitive and miscellaneous collections sufficed to fill three large tents, which were admirably arranged, and presented a very attractive appearance. The exhibition was opened on the first day by the president, Viscount Lewisham, and owing to the fine weather and the great interest that is being taken in the district in the work of the society the attendance was on both days eminently satisfactory.

Plant Classes were admirably filled, as both gardeners and amateurs of the district contributed liberally to the exhibition. The premier award in the class for six zonal pelargoniums, single varieties, was made in favour of Mr. Westcott, gardener to Mrs. Penn, Grove House, Lewisham, whose collection consisted of neat well-bloomed specimens. In the corresponding class for double zonals Mr. C. Nunn, gardener to J. Soames, Esq., Blackheath, was first; and Mr. Westcott second with excellent collections. Mr. Nunn was first also in the class for six fuchsias, staging large well-flowered specimens; and Mr. J. R. Smith, gardener to R. W. Mitchell, Esq., Brockley, was second with good examples. Mr. H. J. Jones, Hope Nurseries, Lewisham, was first for six show and fancy pelargoniums, staging specimens of medium size and superbly flowered; Mr. T. Rennells, Lewisham, was a capital second. Tuberous begonias were represented by excellent collections from Mr. H. J. Jones, Mr. C. Nunn, and Mr. Berry, to whom the prizes were awarded in the order of their names. Ferns were well shown by Mr. C. Nunn, who was first in both the classes provided, and by Mr. Smith. The most successful of the exhibitors of table plants were Mr. Cox and Mr. Nunn, who staged excellent collections in the two classes. The collections of plants contributed to the classes in which the competition was limited to amateurs was of a high average and reflected much credit on the several exhibitors. The principal prizetakers were Mr. Colsell, Mr. J. W. Upton, Mr. E. Berry, Mr. Bryant, Mr. Jupp, Mr. Need, Mr. Forrester, Mr. Cordery, and Mr. Harris.

Groups of Plants were of great excellence and formed a highly-attractive feature. In the gardeners' class Mr. Smith and Mr. Cox were first and second respectively, and in the class for amateurs Mr. Berry was first and Mr. Bryant second. For a group of orchids Mr. Noakes, gardener to Dr. Duke, Lewisham, was first. The exhibitor last mentioned staged also (not for competition) a large and attractive group, in which orchids predominated, and was awarded an extra prize.

Cut Flowers formed a very large and beautiful feature of the exhibition. There was a very strong competition in the open class for twenty-four roses, and in the result the prizes were awarded to Mr. B. R. Cant, Colchester, Messrs. Paul and Son, Cheshunt, and Messrs. G. Bunyard and Co., Maidstone, all of whom staged flowers of high quality. In the gardeners' classes for roses, Mr. Harris, Mr. Cox, and Mr. Westcott were the prizetakers. Bouquets were especially good, and the prizes were awarded to Mr. T. Butcher, South Norwood, Mr. H. J. Jones, and Mr. J. R. Chard. In the class for sprays Mr. Butcher and Mr. Chard were first and second respectively. The baskets of flowers shown by ladies were so numerous and good as to form a very attrac-

tive feature and bring the exhibitors much praise. Mrs. Jupp, Mrs. Forrester, and Mrs. Berry were the prizetakers in the ladies' class for bouquets.

Miscellaneous Contributions included very large and interesting collections of ornamental plants from Messrs. J. Carter and Co., High Holborn, Messrs. J. Laing, Forest Hill, and Mr. H. J. Jones. Mignonette and godetias were admirably shown by Mr. G. Fry; groups of miscellaneous plants were contributed by Mr. H. Elsou and Mr. J. Blowfield; and stands of cut flowers by Messrs. Cannell and Sons, Messrs. G. Bunyard and Co., and Mr. Todman, Eltham. Mr. Jupp exhibited a fireplace attractively arranged with growing plants.

The arrangements were admirably carried out under the direction of Mr. Drake, the hon. secretary, and the prizes were awarded by Mr. Hore, Mr. Berkshire, and Mr. G. Gordon.

WIMBLEDON HORTICULTURAL SOCIETY, July 7.

The annual exhibition of this admirably-managed society was held on Wednesday in the beautiful grounds of "Belvedere," the residence of A. Schlusser, Esq., when an excellent display of plants, flowers, fruits, and vegetables was produced by the cultivators of the district. Some of the classes for plants were not, perhaps, quite so well filled as at some of the previous exhibitions, but both cut flowers and vegetables were very well shown, and whilst reflecting much credit on the skill of the respective exhibitors formed remarkably interesting and attractive features. The weather was delightful, and the attendance was sufficient to show that there is no lack of interest in the society and its work.

Flowering and Ornamental-leaved Plants had several classes devoted to them, and although in a few instances rather below the average were represented by several excellent collections. In the class for four, Mr. A. Methven, Fernwood, Wimbledon, was first with a collection which included good specimens of Clerodendron Balfouri, Acalypha tricolor, and Croton Imperator; Mr. J. Bentley, gardener to Sir Thomas Gabriel, Bart., Wimbledon, a close second with a group in which Eucharis Amazonica was especially good. The most successful exhibitors in the class for six miscellaneous plants were Mr. H. Alderman, Morden Park, and Mr. J. Bentley. In the class for six plants with ornamental leafage Mr. W. Smith was first with nicely-developed examples of Pandanus Veitchi, Dracæna Youngi, and other well-known subjects. In competition for the prizes for a single specimen plant in bloom, Mr. Bentley was first with Clerodendron Balfouri; and in the class for a single specimen plant with ornamental leafage, Mr. Bentley was first with Areca lutescens, and Mr. Smith second. Coleus were splendidly shown in the class for six by Mr. H. Alderman, whose plants were of large size, perfect in contour, and brilliantly coloured. Mr. J. Lyne, the able gardener at "Belvedere," exhibited, not for competition, a large collection of flowering and ornamental-leaved plants.

Soft-wooded Plants in Bloom produced a bright display of colour. Tuberous begonias, for which there were several classes, were better than at any previous show, and attracted much attention. The most successful of the several exhibitors were Mr. Newell and Mr. J. Bentley. Gloxinias were well shown by these two exhibitors, and from Mr. Smith came a very fine group of Achimenes, the specimens of Mauve Perfection and Longiflora major being the most noteworthy. Zonal pelargoniums were presented in admirable condition by Mr. J. Bentley, Mr. J. Cassell, Mr. J. MacFarlane, and other exhibitors. Mr. J. Staples was successful in taking the first prize in the class for six petunias.

Cut Flowers formed one of the most important and attractive features of the show, the roses being plentiful and exceptionally good. There was a keen contest in the open class for twenty-four roses, and the prizes were awarded to Messrs. J. Cheal and Son, Crawley, Mr. C. Gibson, gardener to J. Wormald, Esq., Morden Hill, and Mr. W. B. Faulkner, Worple Road, Wimbledon, all of whom had excellent stands of bloom. Messrs. J. Cheal and Sons were first also in the open class for twelve roses, staging blooms of high quality; Mr. Northover, Queen's Road, Wimbledon, was second with good blooms; and Mr. C. Gibson third. For four varieties, three trusses of each, Messrs. J. Cheal and Sons were first, and Mr. J. MacFarlane was second. In other classes for roses the exhibitor last mentioned, Mr. J. W. Wright, Mr. Northover, and Mr. Callaway were the most successful exhibitors. The successful exhibitors of stands of gloxinia blooms were Mr. A. Newell, gardener to Sir E. Saunders, and Mr. H. Alderman. Button-hole bouquets were remarkably good, the best being those from Mr. H. Alderman, Mr. J. Bentley, Mr. G. Luff, and Mr. Curtis, in whose favour the respective awards were made. Mr. D. S. Thomson, Wimbledon, and Messrs. J. Cheal and Sons contributed beautiful collections of hardy flowers not for competition.

Groups were quite equal to the high average of previous years, and were very attractive. The most successful exhibitors were Mr. W. Smith, Mr. Northover, Mr. Ware, and Mr. J. Bentley. Mr. D. S. Thomson exhibited a large and very beautiful group of miscellaneous plants, not for competition, as also did Messrs. J. Laing and Co., Forest Hill. Messrs. J. Veitch and Sons, Chelsea, contributed a beautiful collection of roses in pots.

Fruit comprised excellent grapes, peaches, melons, and strawberries. The premier award in the class for a collection of six kinds was made in favour of Mr. C. Gibson, who had good Muscat of Alexandria and Black Hamburgh grapes. The principal prizes for grapes were awarded to Mr. J. Casswell, Mr. C. Gibson, Mr. Methven, and Mr. Bentley. The finest dishes of peaches were those from Mr. H. Alderman and Mr. A. Alderman, who were first and second respectively in both the classes. Mr. A. Newell and Mr. W. Smith were first and second respectively in the class for melons with fine fruit of Hero of Lockinge; and Mr. W. Dare was third with Blenheim Orange.

Vegetables were remarkably good, and in the great class for twelve kinds Mr. W. Smith was first, Mr. H. Alderman second, and Mr. C. Gibson third with collections evincing cultural skill of a high order.

The judges were Mr. J. Puttick, Mr. J. Wright, Mr. Jordan, and Mr. G Gordon.

TEDDINGTON HORTICULTURAL SOCIETY.

The fifteenth annual exhibition of this society was held recently in the grounds of Bushey Lodge, by permission of F. Braby, Esq. Great interest is taken in gardening matters in this locality, and it is therefore scarcely necessary to mention that the show was of a high-class character, the productions on the whole being of considerable merit. It was noticeable that all exhibitors who had not adhered strictly to the schedule were disqualified by the judges. This is as it should be. The rules laid down by the society are intended to be read and acted upon, and it is the duty of the judge to disqualify if the exhibits are not in accordance with the schedule.

The exhibits were tastefully arranged in four tents, the largest of which were occupied with table decorations, stove and greenhouse plants in flower, groups arranged for effect, and cut flowers. The groups made a conspicuous feature, and in the principal class Messrs. Hooper and Co., of Twickenham and Covent Garden, occupied the first place. There was good competition in the class for a group nine feet by six feet, and the first prize was taken by Mr. Filsell, the second and third awards being made in favour of Mr. Coombes and Mr. Buckland. The stove and greenhouse flowering and foliage plants made a fine display, and the same may be said of the pelargoniums and fuchsias. Gloxinias and roses were well shown by Messrs. Lambert, Staples, and Warwick, who were the chief prize winners. Roses, not for competition, were contributed by Messrs. J. Veitch and Sons, Chelsea, and Mr. R. Laing, Twickenham, some very fine flowers being shown.

Fruit proved one of the best features of the exhibition, making a beautiful and tempting display. Mr. Bates, Twickenham, secured the premier award in the class for six dishes, and the same exhibitor also came to the front in the class for white grapes. Mr. J. Coombes won the first prize in the class for black grapes, and other successful exhibitors in the fruit classes were Mr. H. Lambert, and Mr. Gregory.

Vegetables occupied considerable space, and in the classes for cottagers the productions were quite up to the average. The principal prizetakers were Messrs. R. S. Walker, T. Hoar, and W. Lathbury.

Table Decorations and Bouquets made a pleasing feature, and the most successful exhibitors in the various classes were Mrs. Fletcher, Miss H. De Wette, Miss J. Braby, Miss Bainbridge, and Miss E. Millwood.

The judges were Mr. Puttock and Mr. Woodbridge; and we may also mention that the arrangements were well carried out by Mr. Simmonds, the hon. secretary.

EALING HORTICULTURAL SOCIETY, July 7.

The great interest evinced in this old-established society shows no sign of flagging, judging from the twenty-second annual exhibition, which was held in the grounds of Hanger Hill House, Ealing, on the above date, by permission of E. M. Nelson, Esq., J.P. There were many fine features in the show, and few of an inferior character; while the arrangements were perfect, thanks to the hon. secretary, Mr. Richard Dean, who manages this society with such marked tact and success.

Roses made a conspicuous feature, and in the open class for twenty-four varieties, distinct, three blooms of each, Mr. Charles Turner, Royal Nurseries, Slough, came first, putting up well-developed flowers of Madame Victor Verdier, La France, Madame Willermoz, Star of Waltham, Marquise de Castellane, Souvenir de la Malmaison, Pride of Waltham, Sultan of Zanzibar, Ville de Lyon, Alba roses, Madame Caroline Kuster, Xavier Olibo, A. K. Williams, Comtesse Pruisse, Annie Laxton, Madame Hippolyte Jamain, Madame Alfred Dumesnil, Lady Mary Fitzwilliam, Prince Arthur, Madame Margottin, Abel Carriere, Queen of Queens, and Archimede. The second award was made in favour of Mr. W. Rumsey, Waltham Cross, who also had very satisfactory blooms. For twelve teas or noisettes Mr. Charles Turner again occupied the foremost position, putting up, in good condition, Innocente Pirola, Madame Caroline Kuster, Archimede, Madame Margottin, Catherine Mermet, Alba roses, Marechal Niel, Madame Willermoz, Niphetos, Etoile de Lyon, Comtesse Pruisse, and Perle des Jardins; Mr. Geo. Elliott, gardener to Joseph Moore, Esq, Melbourne Lodge, Ealing, and Mr. J. A. Morris, Acton, were second and third respectively. There was good competition in the class for twelve distinct varieties, and there were four prizes offered, these being the gold, silver-gilt, silver, and bronze medals of the National Rose Society. The winner of the gold medal was Mr. W. Langdon, gardener to H. Howard Haywood, Esq., Hill Side, Ealing, who put up fresh, well-formed flowers of La France, Charles Lefebvre, Souvenir de la Malmaison, Devoniensis, Comtesse d'Oxford, Baroness Rothschild, Louise Van Houtte, Captain Christy, Marie Finger, Marie Van Houtte, and Beauty of Waltham. Mr. Geo. Elliott won the silver-gilt medal, and the silver and bronze medals were awarded to Mr. Chadwick, gardener to E. M. Nelson, Esq, J.P., Hanger Hill House, and J. R. Harris, Esq., Ealing, respectively.

Plants made a pleasing display, and in the class for a group, twelve feet by nine, Mr. E. Chadwick was first with a tasteful arrangement; the second prize going to Mr. A. Wright, Chiswick; and the third to Mr. J. Hudson, gardener to H. J. Atkinson, Esq., Gunnersbury House, Acton. In the class for a group, six feet by four, Mr. John Sutton, gardener to Mrs. Wilkinson, Wellington House, Ealing, was first; Mr. J. Baird, gardener to A. Daw, Esq., Homefield, Ealing, second; and Mr. Alfred Cox, gardener to W. Amherst, Esq, Suffolk House, Acton, and Mr. G. Weeden third and fourth respectively. For six fine foliage plants Mr. H. Davis, gardener to H. G. Lake, Esq., Fairlawn House, Acton, was first; the second award being made in favour of Mr. E. Smith, gardener to Thos. Nye, Esq., Oakville, Ealing; and the third place was occupied by Mr. E. Fountain, gardener to Miss Wood, The Elms, Ealing. For four fine foliage plants Mr. J. Baird was first; and in the class for a specimen fine foliage plant Mr. C. Brackley was the most successful competitor, staging Maranta zebrina; Messrs. H. Davis and F. Milsom were second and third respectively. The winner of the first prize in the class for four caladiums was Mr. E. Smith; the second place being occupied by Mr. H. Davis.

In the class for four stove and greenhouse plants in flower Mr. A. Wright occupied the post of honour; and for six flowering plants the prizetakers were Mr. H. Davis and Mr. Fountain in the order of their names. Fuchsias produced a fine effect, the first place in the class for a single specimen being occupied by Mr. G. Fulford, gardener to J. Boosey, Esq., Hill House, Acton; the second and third prizes being awarded to Mr. E. Smith and Mr. W. Wright respectively. For four fuchsias Mr. E. Smith was first. Classes were also provided for pelargoniums, gloxinias, petunias, and other summer flowering subjects.

Ferns and Selaginellas added to the beauty of the show. In the class for six distinct kinds Mr. E. Fountain was first, Mr. E. Smith second, and Mr. A. Wright third. For four mosses Mr. J. Sutton and Mr. H. Davis were first and second respectively. There were other classes set apart for ferns and mosses, and these were fairly well filled.

Fruit was not largely shown, but the quality was first-rate. In competition for the special prizes offered for six dishes of hardy fruits Mr. C. Edwards, gardener to W. Owen, Esq., The Elms, Ealing, was first, and Mr. E. Chadwick and Mr. F. Milsom, gardener to W. Lindell, Esq., Manor House, Drayton Green, second and third respectively. For a collection of fruit Mr. J. Baird came to the front, and in the class for two bunches of black grapes Mr. F. Milsom headed the prize list, staging Black Hamburgh, the second place being occupied by Mr. J. Baird. In the corresponding class for white

Mr. J. Sutton put up Muscat of Alexandria in creditable condition, and was awarded the first prize, Mr. J. Baird coming second. Strawberries were of exceptionally high quality, and in the class for two dishes, distinct varieties, Mr. W. Garlandroy, gardener to E. B. Bingley, Esq., Greenford, was first, exhibiting James Veitch and British Queen.

VEGETABLES proved one of the best features of the show, and in the class for eight distinct kinds Mr. F. Milsom secured the principal award, the second prize going to Mr. W. Wright, and the third and fourth to Mr. H. Davis and Mr. W. Roberts respectively. For three dishes of potatoes Mr. W. Wright headed the prize list, staging Fillbasket, Extra Early Vermont, and Beauty of Hebron; Mr. C. Edwards was second; and Mr. W. Farndon third. In the class for nine tubers of any white variety Mr. F. Milsom gained the first prize, putting up Rivers' Royal Ashleaf; S. Dyer, Esq., and Mr. J. Holden were second and third. In the corresponding class for any coloured kind Messrs. E. Smith, F. Milsom, and W. Langdon were the prizetakers in the order of their names. For fifty pods of peas Mr. G. Abbott came first, Mr. John Abbott second, and Mr. W. Langdon third.

TABLE DECORATIONS and bouquets occupied a large portion of one tent, and in the class for three stands or vases of flowers Mrs. Hudson, Gunnersbury House, Acton, occupied the post of honour, with an elegant arrangement displaying great taste; Mr. E. Chadwick was second, and Miss Jessie Dean third. The principal prizetakers in the other classes were Miss Howard Hayward, Mr. G. Weeden, Miss S. Hogg, and Miss Slade.

MISCELLANEOUS CONTRIBUTIONS included a large group of miscellaneous plants from Messrs. Charles Lee and Son, Hammersmith, and tastefully-arranged groups from Messrs. Fromow and Son, Chiswick, and Mr. J. Roberts, gardener to Leopold de Rothschild, Gunnersbury Park, Acton. A group of plants also came from Mr. J. Hudson, gardener to H. J. Atkinson, Esq., Gunnersbury House, Acton; and cut roses from Messrs. J. Veitch and Sons, Chelsea.

RICHMOND HORTICULTURAL SOCIETY, JULY 7.

This prosperous and ably-managed society held its twelfth annual summer exhibition in the Old Deer Park, Richmond, on the above date, and the show was not only of large extent, but the exhibits were of a high order of merit. Fruit was well shown, and the same may be said of the vegetables, the cottagers in these classes showing up to advantage. We need scarcely add that the arrangements were admirably carried out by Mr. H. J. Ford, the hon. secretary.

STOVE AND GREENHOUSE PLANTS made a bright feature, and in the open class for nine specimens Messrs. T. Jackson and Son, Kingston-on-Thames, came first, staging Pimelia diosmæflora, Erica jubana rubra, Boroma elatior, Rondeletia speciosa major, Allamanda cathartica, Dracophyllum gracile, Hederoma fuchsioides, Pimelia mirabilis, and Erica ventricosa Bothwelliana; Mr. H. James, Castle Nursery, Lower Norwood, secured the second place. In the class for six Mr. W. Bates, gardener to Mrs. Meek, Poulett Lodge, Twickenham, occupied the post of honour; Mr. W. Bowell, gardener to Lady Parker, Stanwell House, coming second. Pelargoniums made a gay display, and the principal prizewinner in the class for six zonal varieties was Mr. J. Sallows, gardener to Mrs. Flack, Twickenham. The second prize was won by Mr. F. Barnes, gardener to W. S. Graham, Esq., and the third by Mr. E. Coombs, gardener to W. Furze, Esq., Roselands, Teddington. In the class for six exotic orchids Messrs. T. Jackson and Son were the most successful; the second award being made in favour of Mr. F. J. Hill, gardener to H. Little, Esq., The Barons, Twickenham; and the third prize went to Mr. H. James. Fuchsias were on the whole well grown, Mr. J. Dorsett, gardener to Mrs. Welch, Westcroft, Kingston, being first in the class for nine specimens.

FINE FOLIAGE PLANTS AND FERNS proved an important feature. Caladiums were well shown by Mr. D. East, gardener to F. Wigan, Esq., Clare Lawn, East Sheen, who secured the first prize in the class for six; the second place being occupied by Mr. G. Dowe, gardener to J. Wigan, Esq., Mortlake; and the third by Mr. Osborn, gardener to the Earl of Fife, East Sheen. Mr. D. East was again the most successful competitor in the class for six exotic ferns; and for eight Mr. J. Munro, gardener to E. D. Paul, Esq., Cambridge House, Twickenham, was winner of the first prize. For six coleus the prizetakers were Messrs. D. East, of Sallows, and F. Barnes in the order of their names.

GROUPS arranged for effect made a pleasing display. In the class for a group, not to exceed one hundred square feet, the first prize was taken by Messrs. Hooper and Co., Twickenham; the second award was made in favour of Mr. W. Brown, St. Mary's Grove Nursery; and Mr. H. James and Messrs. Fromow and Son, Chiswick, were third and fourth respectively. For a group of plants in or out of flower T. R. Geaves, Esq., Hatfield House, Twickenham, came first, and Messrs. W. Bowell and T. Buckland, gardener to G. J. Atkins, Esq., were second and third respectively.

ROSES were well shown, and in the open class for thirty-six varieties, distinct, three trusses of each, Messrs. Paul and Son, Cheshunt, occupied the post of honour, the same exhibitors also gaining the first prize for twenty-four varieties, distinct, three trusses of each. In the class for twenty-four varieties, single trusses, Mr. C. Warwick, gardener to J. P. Kitchen, Esq., Hampton, was first; and Mr. R. E. West and Mr. W. Fanning, gardener to W. Clarke, Esq., Roehampton, second and third respectively. For twelve varieties, distinct, single trusses, Mr. R. E. West headed the prize list, Mr. C. Warwick coming second, and Mr. H. E. Lambert third. In the class for twenty-four Mr. W. Bates came first; Mr. W. Croker, gardener to W. Regester, Lawn Lodge, Isleworth, being second; and Mr. D. East third. For eighteen varieties, distinct, single trusses, the prizetakers were Messrs. E. Lake, W. Croker, and D. East, in the order of their names.

FRUIT was, on the whole, of good quality. In the class for six dishes the first prize was gained by Mr. H. Cakebread, gardener to Sir Philip F. Rose, Bart., Rayners Penn, Bucks, who had Foster's Seedling and Black Hamburgh grapes, Golden Perfection melon, Grosse Mignonne peach, Elruge nectarine, and Early Violet fig; Mr. W. Bates was second; and Mr. T. Osman, gardener to L. J. Baker, Esq., Ottershaw Park, Chertsey, third. For three bunches of black grapes Mr. T. Osman came first, putting up Black Hamburgh, Mr. H. Cakebread coming second. In the corresponding class for white the prizetakers were Mr. T. Osman, Mr. H. Cakebread, and Mr. G. Hiehle, gardener to W. Cuttard, Esq., Twickenham, in the order of their names. In the classes in which only exhibitors residing in the society's district could compete there was some excellent fruit shown. For three bunches of black grapes Mr. J. Coombs came first with Madresfield Court, Mr. W. Bates second, and Mr. W. Campin, gardener to T. Cave, Esq., third. In the corresponding class for white Mr. W. Bates headed the prize list, the second place being occupied by Mr. J. Coombs, and the third by Mr. W. Campin. For a single pineapple Mr. O Hiehle exhibited Smooth Cayenne, and was placed first, Mr. W. Bates coming second. In the class for nine peaches Mr. E. Lake, gardener to Captain Boycott, Haversham Grange, Twickenham, was first, showing Noblesse in fine condition, Mr. O Hiehle being placed second. For nine nectarines Mr. O. Hieble was first with Elruge, and Mr. E. Lake second with Lord Napier. In the class for two dishes of strawberries Mr. W. Croker secured the first prize; and for one dish of cherries the most successful competitor was W. A. Older, Esq., the second place being occupied by Mr. J. Coombs.

VEGETABLES occupied a large portion of one good-sized tent, and cottagers' exhibits were quite up to the average. In the open class for a collection of twelve distinct kinds Mr. C. J. Waite, gardener to the Hon. W. P. Talbot, Esher, was first; Mr. J. Coombs and Mr. H. E. Lambert being second and third respectively. For six dishes, distinct, Mr. J. Stroud, Police Orphanage, Twickenham, came first; Mr. T. Buckland and Mr. Cooper, gardener to T. B. Cartwright, Esq., being second and third respectively. For a brace of cucumbers T. R. Geaves, Esq., and Mr. J. Sallows were first and second respectively. In competition for the prizes offered by Messrs. Sutton and Sons, Reading, for the best brace of cucumbers, T. R. Geaves, Esq., came first, J. R. Tindale, Esq., second, and Mr. J. Coombs third. Messrs. J. Carter and Co. also offered prizes for the best brace of cucumbers, and the premier award was made in favour of Mr. J. Stroud, T. R. Geaves, Esq., coming second, and Mr. F. Barnes third.

TABLE DECORATIONS were of great merit, and there was sharp competition for the prizes offered by Lady Ellis for the best arranged dinner table. Mrs. T. Butcher, South Norwood and Croydon, secured first honours, Mr. W. Brown being placed second.

Miscellaneous contributions included a fine group of pot roses from Messrs. J. Veitch and Sons, Chelsea, a group of miscellaneous plants from J. Laing and Co., Forest Hill, and a group from Messrs. Charles Lee and Son, Hammersmith.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The forty-third anniversary festival of this institution was held at the Albion Tavern, Aldersgate Street, on Friday, July 2, N. N. Sherwood, Esq., of the firm of Hurst and Son, presiding. The party numbered about two hundred, there being in fact not one seat vacant. The tables were richly dressed with flowers and fruits, and the dinner was so well served as once more to justify the declaration, frequently heard, that the gardeners' dinner is the best of its class in the round of the London season.

Amongst the guests were: Lord Crewe, Baron Schröder (vice-president), Sir Trevor Lawrence, Bart., M.P. (vice-president), Rev. H. H. D'Ombrain, Dr. M. T. Masters, James Dickson, Esq. (Mayor of Chester), James Cutt, Esq. (Master of the Fruiterers' Company), Major Bolton, Major Saxby, E. Tidswell, Esq. (treasurer), Major Lambert (vice-president), G. Anderson, Esq., Sidney; E. Pope, Esq., Sidney; Hon. Dicksey, Canada; Messrs. J. R. Bourne, T. Gabriel, H. J. Veitch, J. Margetson. E. H. Milner, E. Gardiner, W. Takley, John Lee, E. A. Cathie, J. Laing, W. J. Nutting, J. C. Geselbrecht, W. Richards, G. Kelly, H. Low, W. T. Baker, C. D. Hoblyn, B. Wynne, G. Cavendish, D. Syme, Shirley Hibberd, J. Manning, P. Veitch, A. Turner, Moss, Bates (Vilmorin and Co.), Pickard, Cavendish, Cooper, Peter Barr, Allister, Aiton, Davidson, J. S. Johnson, B. S. Williams, Cuthbert, David, E. R. Cutler (the secretary of the institution).

The loyal and patriotic toasts were duly honoured according to custom, but with (if possible) added enthusiasm, Major Bolton and Major Lambert responding for "The Army and the Reserve Forces."

The Chairman then proposed the toast of the evening, "Prosperity to the Gardeners' Royal Benevolent Institution." In the course of an admirable speech, he said it was in the year 1838 that a few charitably-disposed gentlemen had conceived the laudable idea of starting the Gardeners' Benevolent Institution, with the intention of helping poor and distressed gardeners in their old age. For years the institution had not prospered, but in the year 1842, on the election of the present most worthy secretary—(cheers)—matters had begun to look up. In 1843 the first anniversary dinner was held, and the product of that dinner was £40. (Laughter and cheers). Since that time the institution had never looked back. (Applause.) And at the present moment he was happy to tell them its income amounted to over £2,000 a-year. (Cheers.) They had funded the sum of £21,000. They had 118 pensioners on the lists, the men receiving £20 per annum and the women £16 per annum. Since the society was instituted they had helped 553 persons, at a cost of over £43,000. (Applause.) He was sure they would all agree with him that these figures spoke for themselves. But at the same time, although they had been so successful, they must not relax their efforts. The institution had daily wants and increasing demands upon its resources. When he told them that it was estimated that in England there were 21,000 gardeners, they would imagine to what a degree of usefulness the institution might be carried. Need he dwell on the special claims of the institution on their charity, and on their sympathy and support? Bountiful nature had showered this earth of ours with lovely flowers in countless profusion, with luscious fruits, with health-giving vegetables, but it was to our gardeners we looked, by their care, zeal, and attention, to cultivate them and bring them to the state of perfection in which they now saw them. (Hear, hear.) Many present were aware how arduous was the gardener's life. (Hear, hear.) In all weathers, in all climates, in all seasons he had to be at his post. Early and late he worked, through climatic changes of all kinds; having to be in hothouses, in cold houses, in rain, in sunshine, he was liable to become rheumatic, and many other ailments that caused him to be unable to gain his daily living. He thought they would also agree with him that, as a rule, gardeners were not highly remunerated. (Hear, hear.) The £21,000 reserve fund to which he had already referred produced but a small sum towards the annual expenditure, and moreover that £21,000 was a nest egg. They did not want to touch it. The institution might have a rainy day. Hitherto they had been prosperous, but the time might come when they were not so. They therefore had to rely on their donations and subscriptions, and he was very happy to say that when gardeners were appealed to through the proper channel they did respond to the appeal. He could not too highly recommend and ask others to recommend them to become subscribers to the institution. He would urge upon them its claims and the necessity of belonging to a society like this, which of all things in the world taught the grand lesson of self-help, thrift, and providence. (Applause.) Anyone who had been a subscriber of one guinea for 15 years was eligible for a pension without the necessity of a canvass. The answer might be given that he would never want the pension, but there were men who had been in affluent circumstances who were now glad to avail themselves of the help afforded by the institution.

And if they did not require its help for themselves they would still have the satisfaction that, in paying their annual subscriptions, they were helping others. (Applause.) He coupled with the toast the name of Mr. John Lee, the father of the institution. (Cheers.)

The toast having been received with abounding enthusiasm,

Mr. John Lee returned thanks. He said it was true that he had been connected with the institution from the very beginning. It was originated by the late Mr. George Glenny. (Cheers.) It had been taken up heartily by the nurserymen and seedsmen, and eventually brought into the flourishing condition it now occupied. Very great exertions had been made for the last three or four years in accumulating a sum of money with a view of raising the small pensions which were given. This year, happily, it had been accomplished, and he thought it had certainly given a fillip to the institution and added to its welfare. What had contributed greatly to bring it to its present position was the fact that they had a most excellent secretary—(hear, hear)—and he might say that the secretary was about the best beggar in the world. (Laughter and cheers.) For the first few years the institution had only had one pensioner, and had found considerable difficulty in paying his pension and in meeting expenses. The number was now raised to 116. (Cheers.) Most of the hospitals were in debt, but this institution had made it a rule to fund its legacies, and had never spent its money before it got it. (Hear, hear.)

Mr. J. R. Bourne proposed "The Health of the President, Vice-Presidents, and Treasurer of the Institution." Some persons spoke against benevolent institutions, and said that if these people could not help themselves they should be helped by the State. He held that to be a vicious doctrine. (Hear, hear.) The society did not undertake to maintain people in a state of pauperism. It helped those who helped themselves and endeavoured to help others. (Hear, hear.)

Baron Schröder, in responding, said although not an Englishman he had been in this country so many years that he could hope now to entertain the sympathies that bound Englishmen together; and his association with this institution urged him to the advocacy of something similar in aid of German gardeners, and assuredly his countrymen might with advantage act upon the example this useful institution afforded.

Mr. Tidswell, the treasurer of the institution, said they were indebted to Miss Williams for the tasteful arrangement of the plants and flowers, as also to Mr. B. S. Williams, Messrs. Veitch, of Chelsea, Messrs Veitch, of Exeter, Messrs. Cutbush, Laing, Paul and Son, Low, of Clapton, and other good friends for the material of which the display consisted.

Major Lambert proposed "The Health of the Chairman," which was drunk upstanding, with musical honours.

The Chairman returned thanks, and proposed "The Health of the Secretary (Mr. E. R. Cutler)."

The Secretary returned thanks, observing that it was the forty-third time he had had the honour of doing so. He said that there were fifty people present at the first dinner, and he was glad to say that three of them were in the room now. He then announced donations and subscriptions amounting to £1,430, including the following: Chairman, 175 guineas; Baron Schröder, 25 guineas; Sir Trevor Lawrence, 25 guineas; Major Lambert, 30 guineas; Mr. Dickson (Mayor of Chester), 100 guineas. This was the largest amount which had ever been received, but as there were some subscriptions received late, the total would, in all probability, reach a total of £1,500.

Mr. Adams proposed the Royal Horticultural and Botanical Societies.

Sir Trevor Lawrence, Bart., M.P., responded. He said the Royal Horticultural Society, of which he had the honour to be president, was often and sharply criticised, and the critics were not always the best informed, nor were they always guided by the best sympathies. But he was inclined to agree with those who said the society had not done what it might and should have done in the interest of young gardeners. There was a lamentable lack of means of systematic training for gardeners in this country, and their position could be best seen by contrasting it with what they saw on the Continent, and more particularly in Belgium, where opportunities were made for systematic study and for the development of practice with science. He would indulge the hope that the Royal Horticultural Society might awaken to its duties in respect of this matter, and be found equal to all reasonable claims that might be made upon it.

Mr. Shirley Hibberd proposed "Prosperity to the Seed and Nursery Trades," saying that, although these trades had to bear a heavier share than many other trades of the commercial depression that had so long prevailed, there were not many outward signs of consequent weakness. Indeed, in a study of current figures, it would be found that the seed and nursery trades were as sound as any, although by their close association with agriculture it might have been otherwise. There were many reasons to account for this happy state of things, but he would venture to name one which might be pertinent to the occasion, and it was that amidst general depression the seedsmen and nurserymen did not depress each other. There was, in fact, more than an average of generous and kindly feeling in their business transactions, they seldom appeared in law courts, and were better able, therefore, to assist in such matters as were now before them, subscribing liberally to the institution, and illustrating again the old motto "union is strength." Trade was at a low ebb throughout the world, a state of things doubtless due to the appreciation of gold, the artificial price of which deranged the relations of producer and consumer. The depression being general, and apart from all special interests, it may be expected to work its own cure in the natural course of events. We might therefore confidently look forward for better times, and he would ask them in drinking the toast to indulge the wish that when prosperity returned the seed and nursery trades would enjoy a large share of it.

Mr. James Dickson, Mayor of Chester, responded. He said recent doings at Liverpool proved that horticulture had a deep and strong hold upon the people of this country, and it was evident to all that the Royal Horticultural Society had increasing claims on their confidence and support. He agreed with his friend Mr. Hibberd in regarding trade depressions due to general and not to particular causes, and therefore he would agree with him also in looking for improvement as due in the natural unfolding of events. As regards the prosperity of individuals it rested so much with themselves that there was not much to be said about it. When he heard a seedsman or nurseryman complain he knew at once that he was wanting in enterprise, or perhaps in industry, or it might be in talent. Business does not seek men, and therefore men must seek business. He was thankful for the pleasant hours passed on the present occasion as a relief from the turmoil of politics, and he should return to Chester to resume his official duties the better every way from having enjoyed this festive association with the benevolent horticulturists.

The Chairman proposed "The Stewards," and Mr. B. S. Williams responded.

The musical part of the entertainment was admirably managed, the principal vocalists being Miss Mary Belval, Miss Kate Flinn, Mr. Edward Dalzell, and Mr. Egbert Roberts. Mr. F. R. Kinkee presided at the pianoforte.

LEE AND BLACKHEATH HORTICULTURAL SOCIETY, July 7 and 8.

The annual summer exhibition of this flourishing society was held on the above dates in the grounds of The Cedars, Lee, by permission of Mrs. Penn. The show was of a high class character, and in almost all the classes there was good competition, with the result that the tents were well filled. As the arrangement of the various subjects was tasteful and effective, the interior of the several marquees presented a bright and attractive appearance.

Flowering Plants made a bright display, and in the class for six stove and greenhouse plants in bloom Mr. S. Reece, gardener to R. Whyte, Esq., Lee, put up well-grown specimens, and was placed first; the second prize being awarded to Mr. J. Hudd, gardener to F. W. Prior, Esq., Blackheath Park. For six fuchsias Mr. A. Luff, gardener to R. R. Hyatt, Esq., Streatham, occupied the post of honour; Mr. J. Hudd and Mr. W. Jeffery, gardener to J. Young, Esq., Blackheath Park, being second and third respectively. In the class for four stove and greenhouse plants in flower Mr. W. Jeffery came first; and the prizetakers for a specimen flowering plant were Messrs. S. Reece, J. Hudd, and J. Rhoden, gardener to General Harrison, Blackheath Park, in the order of their names. Mr. Noakes, gardener to J. Duke, Esq., M.D., The Glen, Lewisham, was first in the class for a specimen orchid, exhibiting Oncidium crispum grandiflorum. Mr. Noakes again came to the front for four orchids, staging well-flowered specimens of Cattleya Mossiæ, Lælia purpurata, Anguloa Clowesi, and Odontoglossum Alexandræ; Mr. A. Luff was second; and Mr. G. Barker, gardener to J. Hemmerde, Esq., Blackheath, third.

Fine Foliage Plants and Ferns added considerably to the attractions of the exhibition, and in the class for six the premier award was made in favour of Mr. S. Reece, who staged fine well-grown specimens; the second place was occupied by Mr. J. Hudd. Caladiums were well shown, and in the class for six Mr. H. Martin, gardener to A. English, Esq., won the first prize; the second award being made in favour of Mr. T. Clarke, gardener to H. Wolffram, Esq., Manor House, Lee. In the class for four caladiums Mr. J. Balcombe, gardener to J. S. Rivolta, Esq., Manorway, Blackheath Park, was first, and Mr. W. Jeffery second. In the class for four ornamental foliage plants Mr. J. Lambert, gardener to H. W. Segelcke, Esq., Herne Hill, Dulwich, occupied the chief place; the second prize being awarded Mr. W. Jeffery, and the third to Mr. C. Nunn, East Greenwich. In the class for twenty-four miscellaneous plants Mr. Reece and Mr. J. Hudd were first and second respectively; and for twelve the winner of the first prize was Mr. W. Jeffery, the second place being occupied by Mr. Rhoden, and the third by Mr. H. Martin. For six dracænas Mr. A. Luff and Mr. S. Reece were first and second respectively; and in the class for four Mr. J. Lambert was first and Mr. C. Nunn second. Mr. S. Reece occupied the post of honour in the class for a specimen plant; the second prize going to Mr. J. Lambert and the third to Mr. J. Balcombe. Mr. A. Luff staged well-grown specimens in the class for six exotic ferns, and was placed first; Mr. S. Reece and Mr. R. Sholdice, gardener to R. P. Barrow, Esq., being second and third respectively. For four mosses Messrs. J. Rhoden, J. Lambert, and J. Hudd were the prizetakers in the order of their names.

Groups arranged for effect were numerous, and displayed great taste in arrangement. For a group not to exceed forty feet Mr. A. Luff put up a pleasing arrangement, and was adjudged the premier place; Mr. J. Barker was placed second, and Mr. G. Spong, gardener to G. Legge, Esq., third. For a group not to exceed a space of thirty feet Mr. J. Balcombe was the most successful exhibitor.

Cut Flowers made a conspicuous feature. In the open class for forty-eight roses, distinct, Messrs. George Bunyard and Co., Maidstone, were first. They were also the most successful for twenty-four roses, distinct, the second award being made in favour of Mr. A. Harris, Courtyard, Eltham. The last-mentioned exhibitor headed the prize list in the class for twelve varieties, P. Spurling, Esq., coming second. For six varieties, distinct, Mr. A. Harris and P. Spurling, Esq., were first and second respectively.

Fruit and Vegetables were quite up to the average, and formed an important part of the exhibition. In the class for a collection of vegetables and salad Mr. C. Nunn came first and Mr. Jeffery second. For six kinds Mr. Luff, Mr. J. Rhoden, and Mr. E. Smith were the prizetakers in the order of their names. For eight kinds Mr. W. Jeffery was first; and the principal prizetakers in the other classes for vegetables were Messrs. J. Howe, J. T. Smith, G. Cole, E. Smith, and W. Garland.

In the class for a collection of fruit Mr. W. Jeffery and Mr. J. Hudd were first and second respectively. For three bunches of black grapes Mr. J. Howe came first and Mr. E. Holden second, and in the corresponding class for white the prizetakers were Messrs. J. Hudd, J. Howe, W. Jeffery, and P. Wright in the order of their names. Classes were also provided for melons, peaches, nectarines, and strawberries.

BATH ROSE SHOW, July 8.

The Bath Rose Show, which was held in the Sydney Gardens on Thursday last, proved so eminently successful in the whole of its details that it was generally regarded as one of the best exhibitions that has yet been held under the direction of the Bath Floral Fête and Band Committee. The schedule of prizes offered for competition was remarkable alike for its comprehensiveness and liberality, and, whilst affording ample encouragement to both amateur and trade cultivators, it ensured a full representation of the several classes of roses that usually make their appearance at the public exhibitions. The competition was, with one or two exceptions only, very keen in the whole of the twenty-five classes, and the flowers generally were remarkably good, the date evidently having been most suitable to the majority of the exhibitors. The flowers were, indeed, somewhat better than those shown at the exhibition of the National Rose Society on Tuesday, and the very dark varieties, such as Reynolds Hole and the Sultan of Zanzibar, were presented in magnificent condition, the blooms being large in size, perfect in form, and splendidly coloured. In addition to the roses there was an excellent display of strawberries, which proved very attractive to the visitors. The interest of the exhibition was materially enhanced by the lecture on roses, which was delivered in the course of the afternoon by T. W. Girdlestone, Esq., to a large and appreciative audience.

TRADE DIVISION.

All the classes specially provided for nurserymen were well filled, and the flowers in the several collections, although differing in relative merit, were of exceedingly high quality throughout. There were four entries in the great class for seventy-two varieties, single trusses, and the premier award, consisting of a valuable silver cup presented by the Mayor of Bath, was made in favour of Mr. B. R. Cant, whose flowers were of large size, very bright in colour, and of superb quality. The varieties represented were Alfred K. Williams, La Duchesse de Morny, Abel Carriere, Marguerite de St. Amand, Jean Liabaud, Souvenir d'Elise Vardon, Madame Charles Wood, Madame de Watteville, Alfred Colomb, Pride of Waltham, Horace Vernet, Comtesse Panisse, a superb cream-coloured tea, Charles Lefebvre, Madame Eugene Verdier, Prince Arthur, Madame Prosper Langier, Xavier Olibe, a grand bloom, perfect in colour and finish, Madame Ferdinand Jamain, Baronne N. de Rothschild, Mrs. Baker, Jean Ducher, Annie Laxton, La France, Lord Macaulay, Souvenir de Mons. Bell, Reynolds Hole, Madame Hippolyte Jamain, Ferdinand Chaffolte, Etoile de Lyon, Jules Chretien, Souvenir d'un Ami, Marie Rady, Queen of Queens, Duke of Wellington, Devoniensis, Marie Verdier, Ulrich Brunner, Niphetos, Duke of Teck, Comte de Flandre, Catherine Mermet, Madame C. Crapelet, Star of Waltham, Le Havre, Countess of Oxford, Dr. Sewell, Madame Clemence Joigneaux, Marie Cointet, Mrs. Laxton, Duke of Edinburgh, Edouard Morren, Marechal Niel, Countess of Rosebery, Penelope Mayo, Francois Michelon, Auguste Neumann, Mons. Noman, Exposition de Brie, Madame Lacharme, Mons. Alfred Dumesnil, Madame Angèlé Jacquier, Emily Laxton, Madame G. Luizet, Mons. Benoit Comte, John Hopper, Marie Baumann, Colonel Felix Breton, Madame Cusin, Dr. Andry, and Merveille de Lyon; Mr. Frank Cant, Colchester, was a close second with blooms rather smaller in size than those in the first prize collection, but brilliant in colour and of grand form; Messrs. Paul and Son, Cheshunt, were third with remarkably good flowers. Messrs. George Cooling and Sons, Bath, also exhibited a fine collection, the high-coloured flowers being particularly good.

The contributions to the class for thirty-six varieties, three trusses of each, were very numerous, and the several collections produced an exceedingly rich effect. Mr. George Prince, Oxford, occupied the post of honour with a fine collection, in which the tea-scented varieties were very strongly represented, both in numbers and quality. The varieties were: Reynolds Hole, Souvenir d'Elise Vardon, La Duchesse de Morny, Lady Mary Fitzwilliam, Marie Baumann, Innocente Pirola, Queen of Queens, Fisher Holmes, La France, Alfred K. Williams, Comtesse de Nadaillac, Miss Hassard, Captain Christy, Princess of Wales, Alfred Colomb, Comtesse de Serenye, Pride of Reigate, Madame de Watteville, Francisca Kruger, Duchesse de Valombrosa, Star of Waltham, Xavier Olibo, Marechal Niel, superb in colour, Mons. Noman, Marie Rady, Charles Lefebvre, Catherine Mermet, La Boule d'Or, Madame Gabriel Luizet, Princess Mary of Cambridge, Prince Arthur, Jean Ducher, Alba rosea, Prince Camille de Rohan, Francois Michelon, and Souvenir de Paul Neyron, one of the most beautiful of the teas; Mr. B. R. Cant was a good second with a very telling collection of flowers; and Messrs. Keynes, Williams, and Co., Salisbury, were a very close third, the blooms being of full size and of high finish.

The blooms contributed to the class for eighteen varieties, three trusses of each, were especially good, and Messrs. Curtis, Sanford, and Co., Torquay, had the premier award made in their favour. The varieties shown by the firm were Madame Lacharme, Souvenir de Rene Leveque, Queen of Queens, Mons. Alfred Dumesnil, Marie Verdier, Jean Lilievre, Madame Hippolyte Jamain, Marie Baumann, Pride of Waltham, Beauty of Waltham, Abel Grand, Horace Vernet, Lady Mary Fitzwilliam, Francois Michelon, Charles Lefebvre, Reynolds Hole, Merveille de Lyon, and Ulrich Brunner. Messrs. J. Jefferies and Son, Cirencester, were a very close second with medium-sized flowers of good form and high finish.

The entries were very numerous in the class for thirty-six varieties, single trusses, and the flowers generally were of high quality. Messrs. Curtis, Sanford, and Co., Torquay, occupied the first place with finely-developed blooms of Ulrich Brunner, Emperor Alexander, Charles Darwin, Madame H. Jamain, Marie Rady, Dudley Baxter, Marie Verdier, Marie Baumann, Marquise de Mortemarte, Horace Vernet, Madame Lacharme, Duke of Teck, Mrs. Baker, Madame C. Wood, Catherine Mermet, Fisher Holmes, Francois Michelon, Souvenir de Rene Leveque, Madame Gabriel Luizet, Beauty of Waltham, Marie Cointet, Mons. Alfred Dumesnil, Lady Mary Fitzwilliam, Reynolds Hole, Jean Ducher, Madame Lelievre Delaplace, Captain Christy, Duchess of Bedford, Violette Bonyer, Etienne Levet, Queen of Queens, Lord F. Cavendish, and Marquise de Castellane; Messrs. J. Jefferies and Son, Cirencester, were second with a collection of great excellence; and Mr. J. Mattock, New Headington, Oxford, was third. Tea-scented varieties were presented in large numbers and in splendid condition by the trade cultivators. For eighteen, Mr. George Prince was first, with flowers of exquisite form and colour, the varieties being Souvenir d'Elise Vardon, Etoile de Lyon, Comtesse de Nadaillac, Rubens, Niphetos, Francisca Kruger, Alba Rosea, Madame Cusin, Marechal Niel, Souvenir d'un Ami, Souvenir de Paul Neyron, Madame de Watteville, Anna Olivier, Mons. Furtado, Innocente Pirola, La Boule d'Or, Catherine Mermet, Jean Ducher. Mr. F. Cant was second with a stand of great excellence, the blooms of the undermentioned being particularly good, namely, Madame Willermoz, Madame Cusin, Souvenir d'Elise Vardon, Madame Margottin, Souvenir d'un Ami, La Boule d'Or, Catherine Mermet, Marie Van Houtte, Grace Darling, and Marechal Niel. Mr. B. R. Cant was third with a stand, in which Marie Van Houtte, Madame Lambard, and Madame Cusin were the most conspicuous.

AMATEURS' DIVISION.

There was a very spirited contest in the classes in which the competition was limited to amateurs, and the flowers generally were of magnificent quality. In the class for thirty-six varieties, single trusses, the Rev. J. H. Pemberton, Havering, Romford, was first with large, splendidly-developed blooms of Horace Vernet, Therese Levet, Camille Bernardin, Catherine Mermet, Dr. Andry, Marquise de Castellane, Duke of Edinburgh, perfect in shape and colour, Lady Mary Fitzwilliam, Ulrich Brunner, Innocente Pirola, Charles Lefebvre, Countess of Oxford, Madame Gabriel Luizet, Henri Ledechaux, Beauty of Waltham, Exposition de Brie, John Stuart Mill, Belle Lyonnaise, Countess of Rosebery, Pride of Waltham, Alfred K. Williams, Merveille de Lyon, Souvenir de Madame Alfred Vy, Niphetos, Mrs. Baker, Madame George Schwartz, Alfred Colomb, Madame Bravy, Marie Baumann, Francois Michelon, Prince Arthur, and Madame Eugene Verdier; Mr. W. J. Grant, Ledbury, was a good second with large flowers remarkable for their high colour and finish; T. W. Girdlestone, Esq., Sunningdale, was a close third with flowers of medium size, superbly finished, and well coloured. The class for twenty-four varieties was remarkably strong, and the post of honour was occupied by Captain Christy, Sidmouth, with large, highly coloured, and well-finished blooms of Merveille de Lyon, Madame Charles Wood, Catherine Mermet, Dr. Andry, La France, Mrs. Jowitt, Marie Rady, Captain Christy, Marie Baumann, Belle Lyonnais, Xavier Olibo, Madame Lacharme, Abel Carriere, Lady Mary Fitzwilliam, Ulrich Brunner, Baroness Rothschild, Le Havre, Marie Cointet, Alfred K. Williams, Marie Finger, and Louis Van Houtte; Mr. W. Narroway, Oxford, second with a stand in which were excellent blooms o Xavier Olibo, Duke of Wellington, Duchess of Bedford, Abel Carriere, Pierre Carnot, and Souvenir d'Elise Vardon; Mr. J. Weston, gardener to the Rev. C. C. Layard, was third with flowers of remarkably high quality. The competition was remarkably good in the class for twelve varieties, and at the head of the several exhibitors was Mr. W. J. Grant, who had excellent blooms of General Jacqueminot, Marie Verdier, Marquise de Castellane, Fisher Holmes, Alfred K. Williams, Souvenir d'Elise Vardon, La France, Marie Baumann, Marie Cointet, Xavier Olibo, Madame Gabriel Luizet, and Marie Rady; Mr. T. B. Hall, Rock Ferry, Birkenhead, was a close second, staging blooms of medium size and good quality; T. W. Girdlestone, Esq., third with well finished flowers.

Four classes were set apart for amateurs residing within six miles of Bath, and in that for twenty-four varieties S. P. Budd, Esq., was awarded the gold medal offered as the first prize. The flowers were of large size and well finished, and comprised Madame Eugene Verdier, Duke of Edinburgh, Alfred Colomb, Alfred K. Williams, Madame G. Luizet, Marquise de Castellane, La France, Louis Van Houtte, Avocat Duvivier, Marshal P. Wilder, Merveille de Lyon, Louis Corbie, Abel Grand, Prince Arthur, Heinrich Schultheis, Camille Bernardin, Madame Louis Pernet, Xavier Olibe (an especially good flower of this fine rose), Comtesse de Paris, Marie Baumann, Francois Michelon, and Marie Rady. Mr. George Campbell, gardener to T. Jolly, Esq., Bath, was second with well-developed blooms. In competition for the prizes for twelve Rev. W. E. Gardiner was first with fine flowers of Alfred K. Williams, Maurice Bernardin, White Baroness, Cheshunt Hybrid, Madame Lacharme, La France, Madame Charles Crapelet, Marie Van Houtte, Marie Baumann, Baroness Rothschild, and Francois Michelon. Mr. W. Jones, gardener to J. S. Pope, Esq., was second with good blooms; and Mr. A. W. Southward, gardener to F. J. Walker, Esq., Bath, third. In the class for six the first prize was awarded to Mr. Henry James, who had a fine stand, in which there was a superb bloom of Marechal Niel; Mr. G. Horsell was a good second, and Mr. S. Brown third.

TEAS were presented in capital condition in the amateurs' classes, and in competition for the prizes for twelve Rev. J. H. Pemberton was first with large and finely-formed flowers of Belle Lyonnais, Souvenir d'un Ami, Francisca Kruger, Rubens, Madame Bravy, Jules Finger, Comtesse de Nadaillac, Jean Ducher, Madame Hippolyte Jamain, Marie Van Houtte, Hon. E. Gifford, and Catherine Mermet.

OPEN DIVISION.

Classes in which the competition was open to both trade and private growers were provided for twelve trusses of roses of specified colours, for six trusses of any new rose, for button-hole roses, and for baskets of roses; and in these, as in the other classes, the prizes were contested with much spirit. For twelve trusses of any yellow rose Mr. Frank Cant and Mr. B. R. Cant were first and second with good stands of Marechal Niel; and Mr. W. J. Grant, third, with Marie Van Houtte. In the class for twelve trusses of a crimson rose; Mr. G. Prince occupied the first place with very fine blooms of Reynolds Hole; Messrs. Keynes, Williams, and Co., second with a stand of Xavier Olibe; Messrs. Curtis, Sanford, and Co.; were third with Marie Baumann, the blooms of large size, but rather wanting in colour. For twelve trusses of La France Mr. W. J. Grant was first, Mr. Frank Cant second, and Messrs. Curtis, Sanford, and Co. third with beautiful boxes. For twelve trusses of any variety, Messrs. Keynes, Williams, and Co. were first with superb blooms of Reynolds Hole, which has seldom been so well shown as on this occasion; Messrs. Curtis, Sanford, and Co. second with fine blooms of Ulrich Brunner, and Mr. Frank Cant third with Mons. Noman. In competition for the prizes for six trusses of any new rose, Mr. B. R. Cant was first with Madame de Watteville; Messrs. Curtis, Sanford, and Co. were second with Benoit Comte, a very fine crimson hybrid perpetual, and Messrs. G. Cooling and Son third with Alphonse Soupert.

There was a spirited contest for the prizes for button-hole roses, and the boxes of blooms were particularly attractive. The premier award was made in favour of Mr. J. Mattock, who had a beautiful stand, comprising Amazone, Homer, Souv. de Paul Neyron, David Pradel, Niphetos, Comtesse Riza du Parc, Marie Van Houlte, Souv. de Therese Levet, W. A. Richardson, Souv. d'un Ami, Jean Pernet, Anna Olivier; Messrs. G. Cooling and Son were a close second with a charming box. In competition for the prizes for baskets of roses Mr. J. Mattock was first, and Messrs. G. Cooling and Son were second, both having remarkably tasteful arrangements.

The silver medal offered for the best hybrid perpetual in the show was awarded to the Rev. J. H. Pemberton for the bloom of Horace Vernet in his first prize thirty-six, and the silver medal for the best tea was awarded to Mr. F. Cant for a bloom of Souvenir d'Elise, staged in his second prize seventy-two.

STRAWBERRIES.

These were plentiful and good in quality. For six dishes Mr. J. House, Westbury-on-Trym, was first with well-coloured fruit of British Queen, Sir Joseph Paxton, Princess Alice, James Veitch, President, Loxford Hall Seedling; Mr. H. Scott was second, and Mr. Tiley, Bath, third. For three dishes, Mr. W. G. Tyleo was first, staging good fruit of President, Sir Joseph Paxton, and Newton Seedling. In the class for a single dish Mr. W. Scott was first with Sir Joseph Paxton.

QUEEN OF BEVERAGES.—Refreshing the weary, stimulating the inactive, soothing the invalid, cheering the social.—PURE TEA alone, by its intrinsic and excellent qualities, "pales the fire" of all other drinks.—*A cup of good tea* is always welcome, as proved by the fact that 6,000,000 (six million) packets of Horniman's Pure Tea are sold every year by 4,000 duly appointed Agents, *Chemists and Confectioners*. The description, if Black, Green, or Mixed Tea, also the retail price, is plainly printed on each packet, with the Importers' warranty that their tea is free from all adulteration. Some unscrupulous persons copy the labels, wrappers, &c., used by Messrs. Horniman, purchasers are therefore cautioned to *avoid spurious imitations*. See advertisements in all papers, and at the railway stations.—[ADVT.]

FINAL NOTES FROM LIVERPOOL.

Boiler Trials.

The boiler trials have been reported on so far as to conditions and the general course of the competition. There will be issued in due time—which we hope will be within reasonable time—an official report on the subject. It may satisfy curiosity for the present to state that in the two thousand feet section the winner is Messrs. F. and J. Mee, of Liverpool. In the one thousand feet Mr. S. Deard, of Harlow, first; Mr. J. Witherspon, of Durham, second. In the five hundred feet the first winner is Mr. Deard, with Mr. J. G. Wagstaff, Manchester, and Mr. T. Wood, Bristol, equal seconds.

Medals.

The magnificent collection of seeds, roots, fruits, models, and other things pertaining to the seed trade, presented by Messrs. Sutton and Sons, of Reading, obtained for the eminent firm the Society's Banksian gold medal. The great collection of orchids, filmy ferns, and Alpine plants from Messrs. Backhouse and Son, of York, obtained for the firm a like award. The gold medal was also awarded to Messrs. Veitch and Son for a miscellaneous group of plants; Messrs. Foster and Pearson, for extent of excellence of their exhibition of plant houses; and to Mr. B. S. Williams, Upper Holloway, for group of plants.

Silver Banksian medals were awarded to Messrs. Carter and Co., for a brilliant group of annuals in pots; Mr. Charles Turner, of Slough, for group of tree carnations; Liverpool Horticultural Company, for group of orchids and ferns; Messrs. Cutbush and Son, for group of miscellaneous plants; Messrs. F. and A. Dickson and Sons, for stove and greenhouse plants; Mr. F. Sander, for collection of orchids; Messrs. Halliday and Co., Middleton, for system of heating a small conservatory, and, again, silver medal for plant houses; Messrs. Foster and Pearson, for collection of valves, pipe joints, &c., and to the same firm the like award for a plant house; to Messrs. Richardson, of Darlington, for a forcing house.

Bronze medals were awarded to Mr. E. Bridge, for pelargoniums; Messrs. J. Dickson and Sons, for succulent plants; Messrs. Messenger and Son, for piping and valves, plant houses, orchard house, &c.; Messrs. Peel and Son, Wood Green, for portable plant house; Messrs. Wrinch and Son, Ipswich, for conservatory, plant houses, and frames; Messrs. Low and Co., of Chester Road, Manchester, for vineries, &c.; Messrs. Stewart and Jack, for portable plant house; Mr. S. Deard, of Harlow, for Victoria dry glazing.

Other awards of medals were reported last week.

Floral Committee.

Mr. J. O'Brien presided, and there were present besides, Major Lendy, Mr. Herbst, Mr. Richard Dean, Mr. Shirley Hibberd, and Mr. J. Laing.

First-class certificates were awarded to Messrs. Veitch and Son for

Pteris tremula foliosa, a showy variety, with richly crisped pinnules, the colours fresh and pleasing.

Philodendron grandidens, a grand fine foliage plant, differing much from the usual style of philodendrons, the leaf blades long and richly coloured.

Nephrolepis rupescens tripinnatifida, a rich erect-growing fern, which might be described as a refined and altogether superb form of the Cambrian polypody; but it is too truly a nephrolepis to allow of the comparison, and it gives promise of being a grand thing for specimen culture.

Rhododendron Aurora, a valuable addition to the series of hybrids of Javanicum; the flowers are of fine form, the colour a deep and distinct tone of orange.

Protea cynaroides is the plant brought forward at a previous meeting as P. Hubhardi, to which in our report we added a note of interrogation as a warning to the reader. Being now correctly named and shown in perfect condition it obtained a Botanical certificate.

To Mr. B. S. Williams, Upper Holloway, for

Araucaria excelsa vervaetiana, an exceedingly rich variety of the ever-beautiful Norfolk Island pine; the colour is delicious.

To Messrs. P. Ker and Son, Aigburth, for

Croton Aigburthensis, a miniature of C. angustifolia, the growth smallish, the leaves long and narrow, brilliant orange-yellow, a superb table plant.

Croton Newmanni is a robust-growing variety of tree-like aspect, with large oblong leaves coloured in the most brilliant manner; crimson, orange, amber, and profound purplish bronze. A quite remarkable plant.

To Messrs. James Backhouse and Son, York, for

Hymenophyllum pectinatum, a delicate filmy fern, with distinct leafage, the pinnæ being frizzled with curious uniformity.

Trichomanes meifolium, a robust New Zealand plant, the style of which comes near to that of a Todea.

Polypodium vulgare trichomanoides is a much-divided form that will be valued if constant; the pinnæ are excessively laciniated in imitation of a filmy fern.

Asplenium marinum plumosum is of moderate growth, with pinnæ much divided; a pleasing variety, well-adapted for frame culture.

Chrysanthemum leucanthemum Puy de Dome is probably the largest-flowered variety of this plant known; the flowers are remarkably well-finished, as for the special delight of the florists, and the leafage is of a refined character.

To Messrs. Birkenhead, Sale, for

Nephrodium Sangwelli, a pleasing pale green fern of upright growth, the pinnæ narrow toothed.

Lastrea montana coronans, a prettily tufted and crested form of this pretty Britisher.

To Kelway and Son, Langport, Somerset, for

Gaillardia Ormonde, a remarkably fine variety, the large flowers being of a rich orange, shaded with brown and crimson.

Pyrethrum Lawtonburgh, a superb double white; the large lot of flowers shown were perfect samples throughout, the form hemispherical, closely quilled with brief guard, and delightfully pure in colour.

Gymnogramma schizophylla gloriosa has been before the committee twice at South Kensington and has been put aside for further consideration. It was now presented by Messrs. Veitch and Messrs. Ker; in each case the plants were in fine condition, and the committee were enabled to make needful comparisons with other forms of G. schizophylla. Being satisfied of its distinctness and value for specimen culture, it was distinguished by the award of a first-class certificate.

TRADE CATALOGUES.

Ewing and Co., Havant, Hampshire.—*Roses, Ivies, Hardy Climbing Plants, &c.*

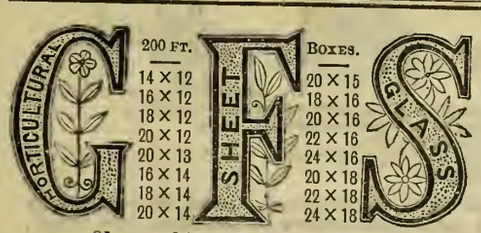
E. H. Krelage and Son, Haarlem.—*Wholesale Catalogue of Dutch Flower-roots and Tuberous-rooted Plants, &c.*

W. Van Schie and Co., Noordwijkerhout, near Haarlem.—*Wholesale Price List of Dutch Flower Roots.*

P. Heemskerk and Sons, Noordwijkerhout, near Haarlem.—*Wholesale Catalogue of Dutch Flower Roots.*

Obituary.

On the 1st instant, at the Elms, Hartley Row, John Baily, of Mount Street, Grosvenor Square, in his 77th year.



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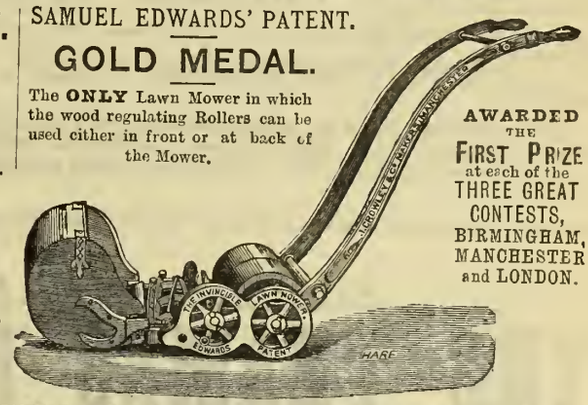

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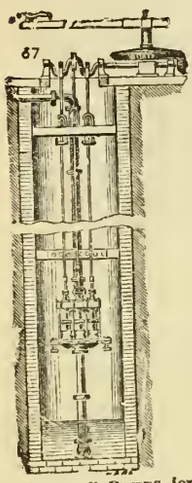

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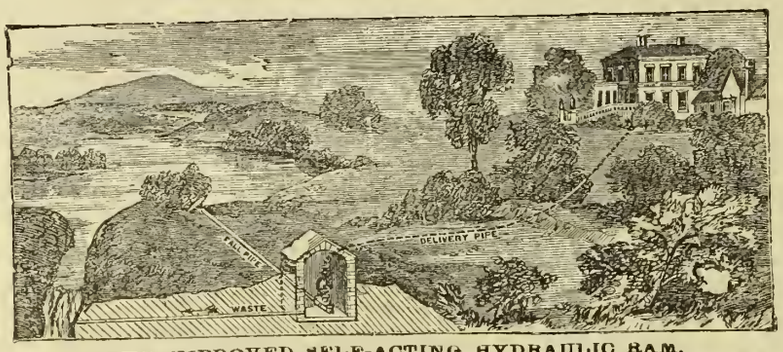

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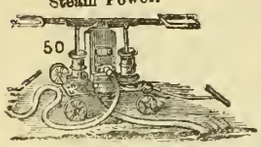

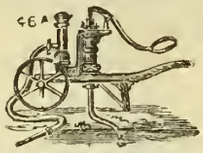

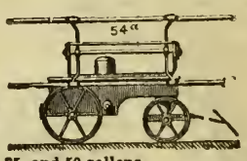

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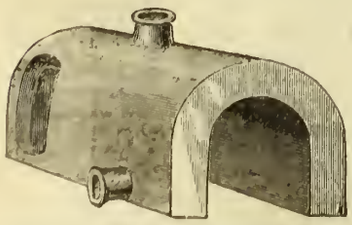

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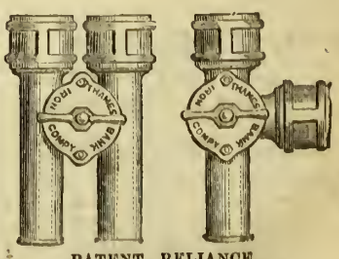

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D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.	Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.		1886
18	S	**4th Sunday after Trinity.**	4 5½	5 56	8 6	9 10	6 27	3 13	3 30	0 21	0 38	63·4	Cattleya Mossiæ ..... Venezuela.	199
19	M	Princess Augusta born, 1822.	4 6	6 1	8 5	9 35	7 28	3 49	4 6	0 55	1 14	63·4	Dendrobium chrysanthum ..... Nepal.	200
20	Tu	*Margaret.*	4 7	6 4	8 4	9 58	8 31	4 23	4 40	1 31	1 48	63·4	Epidendrum Friderici Guilielmi S. America.	201
21	W	Robert Burns died, 1796.	4 9	6 8	8 3	10 21	9 33	4 57	5 15	2 5	2 22	63·4	Lycaste cruenta..... Guatemala.	202
22	Th	*St. Mary Magdalene.*	4 10	6 10	8 2	10 44	10 37	5 30	5 48	2 40	2 55	63·4	Masdevallia Veitchiana	202
23	F	Ghuznee taken, 1839.	4 11	6 12	8 0	11 9	11 40	6 8	6 28	3 13	3 33	63·4	Miltonia Moreliana ..... Mexico.	204
24	S	(Last Quarter, 7h. 21m. morn.	4 12	6 14	7 58	11 35	After.	6 50	7 13	3 53	4 15	63·4	Thunia Marshalliæ ..... India.	205

NORTHAMPTONSHIRE HORTICULTURAL SOCIETY'S GREAT SUMMER SHOW, Delapre Park, Northampton, August 2 and 3 (Bank Holiday and following day). £250 in prizes. For best 16 Plants, £18, £10, £5; Central Group for Conservatory Decoration, £9, £6, £2 10s.; 24 Roses, £3, £2, £1, &c., &c. Entries close July 24. Schedules and full particulars from A. Forbes, Secretary. Northampton.

ROSE SHOW at MANCHESTER, JULY 17. For Schedules apply to the undersigned, Royal Botanic Gardens, Manchester. Bruce Findlay.

Exhibitions and Meetings for the Ensuing Week.

Tuesday, July 20.—Christleton Rose Society.—Annual Exhibition.

Wednesday, July 21.—West Moulsey and Hampton Court Horticultural Society.—Annual Exhibition.

Wednesday, July 21 to Friday, July 23.—Newcastle-on-Tyne Horticultural Society.—Annual Exhibition.

Thursday, July 22 to Saturday, July 24.—Aberdeen Horticultural Society.—Summer Exhibition.

Auction Sales for the Ensuing Week.

Tuesday, July 20.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids, Palms, Seeds, &c.

Wednesday, July 21.—Messrs. Protheroe and Morris, at Furze Down Park, Tooting; Clearance Sale of Stove and Greenhouse Plants.

Friday, July 23.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

Wednesday, July 21.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids, Stove and other Plants.

Thursday, July 22.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

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ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, JULY 17, 1886.

Exhibitions of Roses have afforded more than an average of delight to the rose-loving public, and of satisfaction to the exhibitors of roses. The number of such exhibitions proves that the rose is the most popular of our summer flowers, and in its season a special subject of admiration with a very large and increasing portion of the great public. It may be reasonable, therefore, to expect an increase in the number of such exhibitions, and whatever tends to their improvement should have the best attention of all concerned. The general plan and order of management observed has never been seriously challenged, except by the members of self-admiration societies, whose policy it is to question everything except their own imagined omniscience. The eccentrics of this class have, in daring terms, denounced not only exhibitions of roses and the promoters thereof, but the flowers also; and if in doing so they ignore common sense, they may make an amusing claim to originality. It is an interesting fact that exhibitions of roses at this day are made and managed after the model of the year 1858, when the first big rose show was held in London under the direction of the Rev. Reynolds Hole, the author of the delightful "Book about Roses." A run of twenty-nine years is a good test of the fitness of things in such a business as this, and it cannot be rash to assume that as no great change has been effected, a great change has not been wanted. An institution so imperfect as the eccentrics of the horticultural world have striven to describe it, as seen through their distorting optics, ought to have perished when their broadsides of assault were heard; but it lives, it grows, it is in some degree like the institutions of the Medes and Persians, who, in their day, held on fairly well considering the forces that were raging around them. Probably the Medes and Persians would have been stronger for improvement even if they could not take the word "reform" into their political vocabulary; and it is within possibility that rose shows may be made more complete, more instructive, and more enjoyable than they are as now made and managed. But we must add to the last alarming utterance that we are not about to tread in the footsteps of the eccentrics; what we have to say is, of course, thoroughly reasonable and altogether proper, and we shall only put in print what is probably in the reader's mind already.

In the mighty catalogue of the exhibitions, those of Crystal Palace and South Kensington are conspicuous as representative of roses, and of the persons who make perpetual sunshine of their lives by growing them. In one case a trading concern is the motive power, but it inherits indirectly from the "National" Exhibition of 1858, to which we have referred. In the other case we have the "National" itself in a revived and modernised form, inspired by love and kept apart from mere business; and yet, as a matter of propriety, desirous of making all ends meet, even to the serious business of keeping its engagements. If we contrast the two great gatherings we shall say that Crystal Palace has the best of it, but that declaration, if true (which it may not be), need not discourage the members of the National; it is sufficient if it awakens them to a recognition of their responsibilities and opportunities.

At the Crystal Palace the management, for the first time, took advantage of the space at command to break up the exhibition into a series of separate blocks in place of the time-honoured half-mile of uninterrupted boxes. The experiment proved, in the best sense of the word, a success. There was room to move about; there was no crowding at points, nor was there any inconvenient pressure along the line, for the sufficient reason that the line was abolished. This important improvement deserves special recognition: it was much wanted, for the pressure along the line has often been so great and continuous as to render a visit to the show a kind of martyrdom, the very perfection of an agony endured under the the name of pleasure, but justified by the floral devotion.

Contrasting with the Crystal Palace Exhibition that held a few days later by the National Rose Society at South Kensington, the difference is great, and all to the disadvantage of number two. The conservatory at South Kensington is miserably deficient in respect of space, for such an exhibition. To see the roses in the back slums or side alleys is, in its way, like crawling through a gas-pipe—at least we suppose so, having no special experience to assist us in the comparison. But the central area of the conservatory is too confined, and the long line of boxes makes a long line of spectators who move reluctantly and persist in crowding at points, and, in fact, form a sort of mutual misery company, impelled into a block like worshippers of Juggernaut, by the commanding spell of our queen of flowers.

It will perhaps appear, from the comparison we have made thus far, that we are enraptured with the Crystal Palace method and disgusted with the National method. No; nothing of the sort! We leave the rapture and the disgust in their hypothetical purity for the eccentrics, who are ready to pay any price for the delight of appearing equally original and ridiculous. The Crystal Palace blocks were square, unlovely things. The visitors saw the roses; that was something; but the roses had the half-mile style that we have so often lamented: they were made to conform to a sort of military discipline in which beauty was lost and parade was paramount. There is something more wanted than dividing battalions. Six boxes in a line are not more picturesque than sixty, although perhaps more convenient of access. Cutting a cheese in square lumps does not improve its flavour. Roses lose rather than gain for a collective view by being massed in a number of squares in place of the established half-mile of tape measure in boxes.

It may not be beneath the dignity of the National Society to consider this matter. It is prospering in a way that suggests it will want a better place for its exhibition than the somewhat suffocating

conservatory at South Kensington. It may not be beneath its dignity to consider once more the blessedness of canvas and a great space for the gossipers who will intrude on such scenes. Such restless spirits are apt to fly about spasmodically to look at a rose here and a rose there, and never take their proper places in the half-mile of movers on who suggest by their patience under affliction that there are are some special advantages in the pursuit of pleasure under difficulties.

The blessedness of canvas, with a great cool space for gossipers, will not be enough to satisfy all parties, and rose shows should be a delight to all, from the princes who inaugurate it to the plebeian youth who sells the penny programmes. And how is the great delight to be accomplished? Well, we can imagine that the Crystal Palace method of detachment, combined with the Continental method of picturesque grouping with the aid of relief agents, such as palms, ferns, and all that sort of thing, would do something to make the blocks and divisions picturesque—or, at least, more agreeable than they are at present with their hard surroundings. We want a picturesque rose show, with convenience for a great concourse of visitors; and not one shadow of a sacrifice of the opportunities the established system secures for critical comparisons of roses. The rose shows are well made and managed on the plan that prevails; but it would be a morbid stretch of generosity to say that they are perfect.

To break up the show and divide the several masses of flowers by means of greenery might not suffice for a completely artistic plan. It is possible that a facing of plants on the front line to form a green fringe would enhance the beauty of the flowers. Nor would we stop there; for having put our hands to the plough we would make a clean furrow by the abolition of the boxes—if not in all, certainly in some of the classes. We have seen roses occasionally bedded in moss in round baskets, and it might now and then make a change to bed them in Adiantum gracillimum, to supply a light stippling of green over the flowers. The customary boxes with surfacing of moss answer admirably for certain important classes in which the judging for quality is necessarily close, but we are perhaps too much tied to hard lines, and baskets might emancipate us from the old leading-strings.

Should our proposals alarm any of our sweet friends the rosarians, we will prove that we have no intention that way by adding here that we would not care to see one of them adopted until, by means of a series of experiments and the testimony of many witnesses, there could be established a sufficient justification. We do not forget that when a course of procedure has been agreed upon, it still remains to carry it out; and, therefore, words will not settle this matter. The National Rose Society might, with advantage, establish classes for the special purpose of illustrating the possibility of picturesque grouping, and in the meantime keep on safe ground by sticking to established rules for the annual exhibition of roses for quality; leaving all large reforms to be developed by the aid of established facts.

Mr. Walter Tedder, of Kensington-gardens, has been engaged as head gardener to W. Johnson, Esq., the Birches, Mitcham.

Mr. R. Ellis has been engaged as head gardener at Fetcham Rectory, Surrey, the residence of Sir Edward Moon, Bart.

A Rose Show of a non-competitive character will be held in the International Exhibition, Edinburgh, on Tuesday next and four following days.

Banana Culture in Costa Rica is reported by the British Consul to be steadily increasing in the result of its profitable character.

Birmingham Gardeners' Mutual Improvement Society, of which Mr. W. B. Latham, curator of the Birmingham Botanic Society, is the chairman, has recently opened its library, which, it is anticipated, will prove of immense service to the members. The sum of about £40 has been expended in the purchase of books, and about fifty volumes have been presented to the society.

At Norwich Meeting of Royal Agricultural Society, Messrs. Sutton and Sons have introduced a new feature. In place of the usual frontage of paint and bunting, their stand is a substantial construction in English oak, and the design is a good bit of English Late Tudor or Jacobean. The museum covered by this showy frontage contains an extensive collection of seeds, roots, fruits, models, &c., and has many claims on the attention of farmers and gardeners.

The Next Election is the subject of anxious speculation as to when it will happen, and what will be the result. The election now nearly completed has the appearance of "a settler" in a superficial view of mere numbers, but men who look beyond the surface see in the numbers the signs of another dissolution, and, having assured themselves that it must soon come, they ask themselves seriously, When will it come? We gave the last Parliament a lease lasting only to March, but it lived to the end of June; and if we now conjecture that this Parliament will live until February, it may be properly answered that events in the political world are as uncertain as the weather, and we are all equally ignorant of the future, even to the extent of one moment of time.

Mr. Quaritch has published a Rough List, No. 77, containing some important entries of botanical and ornithological books. We note complete sets of Annals of Natural History, Transactions of Linnæan Society, Decaisne's Le Jardin Fruitier du Museum, Lindley and Hutton's Fossil Flora, Joseph Wolf's Zoological Sketches, Wilson and Bonaparte's American Ornithology, &c. The list includes nearly one thousand eight hundred works selected from various libraries now transferred to 15, Piccadilly.

Artesian Well at Pest.—The deepest artesian well in the world is that now being bored at Pest, for the purpose of supplying the public baths and other establishments with hot water. A depth of 951 metres (3,120 ft.) has already been reached, and it furnishes 800 cubic metres (176,000 gallons) daily, at a temperature of 70 deg. Centigrade (158 deg. Fahr.) The municipality have recently voted a large subvention in order that the boring may be continued to a greater depth, not only to obtain a larger volume of water, but at a temperature of 80 deg. Centigrade (176 deg. Fahr.)

Roses in Great Gardens are now in their fullest splendour, and our friends the nurserymen are inviting lovers of roses to wander through their fragrant plantations. In the immediate neighbourhood of London there are many great and grand collections of roses, as at Messrs. W. Paul and Sons, Waltham Cross; Messrs. G. Paul and Sons, Cheshunt; Mr. John Fraser's, Woodford; Mr. Rumsey, Waltham Cross; Messrs. Veitch and Sons, Langley; Messrs. Charles Turner, Slough; Messrs. Laing and Co., Forest Hill. On the west of London roses are not extensively cultivated, as in most of the horticultural centres the soil is too light.

The Art Gallery of the Corporation of London is at last inaugurated, and the event has been celebrated by a dinner. Better late than never; and it will be prudent now to make bygones of the many and much-merited reproaches the Corporation has had to endure for long years past for neglect of art. In due time there will be established, as we almost believe and certainly hope, a collection of works of high art worthy of the City of London, but it cannot be done in haste, and it can only be done by the aid of good judgment, backed by liberal grants of money, apart from all personal, local, or party considerations. The beginning is well made, and the President of the R.A. makes public profession of his approval.

What is the Jack Plant?—We ask the question because we are informed that a Jack plant is coming into flower at 51, Mare Street Hackney, and our informant is informed that it flowers only once in a hundred years. The true Jack plant of the books is the bread fruit tree, but that, we will affirm, *a priori*, is not coming into flower in Mare Street, Hackney. The true century plant, doubtless, is Agave Americana, but we suspect, taking care not to affirm, that the subject of inquiry is a yucca. In many places Yucca recurvata is now pushing up flower spikes, and in time should make a noble show. Will some of our North London friends report to us on the facts of the case presented?

Floral Committee, on Tuesday last, had a fine run of good subjects, and the business went along at a brisk rate. In such a splendid show a reasonable number of novelties might be looked for, and those who on this occasion had patience to look would assuredly find. Messrs. W. Paul and Son presented a remarkable lot of roses, some in boxes, some in baskets, a large proportion of the splendid flowers being English-raised varieties, cut from the nurseries at Waltham Cross. One of the beauties, in the style of Charles Lefebvre, and having the name of *Great Mogul*, was selected for a certificate: it will be a great rose for colour. There was a brilliant show of Iris Kæmpferi, amongst which which we noted one named *General Wolseley*, that might have had a certificate without damage to the cause. It is richly-veined purple, with large yellow spots. A most refreshing bit of green appeared in the shape of a new tasselled and parsley-like *Pteris serrulata Naylor's Crested*; it will be the perfection of a table plant, and possibly of special value to cut from. The great features were roses and lilies. Amongst roses Messrs. Paul and Son's basket of Merveille de Lyon, Madame Watteville, Marie Van Houtte, and the new Silver Queen, were conspicuous for their beauty. Amongst the lilies there was nothing so striking as Mr. Ware's varieties of Lilium pardalinum.

A Selection of Varieties of the common field poppy, *Papaver Rhœas*, shown by the Rev. W. Wilks, of Croydon at R.H.S., on Tuesday last, obtained more attention from experts than any other single contribution. We speak of them as "varieties" agreeably to usage, but they might more properly be regarded as *forms*, for to fix and perpetuate them would be beyond possibility. They exist as the products of selection, and instantly upon the discontinuance of the process, they will pass away, or, if not instantly, certainly in the course of two or three generations. They were of all shades of red, rose, and blush, varied with white; many of them semi-double, all of them beautiful beyond any ordinary conception of the beauty of a field poppy. This papaver in common with others, is naturally variable. Deakin says of it "the varieties are very perplexing to the student, from the circumstance of the leaves varying so greatly" (Flor. Brit. ii, 750). A few of the more striking of the field forms have been named, such as *strigosum, lobatum*, &c. The so-called *Papaver dubium* (Linn.) comes near to P. Rhœas, and leans a little to P. argemone. So far as we have been enabled to observe, P. Rhœas never acquires a glaucous tone of colour, in which particular it stands distinctly apart from the equally variable P. somniferum. Turning to Deakin again we note his observation to the effect that "by cultivation, many beautiful varieties of this species are obtained, both double and semi-double, and of various shades, from rose colour to white, and not unfrequently variegated." The flowers shown by Mr. Wilks were characterized by a wonderful freshness of colour; in that respect there was nothing in the entire exhibition to equal them.

OUT-DOOR GRAPES.

By Joseph Macdonald.

The situation for out-door vines is of more consequence than the soil. Given a warm south aspect and skilful attention, out-door grapes will ripen in moderate summers. It is the neglect to which they are subjected from June to September that prevents the fruit ripening in many cases. It is no use to attempt to ripen out-door grapes in any but a south aspect, and the better and deeper the soil so much the better growth will they make. Never having missed an opportunity to note the conditions in which out-door vines have been growing whenever I have seen them, I have long since been convinced that warmth for the roots as well as the branches is necessary. Wherever I have seen out-door vines with their roots growing under a paved walk or a yard they have been in a vigorous condition, and all that they wanted was skilful management of the branches to secure complete success in all but the most unfavourable seasons. No one should undertake the culture of out-door vines without being prepared to have an occasional failure, for sometimes warm weather does not extend far enough into the autumn for the grapes to ripen. But the fact that so many fail to get their grapes ripe should not deter anyone from entering on this cultivation; for in not more than two instances out of ten do the vines receive proper attention.

The most satisfactory examples of out-door vine culture that I am acquainted with shall here be noted. In one case a Black Hamburgh vine, with its roots growing beneath a stable-yard paved with boulders, and the branches trained to the wall with a south aspect. On this particular vine I have both seen and tasted very good samples. The other instance is in another direction, and nearly every year I go some distance out of my way to see this vine. It is a Royal Muscadine, occupying the whole south front of a good-sized farmhouse. Close to the house is a narrow border about a foot wide, in which the vines were planted. Then there is a wide walk, probably more than six feet in width, which is paved in some places with bricks and in others with rough stones, and beyond this space a rough piece of ground devoted to vegetables and a few flowers.

As regards the conditions for the roots, I do not think anything could look more unsuitable; but then one cannot tell how far they have travelled in search of food. But this I do know, that good crops are obtained at least three seasons out of four. But then the growth is well attended to. They are pruned on the spur system, the old rods being about thirty inches apart, so that when the young growth is nailed in the branches are not unduly crowded.

In neither of these cases do the roots get any attention. In the case of the Black Hamburgh vine the whole of the yard is paved over, yet the roots are never assisted with water; the natural rainfall is all they get.

I do not refer to these cases for the purpose of making it appear that a paved or covered surface for the roots is a necessity; I do so because I am aware that many have large uncovered walls which they would be glad to see clothed with plants of some kind, but they hesitate to plant because there does not appear to be a suitable soil for the roots. But as I have shown, elaborate preparation for the roots is not always necessary. Not that I wish it to be understood that I advocate no preparation at all; on the contrary, I say by all means prepare a good border for the roots when it is possible to do so, because by so doing the chances of success will be increased. The best way to do it is to get rid of all the old soil and replace it with good loam. A border two feet deep and eight feet wide will serve for all ordinary cases. As regards drainage, none of that will be required unless the situation should be very low. Where it is not convenient to make a new border altogether I should advise that a good-sized space for the roots be stirred up at least eighteen inches deep, and some manure mixed with the staple, for it is desirable to give the roots a good start.

With respect to the best grapes for this purpose there is not a wide range to choose from. The Black Hamburgh should be selected only for the warmest positions, and where the branches are likely to obtain the attention they require. The most hardy black grape is Esperione, but the berries of this variety require to be thinned to get them a good size. Royal Muscadine is a fine amber-coloured grape, and when judiciously attended to produces very satisfactory crops. The Dutch Sweetwater is undoubtedly the most reliable of all outdoor grapes, as it will ripen where others fail to do so. The berries are rather small if they are not thinned out, but it is a very sweet grape when ripe.

The early spring and summer weather was not at all favourable for outdoor grapes. The long-continued cold weather prevented them making much progress towards growth, and although the weather has been more favourable of late the vines are not in a forward condition, and for that reason they require more than ordinary care at the hands of the cultivator.

The first attention they require will be to regulate the growth and to cut away such as is not wanted. Those shoots which are showing the best bunches of grapes must be left, or rather a sufficient number to form a crop, and they must be equally distributed all over the vine. Only one bunch must be left on each shoot, and the top of the shoot carrying the bunches must be cut off so as to leave only three leaves above the bunch. Where bearing wood for next year is not wanted, all that on which there are no grapes must be cut away, except one branch, as it is absolutely necessary to preserve one shoot on each spur, or the spur will die. All the lateral growth, after the bearing branches are made secure, must be cut away as fast as the shoots have reached one foot in length.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 6d. and 1s.—[Advt.]

MOCK ORANGE.

The common mock orange, *Philadelphus coronarius*, may be found in almost every garden, and is certainly worthy of a place in the rustic shrubbery. It is usually spoken of as the "syringa," but it is not a syringa, and people who value accuracy should repudiate the misnomer. The Lilac is the syringa, and it is a long way removed from the Philadelphus. The common mock orange is occasionally seen looking so fresh and flowery that one could scarcely wish for a better thing of its class, but often it makes a poor appearance, or rather, perhaps I should say, a weedy appearance, and we should not hastily class it with "choice" things. However, it has its uses, and the double flowering variety is as good as the single, and perhaps a little more strongly scented. For such as can enjoy the odour of the mock orange the double coronarius may be recommended.

There is an astonishing number of species and varieties of Philadelphus in cultivation; too many for reasonable purposes, but a certain few of the number are at the present time most valuable in the shrubberies, their mountains of snow-white flowers presenting a most cheerful appearance, while the strong odour they emit is agreeable when diffused, and has a very genuine summer flavour; it is a sort of advertisement that summer has come.

When compared with a general collection, it must be owned that P. coronarius proves itself a good thing, but to show its best qualities it requires a warm soil and free air; it never attains to a satisfactory growth when crowded up with encroaching trees in a starving position, as we often see it. As it flowers first in the whole series, and most people enjoy its powerful odour, we dare not pronounce on its exclusion from the list of useful flowering trees.

Gordon's Philadelphus is one of the best known, because a tremendous grower, flowering profusely, and making a distinct and telling effect in the plantations. It is *Philadelphus Gordonianus*, of American

MOCK ORANGE, *Philadelphus lasius.*

origin, towering highest of any, and producing about Midsummer, or later, a vast profusion of large pure white flowers that emit a powerful fragrance. Where only half a-dozen mock oranges are required this fine plant should be one of them.

Large Flowered is properly named, for the flowers are the largest of all. Its catalogue and garden names are *Philadelphus grandiflorus*, *P. speciosus*, and *P. latifolius*. I will not say that the trees bearing these several names are absolutely one and the same, but they certainly come so near that their differences are of no practical consequence, and the names smell of the trade catalogue much more than of the botanic garden. This is of gigantic stature, rising ten to twenty feet; the leaves are broad, roundish ovate, of a full green colour; the flowers are produced in profusion and present a glorious appearance. It is one of the latest to show its flowers.

California makes a better impression in this field than Japan, for *P. Californicus* is a fine tree, very leafy, very green, the flowers large and strongly scented.

Japan is represented by *P. Yokohama* and *P. Satsumi*. They are late to flower and of quite secondary importance, but both are good. Where there are so many to choose from we can afford to put the Japanese species in the Index expurgatorius.

Mexico has an offering for us in *P. Mexicana*, quite a small growing thing, with small leaves like a poor privet.

Columbia is probably represented in *P. Columbensis*. It is a fine thing with large leaves, medium-sized flowers, produced in profusion, and one of the latest, which does not in any way detract from its value.

North America contributes freely. In addition to American sorts already named it will be convenient to place here *P. Lewisi*, a branching tree of free growth, flowering late; *P. hirsutus*, leaves smallish, flowers smallish, good; *P. Schrenki* is probably American, it

is of free growth, straggling habit, and middling quality; *P. inodorus* is handsome and late, and quite of average quality; *P. verrucosus* is a towering giant, soon rising to fifteen feet in a good soil; the leaves are broad, blunt, thin in texture, light green, flowers few and late. *P. laxus* is perhaps the best of all the mock oranges to stand alone, as with age it acquires a fine freedom of contour, and the flowers are large, fragrant, and abundantly produced.

India sends *P. tomentosus*, a native of Nepaul. It is of no use in the English garden. W.

CULTIVATION OF THE PLUM.

By James Douglas.

The plum is an old established favourite of our gardens, and is cultivated in many different ways. As early as 1629 Parkinson enumerates no less than sixty varieties of plums, exclusive of the "apricockes, which are certainly a kind of plum," he says. Some previous writers had included the peach as well as the apricot with the plums, but to this inclusion Parkinson objected. His list had been carefully prepared by the aid of his good friends, Master John Tradescant and Master John Millen, both of whom, he says, had wonderfully laboured to obtain all the rarest fruits they could hear of. Philip Miller reduces his list to thirty varieties, some of them being the same as those enumerated by Parkinson one hundred years previously. In Thompson's "Gardener's Assistant" forty-four varieties are enumerated and described. If that number was reduced to a dozen of the very best early, mid-season, and late free bearing varieties it would be quite sufficient for all practical purposes.

The Plum is not very particular as to its requirements in regard to soil or situation. Indeed I have found the trees produce better flavoured fruit in light soils than in those that are heavy. I strongly recommend deeply working of the soil for plums, as for all other classes of fruit. The trees as a rule have a tendency to produce roots near the surface, and they ought to be encouraged to do this by mulching over the roots with decayed manure.

For Small Gardens pyramid trained trees are the best. They may be planted four or five feet apart at first, and every alternate tree may be thinned out, when they become over-crowded. In deeply-worked and moderately rich soil the trees have a tendency to produce strong shoots resembling those produced from the stools of an osier bed, and when that is the case they can only be brought into bearing condition by lifting and replanting the trees, and when they are in a young state this can be easily done by cutting round the roots with a spade eighteen inches from the bole, and lifting it bodily out of the ground, letting it into the same place at once. Our pyramids are ten feet apart. The trees have never gummed with us, because the soil is kept at a uniform degree of temperature by the mulching and draining of the ground, nor does the fruit ever drop off prematurely.

Standard Trees in orchards, when of large size, and planted from twenty to twenty-five feet apart, when once arrived at a bearing state would continue to bear good crops annually but for spring frosts, which play sad havoc with the blossoms in the early months of the year. The dwarf trained or pyramid trees are not so readily injured by spring frosts as the tall trees, whether they be plums, pears, or apples.

Propagation.—The plum tree is propagated by budding or grafting, but some kinds come true from seeds, and others are very readily increased from suckers. By far the largest proportion are propagated by budding, and the stocks for this purpose are usually raised from seeds; but I am writing this article for the instruction of amateurs and gardeners, and the best advice I can give to them is to purchase the trees they require in the nursery, and leave the work of propagation to those who make it their daily work. This method is not only better but cheaper, not only in the long run but in the beginning.

Dessert Plums.—In order to obtain plums of the best quality the trees should be trained against walls, and for this purpose trees can be obtained in the nursery of three, four, or five years' growth. Such trees will very speedily come into bearing, and, being sheltered by the walls, an excellent opportunity is afforded to protect the blossoms from frost by hanging some netting in front of the wall when the trees are in blossom. I have had considerable experience of fruit culture in Scotland, and am therefore in a position to say that no good dessert plums can be obtained in that country unless they are grown on walls or under glass. The old school (as it is called) of Scotch gardeners cultivated wall trees better than any other gardeners in the whole world, I believe, and I had the privilege of being trained under one of the best of them. His system of planting plum trees was to use nothing but pure maiden loam round the roots, and to grow the trees on ground that was not over rich in manure.

Young Plum Trees have a tendency to make far too vigorous growth in whatever position they are planted; and very vigorous growths have an inveterate tendency to canker and gum after a few years, besides being useless for the purpose of fruit bearing. Beginners in the culture of fruits cannot know too early that strong, vigorous growths should be avoided as the plague, and that medium growths which can be well ripened are the best to produce fruit or fruitful spurs, and it is always best to err on the side of under than over vigour. If manure is found to be necessary it is best applied in the form of mulchings. It may be tedious to describe the details minutely of the training of wall trees; in fact a practical lesson in training would be necessary, but the following main principles must not be deviated from. Take a "maiden" or yearling tree to begin with. It ought to have one strong growth only, and this ought to be cut back to within nine inches or a foot of the union of the stock and scion. Next season three shoots will be produced, one in the centre and on each side.

The Pruning for next season consists in shortening the young wood to within fifteen inches or so of the point from whence it started, and the following season will be the one in which the foundation for a perfectly-trained tree will be laid. Each side of the tree must be equally balanced, and the shoots must be trained in the form of a fan. When the tree has arrived at this stage, and has become established in good soil, it may produce vigorous shoots, and the best way to deal with it is to pinch the shoots before they have grown too much. They will speedily produce three or four weaker growths, and by this system of pinching the wall would be furnished with bearing wood much sooner than by the older system of laying in the growths their whole length. The young wood must not be laid in too closely, else it will not ripen well. Each leaf must have sufficient space to develop itself, and just as they are exposed to the sun and free air of heaven will their functions be performed. Perfect and well-developed leaves will produce fruitful buds. But it must be observed that fruitful spurs have to be produced by a course of judicious training before blossoms can be expected. Whether the wood is trained to the wall itself by nails, or to a trellis fixed to it in the first place, remember this, that the tendency is always to train in too much rather than too little, and that crowded branches will never produce first-rate fruit. The branches must also be straight, and they must neither cross nor run into each other.

Pyramids.—In reference to the training of pyramids, the system of pinching the vigorous young growths may also be followed the same as recommended for walls. Those trees intended for standards should be trained with a stem about six feet high, and at that height an equally-balanced head should be encouraged and pruned to produce healthy, fruitful wood. Such trees may be planted twenty or twenty-five feet apart, and the ground underneath may be planted with strawberries or some culinary crops: lettuce, carrots, onions, or similar small growing subjects.

Pot Culture.—Plum trees are excellent for pot culture under glass, and it is truly astonishing what a very large quantity of fruit can be produced from a well-grown tree four or five years old in a twelve or thirteen inch pot. The mode of culture is the same as advised for peaches and nectarines in pots at page 364.

Insect Enemies.—The plum trees are very liable to be attacked by aphis, both under glass and out of doors. It can be readily destroyed by fumigating under glass or syringing the trees with soft soapy water out of doors.

The best twelve dessert plums are July Green Gage, Denniston's Superb, Green Gage, Oullin's Golden Gage, Hulling's Superb, Purple Gage, Transparent Gage, Jefferson, Kirke's, Coe's Golden Drop, Reine Claude de Bavay, and Late Rivers. Were I limited to three varieties of plums, I would choose Transparent Gage, Jefferson, and Coe's Golden Drop, and if I had room for one only it would be the last named. As a trained tree for a wall Coe's Golden Drop is invaluable. Its fruit may be preserved by gathering it from the tree for use, and preserving it in the fruit room for a period of three or four months. The fruit may be hung up in the fruit room.

The best six cooking plums are Early Rivers, Early Orleans, Goliath, Victoria (the best of all), Diamond, and Belle de Septembre. The variety Victoria is the freest bearing of all plums, and when grown on a wall, as it often is in the north, it is also used for dessert.

LACHENALIAS.

The month of July is the proper time to repot the bulbs of lachenalias, as they will soon begin to form new roots, and for the plants to get the full benefit of the roots they ought to be placed in the receptacles in which they are to flower before any roots are formed. The lachenalias are admirably adapted for filling suspended baskets. In fact, for that purpose I know no other plant that will last so long in flower or that can be grown with so little trouble. It is only necessary to plant the baskets with the bulbs and hang them up in the greenhouse where they can get plenty of light and air. We line our baskets with green moss, beginning at the bottom with a layer of moss and then a layer of soil. The bulbs are then laid on the soil, with the crown of the bulb just inside the moss. There is no necessity to expose the bulb, the leaves will come out to the light as soon as they begin to grow. We use any kind of loamy soil with some sand with it, and we fill up the basket with a layer of moss close to the wires and fill the middle with soil. We keep the bulbs about two inches apart, rather more than less; as if they are too much crowded the flower stems come weak, and so indeed do the leaves.

The lachenalias look exceedingly well when grown in pans about twelve inches over; and they look well also in five-inch pots. When grown in pans the bulbs must not be crowded; they must be at least two inches apart, and about nine bulbs for a five-inch pot will be ample. Both pans and pots may stand in cold pits or frames until the end of September if there is any scarcity of room in other structures. But the front shelf of the greenhouse is the best place for them all the winter. I once read that these flowers do better when the pots or pans are constantly standing in saucers of water, and all that I can say in favour of standing them in water is that I have tried them both with and without the saucers of water, and that I have had quite as fine spikes of flowers on suspended baskets as on those stood in water. I therefore do not believe in it, but I do believe in giving them a rather plentiful supply of water at the roots when they are making active growth. J. C. C.

[The standing of lachenalias in pans of water has been recommended, but with this reservation, that it should be done only when the plants are in vigorous growth and the flower spikes are rising. To begin too soon or continue the practice too late is to put the business in jeopardy.—Ed.]

HARDY PLANTS IN FLOWER.

It is plainly declared that this is not a good season for garden flowers; nothing surprises us, many good things fall short of their customary splendour; very many things are obviously out of tune, and a few have disappointed us altogether. It will probably prove a poor season in all departments of horticulture, and certainly will not in any particular rise much above a moderate average.

Everlasting Peas are now at their best and make a grand display, the white variety of *Lathyrus latifolius* being quite the equal of itself, as though having no quarrel with the season. Considerable differences are observable in plants of lathyrus that bear the same name, consequent on variations from seed, and it would be well were the nurserymen to secure the best stocks of each to propagate from, for the good of the cause in general, which hinges very much on the values of varieties. In the range of the species now before us, we have some that we should describe as poor varieties, and as selection is better than a general objurgation, we now select *latifolius albus* and *latifolius ensifolius* as the best, the last-named being brilliant in its profusion of rosy-purple flowers, and having very distinct narrow leafage. Of *L. rotundifolius* there are several bad as well as good kinds, and the best has an immensity of flowers forming a kind of crown to the pale green clump, the colour fiery carmine. Is this the *Drummondi* of the books? Of *L. grandiflorus*, the one known as *splendens* is the best. *Coronilla varia* is, of course, very gay now. Lovers of good things should secure *Sophora alopecuroides*, to associate with the fabaceous beauties, It has a distinct and beautiful pinnated leafage of a pleasing grey-green colour; the flowers come in terminal heads. We shall have no better plant in this list.

Inula in a few good forms contributes golden stars of a coarse pattern. Quite glorious in its dashing dress is *Inula glandulosa*, with very large heads of intense full orange, the ray florets falling all round to make a beautiful tassel. *I. oculus Christi* is the best known of the series, and is a showy robust plant.

Rhubarbs make fine features for large half-wild places, and all points considered *Rheum officinale* is undoubtedly the best; in fact, where space can be afforded it, there is no nobler plant of its class. But we must say a word for the less robust, and in some respects more beautiful *R. rhaponticum* in its original forms with smallish leaves of ovate-cordate form, and a grand spike of inflorescence varying from green to deep purplish red. Very near to this, but smaller in the leaf, and with a richly coloured inflorescence is *R. spiciforme*, discovered by Mr. Inglis on the Kherang Pass, and described by Royle in "Botany of Himalaya" Vol 1., 315. He adds, from Dr. Gerard, that "the table land of Tatary is covered with rhubarb at elevations of 16,000 feet."

Sea Lavenders do not rank high as a rule with the critical people, but we shall presently treat them to a name that will be like the ugly dog that keeps guard over some priceless treasure. As regards the well-known *Statice latifolia* there are many inferior forms, and the very best forms may rank with the very best plants of the rockery. *S. tatarica* is singularly distinct. A dozen or more that have good places in the books are not worth good places in the garden. The one with the ugly name is *Statice Suwaarowitchi*. It is the sweetest thing imaginable for such as can imagine what a glorified statice might be. The leaves form a small flat tuft; they are oblong or spatbulate, and a little wrinkled. The flowers are long branched racemes, closely packed in tail-like cylinders; the colour delicate rosy carmine shading to clear lilac. You might for a moment mistake it for a polygonum, but you may soon discover its true relationships.

Centaury looks so well on the moors in its well-known form of *Erythræa centaurium* that one would not care to make a place for it in the garden. *E. littoralis* of the books is a variety of the same. In fact, we have but one species, and its variations amuse the species-makers. But behold *Erythræa diffusa* as a perfect rock plant of its class, a close-growing vegetable cushion or mat now besprinkled with lovely rosy salver-shaped flowers. This must not be confounded with *E. venusta*, which is a great thing full of fine character.

Scabious of many kinds in full tide of flowering now claim a moment's attention. The finest of the dwarf kinds is *Scabiosa atropurpurea nana*, of which there are many varieties, and not less desirable are *S. graminifolia* and *S. Webbiana*. On the other hand, the finest of the larger kinds is *S. caucasica amœna*, a truly grand plant of good habit, making flowers three inches across of a most pleasing lilac blue colour. For the wild garden we have a gigantic scabious labelled *Cephalaria procera*, now showing on stems 10 to 12 feet high a lot of greenish grey heads, the mass of leafage at the base looking as if it might have sprung from a cut down stool of ash tree. A more moderate grower is *C. tatarica*, rising three to four feet, with pale yellow flowers that are at least respectable.

Willow Herbs are of small consequence in the mass, but the beautiful *Epilobium angustifolium* compels us to admire it whether we see it in the moist nook of the rockery, where the spiræas and lobelias are at home, or on the railway banks of the western counties; the finest clumps in the British Isles being probably those on the line between Dolgelly and Langollen. Of this fine but very common plant there are some objectionably tall varieties that flower sparingly, and there are others that rise only three to four feet and make a magnificent display. The *white* variety is scarce; it is less robust than its rosy sister, but flowers freely and makes a beautiful show.

Potentillas have enjoyed the strong sunshine, and are full of flowers. The very best rock plant of the family now is *Potentilla ambigua*, the growth mat like, the leaves small and pale green; the flowers are large, of beautiful form, the colour clear brilliant yellow. *P. chærophylla*, a diffuse growing plant, with flowers of the deepest red. The double varieties of the florists' section have not flowered so well as usual, but they are always better than reputed, and it is a pity amateurs do not look after them.

Sedums and Sempervivums are making a show, but one can scarcely see the dull red flowers of the dwarfer kinds of sempervivums, while *Sedum aizoon* displays its thyrses of dazzling yellow. The best form of this fine plant is the one known as *Sedum maximowiczi*, which is a great improvement on the common form of S. aizoon, and a noble plant of its class.

Hypericums are always pleasing, and the Britishers are all worth attention, even down to the humble tutsan. *Hypericum olympicum* and *H. calycinum* can speak for themselves when their great yellow flowers are out; not so *H. nummularium*, a sweet little trailer for the rockery; *H. elodes*, that loves a moist sheltered nook; or *H. procumbens*, a good rockery tuft for a dry sunny corner.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory will now need a revision and a general change of occupants. liliums, gladioli, and begonias will now come in and make a fine show with first-class annuals and fuchsias. Specimen trees and climbers to be stopped and trained in to assist ripening of the wood.

Calceolaria Seed should be sown without loss of time if not already done. Use light rich soil, and place the pans in a cold frame and keep shaded.

Saving Seed.—Many choice plants are now ripening their seeds, and whatever is required must be secured in time. Generally it is safest to gather the seed before it is dead ripe, as in many cases the pods open and the seed is scattered and lost. Cut off bunches with a portion of the stem attached, and spread them on cloths, under cover, to dry for a day or two, and then put them in the full sun to harden. A shelf in a greenhouse is the best place, because there is less fear of their being scattered by wind. Label all seeds when gathered to prevent mistakes.

STOVE AND ORCHID HOUSE.

Stove.—Ixoras, &c., now going out of bloom to be cut back freely and put in a shady place, where sprinkle their tops frequently, and keep their roots rather dry till they break, when to be repotted. In repotting use the compost rough and lumpy for all except young plants.

Stove.—Sun-heat may be used to prevent need of fires to a great extent. There must be plenty of moisture in the atmosphere, produced by frequent sprinkling of the paths, stages, &c. Stanhopeas will require to be repotted as soon as they have done flowering, if they require it at all; but fine specimens can only be obtained by allowing them to remain several years in the same pots or baskets. Give air freely, especially to subjects going to rest.

FORCING AND ORCHARD HOUSES.

Peach Trees ripening their fruit off to be kept as cool as possible; but sunshine and close air will spoil the flavour and cause the fruit to fall. Where the supply is larger than can be used directly the fruit may be kept hanging longer by shading it with leaves; a few boughs of privet or fir hung up so as to screen off the sun from the branches on which the fruit hangs, and free ventilation day and night, will retard the final ripening and prolong the season of supply. Trees from which the whole crop has been gathered to be liberally watered and syringed, to keep the foliage fresh till it has done its work.

Pines to be encouraged with a good heat and plenty of moisture. Those swelling fruit to have the help of a humid atmosphere by watering the paths and surface of the tan, &c., amongst the plants till the fruit begins to change colour, then keep the atmosphere rather dry. Young stocks to have air cautiously; the suckers rising from old stools to be earthed up, and have a brisk heat and plenty of water.

Vines.—Late grapes require artificial heat to ripen them properly, for if the ripening is long about the berries will have thick tough skins, and will not keep well. Keep the houses dry where grapes are hanging, and those from which the crop has been gathered take off the lights.

FLOWER GARDEN AND FRAME GROUND.

Bedding Plants.—Begin at once to make up lists of the various plants likely to be required next year in order to have time to propagate a sufficient stock. Put in zonal pelargonium cuttings in plenty; an open border will suffice for them, but keep them regularly watered until they begin to make roots. It is, however, much better to put the cuttings in pots.

Roses may now be struck in any quantity to secure fine plants on their own roots. Make up a few frames, if with gentle bottom heat all the better, but that is not indispensable. There must be six inches of light rich soil in which to dibble the cuttings. Choose short half-ripe shoots for the purpose, and keep them shaded and frequently sprinkled.

KITCHEN GARDEN AND FRAME GROUND.

Celery.—Early planted out crops may now be earthed up, but do this when the plants are quite dry.

Cauliflowers and Broccolis can be got out now on ground cleared of peas and beans. Trench deep, and mix the manure with the soil, so that it is evenly distributed throughout the mass.

During dry weather clear off exhausted crops of peas and beans, dig the ground deep, and manure liberally. During showery weather plant out winter greens of all kinds. Be careful in transplanting not to bruise the leaves of the plants.

Melons need a brisk bottom heat to ripen the fruit, and to be kept rather dry. Those swelling fruit to be encouraged with a lining and a moderate amount of atmospheric moisture. Keep the vines regularly trained, so that the leaves are exposed to light, as wherever they are crowded the fruit will be found to damp off.

Endive to be sown again, and strong plants in early seed beds to be planted out.

Onions lifted may in a few days be taken up and laid in the sun to dry. If the weather is wet spread them in a shed or on some dry mats in spare frames. In some country places they finish off the onions for storing by placing them in a baker's oven after the bread is drawn. This is a very good plan, and a pretty certain remedy for bull-necks and a green soft condition; but it is not likely any crops will require to be artificially ripened this season.

Shallots should be taken up as soon as the bulbs are ripe; if left in the ground they will be injured by the autumnal rains. This remark applies especially to damp and low-lying soils.

Spinach.—Make ready a sufficient number of beds for the winter crop as soon as possible, in order to be ready to sow early in August. The soil should be rich, and the position chosen if possible should lie high and dry.

Vegetables in season include Kidney Beans, Broad Beans, Peas, Cauliflowers, Cabbages, Globe Artichokes, Orach, Lettuces, Cucumbers, Marrows, Onions, Mushrooms, Turnips, and Tomatoes.

QUEEN OF BEVERAGES.—Refreshing the weary, stimulating the inactive, soothing the invalid, cheering the social.—Pure Tea alone, by its intrinsic and excellent qualities, "pales the fire" of all other drinks.—*A cup of good tea* is always welcome, as proved by the fact that 6,000,000 (six million) packets of Horniman's Pure Tea are sold every year by 4,000 duly appointed Agents, *Chemists and Confectioners*. The description, if Black, Green, or Mixed Tea, also the retail price, is plainly printed on each packet, with the Importers' warranty that their tea is free from all adulteration. Some unscrupulous persons copy the labels, wrappers, &c., used by Messrs. Horniman, purchasers are therefore cautioned to *avoid spurious imitations*. See advertisements in all papers, and at the railway stations.—[Advt.]

CONGRESS PEARS.

Van Mons (Léon Leclerc.)

Of this fine dessert pear there were 51 dishes shown in the collection at Chiswick in 1885, the highest number on that occasion being 174 dishes of Beurré Diel. From Leroy we learn that it was raised by M. Léon Leclerc of Mayenne, a "grand amateur" of fruits, and by him dedicated to Van Mons, who spoke of it as a fruit of the first rank, which it proves to be in the English garden. It is of the largest size, oblong or bluntly pyramidal, with open eye, stalk scarcely stout, inserted in a shallow depression; the skin when full ripe is dull yellow with a few dots and patches of russet. The flesh is yellowish-white, melting, juicy, with a rich and somewhat piquant flavour. Leroy gives the season as from the end of October to mid-December; Hogg says November. We have seen it in good condition after Christmas.

This variety is of moderate vigour, and thrives on the pear equally with the quince, and may be grown as a standard or pyramid. It is not of the most hardy constitution, and in cold places is worthy of a wall. In all suitable soils in southern counties it is best as a pyramid on the pear.

DESSERT PEAR, VAN MONS. (*Léon Leclerc*).

POLE ROSES.

Now that the pole roses are in their fullest perfection one may note their capabilities for varying the monotony of the average garden, where picturesque effects are not much thought of. In gardens that represent an artistic idea the wilder forms of roses are usually appreciated, but in what may be called gardens of the period these roses are not much cared for. The ambitious form of pillar rose is not of general usefulness, but pole roses, allowed a considerable amount of freedom and trained only as much as may be needful to give them a tree-like form, are at once effective and afford an agreeable relief from the general stiffness of a richly-coloured border; in fact they establish a compromise between the pictorial and the picturesque. In no section of vigorous growing roses shall we find more suitable plants for the purpose than in the "multiflora" roses, of which we here figure a plant that is at once the type of the section and a fair example of the kind of growth and training that is best adapted for the mixed border, where trees and shrubs are amongst the necessary furniture. A pole of ten feet suffices for the foundation of a beautiful plant, and the more natural the growth the more complete will be its beauty.

Amongst the best of the multiflora roses for growing in this fashion are *De la Grifferie*, blush; *Russelliana* or *Scarlet Grevillei*, brilliant lake, changing to lilac; *Lauré Davoust*, showing three colours, pink, flesh, and white, as the flowers pass through their several stages; *Crivelli*, bright red; *Graulhie*, white; *Tricolor*, pink and white.

AMONGST THE ROSES.

By J. C. Clarke.

The week ending June 26 proved, as regards the weather, exceptionally favourable, for although the nights were cold for the time of year the days were considerably warmer than any that preceded them in the same month. The outdoor roses soon showed their appreciation of the change, for the flowers opened almost with a bound, and at the end of the week beds and borders that had only a few flowers open at the beginning were covered with them, and many of such high quality as I did not expect to see this season, for at no time during the spring was the promise better than usual. The number of flower buds was perhaps slightly in advance of the past few years, but the growth was not any stronger, yet on many old bushes the branches are brought nearly to the ground by the weight of the blossoms. Had the heat been less, with a storm or two of rain, many flowers on such full and heavy petalled roses as I have named would not have opened at all. I can only account for the increased number of buds and such exceptionally large flowers by the fact of a heavy rainfall during the month of May, reaching as it did in our case to nearly six inches for the month. But this is not an exceptional experience, for I have before remarked that roses do not object to heat if the roots are well supplied with moisture, but when dry at the root a little extra heat soon causes the flowers to fade.

The lesson to be learnt from this is, so far as our case is concerned, that roses require more root moisture than they often get in dry seasons, especially during the month of May, when they are in active growth, and again in July, when they begin to make their second growth. I have many times thought with regard to perpetuals that we often condemn them as not being of a good perpetual character, when the fault lies in the cultivation and not in the rose. If they were treated more liberally after the first lot of flowers is over I do not doubt some of them would give more flowers in the autumn than they do under the present system of indifferent treatment. I see no reason whatever why they should not flower more freely in the autumn than many of them do if they could have all the root moisture they want; but the months of July and August are generally the hottest, if not the driest, and when they are both hot and dry it is very clear

that such conditions are not favourable to the growth of roses. I am quite satisfied that if we would see the true character of many of the hybrid perpetuals we must attend to them during these two months by creating favourable conditions for the roots when the state of the weather renders it necessary.

How best to supply these conditions is neither difficult to understand nor to carry out. The condition that renders some help necessary is a weakened vitality, consequent on the production of a crop of flowers. This condition must be considered and amended before the plants can support growth of sufficient strength to produce flowers in the autumn. Attention to the roots only can do this, and nothing will do it so effectually as liquid manure, because it is a form of food that the roots take up at once, and when judiciously applied it is quickly assimilated to the advantage of the plant.

The best kind of liquid is undoubtedly that which drains from a farmyard, as it contains much that is essential to plant life. Whether it will require diluting depends on its strength. At this season of the year the roots of roses will bear it pretty strong. If it is diluted to the colour of brown sherry it will be none too strong. The next point of importance is to give enough of the liquid to reach the majority of the roots, a mere sprinkle, which only moistens the surface an inch or two deep, will do but little good. Sufficient must be given at one time to thoroughly wet the soil down to a depth of six or eight inches. In very hot and dry weather twice a week will not be too often. Very good liquid manure may be made from horse or sheep droppings, and it must be allowed to get into a clear state before it is used. A bushel of droppings to forty gallons of water is about the right strength for roses. Put the manure into a barrel and put the water in upon it, keep it stirred once a day until the thick matter has sunk to the bottom, when it will be ready for use. Sewage water is also an excellent stimulant for roses at this time of year, and soot water is better than none at all.

POLE ROSE TREE, third year of free growth.

As regards other seasonable work amongst roses, it is very necessary to cut off a few inches of all the shoots which have flowered and

to clear the surface of the beds from all weeds, and then to slightly prick over the surface with a fork. Standards standing singly should be treated the same where they do not stand on grass. By stirring up the surface the water has a better chance of soaking down to the roots. In applying water to the roots it is desirable to know that the roots very often extend further than the branches, and if they are to derive all the benefit from the moisture put on the soil the area to which the water is given must extend from two feet to three feet from the stem all round.

Climbing roses will now require attention, for the first lot of flowers will be mostly over, and new growth will be extending, which must be preserved to furnish flowering wood for next year, or so much of it as is required to fill up the space from which the old exhausted shoots have been removed.

Banksian roses are very often badly used as regards pruning, some thinking that it is necessary to cut off most of the growth they make all the summer, but that is a mistake. Young plants which have space to fill up should not be pruned at all, but have the shoots nailed or tied in. Old-established plants that are sending out a lot of young shoots from the wall may be sheared back pretty hard with a pair of hedge-clipping shears if it is done at once. In a general way the shearing up ought to be done in the middle of June. They must not have any more pruning done to them this year except it be in the case of very vigorous plants, which sometimes make a lot of long shoots late in the summer. These must be cut back, but all the spray growth must be preserved after this, for it is that which will produce flowers next year.

Budding may now be proceeded with. Early-planted briers are in capital order, they having made plenty of vigorous shoots. Where they have not been looked over they must now be attended to. Two, or at the most three, only of the best placed shoots should be left to be budded, and these may be shortened back to within one foot of the stem. The bark always runs best when the ground is moist about the roots, so that if the weather should continue dry it will be a good plan to give the roots a good watering two days before it is intended to insert the buds. Experienced budders do not require our assistance in the choice of a material for tying in the buds, as they know that in capable hands ordinary matting is as good as anything. But for amateurs I recommend the use of Berlin wool. If this is neatly tied so as to prevent the air reaching the inserted bud it will answer perfectly. After the buds are inserted I like to encourage the branches on the briers to grow for three or four weeks, as I think the young growth keeps up a better circulation of the sap and causes the bud and stock to unite more quickly and perfectly.

COLONIAL FORESTRY.

At a conference held at the Colonial and Indian Exhibition, Professor W. Fream read a paper on "Colonial Forestry" in which, after referring to the inquiries of the Select Committee on Forestry, and to the scheme which had been submitted to it by the secretary of the Surveyors' Institution respecting a national school of forestry, he dealt with the present condition of forestry in the larger colonies. In Canada there is need of conservation of existing forests, and of tree-planting over the vast prairie regions; several of the Provincial Governments have already moved in the matter, and everything now seems ripe for the establishment of a department of forest conservancy under the Dominion Government. In New South Wales the Forest Conservancy Branch is under the Minister of Mines, and was established in 1877. There are 5,390,513 acres of land set apart as timber reserves, equivalent to 2·7 per cent. of the area of the colony. The salaries and expenses of the officers of the conservancy amount to nearly £10,000 per annum. The total expenditure from 1877 to 1884 was £75,923, the revenue £85,992. Nurseries are being established for the propagation of the most suitable trees, indigenous and foreign. In Victoria 952,367 acres of State forests and 285,334 acres of timber reserves are, in conformity with the State Forests Conservancy Act, placed under the Department of Agriculture, but even this area is not commensurate with the demand for timber for industrial purposes. In 1883 the revenue from woods and forests was £8,580, and expenditure £2,538. In South Australia the Forest Conservancy is under the Commissioner of Crown Lands, and was established in 1876, since then the revenue has practically balanced the expenditure, and upwards of one and a-half million trees have been added to the property of the colony at an actual cash disbursement of only about £2,000. The approximate value of permanent improvements is £115,000. The area devoted to forest purposes is 150,000 acres. In 1884 the conservancy distributed gratis more than 200,000 young trees, at least half of which survived transplantation, and cost the colony less than ½d. each. In Queensland there are 20 forest rangers under the Department of Public Lands, with 1,572,752 acres of proclaimed timber reserves, and 202,575 acres of reserves for State forests. One reserve is used as a plantation for growing seedlings for distribution. In New Zealand, out of a total area of 66,394,400 acres, 34,000,000 acres of Crown lands still remain, of which 10,000,000 acres are forest. Under the New Zealand State Forests Act, 1885, a Forestry Department has just been started, and is placed under a responsible Minister of the Crown, who acts as Commissioner of State Forests. The Government assists planting on the part of landowners by subsidy or otherwise. In Cape Colony, by an Act passed in 1876, public bodies are allowed half their expenses in tree cultivation. There is a superintendent of woods and forests, and conservancies have been established at Knysna, King William's Town, and in the Western Division. To encourage planting, over 1,000,000 trees are raised annually in nurseries, and distributed gratis or at low rates. It is believed that the Crown Forests would, if regularly and carefully worked, produce a revenue of at least £235,000, the sum which leaves the colony every year to pay for imported wood—for imported railway sleepers alone £83,000 was expended in 1883, and £44,000 in 1884, on American and Swedish timber. In Australia and Cape Colony English forest trees are being successfully cultivated. In all the colonies the reckless waste and wanton destruction of former days have given place to wise systems of conservancy, such as are worthy of a tree-loving people.

ENGLISH IRIS.

From Messrs. Ant. Roozen and Son, of Overween, Haarlem, we have received a collection of English Iris, raised from seeds, and comprising new features, more especially in respect of colour. The blues are of great depth, and the lighter colours are pure and brilliant. Some of these might be described as double, as the standards are in many instances duplicated, but it is quite a question if doubling can improve the iris; at all events we will not now declare in favour of double flowers. The following brief descriptions may be useful as suggesting acceptable additions to collections of these lovely flowers.

Cornelia.—A very large flower, on stout stem, the colours white, rosy lilac, and blue, pleasing, and very distinct.

Virgilius is of medium size, the falls white with yellow feather, edged with light blue rays, the standards rosy purple, white, and light blue.

Othello, a large bold flower, nearly self-coloured indigo blue and deep purple, with beautiful yellow stripe or feather.

Duke of Cornwall is a large, bold, dark flower, the prevailing colour cobalt blue, with shades of purple and narrow golden feather, set in light blue rays.

Lady Spencer, of medium size, rosy purple, porcelain blue and white, delicately blended, a very pleasing variety.

Dr. Baker, of dwarf growth, smallish violet shading to indigo, with bright gold feather.

Anna, medium size, light flower, delicately mottled and feathered, rosy violet on a white ground, with sharp band of gold on the falls.

Embassadeur, tall and strong, flowers large, creamy grey, with pencillings of violet-blue and porcelain; a fine light variety.

Bleu Mourant, short and stout, the prevailing colour rich deep blue, with broad and brilliant golden band.

Brutus is one of the finest of the blue self class, the colour is heavily laid on in rays of two or three shades of violet-blue, radiating from a stripe of rich gold-yellow.

Gertrude, of medium size, white, with veins of lilac tinted rose; sometimes self-coloured blush, with stripe of pale gold.

Jeannette, medium size, light rosy purple in rich veins, forming a superb feather, with line of orange in centre.

Formosa is pale lavender, with blue veins, and central line of rich gold, the standards lilac or violet rose.

Olympia, a large, bold, light flower of fine proportions, the colour lightly pencilled in rays of rosy violet.

Miss Wilding, medium size, bright, full blue, blotched with dark blue, brilliant and effective.

Emperor, a large light flower of majestic aspect, colour in light rays of pale porcelain, with light gold feather.

Magnet, dwarf, smallish, light blue, shaded violet; good.

Wilhelm, a stately flower, the falls veined porcelain or violet blue, standards lighter, the central band of orange, small but brilliant; a fine variety.

Recompense, medium size, full deep indigo purple, rich and showy.

Crown Prince, large and stately, very heavily coloured deep royal blue, with shades of indigo and violet; one of the best.

Celina, a large bold flower, deep violet-blue, with broad gold band, the standards lighter.

Leo XIII., large and finely formed, delicately-veined light dove, deepening to light violet; a very beautiful flower.

Valentine, medium size, light lilac shading to light blue, with light yellow band; distinct and pleasing.

Penelope, medium size, white, with feather of light, lively purplish rose.

New Plants, Flowers, and Fruits.

Trichomanes (Hemiphlebium) pinnatinerva (*Gard. Chron.*, 1886, 787).—An interesting little fern, native of British Guiana.

Cyrtomium caryotideum v. attenuatum (*G. C.*, 1886, 787).—Fronds having the general characters of the type, but differing in the pinnæ being attenuately caudate.

Pteris tremula v. foliosa (*G. C.*, 1886, 787).—Fronds broader, wavy, and more leafy than the type.

Callirhoe pedata (*Gartenflora*, 1,224).—A pretty malvaceous half-hardy annual, producing showy crimson flowers. It was introduced from Texas by Mr. Thompson, of Ipswich, about the year 1850.

Aristolochia elegans (*G.*, 549).—A neat growing climber of moderate growth, the leaves caudate, the curious flowers richly stippled deep purple on a greenish yellow ground.

Laxton's "Noble" Strawberry was forwarded full ripe on the 22nd of June, Mr. Laxton reporting that the first gathering was made on the 16th of June. The fruit, as judged by samples received, is of the largest size, globular or cocscomb shaped, the deep red colour pervades the flesh, which is particularly tender and melting, with a slight acid piquancy, but tending to richness, and sweeter than the average of early strawberries. It is described as a seedling from Forman's Excelsior, coming in seven to ten days before that variety, and throwing but very few small fruit. The samples sent, comprising berries weighing one to one and a-quarter ounce, were grown entirely in the open without artificial aid of any kind, and without mulching, liquid manure, or watering. Even if we make some deductions for a warm corner, and other specially favourable circumstances, it must be allowed that this is a remarkable early strawberry, and likely to prove of great importance. Whether it will carry well remains to be seen. The berries sent, eight in number, came to hand in perfect condition, being sent in a box by parcel post.

Forests in Hungary.—Some recent statistics show that the area of country covered with forests in Hungary is about 10,000,000 of hectares (nearly 25,000,000 of acres), half of which is covered with beech and other leaf trees, whilst the remainder are principally oaks and pines. Some of the forests belonging to private proprietors are very extensive, and of these may be mentioned the domain of Munkacs, extending over 106,720 hectares; the domain of Arva, 34,530 hectares; and the domain of Malaczka, 28,140 hectares.

Exhibitions and Meetings.

OXFORD ROSE SHOW, JULY 7.

By permission of the Rev. the Warden and Fellows, the Oxford Rose Society held its thirty-fifth annual exhibition in the gardens of New College, Oxford. Of these gardens Nathaniel Hawthorne, in his famous "Scarlet Letter," thus writes: "The gardens of New College are indescribably beautiful—lawns of the richest green and softest velvet grass, overshadowed by ancient trees, and have been nursed with such care, and so sheltered from rude winds that certainly they must have been the happiest of all trees. Such a sweet, quiet, sacred, stately seclusion, so age-long as this has been, and I hope will continue to be, cannot exist anywhere else. One side of the garden is formed by the ancient wall of the city, which Cromwell's artillery battered, and which still retains its pristine height and strength." Hawthorne is scarcely correct, as the gardens are enclosed on the north and east sides by the city wall, which with its six circular bastions are as sound as the day they were erected. On the most northern of the six, the fine square-turreted tower was built, "a pattern of massive strength," and near here, forming part of the college buildings west of the gardens, are the cloisters, 130 feet by 85 feet, consecrated in 1400. The roof represents the ribbed bottom of a boat. These cloisters were used as a store during the war by Charles I, when many of the monuments were destroyed and brasses stolen. Time would fail to speak of the beauty of the college chapel, hall, library, &c., but the gardens are entered from the college through a pair of wrought iron gates set in the centre of a tall iron palisading 130 feet in length, the gates being surmounted by the founder's arms and motto: "Manners Makyth Man." On the south-west, "over the garden wall," rises St. Peter-in-the-East church, the first church of stone that appeared in these parts, one of those glorious piles that seem to mock at time, telling of bygone years and things that were. It is undoubtedly the oldest in England, being built in or about 1100. The style is Early Norman. Beneath the chancel is a crypt, length 36 feet, width 24 feet 9 in., height 9 feet. The arches are supported by four ranges of short Saxon columns, with well-executed capitals.

In a monster tent were ranged the glorious representatives of the "Queen of Flowers." In making a few notes we may just observe that the Oxford show being sandwiched between the National and Bath exhibitions naturally suffered in the matter of entries from the great trade growers who generally compete at the classic city; still the display was most creditable. Of the twenty classes comprised in the schedule, seven are open to "All England," four to "not growers for sale," and nine limited to "amateur members of the society." There were myriads of grand blooms, the lighter shades appearing to have enjoyed the fierce solar heat of the past fortnight, some few of the dark crimsons being a trifle discoloured. One of the best classes was that for forty-eight triplets, and here Mr. C. Turner, of Slough, was well to the front, taking the premier £7. His selection contained Annie Laxton, Camille Bernardin, Madame Caroline Kuster, Abel Carriere, Souvenir d'Elise Vardon, Beauty of Waltham, Francois Levet, Madame Willermoz, Prince Camille de Rohan, Madame Margottin, Merveille de Lyon, Madame Dumesnil, Innocente Pirola, Marquise de Castellane, Reynolds Hole, Comtesse d'Oxford, Ferdinand de Lesseps, Queen of Queens, La France, Horace Vernet, Alba Rosea, Star of Waltham, Prince Arthur, Elie Morel, and Madame C. Kuster; Mr. John Mattock, New Headington, Oxford, second with a clean, well-developed lot, including Mdlle. Marie Cointet, Le Havre, Annie Laxton, Devienne Lamy, Madame Montet, Madame Bravy, La France, Mabel Morrison, Mdlle. C. Kuster, La France, Xavier Olibo, Paul Neron, Therese Levet, Lady Mary Fitzwilliam, Mons. E. Y. Teas, Marie Baumann, Duchess of Bedford, Sophia Fropot, Countess of Rosebery, Marie Van Houtte, Souvenir d'un Ami, Madame G. Luizet, Camille Bernardin, Innocente Pirola, Dupuy Jamain, Therese Levet, Merveille de Lyon, Madame Willermoz, and Mons. Noman.

For forty-eight single trusses, Mr. C. Turner again led, his box had, in addition to some of the above-named, good blooms of Victor Verdier, Miss Hassard, Annie Laxton, Duke of Edinburgh, Catherine Mermet, Marguerite de St. Amand, Comtesse Serenye, Jean Liabaud, Devoniensis, Charles Darwin, Beauty of Waltham, Marechal Niel, Marie Baumann, Souvenir de Paul Neyron, Marie Van Houtte, Marie Louise Pernet, Villaret de Joyeuse, Madame I. Pereire, Dr. Sewell, La Boule d'Or, Niphetos, Mons. Boncenne, Jean Ducher, Marguerite D'Ombrain, A. K. Williams, Duc de Wellington, Black Prince, Countess of Rosebery, Sir G. Wolseley, Abel Carriere, Niphetos, and Baroness Rothschild; Mr. J. Mattock again second, his selection being a good all round set of full-sized blooms, including Paul Labonte, Thos. Mills, Madame Hippolyte Jamain, Anna Olivier, Captain Christy, Pierre Carot, Mons. Noman, Violette Bouyer, Prince Arthur, Duchesse de Valombrosa, Harrison Weir, Catherine Mermet, Senateur Vaisse, Francois Michelon, Marie Verdier, Etoile de Lyon, and Comtesse de Nadaillac.

In the class for thirty-six singles Mr. John Walker, Thame, led the way, the best blooms being Marquise de Castellane, Duke of Edinburgh, Captain Christy, A. K. Williams, Madame Gabriel Luizet, Abel Carriere, Bessie Johnson, Ferdinand de Lesseps, Marechal Niel, Beauty of Waltham, Gloire de Dijon, Triomphe de Rennes, Senateur Vaisse, Marie Verdier, Francois Michelon, Abel Grand, Marie Baumann, Eugene Verdier, Charles Lefebvre, Duchess of Edinburgh, Sultan of Zanzibar, Auguste Rigotard, Jules Finger, and Princess Beatrice; Mr. J. Mattock second, and Mr. C. Turner third.

In the class for twenty-four single trusses Mr. J. Walker was again to the front, this box having a few good dark roses not mentioned in the preceding class; Mr. George Humphries, Kington Langley, Chippenham, second, who had fair specimen blooms of Marie Rady, Paul Neron, Horace Vernet, Duc de Rohan, Alfred Colomb, Merveille de Lyon, Sir Garnet Wolseley, Belle Lyonnaise, Emilie Hausburgh, Charles Lefebvre, Violette Bouyer, and Camille Bernardin; Mr. Charles Taylor, Old Headington, Oxford, third.

The class for a dozen of any variety of dark H.P. was not largely filled, Dr. Ward, Warneford Asylum, Oxford, first with a well-finished set of Marie Baumann; Miss Watson-Taylor, Manor House, Headington, second with Marie Rady. While for twelve light H.P., one variety, Dr. Ward again secured the card, staging a noble lot of Madame G. Luizet; Mr. J. Mattock second with Mdlle. Marie Cointet; Mr. A. Evans, Marston, Oxford, third with Madame G. Luizet. The class for twelve teas produced some prime stands, the Slough Nurseries claiming the premier for a most glorious selection of large blooms of high quality, the colours being most vivid. The varieties were: Innocente Pirola, Madame C. Kuster, Souvenir d'Elise Vardon, Marie Van Houtte, Madame Lambard (grand), Alba Rosea, Catherine Mermet, Archimede, Madame Margottin, Madame Willermoz, and Comtesse de Nadaillac; Mr. J. Mattock second with Catherine Mermet, Souvenir de Paul Neyron, Etoile de Lyon, Souvenir d'un Ami, Innocente Pirola, Souvenir d'Elise Vardon, Paul Lahonte, Madame C. Kuster, Madame Hippolyte Jamain, Jean Ducher, and La Princess Vera.; Mr. Geo. Humphries third with Belle Lyonnaise, Souvenir de Paul Neyron, Alba Rosea, Souvenir d'un Ami, Comtesse de Paris, Marechal Niel, Marie Van Houtte, Madame Hippolyte Jamain, Madame Lambard, Anna Olivier, Aline Sisley, and Madame Willermoz.

A grand lot of bloom was displayed in the "not growers for sale" classes. For thirty-six singles Miss Watson Taylor and the Rev. C. Eddy, Bramley Rectory, Hants, divided the honours; for twenty-four singles Dr. Ward, Miss Watson-Taylor, and Mr. A. Evans were placed in the order of their names; while for twelve, Mr. E. Thorne, 18, Kingston Road, Oxford, secured the head place in a most keen competition; Mr. C. Collcutt, Holywell Street, Oxford, second; and Mr. W. Narroway, Headington Quarry, Oxon, third, each with good flowers. The class for a dozen teas was a well-contested one, Miss Watson-Taylor leading with a prime box, including Alba Rosea, Madame Welch, Niphetos, David Pradel, Jean Ducher, Belle Lyonnaise, Belle Fleur d'Anjou, Boule d'Or, Comtesse de Nadaillac, Catherine Mermet, and Madame Cornelius Kock; Mr. A. Evans second with Souvenir de Paul Neyron, David Pradel, Anna Olivier, Marie Van Houtte, Madame Cornelius Kock, Madame Bravy, Devoniensis, Maréchal Niel, Madame Lambard, Jean Ducher, and Belle Lyonnaise; W. Wootten-Wootten, Esq. (president of the society), Headington House, Oxford, being third with Madame Bravy, Madame C. Kock, President, Gloire de Dijon, Celine Forestier, Jean Ducher, Belle Lyonnaise, Comtesse de Nadaillac, Marie Van Houtte, Anna Olivier, Socrates, Homer, and Madame C. Kuster.

In the amateurs' division (members of the society only) the entries were numerous and the exhibits altogether creditable. For eighteen singles Messrs. A. Evans, W. Narroway, and C. Taylor were placed. The competition was quite keen for twelve singles, Mr. F. Freeman, 3, Part Street, first; Mr. E. Thorne, second; Mr. C. Collcutt, third; and R. Ramsden, Esq., Chadwick Manor, Warwick, fourth; while in the next class for nine varieties Mr. C. Collcutt and Mr. E. Collins, Grove Street, Oxford, shared the prizes. For twelve triplets the Rev. C. Eddy was leading with good average blossoms of Duchesse d'Valombrosa, Abel Grand, Captain Christy, Madame Isaac Pereire, Jean Ducher, Innocente Pirola, Comtesse de Nadaillac, La France, Madame G. Luizet, Sultan of Zanzibar, Ulrich Brunner, and Baroness Rothschild; Mr. A. Evans second with Marie Rady, Madame Sophie Fropot, Dupuy Jamain, Alfred Colomb, Magna Charta, Merveille de Lyon, and Marquise de Castellane; Rev. E. Penwarne-Wellings, Stanford Vicarage, Berks, who put up in good form trios of Madame G. Luizet, Captain Christy, Duchesse de Valombrosa, Mons. Noman, Marie Baumann, Violette Bouyer, and Merveille de Lyon. The prizes for six trebles were taken by Mr. F. Freeman, first; R. Ramsden, Esq., second; Mr. C. Collcutt, third; and Mr. H. Poulter, George Street, Oxford, fourth. For six trusses of one variety of H.P., Mr. E. Thorne was first with Marie Rady; Mr. W. Narroway, second with the same; Mr. C. Collcutt, third with Charles Lefebvre; Rev. E. Penwarne-Wellings, fourth with La France. For half a-dozen teas the boxes were very passable; Mr. F. Freeman first with Anna Olivier, Madame Willermoz, Marechal Niel, Rubens, Catherine Mermet, and Niphetos; R. Ramsden, Esq., second with Catherine Mermet, Souvenir d'Elise Vardon, Jean Ducher, Marie Van Houtte, Innocente Pirola, and Madame Bravy; Mr. E. Collins third with Madame Bravy, Gloire de Dijon, Anna Olivier, Souvenir de Paul Neyron, and Marie Van Houtte. For one bloom of H.P. Mr. A. Evans had the card with a fiery A. K. Williams, Mr. E. Thorne second with the same variety, Mr. Collcutt third with an old style Marie Baumann. The last class being for one bloom of tea or noisette, Mr. F. Freeman to the front with Perle des Jardins, Mr. Thorne second with Niphetos, and Mr. Narroway third with Climbing Devoniensis.

The attendance was as large as could reasonably be expected, seeing that in the previous week the Commemoration festivities included the Horticultural Show.

HEREFORD AND WEST OF ENGLAND ROSE SHOW, July 9.

From the classic city of Oxford a ride of ninety miles or more through a grazing and gardening district by Great Western Railway via Worcester lands you at the city of Hereford, which occupies a pleasant and sheltered situation on the banks of the Wye, being surrounded by hills on all but the west side. Its ancient name was Caerfawydd, "the place of the beeches," but the later corruption, Henffordd, signifies the old road or way. Standing, as it does, on the borders of Wales, the old city has seen many vicissitudes, from the time of the ancient Britons, when Offa had his palace at Sutton, to its siege by the Scotch army in 1645. Little is known of its history before the Conquest; but from very early times it must have been a place of importance, for there was a Bishop of Hereford in A.D. 542, and a synod was held here in A.D. 680. The circumference of the city walls, which had six gates, according to Leland, was "a goode mile."

On arriving at the railway station, and having an hour to spare, we were reminded of Shakspeare's lines in *Twelfth Night*, when he says:—

> What's to do?
> Shall we go see the reliques of this town?
> * * * * * *
> I pray you, let us satisfy our eyes
> With the memorials and the things of fame
> That do renown this city.

We did so and saw the lions of the place, which, summarised, may be mentioned as St. Peter's Church, St. James's Church, Cathedral, Infirmary, Hospital, the Old House, and the Shire Hall, the last-named possessing most interest at this juncture, inasmuch as there were gathered together there the rosarians and the roses which we had journeyed so far to see.

The hall, which is capacious and suitable for a large display, had been conveniently fitted up with stages, and everything appeared shipshape, save that, in the absence of music, the proceedings were a trifle flat. The weather was warm, but much cooler than in the early part of the week, rain having fallen in many parts, although not near Hereford.

In making a few notes on the show, it may be observed that one condition in several classes was that "unless five competitors staged only two prizes would be awarded." The result was that a few good exhibits were not placed when they really deserved a third prize. It is a bad rule, because it punishes those who come for the "shortcomings" of those who do not come.

The schedule was divided into seven sections, the first being "open to all nurserymen in the kingdom," class 1 being devoted to seventy-two single trusses. Here the Cranston Nursery Company were quite "at home," leading

with good average blooms (though hardly in their finest form), of Comtesse de Serenyi, Exposition de Brie, Merveille de Lyon, Prince Arthur, La France, Reynolds Hole, Mdlle. E. Verdier, A. K. Williams, Marie Baumann, Queen of Queens, Dr. Andry, Abel Carriere, Marquise de Castellane, Madame Sertot, General Jacquiminot, Countess of Oxford, Princess Beatrice, Heinrich Schultheis, Duchesse de Valombrosa, Mdlle. Marie Rady, Marguerite de St. Amand, Auguste Neumann, Elie Morel, Marechal Niel, Constantin Fretiakoff, Baroness Rothschild, Senateur Vaisse, Devoniensis, Star of Waltham, Pride of Waltham, La Duchesse de Morny, Madame Vidot, Madame Charles Crapelet, Madame Lacharme, Thomas Mills, Mdlle. M. Manion, Marechal Vaillant, Madame G. Schwartz, Madame C. Wood, Victor Verdier, Jean Sisley Ægeria, Dingee Conard, Catherine Mermet, Countess of Rosebery, Jean Liabaud, Mdlle. Therese Levet, Masterpiece, Princess Mary of Cambridge, President Willermoz, Mons. Noman, Etienne Levet, Royal Standard, Duke of Wellington, Beauty of Waltham, Duke of Edinburgh, Marguerite de Roman, Francois Louvat, Lady Sheffield, Mons. F. Rive, Madame G. Luizet, Marquise de Montemart, Le Havre, Cloth of Gold, Prince Camille de Rohan, and Hippolyte Jamain, the selection being thoroughly good, and the dark roses, with but one exception, showed not a trace of the effects of the fierce heat which had prevailed. The second prize went to Mr. Geo. Davison, Hereford, who had smaller blooms of Louis Van Houtte, Francois Lacharme, Madame Hippolyte Jamain, Marquise de Castellane, Reynolds Hole, La France, Mons. E. Y. Teas, Jules Margottin, Marie Baumann, Le Havre, Senateur Vaisse, Empress of India, Mdlle. Marie Verdier, Mary Pochin, Mdlle. Marie Cointet, Madame V. Verdier, Alfred Dumesnil, Mons. Noman, Bathelmy Joubert, Mdlle. Marguerite Manion, Mrs. Jowitt, Madame Chignard, Duke of Edinburgh, Baroness Rothschild, Penelope Mayo, Elie Morel, Horace Vernet, Duke of Connaught, Ferdinand des Lesseps, Emperor de Brazil, Dupuy Jamin, Francois Michelon, Comtesse d'Oxford, Mdlle. Bonnaire, Gustave Levesque, Antoine Ducher, Star of Waltham, Jean Sonpert, Sultan of Zanzibar, Victor Verdier, Xavier Olibo, Francois Louvat, Madame Gabriel Luizet, Prince Camille de Rohan, Mabel Morrison, Marquise de Montemart, Jean Sury, Royal Standard, Avocat Duvivier, Gloire de Dijon, Alfred Colomb, Rosieriste Jacobs, Constantin Fretiakoff, Comtesse de Camonds, Madame Lambard, Crown Prince, Madame Berard, Charles Lefebvre, Souvenir d'un Ami, Abel Carriere, Abel Grand, Beauty of Waltham, Rosy Morn, and Bessie Johnson; a creditable display but indifferently staged.

Thirty-six triplets brought to the front again the above-named exhibitors, the prizes falling in the same order, the Cranston Nursery Company repeating many of the same varieties. Mr. G. Davison put up, in addition to any variety in his seventy-two, Jules Chretien, Maréchal Niel, Dean of Windsor, Mons. E. Y. Teas, Comte de Flanders, George Moreau, Comte de Choiseuil, and La Rosiere. Twenty-four single trusses showed the Cranston Nursery Company again in the top place, with blooms superior to those in their longer numbers; as back row blooms, they had large well-finished examples of Reynolds Hole, Heinrich Schultheis, Marie Baumann, Merveille de Lyon, Prince Arthur, Elie Morel, Horace Vernet, and Marquise de Castellane; middle row—Marechal Vaillant, Mdlle. M. Manion, Louis Van Houtte, La France, Marie Rady, Madame Lacharme, Marechal Niel, and Dr. Andry; front row—Prince Camille de Rohan, Pride of Waltham, Dupuy Jamin, Duchesse de Valombrosa, Alfred Dumesnil, Baroness Rothschild, Ulrich Brunner, and Madame V. Verdier. Mr. G. Davison, again second, with medium blooms of John Hopper, General Jacqueminot, Marguerite de St. Amand, Glory of Cheshunt, Royal Standard, Duchesse d'Assana, Guilliame Guillemot, George Moreau, Reynolds Hole, La France, A. K. Williams, Baroness Rothschild, Horace Vernet, Sultan of Zanzibar, Fisher Holmes, Antoine Ducher, Duke of Edinburgh, Madame Laurent, Crown Prince, Marechal Niel, Duchesse de Valombrosa, Dupuy Jamin, Francois Louvat, and Marquise de Castellane.

The next class for eighteen triplets proved a good class, the card going to Mr. T. Griffiths, Pillington Nurseries, Hereford, who staged a level lot of blooms, including clean flowers of Madame G. Luizet, Beauty of Waltham, Merveille de Lyon, Marie Baumann, Marquise de Castellane, Ferdinand des Lesseps, La France, Constantin Fretiakoff, Duchesse de Valombrosa, Emilie Laxton, Madame H. Jamain, Etienne Levet, Mons. Noman, Abel Carriere, Edouard Morren, Marchioness of Exeter, Madame Lacharme, and Henrich Schultheis; Messrs. Cooling and Sons, Bath, second, with medium sized flowers of Mdlle. Marie Cointet, Star of Waltham, Marie Baumann, May Quennell, Madame L. Pernet, Mons. E. Y. Teas, Innocente Pirola, Merveille de Lyon, Mons. A. Dumesnie, La France, Madame V. Verdier, Prince Arthur, Alba Rosea, Queen of Queens, Duchess of Connaught, Baroness Rothschild, and Mdlle. E. Verdier; Messrs. Jefferies and Son, Cirencester, third, with Marie Verdier, Sultan of Zanzibar, Comtesse de Nadaillac, Rosieriste Jacobs, La France. A. K. Williams, Mons. Noman, Marie Baumann, Violette Bouyer, Reynolds Hole, Queen of Queens, Xavier Olibo, Mdlle. M. Cointet, Duke of Wellington, Lady Mary Fitzwilliam, Horace Vernet, Duke of Edinburgh, and Marguerite de St. Amand. Mr. C. Whiting, Hereford, also staged a very good box in this class.

Twenty-four single trusses completed the first section open to those not competing in classes first, second, and third, Mr. T. Griffiths being awarded the card for a lot of big fresh blooms (nearly all hybrid perpetuals), viz., Xavier Olibo, Madame Lacharme, Countess of Oxford, Lady Mary Fitzwilliam, Abel Carriere, Marechal Vaillant, Mons. E. Y. Teas, Edouard Morren, La France, Merveille de Lyon, Marie Baumann, Catherine Soupert, Mons. Noman, Constantin Fretiakoff, Beauty of Waltham, Emilie Laxton, Duchess of Bedford, Dr. Sewell, Heinrich Schultheis, Marquise de Castellane, Mrs. Jowitt, and Abel Grand; Messrs. Harkness and Sons, Bedale, Yorkshire, second, with fine blossoms of Ulrich Brunner, Marie Verdeir, Merveille de Lyon, Etienne Levet, La France, Marquise de Castellane, Duke of Teck, Sultan of Zanzibar, Beauty of Waltham, Catherine Mermet, Mons. Noman, Reynolds Hole, Captain Christy, Jean Ducher, Xavier Olibo, Magna Charta, Lady Mary Fitzwilliam, Mdlle. Marie Finger, A. K. Williams, and Pierre Notting. There were six exhibits in this class.

Division 2 contained one class "open to nurserymen not residing in Herefordshire," and produced several boxes of first-class flowers; Harkness and Sons taking the £8 price for a selection of seventy-two varieties, containing, Ulrich Brunner, Helen Paul, Francois Michelon, Baroness Rothschild, Pierre Notting, John Hopper, Violette Bouyer, Mdlle. Sophie Fropot, Marie Baumann, Hippolyte Jamain, May Quennell, Merveille de Lyon, Etienne Levet, Catherine Mermet, Mme. Prosper Languier, Magna Charta, La France, Lady Mary Fitzwilliam, Louis Van Houtte, La France, Captain Christy, Constantin Fretiakoff, Mons. Noman, Marquise de Castellane, Comtesse de Nadaillac, Sultan of Zanzibar, Pride of Waltham, Harrison Weir, Marecha Niel, Gen. Jacquiminot, Souvenir d' un Ami, Mrs. Laxton, Horace Vernet, Van Houtte, A. K. Williams, Mdlle. H. Jamain, Princess of Teck, Jean Ducher, Dr. Sewell, Mme. G. Luizet, Duchesse de Valombrosa, Alba Rosea, Sir Garnet Wolseley, Mons. E. Y. Teas, Comtesse de Serenye, Beauty of Waltham, Duchess of Edinburgh, Rosieriste Jacobs, Amazone, William Warden, Niphetos, Alfred Dumesnil, Homere, Duke of Wellington, Bouquet d' Or, Charles Darwin, Princess Mary of Cambridge, Duke of Connaught, Mdlle. Marie Finger, Marie Verdier, Souvenir de Paul Neyron, Dr. Andry, Souvenir d'Elise, Elie Morel, Dupuy Jamain, Madame Margottin, Earl of Pembroke, Innocente Pirola, Xavier Olibo, Madame Caroline Kuster, and Duke of Edinburgh; Messrs. Cooling and Son second with Madame G. Luizet, Dr. Sewell, Magna Charta, Marechal Niel, Edouard Morren, Prince Camille de Rohan, Madame Charles Crapelet, Prince Arthur, Souvenir de Paul Neyron, Duchess of Bedford, Marquise de Castellane, Lord Beaconsfield, Le Havre, Princess Christian, Alfred Dumesnil, La France, Madame Louise Pernet, Charles Lefebvre, Perle de Lyon, A. K. Williams, Mdlle. E. Verdier, Alfred Colomb, Mary Quennell, Benoit Comte, Comtesse de Serenyi, Horace Vernet, Royal Standard, Souvenir de Madame Alfred Vye, Baroness Rothschild, Countess of Oxford, Barthelmy Joubert, Countess of Pembroke, Duke of Teck, Mrs. Laxton, Alba Rosea, Mons. E. Y. Teas, Innocente Pirola, Hippolyte Jamain, Miss Hassard, Duc de Montplasir, Pride of Waltham, Maurice Bernardin, Marquise de Montemart, Constantin Fretiakoff, Madame Marie Verdier, Star of Waltham, Violette Bouyer, Leopold I., Souvenir d'un Ami, Hon. Edith Giffard, St. George, Ægeria, Maurice Bernardin, Duchess of Connaught, Mdlle. Marie Cointet, Madame Noman, Paul Nabarran, Xavier Olibo, Devoniensis, Louis Van Houtte, Princess of Wales, Duke of Wellington, Brilliant, Henrich Schultheis, and Duchess of Valombrosa. There not being the required five exhibitors, Mr. Stephen Treseder, Cardiff, was accorded a "highly commended" for a most deserving collection of seventy-two.

New Roses.—For twelve, sent out by English nurserymen, and not in commerce previous to 1883, one box only was staged, the premier award going to the Cranston Nursery Company for a most interesting group, comprising Beauty of Beeston, brilliant velvet crimson, richly perfumed; Secretaire J. Nicholas, deep purple velvet-red, globular; Queen of Queens, pink, edged blush, good form; Pride of Reigate, light crimson, striped white; Duke of Albany, vivid crimson, deepening to the centre, shading to velvety black; Madame Norman-Néruda, light cherry carmine, perfect form; Lady Mary Fitzwilliam, bright delicate flesh, beautiful exhibition form; Mrs. Caroline Swailes, light flesh, broad petals; and Princess of Wales, outer petals rosy yellow, deepening to rich golden yellow in the centre, and waxy. The same firm took the prize for a dozen of any new rose with a fine box of Duke of Albany.

For twenty-four trusses of any one rose a host of boxes were staged, the premier award being equally made in favour of Mr. W. J. Grant, Hope End Farm, Ledbury, and Messrs. Cooling and Son, Bath, the former staging Marie Rady, and the latter, Alfred Dumesnil; The Cranston Co. taking third for Reynolds Hole. Merveille de Lyon was staged in twenty-fours by Mr. G. Davison and Mr. S. Treseder; La France by Messrs. Jefferies and Sons; and A. K. Williams, by Mr. C. Whiting. The only other class open to all was for twelve teas. In this class eight boxes were put up, Mr. W. J. Grant taking the lead with grandly developed blooms of Rubens, Marie Van Houtte, Catherine Mermet, Devoniensis, Madame Lambard, Alba rosea, Comtesse de Nadaillac, Madame Caroline Kuster, Souvenir d'un Ami, Niphetos, Jean Ducher, and Souvenir de Paul Neyron; Messrs. Jefferies and Co., second, with Madame Lambard, Madame Caroline Kuster, Madame Cusin, Catherine Mermet, Souvenir de Paul Neyron, Souvenir d'un Ami, Jean Duchess, Souvenir d'Elise, Comtesse de Nadaillac, Princess of Wales, and Devoniensis; equal thirds were assigned to Rev. F. R. Burnside, Chipping Campden, for Catherine Mermet, Boule d'Or, Madame de Watteville, Madame Bravy, Madame Cusin, Anna Ollivier, Marie Van Houtte, Hon. Edith Giffard, Comtesse de Nadaillac, Jules Finger, and Souvenir de Paul Neyron; and Messrs. Harkness and Sons, for Madame Margottin, Madame Angele Jacquier, Souvenir d'un Ami, Marie Van Houtte, Marechal Niel, Alba Rosea, Perle des Jardines, Madame Caroline Kuster, Catherine Mermet, Madame Hippolyte Jamain, and Homere.

The total number of trusses staged in competition was 1,850; in addition, there were some 500 blooms "not for competition" staged by local nurserymen and others, the Cranston Company putting up as an extra some 200 buds and blooms of the popular William Allen Richardson.

Amateurs.—Divisions B and C were for amateurs (open), and very many good boxes were staged in these classes. In thirty-six single trusses Mr. W. J. Grant, Ledbury, made a grand show with big flowers of fine outline, substance, and colour, including Horace Vernet (awarded the National Rose Society's silver medal for the best bloom in the show), La Duchesse de Morny (the second best bloom), Dr. Hogg, Louis Van Houtte, Captain Christy, Catherine Mermet, Xavier Olibo, Marie Verdier, Marie Rady, Souvenir de Paul Neyron, Alfred Colomb, Madame G. Luizet, A. K. Williams, Marquise de Castellane, Charles Darwin, Madame Caroline Kuster, Abel Carriere, Francoise Michelon, Constantin Fretiakoff, Countess of Oxford, Marechal Niel, Beauty of Waltham, Niphetos, Ulrich Brunner, Camille Bernardin, Etoile de Lyon, General Jacqueminot, Souvenir d'un Ami, Star of Waltham, Duchesse de Valombrosa, Madame Prosper Languier, Mons. Noman, Le Havre, Jean Liabaud, Mdlle. E. Verdier, and Dr. Andry; Miss Bulmer, Broadlands, Hereford, second, with stout trusses of Mons. Boncenne, Duchesse de Valombrosa, Mons. Noman, Jean Soupert, Belle Lyonnaisse, La France, Abel Carriere, Marechal Niel, Captain Christy, Ulrich Brunner, Gloire de Dijon, General Jacqueminot, Countesse de Nadaillac, Royal Standard, Empress of India, Madame Welch, Annie Wood, Souvenir d'Elise, Duke of Edinburgh, Edouard Morren, Auguste Neumann, Souvenir de Paul Neyron, Dupuy Jamin, Mdlle. E. Verdier, Madame Margottin, Victor Verdier, Baroness Rothschild, Reynold, Hole, Etoile de Lyon, A. K. Williams, Comtesse de Serenyi, Charles Lefebvres Madame Gabriel Luizet, and Mario Van Houtte. For eighteen trebles Mr. Grant headed the list with another prime box of varieties similar to the previous class; Mr. George Berrington, Julian Road, Ludlow, was a good second, putting up La France, Auguste Rigotard, Duke of Wellington, Beauty of Waltham, Belle Lyonnaise, Marie Rady, A. K. Williams, Duchesse de Valombrosa, Fisher Holmes, Dupuy Jamin, Marquise de Castellane, Mdlle. M. Cointet, Annie Wood, Marechal Niel, Francois Michelon, Dr. Andry, and Lady Mary Fitzwilliam; Miss Bulmer was a good third, but received a "highly commended," as the regulation number of exhibitors did not compete. For twelve triplets Joseph Pulley, Esq., Lower Eaton, took the card with a dozen trees of considerable merit, including Duchesse de Valombrosa, Dupuy Jamin, Ulrich Brunner, Belle Lyonnaise, General Jacqueminot, Constantin Fretiakoff, John Stuart Mill, Marquise de Castellane, Comtesse de

Nadaillac, Magna Charta, Comtesse de Serenyi, and Charles Lefebvre; James Rankin, Esq., M.P., Bryngwyn, was a close second, his box containing very bright blooms of Duchesse de Valombrosa, Abel Carriere, John S. Mill, Madame Nachury, Madame G. Luizet, Charles Lefebvre, Souvenir de la Malmaison, Edouard Morren, Helen Paul, Ulrich Brunner, Captain Christy, and Baroness Rothschild. The class for twenty-four singles was noticeable from the fact that the premier box of Joseph Pulloy, Esq., had grand blooms of fine outline and colour, and furnished with foliage not equalled by any other exhibit in the show, the varieties being E. Y. Teas, Ulrich Brunner, Comtesse de Serenyi, Constantin Fretiakoff, Captain Christy, Magna Charta, Mons. Noman, Victor Verdier, Senateur Vaisse, Innocente Pirola, A. K. Williams, May Quennell, Absl Carriere, La Rosiere, Comtesse de Nadaillac, Duke of Edinburgh, Duchesse de Valombrosa, Marie Rady, Sir Garnet Wolseley, Belle Lyonnaise, Duke of Wellington, and Lady Mary Fitzwilliam; Mrs. Graham, Sugwas Court, Hereford, was awarded the second oard, her box being truly meritorious in a competition of seven or eight exhibits, the varieties being La France, Countess of Oxford, Madame Lacharme, Mrs. Jowitt, Prince Arthur, Madame Vidot, Edouard Morren, Marie Rady, Lady Mary Fitzwilliam, John Hopper, Senateur Vaisse, Marguerite de St. Amand, Countess of Rosebery, Alfred Dumesnil, La France, Constantin Fretiakoff, Victor Verdier, Dupuy Jamain, Hippolyte Jamain, Fisher Holmes, Baroness Rothschild, A. K. Williams, Ægeria, and Beauty of Waltham; the prizes for twelve varieties going to James Rankin, Esq., and W. F. Ecroyd, Esq., Credenhill Court, for excellent blooms.

The remainder of the show comprised a dozen long tables filled with floral decorations, bridal bouquets, opera bouquets, ladies shoulder sprays, gentlemen's buttonholes, &c., all very excellently displayed.

ROYAL HORTICULTURAL SOCIETY, July 13.

Exhibition of Fruit, Vegetables, and Cut Flowers.

On this occasion liberal prizes were offered for fruit, vegetables, and cut flowers, and as all the classes were well filled, and the productions generally of high-class quality, the exhibition was one of the most successful that has been held at South Kensington during the current season.

Fruit was abundant, and on the whole remarkably good. Pines were considerably above the average, and the competition was very keen in both the classes provided. For two fruits, any variety, Mr. G. T. Miles, The Gardens, Wycombe Abbey, was first with two highly-finished fruits weighing respectively 5 lb. 2 oz. and 4 lb. 14 oz., of the Queen; Mr. R. Dawes, Temple Newsome, Leeds, was second with excellent fruits, of which the aggregate weight was 9 lb.; and Mr. H. Morris, Glanafon Gardens, Taibach, was third. In the class for a single fruit of any variety Mr. G. T. Miles was again first, staging a very fine Queen weighing 5 lb. 2 oz.; Mr. Dawes was second and Mr. Hudson, gardener to H. J. Atkinson, Esq., M.P., Gunnersbury House, Acton, third, both staging fruits evincing cultural skill of a high order.

There were eight entries in the classes for a dish of Black Hamburg grapes, and the whole of the examples were more or less good. At the head of the competitors was Mr. Tavener, gardener to Sir A. K. Macdonald, Bart., Woolmer, Liphook, with large clusters remarkable for the size and colour of the berries. Mr. Goodaire, gardener to the Earl of Harrington, Elvaston Castle, Derby, was second, staging large well-finished clusters; and Mr. J. Neighbour, Bickley Park, was third, his bunches being of medium size, and well-finished. For three bunches of black grape other than the above-mentioned variety, Mr. J. Goodacre was first with large and fairly well coloured bunches of Muscat Hamburg. Mr. G. T. Miles was second with small well-coloured clusters of Gros Maroc; and Mr. T. Osman, gardener to L. J. Baker, Esq., Chertsey, was third with a good dish of Alicante. There was a spirited contest for the prizes for Muscat of Alexandria, and the first place was occupied by Mr. Cakebread, gardener to Sir P. Rose, Bart., Rayners, Penn, Bucks. The second and third prizes were respectively awarded to Mr. A. Smith, Warren Hill, Loughton, Essex; and Mr. C. J. Goldsmith, gardener to C. A. Hoare, Kelsey Manor, Beckenham.

Both peaches and nectarines were contributed in large numbers, and in a condition that reflected much credit on the respective exhibitors. There were fourteen entries in the class for a dish of peaches, and the premier award was made in favour of Mr. Seymour, gardener to W. R. Winch, Esq., North Mymms Park, Hatfield, who had exceptionally fine fruit of Grosse Mignonne. Mr. Cakebread was third with the same variety; and Mr. J. Wallis, gardener to the Rev. Walter Sneyd, Keele Hall, Staffordshire, was second with good fruit of Crimson Galande. The entries were equally numerous in the class for a dish of nectarines, and the first prize was awarded to Mr. J. Roberts, Gunnersbury Park, Acton, who had exceptionally fine fruit of Lord Napier; Mr. W. Robins, gardener to E. D. Lees, Esq., Heartwell House, Aylesbury, was second with fruit large in size, but rather pale in colour, of Lord Napier; Mr. Seymour was third with Pitmaston Orange.

In competition for the prizes for two dishes of strawberries, Mr. G. Garlandvoy, gardener to C. B. Bingley, Esq., Stanhope Park, Greenford, was first with full-sized and highly-coloured fruit of Dr. Hogg and British Queen. Mr. Waterman, gardener to H. A. Brassey, Esq., Preston Hall, Aylesford, was second with British Queen and James Veitch; and Mr. Seymour was third with Eclipse and President. For a single dish Mr. J. Roberts was first with a fine dish of British Queen, Mr. J. Neighbour was second with Dr. Hogg, and Mr. Seymour third with President. Figs were well represented both as regards quantity and quality, and the prizes were awarded to Mr. Tavener, Mr. Howe, gardener to H. Tate, Esq., Park Hill, Streatham Common, and Mr. Wallis, all of whom had Brown Turkey. There was a keen contest in the class for two dishes of cherries, and in the result Mr. Hudson and Mr. J. Roberts were first and second with Bigarreau Napoleon and Black Circassian, and Mr. J. Read Mill was third. The class set apart for two melons contained no less than fifteen entries, and the premier award was made in favour of Mr. C. J. Salter, gardener to J. Southgate, Esq., Selhorne, Streatham, who had two large and richly-flavoured fruits of Blenheim Orange. Mr. E. Gilman, Ingestre Gardens, Stafford, was second with good fruits of Hero of Lockinge; and Mr. H. W. Ward, Longford Castle, Salisbury, was third with Sutton's Imperial Greenflesh.

Tomatoes were admirably shown, and the first prize was awarded to Mr. Farrance, Chadwell Heath, Essex, for an excellent dish of fruit of Trophy. Mr. Jennings, gardener to J. Freeman, Esq., Forest Lodge, Farnborough, was second; and Mr. C. Ross, Welford Park, Newbury, third.

Vegetables were represented by nine collections of eight dishes each, and formed a highly interesting feature. The post of honour in the class was occupied by Mr. G. H. Richards, gardener to the Earl of Normanton, Somerley Park, Ringwood, with an excellent collection containing Green Globe artichoke, Telegraph pea, Late Argenteuil asparagus, Carter's Perfection tomato, Veitch's Matchless Scarlet carrot, Daniel's White Elephant onion, Snowdrop potato, and Early London cauliflower; Mr. G. T. Miles second with Sutton's Intermediate carrot, Green Globe artichoke, Telegraph pea, Moore's Cream marrow, Pearl cauliflower, Snowdrop potato, Stamfordian tomato, and Daniel's White Elephant onion; Mr. C. J. Waite, Glenhurst, Esher, was third with a good collection, in which was an excellent dish of Pen-y-hid vegetable marrow. Cucumbers were few in number and miserably poor, and any special reference to them is quite unnecessary.

Cut Flowers were largely shown, and produced a very effective display. In competition for the prizes offered for a collection of cut flowers of hardy herbaceous plants, Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was first with a very large and remarkably beautiful collection, in which early flowering gladioli, lilies, and campanulas were especially well represented. The lilies comprised Lilium pardalinum elegans, L. pardalinum californicum, a very robust growing variety, L. testaceum, L. croceum, and L. Humboldti; and amongst the miscellaneous subjects were Triteleia laxa Murrayana, a late and very deep blue form of great beauty; Pentstemon barbatum Torreyi, an elegant form with bright scarlet flowers; and Papaver nudicaule in variety. Messrs. Paul and Son, Cheshunt, were a good second with a large and tastefully-arranged collection, in which the delphiniums, phloxes, centaureas, and tropæolums were admirably represented. Messrs. Kelway and Son, Langport, contributed, not for competition, a collection in which their strain of gaillardias was well represented, and were awarded the bronze medal. Messrs. Barr and Son, 12, King Street, also exhibited an attractive collection of hardy flowers.

There was a very beautiful display of cut roses, which added materially to the attractions of the exhibition. Messrs. W. Paul and Son, Waltham Cross, Herts, exhibited a very extensive and remarkably beautiful collection of teas and hybrid perpetuals, and were awarded the silver-gilt Banksian medal. Messrs. Paul and Son, Cheshunt, contributed ten boxes of excellent blooms, and were awarded the silver Banksian medal.

Messrs. J. Carter and Co.'s Prizes for four dishes of peas, to comprise Carter's Stratagem, Pride of the Market, Telegraph, and Telephone, were keenly contested, and the samples were good throughout. The prizetakers were Mr. H. Marriott, Skirbeck, Boston; Mr. H. Marriott, jun., Skirbeck, Boston; Mr. R. Phillips, and Mr. H. W. Ward, in the order of their names.

Messrs. Webb and Sons' Prizes for a dish of Wordsley Wonder brought out a strong competition, and Mr. H. Marriott and Mr. H. W. Ward were first and second respectively.

Mr. House, of Peterborough, offered prizes for House's Perfect Marrow pea, and these were awarded to Mr. H. Marriott, Mr. J. Cook, and Mr. H. Marriott, jun.

Floral Committee.

Present: G. F. Wilson, Esq., in the chair; and Rev. W. Wilks, Dr. Masters, Major Lendy, and Messrs. H. Bennett, W. Bealby, Shirley Hibberd, H. Herbst, J. Walker, G. Duffield, J. Hudson, W. Holmes, R. Dean, C. Noble, H. Ballantine, J. Dominy, J. O'Brien, G. Paul, J. Douglas, and E. Hill.

The contributions to the meeting of the committee included a tastefully-arranged group of orchids from Mr. Simpson, gardener to R. J. Measures, Esq., Cambridge Lodge, Camberwell, who was awarded the silver Banksian medal; Mr. Bickerstaff, gardener to Sir T. Lawrence, Bart., M.P., Burford Lodge, Dorking, contributed a group of orchids for which he was accorded a vote of thanks. It included Ærides roseum, Cypripedium caudatum, a healthy example bearing six flowers, which had been grown in a cool temperature; Trichopilia Galloteana, a beautiful species with cream-coloured flowers; and Spathoglottis angustatum, a handsome species with large lilac-coloured flowers. Messrs. J. Veitch and Sons, Chelsea, submitted several erect-flowered gloxinias, all of which were remarkable for the fine form and attractive colouring of the flowers. Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, exhibited well-developed examples of Sarracenia hybrida, a very handsome form with medium-sized and richly-coloured pitchers. Mr. R. Dean, Ealing, exhibited a gathering of finely-developed spikes of his beautiful stock, Mauve Beauty, and was accorded a vote of thanks. A similar compliment was paid to Mr. Thurston, The Cedars, Merridale, Wolverhampton, for two excellent stands of pinks. Colonel E. T. Berkeley, Sibbertoft, Market Harborough, exhibited Phalænopsis speciosa Imperator, a beautiful form distinguished by the vivid colouring of the flowers.

One of the most interesting of the contributions to the meeting was the selection of poppies from the Rev. W. Wilks, Shirley Vicarage, Croydon. The poppies exhibited are varieties of the common wild poppy, Papaver Rheas, which have been obtained by careful selection during the past few years. The flowers are rather larger, and of finer form than those of the type, and the colours, which range from delicate pink to the most brilliant scarlet, are exquisitely beautiful. Mr. Wilks, who has also a variety with bright yellow flowers, was voted a high commendation.

Fruit Committee.

Present: Mr. T. F. Rivers (in the chair), Dr. Hogg, and Messrs. H. J. Veitch, W. Paul, J. Roberts, C. Ross, W. Denning, W. Warren, G. Norman, G. Bunyard, T. B. Haywood, J. Burnett, G. T. Miles, P. Crowley, and F. Rutland.

Chief amongst the contributions was the collection of dried fruits from the Commissioners of the Cape of Good Hope, who were awarded the silver Knightian medal. Messrs. J. Carter and Co., High Holborn, exhibited a very interesting collection of peas, comprising about eighty varieties, and were awarded the bronze Banksian medal. Mr. Mundell, Moor Park, contributed good samples of twelve varieties of peas, and Mr. Laxton, Girtford, Bedford, exhibited several of his new peas. Grapes, peaches, and nectarines were presented by Mr. Robins and Mr. Edmonds; and new melons were shown by Mr. Ross, Mr. Lockie, and Mr. Gilbert, but no award was made. Messrs. Viccars, Collyer, and Co., Leicester, sent a good dish of American blackberries; and from Chiswick came a dish of Waterloo strawberry, a large and handsome fruit, in the way of Sir Joseph Paxton.

Novelties.

First-class certificates were granted for the undermentioned novelties:—

To J. Southgate, Esq., Streatham, for

Oncidium macranthum, Southgate's variety.—A very fine form of this handsome oncid, with flowers larger in size and richer in colour than those of the type, the petals are also marked with large blotches of reddish crimson.

To Mr. B. S. Williams, for

Dendrobium Williamsianum.—A very distinct species of great beauty. The flowers, which are produced in racemes at the apex of the slender pseudo bulb, are of medium size, and have white sepals and petals, and rich violet-maroon labellum, with lavender tip.

To Mr. W. Bull, Chelsea, for

Impatiens Hawkeri.—A remarkably handsome species, which will not fail to prove immensely valuable for decorative purposes. It has a very free habit and dark green foliage, and produces a profusion of brilliant carmine-red flowers.

Aphelandra chrysops.—A beautiful species, of erect growth and with deep green leaves, which are veined with silvery white, and soft yellow inflorescens.

To Messrs. W. Paul and Son, Waltham Cross, for

Rose Grand Mogul.—A beautiful hybrid perpetual, raised from seed saved from Alfred K. Williams. The flowers, which are somewhat similar in form to its parent, are large, globular, and very full, and of a glowing crimson hue.

To Mr. T. S. Ware, Tottenham, for

Papaver nudicaule miniata.—An effective variety, with flowers of a rich orange-red colour.

Ornithogalum aureum.—A distinct and handsome species with rich golden yellow flowers.

To Sir Trevor Lawrence, Bart., M.P., for

Phaius Humblotii.—A beautiful species, of rather small growth, the flowers are of medium size, the petals and sepals pale rose, and the labellum purple crimson.

To Mr. W. Bealby, Putney, for

Pelargonium Eden Marchi.—A free-blooming, ivy-leaved variety, with large double flowers of a rich salmon-pink hue.

To Messrs. J. Veitch and Sons, Chelsea, for

Stock Snowflake.—An excellent white type, belonging to the ten week section.

To Baron Hubry, Austria, for

Odontoglossum crispum Hubryanum.—A handsome variety, the flowers of medium size, and the petals and sepals heavily blotched with rose.

To Mr. C. Dorman, Laurie Park, Sydenham, for

Odontoglossum crispum Mrs. C. Dorman.—A good white variety, but not sufficiently distinct to justify its being certificated.

To Mr. Naylor, Harrow, for

Pteris serrulata Naylor's Crested.—A finely-crested form of dense growth, which will probably prove useful for decorative purposes. It is quite distinct from the other crested forms in cultivation, and is decidedly handsome.

NORWICH HORTICULTURAL SOCIETY, July 13 and 14.

Norwich has been the centre of horticultural and agricultural activity during the past few days, owing to the Royal Agricultural Show, which opened on Saturday and closes to-day, and the summer exhibition of the above society which was held on Tuesday and Wednesday last. Owing to the visit of the Prince and Princess of Wales, the old cathedral city, with its narrow streets, crooked alleys, and quaint houses, was gaily decorated—and Norwich is a place well suited for showing off profuse decoration to conspicuous advantage. The horticultural exhibition was held at Crown Point, Trouse, which is about two miles from Norwich proper, and adjoining the agricultural show. The most important feature was the display of roses, which proved of great interest, as the flowers were of grand quality, full, and well coloured. Special mention must be made of the strawberries, which were of huge size, and the finest we have seen this season.

Roses, as remarked above, made a fine feature, and magnificent flowers were put up by Mr. B. R. Cant, Colchester, in the class for seventy-two, in which he occupied the first place. The blooms were large, fresh, and in some instances faultless in form. They comprised Captain Christy, Exposition de Brie, Magna Charta, Madame Prosper Langier, Comtesse d'Oxford, Comtesse de Paris, Lady Mary Fitzwilliam, Marie Rady, Marechal Niel, John Stuart Mill, Nardy Freres, Pitord, Dr. Sewell, Catherine Mermet, Madame Clemence Joigneanx, Mons. Benoit Comte, Baroness Rothschild, Star of Waltham, Louis Van Houtte, Madame C. Crapelet, Queen of Queens, Countess of Rosebery, Madame Gabriel Luizet, Francois Louvat, Niphetos, Le Havre, Senateur Vaisse, Charles Lefebvre, Hon. E. Gifford, Etienne Levet, John Hopper, Jules Chretien, La France, Gloire de Bourg la Reine, Pride of Waltham, Maurice Bernardin, Madame Lacharme, Jean Soupert, Madame Eugene Verdier, Lord Macaulay, Comtesse de Naidallac, Marie Baumann, Etoile de Lyon, Prince Arthur, Ulrich Brunner, Horace Vernet, Souvenir d'Un Ami, Madame Charles Wood, Princess Beatrice, Duke of Edinburgh, Heinrich Schultheis, Abel Carriere, Marquise de Castellane, Lady Sheffield, Madame Marie Verdier, Xavier Olibo, Merveille de Lyon, Pierre Carot, Madame de Watteville, Reynolds Hole, Souvenir d'Elise, Duke of Teck, Mrs. Laxton, Fisher Holmes, Francois Michelon, Sir Garnet Wolseley, Antoine Ducher, Alfred Colomb, Comtesse Henriette Coombs, A. K. Williams, and Marguerite de St. Amand. The second prize was awarded to Mr. Frank Cant, Colchester, who also had flowers of fine form, amongst the best being: Dupuy Jamain, Xavier Olibo, Comtesse d'Oxford, Marechal Niel, Marie Rady, Marie Baumann, Horace Vernet, Camille Bernardin, Madame de Watteville, Dr. Andry, Duke of Wellington, Le Havre, Dr. Sewell, Rosieriste Jacobs, and La Boule d'Or. The winner of the first prize in the class for forty-eight distinct varieties was Mr. T. Morris, gardener to Miss Penrice, Witton House, Norwich. The flowers were very satisfactory, and the varieties exhibited comprised Antoine Ducher, Duke of Teck, Dr. Andry, Jean Liabaud, Camille Bernardin, Mons. Boncenne, Paul Verdier, Marie Cointet, Abel Carriere, Alfred Colomb, Belle Lyonnaise, Annie Wood, La France, Le Havre, John Bright, Thomas Mills, Marechal Niel, Catherine Mermet, Etienne Levet, Dupuy Jamain, Homere, Hippolyte Jamain, Madame Lambard, Charles Lefebvre, Marie Verdier, General Jacqueminot, Madame Margottin, E. Y. Teas, Edward Morren, Baroness Rothschild, Ulrich Brunner, Comtesse de Choiseuil, A. K. Williams, Olivier de l'Homme, Captain Christy, Louis Van Houtte, Penelope Mayo, Duchesse de Valombrosa, Countess of Rosebery, Boieldieu, Duke of Connaught, Jean Ducher, Leopold I., Senateur Vaisse, Marie Baumann, and Mrs. Baker. In the class for thirty-six varieties, distinct, the Rev. H. Frere, Burston Rectory, came to the front, putting up Duke of Teck, Madame Gabriel Luizet, Charles Lefebvre, Marie Baumann, Xavier Olibo, Mrs. Baker, Souvenir d'Elise Vardon, Alfred Colomb, Reynolds Hole, Horace Vernet, Pierre Carot, Etoile de Lyon, Pitord, Countess of Rosebery, Dupuy Jamain, Marie Cointet, A. K. Williams, Captain Christy, Madame Margottin, Louis Van Houtte, Marie Verdier, Le Havre, Madame Welch, Auguste Rigotard, Baroness Rothschild, Duke of Edinburgh, Lady Sheffield, Madame Bravy, Colonel Breton, Catherine Mermet, Comtesse d'Oxford, Fisher Holmes, Comtesse de Nadaillac, Duchess of Bedford, Anna Olivier, and Marquise de Castellane. Mr. George Palmer, gardener to H. Powell, Esq., Drinkstone Park, and Rev. A. Foster Melliar, Sproughton Rectory, Ipswich, were equal seconds. For twenty-four, the Rev. E. L. Fellowes, Wimpole Rectory, Royston, came first, putting up remarkably fresh and well-developed flowers of Marie Baumann, Marquise de Castellane, Prince Arthur, Madame G. Luizet, Annie Wood, Louis Van Houtte, Mrs. Jowett, Merveille de Lyon, Thomas Mills, La France, Alfred Colomb, Marechal Niel, Marie Rady, Baroness Rothschild, Auguste Rigotard, Horace Vernet, Baron Beustetten, Marie Finger, Duke of Teck, Mons. Noman, and A. K. Williams. Rev. F. Page Roberts, Scole Rectory, was placed second, and Mr. George L. Rushmore, gardener to Sir C. R. Rowley, Bart., Colchester, and Mr. J. Cullen, gardener to Rev. Charles Fellowes, Shottesham, third and fourth respectively. In the class for twelve, distinct, the Rev. E. L. Fellowes was the most successful, staging, in fine condition, Alfred Colomb, Baroness Rothschild, Marie Rady, La France, Royal Standard, A. K. Williams, Catherine Mermet, Marie Baumann, Madame Lamhard, Marie Van Houtte, Annie Wood, and Madame G. Luizet. The second award was made in favour of the Rev. F. Page Roberts, and the third prize went to Mr. G. L. Rushmore. For six varieties, distinct, Mr. G. Smith, gardener to Mrs. Lyde, Thornham Cottage, Lynn, was first, and Mr. W. Belton, gardener to R. G. Bagshaw, second. Mr. Geo. Palmer staged grand blooms of Baroness Rothschild in the class for twelve flowers of any hybrid perpetual, and was placed first. Mr. G. Jordan came second with the same variety. The third award was made in favour of Mr. F. Morris, who had Jean Liabaud. There was good competition in the class for twelve triplets, distinct varieties, the first place being occupied by Mr. G. Palmer. Mr. Morris was second; Mr. S. Pratt, gardener to T. C. Blofield, Esq., third; and an extra was granted to the Rev. H. T. Frere.

Teas and noisettes were well shown, the flowers being of good form, nicely finished, and delightfully fresh. In the class for twelve, distinct, the Rev. F. Page Roberts occupied the first place, staging Souvenir d'un Ami, Madame Margottin, Comtesse de Nadaillac, Innocente Pirola, Souvenir d'Elise Vardon, Caroline Kuster, Marie Van Houtte, Niphetos, Jean Ducher, Madame Bravy, Catherine Mermet, and Madame Hippolyte Jamain. Mr. G. Jordan, Rev. E. L. Fellowes, and the Rev. A. Foster Melliar were the other prizetakers in the order of their names. There was good competition in the class for six, the Rev. H. T. Frere taking the first prize, exhibiting Jean Ducher, Comtesse de Nadaillac, Marie Van Houtte, Souvenir d'un Ami, Madame Lamhard, and Souvenir d'Elise Vardon; the Rev. Charles Fellowes was second; and Mr. G. L. Rushmore and the Rev. A. Foster Melliar third and fourth respectively. For twelve blooms of any tea variety, the Rev. F. Page Roberts came first, with fresh, full, and well-finished flowers of Souvenir d'Elise Vardon. Mr. G. Palmer put up Caroline Kuster, and was placed second, and Mr. F. Morris was adjudged the third prize. In the class for six blooms of any tea the Rev. F. Page Roberts exhibited Marie Van Houtte in excellent condition, and was placed first, Mr. G. Jordan and Mr. F. Norris being second and third respectively, the former staging Comtesse de Nadaillac, and the last-mentioned Marie Van Houtte.

Fruit made a conspicuous feature, and was of grand quality. In the class for six dishes, Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, was well to the front, Buckland Sweetwater and Black Hamburgh grapes and Sir Joseph Paxton strawberry being exceptionally fine; Mr. W. Chettleburgh, gardener to Colonel Reus, Worstead House, came second. For thirty cherries, Mr. J. Sant, gardener to Rev. F. W. Jex Blake, was first, exhibiting Black Tartarian in good condition; and in the class for thirty-six raspberries, the first prize was taken by Mr. J. Davison, gardener to Mrs. Petre, Westwick House, with Bee Hive; Mr. J. Pratt and Mr. J. Green were second and third respectively. Strawberries proved a fine feature, and in the class for a collection of four varieties, distinct, Mr. Allan occupied the first place, exhibiting James Veitch, Sir Joseph Paxton, The Amateur, and President in splendid condition; Mr. J. Brim, gardener to G. Holmes, Esq., Brooke House, was second, putting up Unser Fritz, Crimson Queen, Dr. Hogg, and Aromatic; Mr. P. Wright, third. For a dish of one variety, Mr. J. Brim came first with British Queen, and Mr. Allan second with Countess. In the class for six nectarines, Mr. S. Dewing, gardener to C. Atkinson, Esq., Swanton Novers, was the most successful competitor; and in the corresponding class for peaches the prizetakers were Mr. W. Allan and Mr. G. Baker respectively. The last-mentioned exhibitor was first in the class for one scarlet fleshed melon, exhibiting Queen Emma. Mr. W. Allan won the first prize in the class for three bunches of black grapes, putting up large well-coloured bunches of Black Hamburgh; Mr. S. Dewing and Mr. J. Davison were second and third respectively. In the corresponding class for white, Mr. W. Allan and Mr. J. Davison were the prizetakers in the order of their names.

Vegetables were of excellent quality, and in the class of a collection Mr. W. Chettleburgh was first, and Messrs. S. Dewing and S. Pratt second and third. In competition for the prizes offered by Messrs. Daniel Bros., Norwich, for a collection, Mr. G. Baker came first with productions of a high order of merit. Mr. J. Davison was a close second, and Mr. W. Chettleburgh third. Messrs. Daniels Bros. also offered special prizes for cabbages, potatoes, peas, broad beans, and cucumbers, and the various exhibits were remarkable fine; the principle prizetakers in the various classes were: Messrs. W. Thompson, W. Chettleburgh, B. Threeve, J. Green, J. Pratt, S. Dewing, J. Sant, G. Jordan, J. Davison, and E. Pitcher.

Plants occupied one fair-sized tent, and made an interesting feature of the show. For six caladiums Mr. P. Wright, gardener to W. Borkbeck, Esq., Thorpe, was first, staging good specimens of Bicolor splendens, Prince Albert Edward, Whytei, Bicolor major, and Triomphe de l'Exposition. J. Sendall, Esq., Oak Lodge, Thorpe, occupied the first place in the class for six coleus, exhibiting well-grown specimens of Mabel Cannell, Mrs. Stedall, Edith Sentauce, Madame Pompadour, Magenta Queen, and Duchesse de Montmartre. The winner of the first prize in the class for six foliage begonias was Mr. H. Batchelor, gardener to S. G. Buxton, Esq., Catton Park; and for nine exotic ferns the prizetakers were Mr. G. Woodhouse, J. Sendall, Esq., and Mr. H. Batchelor in the order of their names. Gloxinias made a bright display, Mr. Pitcher, gardener to H. S. Patteson, Esq., Cringleford, occupying the first place in the class for six. Mr. G. Woodhouse and Mr. H. Batchelor were first and second respectively for six fuchsias, and they were also placed in the same position in the class for four specimens. For a specimen orchid Mr. G. Woodhouse put up Saccolabium Blumei and was awarded the first prize, the second place being filled by Mr. H. Batchelor.

Miscellaneous contributions included a fine display of vegetables from Messrs. Daniels Brothers, Norwich, Duke of Albany pea, Giant Longpod bean, and Daniels' Crimson Queen tomato being especially noticeable for their high quality and great productiveness. The same firm also showed an interesting collection of flowering plants, which added greatly to the interest and beauty of the exhibition.

BRIGHTON ROSE SHOW, July 9 and 10.

It is now five years since a rose show was held in Brighton, and the exhibition in the Aquarium on the above dates was regarded with more than the usual degree of interest, both by the residents in the town and the large body of growers who took part in the competition for the prizes. The schedule was prepared on the same lines as those of the principal exhibitions of roses in various parts of the country, and the classes were divided into two groups, those forming one group being open to both amateurs and nurserymen, and in those constituting the other the competition was limited to private growers. The principal trade cultivators took part in the competition for the prizes in the open classes, and, as at the previous exhibitions this season, the Colchester roses occupied a leading position. The exhibition was much larger in extent than any of the previous shows held at Brighton, the flowers were, on the whole, of superb quality, and the results generally were such as to give satisfaction to all concerned.

There was a keen contest in the open class for seventy-two, and at the head of the several competitors was Mr. B. R. Cant, Colchester. The flowers forming the first prize collection were of average size, very full, and remarkable for their beautiful colouring. Messrs. Paul and Son, Chesbunt, were a close second with flowers rather smaller than those in the first prize collection, but in other respects they were fully equal to them. Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, was third with well-developed flowers. Especially good in the several stands were the blooms of Marquise de Castellane, La France, Madame Victor Verdier, Marie Finger, Le Havre, Madame Gabriel Luizet, Alfred K. Williams, Dr. Andry, Reynolds Hole, Marie Baumann, Merveille de Lyon, Prince Camille de Rohan, Countess of Oxford, and Exposition de Brie. Mr. B. R. Cant was successful also in taking the first prize in the open class for forty-eight and in the class for twenty-four, the other prizetakers in those classes being Messrs. Balchin and Son, Brighton, Mr. W. Rumsey, and Mr. G. W. Piper, Uckfield.

Tea-scented and noisette roses were admirably shown, and their distinct colours and delightful fragrance secured for them a full measure of appreciation. In the open class for eighteen varieties the awards were made to Mr. G. W. Piper, Mr. B. R. Cant, and Mr. W. Rumsey, in the order of their names; and in the class in which the competition was limited to amateurs, Mr. A. Slaughter, Jarvis Villa, Steyning, Mr. E. M. Bethune, Danny Park, Horsham, and Mr. H. Simmons, gardener to Rev. R. C. Hales, Henfield, were first, second, and third respectively. The several stands included finely-developed blooms of Madame Margottin, Homere, Niphetos, Marie Van Houtte, Anna Olivier, Souvenir d'Elise, Madame Willermoz, Alba rosea, Madame Cusin, President, Madame de Watteville, Marechal Niel, and Comtesse de Nadaillac.

The contributions to the classes for roses shown according to their colours formed a very effective feature. For crimson roses Mr. B. R. Cant was first, Messrs. Paul and Son were second, and Mr. G. Piper was third. In competition for the prizes for roses similar in colour to Marie Baumann, Mr. B. R. Cant occupied the first place, and Mr. R. Miller, Southdown Nursery, Shoreham, and Mr. G. W. Piper, were second and third respectively. The prizetakers for yellow roses were Mr. A. Slaughter, Mr. B. R. Cant, and Mr. Piper; and for white roses, Mr. Cant, Messrs. Paul and Son, and Mr. Piper.

The roses staged by amateurs in the classes specially set apart for them were not on the whole equal to those contributed to the open classes, but the blooms in the winning stands were of high quality. The first prizes for twenty-four, eighteen, and twelve were awarded to Mr. E. M. Bethune, who presented blooms large in size and bright in colour. The other successful competitors in these classes were Mr. A. Slaughter, Mr. Simmons, and Miss S. Gravelley, Cowfield.

There was a good display of baskets, hand and button-hole bouquets, and sprays, for which liberal prizes were offered. The principal awards in the several classes were made in favour of Mr. J. R. Chard, Clapham Common, Mr. R. Miller, Mrs. F. Woollard, Cooksbridge Nursery, Lewes, Mrs. L. Chaff, East Croydon, and Mr. Piper, all of whom presented arrangments evincing great taste.

ROSES AT SIDCUP.

The annual exhibition of the Cray Valley and Sidcup Horticultural Society took place on the 10th inst. in a portion of the grounds of Frognal, the Kentish seat of Earl Sydney, the Lord Lieutenant of the county, and though but a somewhat small suburban society, the show was remarkable for the superb display of roses it brought together. The other features of the show were of small importance compared with the "Feast of Roses" brought together on this occasion. The locality is one eminently favourable to the growth of roses; they abound in almost every villa garden, and it is not surprising that among the committee and managers of the society are some active and enthusiastic rosarians, who glory in having, on the occasion of the summer show, a rare display of the Queen of Flowers.

Handsome prizes were offered for 48 varieties of roses, distinct single trusses; and eight collections were staged, the leading trade growers being present. The first prize went to Mr. T. W. Girdlestone, Sunningdale, with a truly superb lot of flowers of large size, fresh, and finely coloured. The leading varieties were Crown Prince, Victor Verdier, Jean Ducher, Reynolds Hole, Marie Finger, Charles Lefebvre, Madame Emma Hill, Abel Carriere, Comte Raimbaud, Baroness Rothschild, Dr. Sewell, Souvenir de Madame Alfred Vy, Mons. Noman, Prince Arthur, Madame George Schwartz, Marie Baumann, Merveille de Lyon, Duke of Teck, Marquis de Castellane, Star of Waltham, Pride of Waltham, Madame A. Dumesnil, Duchesse de Valombrosa, Horace Vernet, Etoile de Lyon, Hervie Ledechaux, Madame Bravy, Jean Lamy, Souvenir d'Elise Vardon, Thomas Mills, Caroline Kuster, Etienne Levet, Mons. E. Y. Teas, Catherine Mermet, Francois Michelon, Innocenta Pirola, General Jacqueminot, A. K. Williams, Constantine Fretiakoff, Lord Macaulay, &c. Mr. B. R. Cant, St. John's Nursery, Colchester, was second with a very fine lot of blooms, including Comtesse d'Oxford, Earl of Pembroke, Louis Van Houtte, Reynolds Hole, Merveille de Lyon, Jules Chretien, Queen of Queens, Charles Lefebvre, A. K. Williams, Souvenir d'Elise, Marie Baumann, Etienne Levet, Ulrich Brunner, Abel Carriere, Marechal Niel, Jean Soupert, Madame Charles Wood, Marquise de Castellane, Madame Clemence Joigneaux, Camille Bernardin, &c. Third, Mr. William Rumsey, nurseryman, Waltham Cross; and extra prize, Messrs. Paul and Son, Old Nurseries, Chesbunt; though we think that the Cheshunt collection should have been placed before Mr. Rumsey's. In the class for twenty-four varieties, single trusses, there were ten competitors, and Mr. B. R. Cant was first with a grand lot of blooms, comprising Horace Vernet, Marquis de Castellane, Duchesse de Morny, Comtesse d'Oxford, Alfred Colomb, Le Havre, Madame de Watteville, a very distinct tea that is finely grown at Colchester; Marechal Niel, Madame Eugene Verdier, A. K. Williams, Ulrich Brunner, Xavier Olibo, Souvenir d'Elise, &c.; second, R. E. West, Esq., Reigate; third, Mr. T. W. Girdlestone.

A class for twelve tea and noisette roses brought five competitors, and Mr. B. R. Cant was again first with lovely blooms of Catherine Mermet, Souvenir d'Elise, Comtesse de Nadaillac, Marechal Niel, Souvenir d'un Ami, Etoile de Lyon, Madame de Watteville, Innocenta Pirola, Marie Van Houtte, Souvenir de Paul Neyron, Moire, and Madame Bravy. Second, Mr. T. Cant, nurseryman, Colchester, who had varieties much after the foregoing, the following being particularly fine: Souvenir d'Elise, Jean Ducher, Madame Bravy, and La Boule d'Or. Third, Messrs. Geo. Bunyard and Co. Prizes were also offered for the best six blooms of any variety of rose, and again there was a keen competition, Mr. T. W. Girdlestone being first with six wonderfully fine blooms of Marie Baumann; Mr. B. R. Cant being second with Ulrich Brunner; and Mr. T. Cant third with Marechal Niel. Madame de Watteville was finely shown in this class. In addition prizes were offered for competition among the local amateur rose growers, the best twenty-four coming from Mr. Fuller, Bexley; Mr. G. T. Ongley, Eltham, being second. Mrs. Fuller also had the best twelve; Mr. Ongley being second. Mr. E. A. Lockart, Sidcup, had the best six; Mr. S. Hodgkinson, of Sidcup, being second. Mr. Ongley had the best six tea-scented roses; Mrs. Fuller being second. In addition to the foregoing classes for amateurs, prizes were offered by Messrs. Bunyard and Co. for twenty-four roses, twelve H. P.'s and twelve tea-scented, the best coming from Mr. G. T. Ongley; by Mr. B. R. Cant for eighteen roses, Mrs. Fuller being first and Mr. R. E. West second; and by Mr. W. Rumsey for twelve roses, Mr. G. T. Ongley being again first.

Time did not admit of our taking notes of the plants, cut flowers, and fruits shown locally, but taking them altogether we can safely say they were greatly in advance of what was shown last year, thus emphasising the fact that horticulture is decidedly improving in this part of Kent.

The silver medal of the society was awarded to Mr. Thomas Crasp, gardener to Earl Sydney, Frognal, for a group of plants, including some excellent pot vines; and the following groups were highly commended: From Mr. B. S. Williams, Holloway, new and choice plants, one of the features of the show; Messrs. J. Laing and Co., Forest Hill, choice plants, including some fine begonias; Messrs. James Carter and Co., Crystal Palace Nursery, for a group of plants, including stocks in pots; and Messrs. Thomas Rivers and Son, Sawbridgeworth, for a very fine collection of fruit trees in pots, a remarkably valuable lot.

ROSE SHOW AT MALVERN, July 1.

The first anniversary of the Malvern Assembly Rooms and Pleasure Gardens was celebrated by the holding of a grand rose show, open to all England, performances by the Shakesperian Bidford Morris Dancers, and a grand evening concert. The festivities commenced with the rose show, which was under the patronage of the Right Hon. Lady Emily Foley, the Countess Beauchamp, the Countess of Coventry, the Lady Mary Fielding, the Lady Henry Somerset, Eliza Lady Lambert, Lady Lechmere, and Lady Lambert. There was a good attendance, amongst those present being Lady Emily Foley and the clergy and gentry of the neighbourhood. The exhibits were staged in the Winter Promenade and there was a splendid collection of roses. The following exhibited not for competition, but their productions were highly commended: Messrs. R. Smith, of Worcester, potentillas, mixed herbaceous plants, tea roses and perpetuals, clematis; Messrs. Lewis and Son, pelargoniums, clematis and Canterbury bells, mixed herbaceous plants, irises, perpetual and tea roses, pansies; Mrs. Kendall, Broome Lodge, Malvern Link, roses; Messrs. H. B. Rowe, roses; Mr. J. H. White (late Haywood), roses, pansies, ranunculuses, and petunias; Mrs. B. Bright, Colwall, roses; Mr. Davis, Bodenham, roses. The following were winners of prizes, there being about twenty competitors:

Nurserymen.—Thirty-six blooms, distinct varieties: First, Messrs. Cranston and Co., Hereford; second, Messrs. Cooling and Sons, Bath. Twenty-four blooms: First, Messrs. Cranston and Sons; second, Messrs. Cooling and Sons; third, Messrs. Griffiths and Sons, Tillington. Twelve blooms: First, Messrs. Cranston and Sons; second, Messrs. Griffiths and Sons; third, Mr. G. Davis, Hereford.

Open Competition.—One hundred blooms, in not less than ten varieties: First, Mr. Grant, Hope End, Herefordshire; second, Messrs. Cranston and Co; third, Mr. Campbell, Bath. Bouquet, all roses: First, Mr. Grant; second, Mr. W. Webb, The Birches, Herefordshire; third, Mr. Campbell. Best box of tea roses, Mr. Grant.

Amateurs.—Twenty-four Blooms: First, Mr. Grant; second, Mr. Campbell; third. Mr. Davis, Bodenham. Twelve Blooms: First, Mr. Grant; second, Rev. F. S. Taylor, Evesham; third, Mr. Campbell. Six Blooms: First, Mr. Grant; second, Rev. F. S. Taylor; third, Mr. Davis, Bodenham.

WOOD GREEN HORTICULTURAL SOCIETY, July 10.

The exhibition of this newly-formed society was held in Broomfield Park, Palmer's Green, on Saturday, and, although not equal to what might have been expected in the district, was fairly creditable for a first attempt.

The two principal exhibitors in the division in which the competition was open to cultivators of all classes were Mr. G. Osborn, Southgate, and Mr. Burnett, gardener to R. D. M. Littler, Esq., Broomfield Park, who staged good collections. In competition for the prizes for six flowering plants, Mr. G. Osborn was first, and Mr. Burnett second. The first-mentioned had large, well-flowered plants of Allamanda Hendersoni, Bougainvillea glabra, Clerodendron Balfouriana, and other well-known subjects; Mr. Burnett, who was second, staged a large, splendidly-flowered specimen of the brilliantly-coloured Kalosanthes coccinea major. For six ornamental-leaved plants, the position of these two exhibitors on the prize list was reversed, and Mr. Burnett was first, and Mr. Osborn second. The collections were not without merit, but they were much wanting in brightness. The first-mentioned had good specimens of Cissus discolor and Chamærops excelsa. In the open classes for ferns, fuchsias, and pelargoniums, Mr. Burnett was first, and Mr. Osborn second with capital collection, with the exception of the pelargoniums, which were rather poor. The first prize for six begonias, open, Mr. G. Osborn was first with neat, well-bloomed plants, and Mr. Burnett was second. The premier award in the amateurs' class for six begonias was made in favour of Mr. Watkin; and in that for three begonias, Mr. F. Hunt was first, both exhibitors staging excellent collections. Mr. Watkin was first for four fuchsias, and should have been first in the class for ivy-leaved pelargoniums, but in con-

sequence of his being the only exhibitor the first prize was withheld and the second only awarded, notwithstanding the fact that they were so well grown that they would have stood well in a close competition. Ferns were contributed in good condition to the amateurs' class by Mr. Watkin and Mr. Spickerwell, who were awarded the first and second prizes.

Cut Flowers were sufficiently plentiful to produce a pleasing display of colour, and included numerous boxes of excellent roses. The first place in the open class for eighteen roses was occupied by Mr. G. Osborn, and the second prize was awarded to Mr. Burnett. These exhibitors were first and second also in the open class for six. In the amateurs' class for twelve, Mr. W. Botteny, New Southgate, was first; and Mr. F. Hunt second. For six, Mr. J. Hazard, Mr. Golightly, and Mr. Dewdney were the prizetakers. The prize for a specimen rose was awarded to Mr. Golightly for a nicely-developed bloom of Lady Mary Fitzwilliam. Annuals and perennials were represented by neat collections from Mr. Hunt. There was one stand only of twelve carnations, and the blooms were so poor that the judges would have done well to have withheld the first prize instead of from the stand of zonal pelargoniums, which consisted exclusively of remarkably fine trusses of good varieties. The silver cup offered as the first prize for twelve pansies was awarded to Mr. W. Dewdney. Baskets and vases of flowers were numerous, and remarkable for the taste shown in their arrangement. But of bouquets there was one only in the competitive class, and that was wholly devoid of taste. Mr. H. J. Jones, Hope Nursery, Lewisham, exhibited (not for competition) a very tastefully-arranged bouquet, and did good service in staging such an excellent model. The two principal exhibitors in the classes for baskets, floral fans, and vases, were Mrs. W. Dewdney and Mrs. Woolridge.

There was a good representation of fruit and vegetables. The most successful of the several exhibitors of fruit were Mr. Osborn, Mr. Burnett, Mr. Sexton, Mr. Watkin, Mr. Gardener, Mr. Woolridge, and Mr. Harris. A collection of vegetables was shown by Mr. Watkin, and several dishes of peas were staged. Telephone and Telegraph found but little favour with the judges, and well-filled pods of these varieties in the best condition for the table were passed over, and two equal second prizes were awarded to Mr. Harris and Mr. Cassey, who had Little Gem or some other small variety very similar to it.

The miscellaneous contributions added very materially to the attractions of the show. Mr. T. S. Ware exhibited a group of hardy flowers, in which the lilies were prominent. Messrs. W. Cutbush and Son staged six boxes of excellent roses. Messrs. Cuthbert and Son contributed a group of ornamental plants, and from Mr. H. J. Jones came an attractive collection of flowering and fine foliage plants, and a group of Queen of the Belgians pelargonium, one of the best of the single white varieties.

HENFIELD ROSE SHOW, July 8.

The experiment was made on the above date of holding an exhibition of roses at Henfield, and although it can hardly be described as an unqualified success, the results were so far satisfactory as to justify the cultivators of the district in hoping that a rose show will be held annually in the town. The exhibition was held in the Assembly Rooms, which are well adapted for the purpose, and very bright and attractive was the display produced.

The principal class was that for twenty-four varieties, and in this the first prize was awarded to Mr. A. Slaughter, Steyning, who as usual staged finely-developed blooms; Mr. H. Simmons, gardener to Rev. Cox Hales, Woodmancote, was second with nicely-finished flowers; and Mr. C. Fowler, gardener to E. N. Hall, Esq., Henfield, was a close third. These exhibitors and Mr. Russell, gardener to Dr. Lewis, Henfield; Mr. S. Dewdney, gardener to Rev. H. W. Hunt, Shermanbury; Miss S. Gravelley, Cowfold; Mr. H. Longley, Henfield, and Mr. J. Boniface, gardener to Rev. D. Robertson, were the prizetakers in the other classes open to amateurs and gardeners.

The silver medal of the National Rose Society, offered for the best stand of blooms in the show, was awarded to Mr. Slaughter for his twenty-four; and the bronze medal for the best tea or noisette was awarded to Mr. C. Fowler for a beautiful bloom of Marechal Niel, which formed part of his box of twenty-four.

MORETON-IN-THE-MARSH ROSE SHOW, July 13.

A most successful exhibition of roses was held at this quiet East Gloucestershire town on the above date, the liberal prizes offered in the schedule being supplemented by a "special" £10 for the best box of blooms in the show. The show was held in the pleasure grounds at the rear of the Swan Hotel, Moreton. The quality of the blooms was regarded as being equal to, and in some points superior, to those exhibited at South Kensington, Crystal Palace, Bath, Hereford, or Oxford. The teas in the class for eighteen "open," and the boxes of a dozen each of one variety of H. P. made an impression on all who saw them.

In the class for thirty-six single trusses (nine exhibitors) the Cranston Nursery Company, Hereford, were placed first with a lot of big blooms of fine colour and shape, the varieties being Alfred Colomb, Heinrich Schultheis, Louis Van Houtte, La Havre, La France, Marie Baumann, Merveille de Lyon, Prince Arthur, Alphonse Soupert, Pierre Notting, Lælia, Lady Sheffield, Beauty of Waltham, Queen of Queens, Maurice Bernardin, Jean Ducher, Fisher Holmes, Horace Vernet, Constantin Fretiakoff, Madame M. Verdier, Madame C. Wood, Marie Rady, Marguerite de St. Amand, John Stuart Mill, Auguste Neumann, Pride of Waltham, La Rosiere, Marquise de Castellane, Reynolds Hole, Etoile de Lyon, Mons. E. Y. Teas, Mdlle. C. Soupert, General Jacqueminot, and Princess Beatrice (this box received one-half share, £5, as the best box in the show). Mr. B. R. Cant, Colchester, second, with splendid examples of Marie Baumann, Merveille de Lyon, Francois Louvat, Madame G. Luizet, Lord Macaulay, Countess of Rosebery, Lady Mary Fitzwilliam, Madame C. Crapelet, Souvenir d'Elise, Prince Camille de Rohan, Lady Sheffield, Dr. Sewell, Madame Wattville, Prince Arthur, Mdlle. E. Verdier, Alfred Colomb, Jean Ducher, &c. Messrs. Jefferies and Son, Cirencester, third, with Madame Moulet, Duc de Rohan, Marie Finger, Reynolds Hole, Baroness Rothschild, Alfred Colomb, Merveille de Lyon, Star of Waltham, Marguerite de St. Amand, Beauty of Waltham, La France, Jean Sury, Madame Nachury, Xavier Olibo, Madame G. Luizet, Duke of Teck, Lady Mary Fitzwilliam, Marie Baumann, Mdlle. E. Verdier, Mrs. Jowitt, Queen of Queens, Horace Vernet, Marie Verdier, Louis Van Houtte, Duchesse de Morny, Comte de Paris, Elie Morel, Countess of Oxford, Marechal Niel, Madame C. Crapelet, Belle Lyonnaise, Prince Arthur, Heinrich Schultheis, Dr. Sewell, Countess of Rosebery, and John Stuart Mill. Messrs. Prince, Mattock, Davison, Humphis, Griffiths, and Pemberton also staged in this class.

Eighteen Teas or Noisette made a feature of the show; the blooms were large, well formed, and shown in character. Mr. B. R. Cant, first, for a prime box containing model blooms of Souvenir d'un Ami, Souvenir d'Elise, Catherine Mermet, Comtesse de Parnisse, Innocente Pirola, Madame Lambard, President, Marechal Niel, Madame de Watteville, Hon. Edith Giffard, Comtesse de Nadaillac, Moire, La Boule d'Or, Madame A. Jacquier, Belle Lyonnaise, Madame Willermoz; Mr. George Prince, Oxford, second, with Comtesse de Nadaillac, Madame Cusin, Marechal Niel, Souvenir d'Elise, Etoile de Lyon, Souvenir d'un Ami, Anna Ollivier, Madame Watteville, Marie Van Houtte, Francois Kruger, Marie Sisley, La Boule d'Or, Amazone, and Madame Hippolyte Jamain; Mr. J. Mattock, Oxford, third, for good average flowers of Jean Ducher, Souvenir d'Elise, Souvenir d'un Ami, Marechal Niel, Cornelius Koch, Catherine Mermet, Madame Watteville, Niphetos, Comtesse de Nadaillac, Comtesse Riza du Parc, Amazone, Comte de Paris, Madame H. Jamain, David Pradel, La Boule d'Or, and Madame Welch. Messrs. Jefferies and Son also competed.

In the class for twelve dark hybrid perpetual of any one variety, Mr. B. R. Cant was again first with Reynolds Hole, deep crimson, shaded scarlet; Cranston Nursery Company, second, with the same variety, putting up, as duplicate boxes, Alfred Colomb, bright crimson, and Louis Van Houtte, scarlet, shaded purple; Mr. G. Prince third with Reynolds Hole; the following varieties being also staged in the class—Fisher Holmes, brilliant reddish crimson, by Davison and Co. and Mr. T. Griffiths, Hereford. Light roses were even more plentiful, the premier box of twelve being put up by Mr. G. Prince, who staged Merveille de Lyon, pure white; Mr. G. Humphries, Kington Langley, Chippenham, second, with Baroness Rothschild, pale flesh; Jeffries and Son, third, with Merveille de Lyon; Cranston Nursery Company, Mr. B. R. Cant, Mr. T. Griffiths, Mr. George Humphries, and Mr. J. Mattock staged dozens of the same variety; Queen of Queens, pink, blush edges, being put up by Jefferies and Son, and La France, rosy lilac, lighter centre, by Davison and Co.

The division for amateurs (open) commenced with twenty-four single trusses, the premier award going to T. W. Girdlestone, Esq., Sunningdale, Berks, for a prime lot of blooms, including Merveille de Lyon, Louis Van Houtte, Ulrich Brunner, Dr. Sewell, Heinrich Schultheis, Alfred Colomb, Prince Arthur, Lady Sheffield, Horace Vernet, Countess of Rosebery, Xavier Olibo, Marechiel Niel (awarded National Society's silver medal as the best Tea in the show), Reynolds Hole, Niphetos, Star of Waltham, Madame C. Crapelet, Mons. E. Y. Teas, Madame Bravy, Duke of Teck, Jean Ducher, Alfred Dumesnil, Comtesse de Nadaillac, John Stuart Mill, and Marie Baumann (this box receiving, in addition, £5 as an equal share of the £10 for the best box in the show); W. J. Grant, Esq., Hope End Farm, Ledbury, second with Horace Vernet, Pride of Waltham, Beauty of Waltham, Souvenir d'un Ami, Merveille de Lyon, Annie Wood, Marie Verdier, Mrs. Jowitt, Abel Carriere, Catherine Mermet, Ulrich Brunner, Xavier Olibo, Anna Ollivier, Marie Rady, Alfred Colomb, Reynolds Hole, Souvenir d'Elise, Lady Sheffild, Alba Rosea, Dr. Andry, Marie Van Houtte, A. K. Williams, and Amazone; Rev. J. H. Pemberton, Romford, Essex, third, with A. K. Williams, Marquis de Castellane, Beauty of Waltham, Alfred Colomb, Marie Finger, Mdlle. H. Jamain, John Stuart Mill, Marie Baumann, Mons. E. Y. Teas, Madame E. Verdier, Horace Vernet, Francois Michelon, Souvenir de Madame Alfred Vy, Niphetos, La France, Alphonse Soupert, Catherine Mermet, Countess of Rosebery, Louise de Savoie, Harrison Weir, Baroness Rothschild, Abel Carriere, and Madame Caroline Kuster. Good boxes were also put up in this class by Mr. E. West, Reigate, S. P. Budd, Esq., Bath, J. Pulley, Esq., Lower Eaton, Hereford, and Mr. A. Evans, Oxford.

For eighteen varieties there were nine exhibitors, the premier award falling to J. W. Grant, Esq., who had Horace Vernet (awarded the National Society's silver medal for the best H.P. in the amateurs' division), Ulrich Brunner, Merveille de Lyon, Annie Wood, Madame C. Crapelet, Madame G. Luizet, Senateur Vaisse, Marie Baumann, Charles Darwin, La France, Duke of Wellington, Madame Caroline Kuster, Beauty of Waltham, Catherine Mermet, Lady Sheffield, Madame Margottin, and Alfred Colomb; T. W. Girdlestone, Esq., second, with Mdlle. Isaac Perriere, Xavier Olibo, Lady Sheffield, Ulrich Brunner, Reynolds Hole, Star of Waltham, Beauty of Waltham, Marie Baumann, Marechal Niel, Etienne Levet, Alfred Colomb, Lady Mary Fitzwilliam, Louis Van Houtte, Mrs. Laxton, Prince Arthur, Souvenir d'un Ami, and Duke of Teck; S. P. Budd, Esq., Bath, third, his selection being Mons. Benoit Comte, Merveille de Lyon, A. K. Williams, Alfred Colomb, Alphonse Soupert, Francois Michelon, Marie Verdier, Charles Lefebvre, Marie Van Houtte, Fisher Holmes, May Quennell, Duke of Wellington, La France, Charles Darwin, Mons. E. Y. Teas, Catherine Mermet, ann Louis Van Houtte.

For twelve varieties, six competitors staged. Julius Sladden, Esq., Evesham, Mr. W. Narroway, and Rev. F. S. Taylor, Littleton Vicarage, Evesham, divided the honours. In the class for nine, Mr. W. Narroway, Rev. F. R. Burnside, Ivy House, Chipping Campden, and J. Sladden, Esq., shared the awards (in a competition of five exhibitors). The class for six trusses produced exhibits from Captain H. M. Spencer, Paxford, and Mr. J. R. Neve, Chipping Campden.

For twelve teas four boxes were staged, W. J. Grant, Esq., leading with plump buds of Madame Caroline Kuster, Souvenir d'un Ami, Souvenir de Therese Levet, Souvenir de Paul Neyron, Madame Lambard, Marechal Niel, Jean Ducher, La Boule d'Or, Catherine Mermet, Marie Van Houtte, Comtesse de Nadaillac, and Amazone, the blooms being splendid in colour; Rev. J. H. Pemberton, second, with Souvenir d'un Ami, Souvenir de Paul Neyron, Souvenir d'Elise, Jean Ducher, Rubens, Etoile de Lyon, Catherine Mermet, Marie Van Houtte, Comtesse de Nadaillac, Madame Caroline Kuster, Francois Kruger, and Madame Lambard; the third card went to Mr. Girdlestone for clean, well-formed buds of Hon. Edith Giffard, Marechal Niel, Madame Bravy, Marie Van Houtte, Comtesse de Nadaillac, Catherine Mermet, Madame Caroline Kuster, Jean Ducher, Marcelin Roda, Anna Olivier, Souvenir d'Elise and Souvenir d'un Ami. In the class for six teas, the first card went to Rev. F. R. Burnside, for a very compact box, the varieties being Souvenir de Paul Neyron, Souvenir d'Elise, Comtesse de Nadaillac, La Boule d'Or, Jean Ducher, and Catherine Mermet; Julius Sladden, Esq., second, with Madame Bravy, Amazone, Marechal Niel, Catherine Mermet, Niphetos, and Belle Lyonnaise; Rev. J. A. Williams, Alderminster, third, with Dovoniensis, Souvenir d'Elise, Madame C. Kuster, Madamn Angele Jacquier, and Madame Hippolyte Jamain (six exhibitors).

For six of one variety the card went to W. J. Grant, Esq., for Marie Baumann; Rev. J. H. Pemberton second for A. K. Williams; Mr. W. Narroway third with Francois Michelon. Of the following varieties, boxes of six each were staged—Marie Finger, Merveille de Lyon, Baroness Rothschild (3), La France (2), Alfred Colomb, Alba Rosea, Louis Van Houtte, Duke of Edinburgh, Jean Ducher, and Etoile de Lyon.

In three varieties by cottagers, the only box really good came from George Simmons, Chipping Norton. The school children in the parish and neighbourhood staged nearly one hundred bouquets and baskets of wild flowers, for which eleven prizes were awarded; and a much larger competition was manifest in the needlework department of the show. Table decorations and bouquets were fairly well shown by the ladies, but call for no special remark.

Miscellaneous Contributions included a collection of fifty varieties of roses from Messrs. Richard Smith and Co., Worcester, one bloom of Marie Verdier in their box, being if possible, superior in size and form to any bloom in the whole show. They also put up specimen blooms of Clematis, Marie Lefebvre, Imperatrice Eugenie, Purpurea elegans, Madame Van Houtte, and Lawsoniana. One box of twenty-four blooms of Begonia grandiflora, crimson orange, attracted much attention, as did the fifty varieties of herbaceous perennials from the same firm; many of the exhibitors staging boxes of rose blooms as extras. The judging was in the hands of the Rev. J. A. Williams, Mr. T. W. Girdlestone, Mr. J. Sladden, the Rev. H. H. D'Ombrain, Mr. J. W. Jefferies, and Mr. Ernest Prince. The general arrangements were under the direction of the Rev. J. W. Clarke Moreton, and the Rev. F. R. Burnside, hon. secs.

NATIONAL ROSE SOCIETY'S EXHIBITION AT BIRMINGHAM, July 15.

The second of the two exhibitions of the National Rose Society for the current year was held in the Botanic Gardens, Birmingham, on Thursday last, and proved so thoroughly successful that it was properly considered one of the best of the provincial shows that has yet been held under the auspices of the society. There was a keen contest in the whole of the twenty-five classes provided in the schedule, and the flowers were, on the whole, decidedly better than those staged at South Kensington in the week previous. The heavy rains in the early part of the week had left their mark on some of the teas, but the greater proportion of the blooms were in excellent condition, and the hybrid perpetuals were of magnificent quality. The flowers were arranged in the large exhibition house, and the effect produced was surprisingly beautiful.

Trade Division.

There was a spirited competition in the trade class for seventy-two, and the blooms in the whole of the collections were more or less good. The Cranston Nursery Company, Hereford, occupied the post of honour with flowers large in size, very fresh, and splendidly finished. The varieties were Dr. Andry, Souvenir de la Malmaison, Horace Vernet, Constantin Fretiakoff, Alfred K. Williams, Marie Van Houtte, Duc de Rohan, Lælia, Gloire de Bourge de la Reine, Egeria, Abel Carriere, exceptionally good; Countess of Rosebery, Camille Bernardin, Madame Therese Levet, Exposition de Brie, Alphonse Soupert, Vicomte Vigier, Abel Grand, Madame George Schwartz, Xavier Olibo, Mrs. Baker, Madame Charles Wood, Marie Verdier, Mrs. Jowitt, La Rosiere, Elie Morel, Lady Sheffield, Mons. Alfred Dumesnil, General Jacqueminot, Duchesse de Valombrosa, Duke of Teck, Gloire Lyonnais, Fisher Holmes, Heinrich Schultheis, Marie Rady, Mdlle. S. Rodoanache, a new flower of a bright carmine rose colour, and large in size, full, and of good form; Le Havre, Madame Lacharme, Louis Van Houtte, Pride of Waltham, Duke of Connaught, John Hopper, Beauty of Waltham, Madame Vidot, Pierre Notting, Henri Ledechaux, Senateur Vaisse, Emilie Hausberg, President Senelar, a fine new flower of a rich blackish crimson hue; Madame Engene Verdier, Ulrich Brunner, Margnerite de St. Amand, Charles Lefebvre, Princess Beatrice, Prince Arthur, Mdlle. E. Verdier, Alfred Colomb, Princesse Tremouille, Barthelemy Joubert, La France, Hippolyte Jamain, Marquise de Castellane, John Stuart Mill, Baroness Rothschild, La Duchesse de Morny, Mdlle. M. Manoin, Madame V. Verdier, Merveille de Lyon, Star of Waltham, Princess Mary of Cambridge, and Lord Macanlay. Mr. B. R. Cant, Colchester, was awarded the second prize, Mr. F. Cant, Colchester, the third, and Messrs. Paul and Son, Cheshunt, the fourth.

The entries were numerous in the class for thirty-six, three trusses, and the several collections produced a rich display of colour. Mr. B. R. Cant was successful in taking the first place, and had flowers remarkable alike for their large size, good colour, and high finish. The varieties forming the collection were: Queen of Queens, Horace Vernet, Marie Baumann, Madame Cusin, Merveille de Lyon, Madame C. Crapelet, Charles Lefebvre, Madame de Watteville, Madame H. Jamain, Pitora, Francois Michelon, Abel Carriere, Marie Verdier, J. S. Mill, Senateur Vaisse, Comtesse de Nadaillac, Louis Van Houtte, Souvenir d'un Ami, Alfred Colomb, Madame Lacharme, Madame G. Luizet, Duke of Wellington, Duke of Edinburgh, Star of Waltham, Souvenir d'Elise Vardon, A. K. Williams, Madame Eugene Verdier, Prince Arthur, Ulrich Brunner, Marechal Niel, Francois Louvat, Niphetos, and Reynolds Hole; Mr. C. Turner, Slough, was a close second with nicely-finished blooms; and Messrs. Paul and Son, third, with flowers especially well coloured.

The class for thirty-six varieties, single trusses, from which competitors in the two preceding were excluded, was a remarkably good one. There were eight entries, and the premier award was made in favour of Messrs. Harkness and Son, Bedale, Yorkshire, who had well developed blooms of Devienne Lamy, Souvenir de Paul Neyron, Duke of Teck, Merveille de Lyon, Le Havre, Captain Christy, Avocat Duvivier, Jean Ducher, Lady Mary Fitzwilliam, Louis Van Houtte, Souvenir d'un Ami, Francois Michelon, Catherine Mermet, Horace Vernet, Countess of Rosebery, Alfred Colomb, Charles Darwin, Marie Rady, Madame H. Jamain, Duke of Edinburgh, Marie Rady, Pierre Notting, Mons. Alfred Dumesnil, Charles Lefebvre, Elie Morel, Lord Macaulay, Madame H. Jamain (H.P.), Beauty of Waltham, La France, Dupny Jamain, Marechal Niel, E. Y. Teas, Ulrich Brunner, Prince Arthur, and Princess Beatrice. Messrs. J. Burrell and Co., The Nurseries, Cambridge, were a good second; Messrs. J. Jefferies and Son, Cirencester, third; and Mr. J. Mattock, Oxford, fourth. There was a keen contest in the class for eighteen varieties, three trusses, and the prizes were awarded to Messrs. J. Jefferies and Son, Messrs. G. Cooling and Son, Bath, and Messrs. Harkness and Son, in the order of their names.

Tea-scented and noisettes were largely shown by nurserymen, and although some of the blooms had been damaged by the weather they formed a highly-attractive feature of the exhibition. For eighteen varieties, single trusses, Mr. Frank Cant was first with Madame Willermoz, Comtesse de Nadaillac, Marie Van Houtte, Catherine Mermet, Madame Margottin, Madame Welche, Madame Bravy, Souvenir d'un Ami, La Boule d'Or, Madame Lambard, Marechal Niel, Madame Cusin, Madame Angele Jacquier, Devoniensis, Niphetos, Souvenir d'Elise Vardon, Caroline Kuster, and Innocente Pirola; Mr. George Prince was second, and Mr. B. R. Cant third. In competition for the prizes in the trade class for twelve teas, Mr. J. Mattock was first with Jean Ducher, Souvenir d'Elise Vardon, Comtesse de Nadaillac, Madame H. Jamain, Madame de Watteville, Cornelia Koch, Catherine Mermet, Marechal Niel, David Pradel, Innocente Pirola, Souvenir d'un Ami, and Marie Van Houtte; Messrs. Harkness second, and Messrs. G. Cooling and Sons third.

Amateur Division.

There were five entries in the amateurs' class for thirty-six varieties, single trusses, and Rev. J. H. Pemberton, Havering, Romford, was first with superbly-developed blooms of Countess of Oxford, Francois Michelon, Lady Sheffield, Niphetos, Horace Vernot, a grand flower with splendid petal, Madame Rambaux, Xavier Olibo, Baroness Rothschild, Duchess of Bedford, Alphonse Souport, Alfred K. Williams, Madame Lambard, Madame Charles Crapelet, Belle Lyonnaise, Marie Rady, Marquise de Castellane, Pierre Notting, Catherine Mermet, Ulrich Brunner, Auguste Rigotard, Souvenir d'Elise Vardon, Marie Baumann, Merveille de Lyon, Comtesse de Comando, Madame Eugene Verdier, Comtesse de Nadaillac, Charles Lefebvre, Abel Carriere, Madame Gabriel Luizet, Alfred Colomb, Madame Charles Wood, Madame Victor Verdior, Madame Bravy, Mdlle. Annie Wood, Mdlle. Eugenie Verdier, and Comte Raimbaud; Mr. T. B. Hall, Rock Ferry, Birkenhead, was second with medium-sized blooms, remarkable for their freshness and finish; and Canon Girdlestone, Sunningdale, Berks, was a very close third, his flowers being large and brilliant in colour; Mr. W. J. Grant, fourth.

The class for twelve varieties, three blooms of each, was well filled, and Mr. W. J. Grant occupied the first place with a magnificent box, in which the dark varieties were exceptionally good; Mr. T. B. Hall and Rev. J. H. Pemberton, who were second and third respectively, also presented excellent stands of flowers. Very spirited also was the competition in the class for twenty-four varieties, single trusses, the entries being numerous and the blooms of good quality. Mr. C. Williams, gardener to J. Pulley, Esq., Lower Eaton, Hereford, was first with a stand of excellent blooms; Rev. L. Garnett, Chester, was a close second; and Rev. E. N. Pochin, third.

For eighteen varieties, single trusses, Mr. W. Narroway, Headington, Oxford, was first with an excellent box; Mr. C. Taylor, Old Headington, Oxford, second; and Mr. W. Boyes, Milford, Derby, third. Six good stands were contributed to the class for twelve varieties, single trusses, and the awards were made in favour of Lieut.-Colonel Hore, St. Asaph, North Wales, Mr. W. R. Bland, Duffield, Derby, Mr. J. Sladden, Badsey, Worcester, and Rev. E. L. Fellowes, Wimpole Rectory, Royston.

The teas and noisettes were presented in capital condition in the amateurs' classes, the flowers being of large size and very fresh. For twelve Mr. T. B. Hall was first with Madame Cusin, Etoile de Lyon, Catherine Mermet, Alba rosea, Jean Ducher, Madame Welche, Madame Lambard, Hon. Edith Gifford, Souvenir d'un Ami, Madame Willermoz, Comtesse de Nadaillac, and Marie Van Houtte; the Rev. E. G. King, Madingley Vicarage, Cambridge, second; and Rev. J. H. Pemberton third. In competition for the prizes for nine teas, Mr. W. Narroway, Rev. L. Garnett, and Mr. H. Goddard, gardener to Rev. H. W. Watson, Berkswell, were awarded the prizes in the order in which the names are here placed. For six teas, Rev. F. R. Burnside, Chipping Camden, was first, Mr. J. Sladden second, and Lieut.-Colonel Hore third.

Open Classes.

New roses were not exhibited in large numbers, but the flowers were presented in a condition considerably above the average. The premier award in the class for twelve was made in favour of Messrs. Paul and Son, who had well-developed blooms of Benoit Comte, Alphonse Soupert, Pride of Reigate, Mdlle. Julie Gaulin, Longfellow, Madame de Watteville, Marshall P. Wilder, Etendard de Jean d'Arc, Ella Gordon, Madame Massicault, Directeur Alphande, and Madame Norman Neruda. For six new roses, Canon Girdlestone was first, and Mr. W. Boyes second. There was a strong competition in the open class for twelve teas, three trusses of each, and the first place was occupied by Mr. B. R. Cant, who had finely-developed blooms of Niphetos, Catherine Mermet, Marie Van Houtte, Madame de Watteville, Hon. E. Gifford, Souvenir d'Elise, Innocente Pirola, Madame Cusin, Marechal Niel, Comtesse de Nadaillac, and Souvenir d'un Ami.

In the class for twelve trusses of any white roses, Mr. G. Prince, Oxford, Messrs. Cranston and Co., Hereford, and Messrs. Paul and Son were first, second, and third respectively, with good blooms of Merveille de Lyon. For twelve trusses of any crimson rose Mr. B. R. Cant was first and Mr. Frank Cant second with Alfred K. Williams, and Mr. George Prince third with Marie Baumann. For twelve trusses of any velvety crimson rose Mr. B. R. Cant was first with Reynolds Hole, Messrs. Cranston and Co. second with Prince Camille de Rohan, and Messrs. G. Cooling and Sons third with Xavier Olibo. In competition for twelve trusses of a yellow rose Mr. R. B. Cant was first, Mr. F. Cant second, and Messrs. J. Burrell and Co. third, with Marechal Niel. For twelve trusses of any rose Mr. B. R. Cant was first with a fine box of Marechal Niel, Mr. W. J. Grant second with Baroness Rothschild, and Messrs. Cranston and Co. third with Prince Arthur.

Several good stands were contributed to the classes in which the competition was limited to growers resident within ten miles of Birmingham. In the class for twelve Mr. A. H. Griffith, Edgbaston, was first, Mr. W. Brown, Elmden Hall Gardens, Solihull, second, and Mr. D. Docker, King's Norton, third. For six Rev. F. R. Burnside, Rev. F. S. Taylor, Evesham, and Mr. G. Mawley, Berkhamstead, Herts, were the prizetakers.

The silver medal for the best hybrid perpetual in the exhibition was awarded to Rev. J. H. Pemberton for the bloom of A. K. Williams in his first prize thirty-six; and the silver medal for the best tea or noisette to Canon Girdlestone, for a superb bloom of Marechal Niel. Messrs. R. Smith and Co., Worcester, staged, not for competition, a collection of excellent roses; and Mr. R. H. Vertegans, Edgbaston, contributed a very attractive collection of flowers of herbaceous plants.

South Lambeth Flower Show.—Her Royal Highness the Princess Mary Adelaide, Duchess of Teck, has consented to open a large People's Flower Show and Industrial Exhibition, in the parish of All Saints, South Lambeth. The exhibition is to be held at the Manor House, Priory Road, Wandsworth Road, S.W., and the promoters are most desirous that it shall be in every way a success. Its object is to encourage the poor of this sadly overcrowded neighbourhood to grow flowers, and to teach them to cultivate whatever industry they take a special interest in. About two hundred money prizes are offered by donors who have promised to support the Princess at the opening ceremony on July 19. The entrance money is very small, and all competitors receive a free ticket for the distribution of prizes on Wednesday, July 21, at which Lieut.-General Sir Fredk. Fitzwygram, Bart, M.P., has promised to preside.

Replies to Queries.

F. W.—For designs in wire-work, &c., try Messrs. Thomas and Co., Euston Road.

J. J. Darlington.—Send your name and address to *Journal of Horticulture*, 171, Fleet Street, London, E.C.

Carnations.—J. F. W.—The plants were probably kept too close and moist during the spring months. Carnations require a free circulation of air at all times, excepting during periods of severe frost in the winter.

Peach Trees.—S. S. E.—The trees are suffering from what is known as the "peach blister," the result of the keen easterly winds which prevailed until the middle of June. The blistered leaves should be at once removed.

Begonia.—B.—We are afraid that you will not be able to do much to improve the condition of the begonia in so short a time. It would probably be an advantage to place the plant in a frame and keep it rather close and moist, and screened from brilliant sunlight.

H. W. H. Tye.—We never venture to tell any man what he may grow with profit. We must leave you to discover for yourself the elements of your business. It would be a pretty thing indeed if we advised you to grow pumpkins, and you acted on our advice and went to the union house in consequence. No; if you will put a particular and not a general question, we will rack our brains and scour the earth to give you a good answer.

Propagating Roses.—Vindex.—It will be best for you to wait until September, and then you can put the cuttings in the open ground. Roses may be propagated to any extent at the present time from eyes and from cuttings, but the work must be done with the aid of glass and a certain amount of care that you appear to be unprepared for. But there is no care wanted when cuttings are planted in the open ground in September.

Peach House.—B. W.—From the time the fruit is gathered until the autumn the house should be freely ventilated, and the trees be syringed at intervals to keep the red spider under. The trees must also be supplied with water at the roots when necessary. They will not require so much moisture as when in full growth and bringing their crop to perfection, but if they are kept too dry the leaves will fall prematurely.

Lapagerias.—S.G.M.—Both the red and the white lapagerias require an abundance of water at the roots when in full growth, and, provided the pots in which they are growing are well drained, there will not be much risk during the next six weeks of giving them too much water. A moderate degree of atmospheric humidity is highly conducive to a vigorous growth, and an occasional syringing will be highly beneficial.

Gloxinias.—Canon.—The injury to the leaves of the gloxinias has been caused by the syringing, which is decidedly injurious to both gloxinias and gesneras. It is a quite common occurrence for gloxinias grown in mixed collections of stove plants that are regularly syringed overhead to be injured in a similar manner. To prevent further injury to the plants, they should be removed to the cool house, in which the other portion of the stock is grown.

C. E. B.—You have done quite right in training the wood of the peach and nectarine trees in the way described in your letter. The fruit bearing shoots of melon plants should not be stopped, but those on which there is no fruit must be stopped or thinned out, as becomes necessary to prevent overcrowding. An occasional supply of liquid manure of a moderate degree of strength will be highly beneficial to the liliums. Be careful it is not over strong.

Leafmould.—J. E.—Any considerable bulk of leafmould may be heaped up in any odd corner out of doors until wanted for use, as it does not deteriorate if in considerable bulk, and, in fact, up to a certain point improves. But a certain quantity for use should be kept under cover. It should be borne in mind always that although this material is much used in plant growing it is poor stuff, and, generally speaking, should be combined with loam from an old melon or cucumber bed to render it nutritive.

Cucumber.—W. B. Catford.—The plants from which the leaves and fruits received were gathered have been so seriously injured by the "cucumber disease" that there is no possibility of their recovering. There is no known remedy for this disease, and we can only suggest that you destroy the plants and begin again. Before you put out a second batch of plants you must remove the whole of the soil and manure with which the bed is formed, and well wash the walls enclosing the bed with hot lime.

Vines.—"Constant Reader" asks, "Is there any means of removing or preventing mildew in vines?" This "Constant Reader" is so evidently inconstant, that we take the liberty to doubt if he has ever read one line of the inexhaustible G. M. It is a comfort to us that he does not give his name and address. But it is our custom to exercise imperturbable patience and ineffable politeness, and we therefore recommend this "Constant Reader" to begin reading, and he will soon learn if there are any means of removing or preventing mildew in vines.

Mildewed Peach Trees.—A. B.—The trees are suffering from a severe attack of mildew, owing, probably, to the house having been kept too close during the cold weather of June. The house should have been ventilated rather freely, and sufficient fire heat employed to maintain the temperature required by the trees. The foliage and fruit should be at once freely dusted with flowers of sulphur, and if it is seen at the end of a week or ten days that the first dressing has not been sufficient to prevent the spread of the mildew repeat the application.

Fruiting Pines.—C. C. says, "I have some pines potted six weeks ago which are filling the pots (16 size) with roots, and I am desirous of knowing if I can fruit them by Christmas; if so, is there any special treatment to be given in order to cause them to show fruit sufficiently early to mature by that time?" It would be a mistake to adopt any special treatment to fruit them prematurely. The best advice we can give C. C. is to grow his plants liberally and keep them in the best health possible until about September; then let them rest and start them early next year. The result should be a good crop of fruit.

Zonal Pelargoniums.—E. W. Barnham.—The specimens intended for exhibition should be kept in the greenhouse or in a pit from the present time until the date of the show. Place them near the glass, ventilate freely, and supply occasionally with weak liquid manure. In bright weather a thin shade will be advisable to preserve the freshness of the flowers, but they must not be shaded at any other time, or the growth will become more or less drawn. The supply of liquid manure must be regulated by the progress made by the plants, and so long as they make a vigorous growth clear soft water will suffice.

Leafmould.—J. E. S.—Leafmould must be "made" in the open, and as regards keeping it all depends on its condition. A large bulk of leafmould heaped up in any place will suffer but little by exposure to the weather, and up to a certain point will improve, because the decay of its constituents will be promoted. But well-rotted leaf in a fit state for potting should be kept under cover ready for use. The use of leafmould is chiefly mechanical; certainly it contains but a very shadowy proportion of plant food. Nevertheless, when judiciously used, it is of great value in plant growing.

Boronias.—B. W.—The boronias should be grown in a light airy structure with the azaleas and other hard-wooded plants, and be placed during the winter season within a short distance of the glass. The pots must be well drained, and fibrous peat, to which a liberal addition of sharp silver sand has been made, be used. They are all elegant in habit, and very attractive when of small size, and also when in specimen form. The best for general culture are Drummondi, Elatior, the most beautiful of those in cultivation. Megastigma, not attractively coloured, but invaluable for its delicious perfume, and Pinnata.

C. H. N.—The roses are in very many places affected, as yours are, with orange rust, the consequence, as we believe, of the trial to which they have been subjected by long-continued cold weather. You have done right in removing and burning badly-affected leaves and shoots, but it will weaken the plants to remove leaves freely, and you must hope that kindly weather will enable the trees to grow out of it. There are many remedies proposed for this plague, but we have seen so little good follow their employment that we incline to treat them with indifference. We should make an exception in favour of sulphur in the treatment of pot plants, but it is next to impossible to apply sulphur to a large plantation in the open.

Roses.—Constant Reader sends roses as badly mildewed as we have ever seen them. If he had sent no particulars we should be at a loss to discover the cause of the calamity. But his letter convinces us that these roses are too much hemmed in by trees and shrubs that starve them at the root, and rob them of light and air. His roses in the open are described as healthy, and those "surrounded on all sides" by trees and shrubs are in a very bad state. The case explains itself. Dustings of sulphur on the leaves and liberal supplies of water to the roots may help these roses much, but they want air, and we prefer to advise that they be rooted out in the autumn, and have new stations where they can breathe freely.

Books.—Boston may make his mind easy about the costly books, because he may do very well without them A beginner in buying and reading books should not touch costly works, but should take care to have a few substantial books that may be trusted for respectable treatment of matters of fact. Here is a short list of thoroughly useful books: Hemsley's "Hardy Trees and Shrubs," Johnson's "Gardener's Dictionary," Cassell's "Popular Gardening," Sutherland's "Hardy Herbaceous and Alpine Plants," Hogg's "Fruit Manual," Lindley's "Vegetable Kingdom," Hibberd's "Amateur's Rose Book," Grindon's "Garden Botany." The only old book you need to look after at present is Parkinson's "Paradisus," which you can obtain for two or three pounds.

Thistles.—D. W. R. B.—The shortest and surest way to eradicate the thistles will be to cut them over as fast as they appear. It is not sufficiently known that any plant, no matter what its name or nature, may be killed outright, and that right quickly, by the simple process of cutting over frequently. It may appear a tedious business, but after all it is nothing when a man who can be trusted is set to the work. Salt is a sure settler, but it is a rather dangerous thing, for if carelessly used it may be the means of killing better things than thistles. We have seen bearbind, twitch, nettles, thistles, and a hundred other persistent weeds quickly killed out by treating them as Charles the Second was treated, for he, poor man, was systematically bled to death.

J. F. W.—We really do not understand yours of July 10. You speak of something omitted and yet included in the index of contents. It should be understood that the index of contents is prepared by the printer, who recognizes only what he can see. We ought, of course, being immortal, infallible, and omniscient, to remember everything, but after an agonising struggle with the wheel of memory, which we generally find easy to turn round, we have failed to fix it so that we could see the subject of your letter of July 10, that subject being by you concealed. Should you favour us once more do pray say *what* we have omitted, for to call upon us to remember something we have forgotten is like forcing us to the humiliating confession that we are slightly fallible, scarcely omniscient, and possibly mortal—what, what have we omitted—can it be payment of income tax?

Marking Celery.—"Midlands" inquires for a trustworthy mode of marking celery, the object being to establish identity between plants in growth, which are to be subsequently seen on the exhibition table. Indelible ink has been tried, and of course has failed. "Midlands" suggests that a stamp or perforator might be used, but it is very questionable if any such plan could be trusted. We have seen, where a prosecution for theft took place, that cabbages were identified by means of gimlet holes, but then the cabbages were operated on secretly with a view to proving the case against the thief. In the case now proposed the stamping or perforating must be done publicly, and the next point is to find a stamp not easily imitated, the mark of which would remain a sufficient length of time. We feel a creeping of discomfort in considering the matter, and shall be most glad if some of our friends will help us to dispose of it.

Names of Plants.—M. C. O.—No. 1 is Wiegela rosea; 2, leaves of a New Zealand Veronica. Roses in box cannot be named because they had fallen to pieces. But we give names as probable, and you must adopt them *cum grano*. 1, Madame Willermoz; 2, Louis Peyronney; 3, Marie Baumann; 4, Prince Camille (in want of water). R. H. Burton.—1, Bromelia discolor; 2, B. lingulata; 3, Vriesia brachystachys; 4, Pitcairnia bromeliæfolia. XXX.—1, Fumaria officinalis; 2, a deformed Sonchus oleraceus, not worth keeping though very curious; 3, Solanum nigrum; 4, Hyoscyamus niger. J. Fletcher.—Your plant is the female form of Garrya elliptica, which cannot be made fruitful by any particular treatment, but will probably become fruitful if you plant the male plant in the garden. To obtain the male is a very easy matter, for you have but to order Garrya elliptica and you will surely secure it, for it is the male only that is in general cultivation, and it is one of the most beautiful of hardy shrubs.

Obituary.

Recently, Mr. William Serjeson, who occupied the position of head gardener at Trafford Park, Manchester, from 1849 to the time of his death, in his 82nd year.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.	Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.		1886
25	S	**5th Sunday after Trinity.**	4 14	6 15	7 56	—	1 55	7 39	8 6	4 38	5 4	63·4	Cattleya superba ..... Brazil.	206
26	M	St. Anne.	4 15	6 15	7 54	0 6	3 3	8 37	9 11	5 31	6 2	63·4	,, crispa ..... ,,	207
27	Tu	Battle of Talavera, 1809.	4 17	6 15	7 53	0 42	4 10	9 50	10 26	6 36	7 15	63·3	,, labiata picta ..... ,,	208
28	W	Cowley died, 1667.	4 19	6 14	7 51	1 28	5 15	11 1	11 35	7 51	8 26	63·3	,, violacea ..... ,,	209
29	Th	Sir C. Cresswell died, 1863.	4 21	6 13	7 50	2 22	6 13	—	0 7	9 0	9 32	63·3	,, Schilleriana ..... ,,	210
30	F	W. Penn died, 1718.	4 23	6 11	7 40	3 27	7 4	0 35	1 2	10 0	10 27	63·3	Dendrobium alba sanguineum ..... India.	211
31	S	● New Moon, 5h. 26m. Morning.	4 24	6 8	7 47	4 41	7 48	1 28	1 53	10 53	11 18	63·3	,, sanguinolentum ..... ,,	212

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE.—COMMITTEE MEETINGS: Fruit and Floral, at Eleven a.m., in the Conservatory; Scientific, at One p.m., in the Lindley Library, on TUESDAY next, JULY 27.

NATIONAL CARNATION AND PICOTEE SOCIETY'S SHOW.

N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

NORTHAMPTONSHIRE HORTICULTURAL SOCIETY'S GREAT SUMMER SHOW, DELANE PARK, NORTHAMPTON, AUGUST 2 and 3 (Bank Holiday and following day). £250 in prizes. For best 16 Plants, £18, £10, £5; Central Group for Conservatory Decoration, £9, £6, £2 10s.; 24 Roses, £3, £2, £1, &c., &c. Entries close July 24. Schedules and full particulars from A. FORBES, Secretary. Northampton.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, JULY 27.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.

TUESDAY, JULY 27.—NATIONAL CARNATION AND PICOTEE SOCIETY (Southern Section).—Exhibition at South Kensington.

WEDNESDAY, JULY 28.—ACTON HORTICULTURAL SOCIETY.—Annual Exhibition.

THURSDAY, JULY 29.—WILTSHIRE HORTICULTURAL SOCIETY.—Annual Exhibition.

THURSDAY, JULY 29.—OXFORD HORTICULTURAL SOCIETY.—Summer Show.

SATURDAY, JULY 31, AND MONDAY, AUGUST 2.—SOUTHAMPTON HORTICULTURAL SOCIETY.—Summer Exhibition.

Auction Sales for the Ensuing Week.

TUESDAY, JULY 27.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

WEDNESDAY, JULY 28.—Messrs. Protheroe and Morris, at the late Mr Boller's Nursery, Harrow Road, W.; Clearance Sale of Plants, Greenhouses, &c.

THURSDAY, JULY 29.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

FRIDAY, JULY 30.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London, E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, JULY 24, 1886.

THE REVIVAL OF THE HOLLYHOCK proceeds satisfactorily, and we may now encourage the anticipation of the re-establishment of the flower in the autumnal exhibitions. It must be confessed, however, that the revival, such as it is, does not tend in the direction of the exhibitions, because the best plants are the seedlings, which are often wanting in quality, and when regarded in the mass are necessarily of less value for exhibition purposes than are named varieties. But the idea of exhibiting need not be entertained by anyone who contemplates enjoying the hollyhock in the garden. It is enough for such a purpose to ensure a free growth of a healthy plant that in its season will make a display of flowers that are gratifying. There appears to be no greater difficulty in this than attends any other ordinary enterprise. We do not slide into heaven, for we have to work out our salvation in fear and trembling, and correspondingly every mundane delight is secured at some cost of energy, patience, and, it may be, even of suffering. The people who are said to "coin money" have to coin it, for the ready-made money never comes down the chimney. Those who would enjoy hollyhocks must work in some way or other, and take their risk of disappointment more or less as circumstances may determine.

There is a respectable collection of hollyhocks open to public observation in the gardens of the R.H.S. at Chiswick. They were raised from seed sown in the autumn of 1884, they were planted out in May, 1885, and they began to flower in the early days of July in the present year. We cannot speak of them as a grand lot, and as we are ignorant of the source whence the seed was derived, we cannot suggest any particular reason for a certain lack of character in the plants. It is sufficient to say that they are characterized by sameness and tameness, but to those who know hollyhocks that will not be a matter of serious concern. The plant affords, in its range of variation, a delightful display of colour, combined with majesty of port and individual refinement of form that, in its way, is exquisitely beautiful. The point of importance is that these plants have made a good growth, are now flowering freely, and the percentage of loss by disease is of a most trifling character. In many gardens we see a similar state of things as regards the health of the plants, which have, in fact, sufficiently recovered from the assaults of the fungus that has assailed the hollyhock for years to justify the belief that the hollyhock is out of danger, and may become the universal favourite once more in the English garden.

We cannot particularize these many examples because they are not open to public observation, and, therefore, we return to those specially referred to in order to say that the time has arrived when a collection of named varieties might be formed for the double purpose of rescuing from the oblivion that impends many of the finest models of form and general character, and to reassure the public at large on the desirableness of the hollyhock as a garden flower. Very many of the grand varieties that figured in the collection of the late Mr. Chater, of Saffron Walden, still exist, and may be, without difficulty, discovered. The growth of a few seedlings is very well in its way as a test of possibilities, but the R.H.S. exists for better things than to emulate the achievements of a cottage garden. We should much like to see collections of named hollyhocks and pæonies on trial there in place of those hideous pear trees that have had their day and do so desperately encumber the ground. But while expressing our own opinion on this matter, we shall not quarrel with any of the Fellows of R.H.S. who are in love with the ugly and useless pear trees. The garden is large enough, and the air and soil are both good enough for better work than is attempted at Chiswick; and if not for better work *per se*, for more various work certainly, and for work that would be fully appreciated. It appears to be the fixed policy of the council to starve Chiswick, but the day may be near when the society will have to look to horticulture for its sustenance, and may then discover, too late, that its energies have been overmuch devoted to cutting the ground from under its own feet.

THE CLEANSING OF THE ROUND POND in Kensington Gardens has created a sensation, and the pond may well be proud of its suddenly acquired notoriety. This pond was formed by Bridgeman, who succeeded Wise, and was employed by the consort of George II. to lay out the grounds of Kensington Palace. It contained until lately the accumulations of over a hundred years, unless indeed it has been cleaned out previous to the recent operation. Of any such event there is neither evidence nor record. The cleansing operation was commenced June 28 and finished July 16; one result being that 10,000 loads of mud were removed. The weather was favourable for the operation, for to carry on such work in rainy weather is impossible, and the summer is the proper season for it, for the days are long and mud dries quickly, and all kinds of wheeling may be done with the least amount of harm to the ground subjected to the traffic. The mud has been spread on the grass, and as the surface settles the broken bottles, bricks, and other such rubbish will be raked off, and the whole work will have a clean finish.

There has been a loud cry of complaint about the business of cleansing by the people who profess to worship cleanliness. The mud came between the wind and their gentility, and they delicately turned up their noses at it. As the cleansing of ponds, and the top-dressing of grass, and the renewal of the soil amongst trees are matters of much concern to many of our readers, we watched the

ease and read the story, and particularly desired to derive some original notions or authentic information from the delicate-minded persons who were loudest in denouncing the job as an infamous insult to the decencies of the metropolis. These people, we have always observed, withhold their names from their communications, and they always trot out the same fine old argument. When a sewage depôt is wanted, the place selected is always the wrong one: it ought to be somewhere else! Speak of an asylum, an hospital, aye! even a school, and you will find that "somewhere else" is the proper place for it. We are grievously disappointed that those who despond about the pond do not rise to the height of the argument, which was of the good old sort. The mud, they say, ought to be taken somewhere else, which is a half-hearted way of dealing with the matter. It should be clear to them and to all men that when a pond has been sucking up cats and dogs, and bricks and bottles, and dead leaves and live tadpoles for a hundred years, the pond itself should be taken somewhere else to be cleaned. We remember a sweet person who laboured to destroy the records, and relics, and footsteps of a great poet. He swept away the house, he cut down the trees, and at last, in the moment when his triumph of obliteration seemed complete, he sat down and wept because he could not move the poet's well. Poor man, he was engaged in so base a business he could not relieve his mind by writing to the newspapers. So he filled up the well, and it cost him money in four figures to obtain a supply of water. Now, the Round Pond being emptied, why should it be filled again? That is a question that comes within the range of practical business. These still waters are nasty things, and of doubtful value as adornments.

Mr. A. Armstrong has been engaged as gardener at Ember Court, Thames Ditton, the residence of Mrs. Corbett.

Leicester Flower Show will be held in the Abbey Park, Tuesday, August 3.

Matlock Bath Horticultural Society will hold its exhibition August 7.

Bothwell Castle Collection of Heaths, formed by the late Mr. A. Turnbull, will be submitted to auction on Thursday next in the gardens of Bothwell Castle.

The Area under Wheat in India this year, as given in a Memorandum just issued by the Revenue and Agricultural Department of India, is 477,000 acres less than last year, and the estimated yield is 576,000 tons less than in 1885—a falling off of about nine per cent.

Royal Roses.—During the Royal visit to the Agricultural Society's Show at Norwich, Mr. Sharman, manager to Messrs. James Carter and Co., the Prince of Wales's seedmen, had the honour of presenting to H.R.H. the Princess of Wales a very handsome bouquet of roses from Messrs. Carter's rose grounds in Kent.

Drury Lane Garden.—On Thursday week, when Madame Adelina Patti appeared for the Mapleson benefit, the stage of Drury Lane Theatre presented the appearance of a flower garden. One of the finest offerings was a ship of flowers, the sails of which were made of ferns; and Mr. Mapleson handed to Madame Patti a gigantic basket of roses. A fine wicker tripod of flowers was also conspicuous amongst the floral offerings.

A Marechal Niel Rose three days old won for T. W. Girdlestone, Esq., double honours at the Bath show. It was the best flower in its class and the best flower in the show, and two silver medals of the National Rose Society were awarded in approbation of it. Our reporter proposes to call it Field Marshal Niel, but we are not in the humour for altering established names, and prefer to regard the exhibitor as the Field Marshal in this case.

Messrs. Carter and Co.'s Seed Farms at Dedham and St. Osyth were visited by a party of experts on Wednesday, and by the aid of various concurrences they managed to spend a happy day. The wonders they saw they will probably endeavour to report upon, but it may be stated at once that cross-bred wheats and gigantic peas made of marrow and sugar were prominent amongst them. For our colonial friends the wheats appear to be of great importance, but they should be seen at once, for they are nearly ripe.

How Many Petals are there in a Good Show Rose?—This question is propounded by a correspondent, and, although it may appear of some importance, it is of superficial interest only, for a rose with few petals may be more beautiful than a rose with many, although generally speaking, multiplicity of petals is a good quality. We should assume an average of one hundred to one hundred and twenty as requisite in a good exhibition rose, and we dispose of the matter by advising our correspondent to count the petals in a few of the finest flowers.

Swanley Nurseries were on Tuesday visited by the party of Continental horticulturists now on a visit to this country. The visitors included MM. J. Van Hulle, E. Lemoine, Besson, Delaux, C. Havenith, and L. Waltheny-Hallein, and under the guidance of Mr. H. Cannell, sen., made a leisurely inspection of the many objects of interest in the nurseries; the construction of the houses and the arrangement of the heating apparatus receiving a full share of attention. After exploring the nurseries the party lunched at the Lullingstone Castle Hotel, and subsequently inspected some of the fruit farms in the district and the immense establishment of Mr. Ladds at Swanley.

National Carnation and Picotee Show will take place at South Kensington on Tuesday next, and the promise is a bright one. This appears to be a carnation season, and a grand exhibition should prove it.

Proposed New Public Park for London.—At a meeting of the Hammersmith Vestry on Wednesday Mr. G. Brown, the representative of the vestry at the Metropolitan Board, announced that that body had decided to apply to Parliament next session for power to acquire Ravenscourt Park Estate, for the purpose of laying it out as a public park, subject to the vestry contributing one-half the cost. It was asked if the vestry would be asked to bear half the cost of laying out the park as well as of the cost of purchase. Mr. Brown replied that the vestry would have nothing to do with the laying out, as the Metropolitan Board always took that upon themselves, in the interests of the public in the metropolitan area. The purchase money would be £50,000. Mr. Cosh said the time was opportune for applying to the City companies towards the cost of the park, but it was agreed to leave the matter in the hands of the Metropolitan Board.

Extraordinary Tithes.—A numerous and influential meeting of hop and fruit growers from the counties of Kent, Sussex, and Surrey was held on Monday last at the Bridge House Hotel, London Bridge, to consider the recent Act for the abolition of extraordinary tithes. Mr. T. H. Bolton, late M.P. for North St. Pancras, who is president of the Anti-Extraordinary Tithe Association, occupied the chair, and fully explained the provisions of the Act, which he had promoted in the last Parliament, and suggested the course that would be probably adopted in settling the amount of compensation to be paid. He thought it would be desirable that persons interested, both as landowners and tenants, should co-operate to avoid unnecessary complications and difficulty in working out the Act and to ensure the fixing of a reasonable scale of compensation. A long discussion ensued upon the provisions of the Act, which were generally approved; and it was resolved, pending the carrying out of the Act, as far as the association could influence the individual action of hop growers and others, that distress sales should be suspended. A vote of thanks was unanimously given to Mr. Bolton, for his services to the hop, fruit, and market gardeners in obtaining the Act.

Correspondence.

MARKET GARDENERS AND GREENGROCERS IN DUBLIN.

Permit me to point out to your readers that fruit and vegetables are very much dearer in Dublin than in most English towns, probably 100 to 200 per cent. dearer. The greengrocers here must make very large profits, and yet the quality of both fruit and vegetables is inferior. A large quantity of the fruit and some of the vegetables come here from Covent Garden Market—the market gardens here are few and far between—there are no costermongers' barrows going round with fruit or vegetables, but here and there an ass's cart may be seen with a few wretched cabbages. It would be worth the while of both greengrocers and market gardeners to prospect Dublin. There are many English residents here who would support English tradesmen; there is no occasion for fear. Shopkeepers are not interfered with here. We have Gilbey's wine stores, Leverett and Fry's grocery shops, one or two tea shops, American meat shops, silversmiths and watchmakers, all kept by Englishmen, who are supported by both English and Irish buyers. The Irish, if they can get what they call value for their money, do not care who keeps the shops. We badly want some English butchers and fishmongers here to break the rings in those trades, whereby prices are kept up.—I am, &c.,

An Englishman.

EXTINCTION OF VARIETIES BY TIME.

A very serious question has been agitated since a great many years, that of the extinction of varieties by time.

About twenty years ago it was discussed in our horticultural papers, and then the great majority was in favour of the belief that all varieties could be rendered perpetual by grafting, or any other mode of propagation.

I have always been of opinion that all living beings have received from nature a certain longevity, and must, at its expiration, cease to exist; but I am not quite convinced that that limit cannot be extended by grafting, or any other process of multiplication.

It was discussed Sunday last at my table by four eminent horticulturists. They are all of opinion that the extinction must take place some day or other, but they are divided as to the possibility of prolonging the existence of plants by artificial means.

As it is a very important question, particularly for fruit trees, I call your attention and that of your readers to the subject, and should like to see it discussed seriously, to obtain a conclusion.

I am of opinion that, if fruits were not renewed by sowing seed, we should, after a while, be deprived of those we now possess, and that if, since the beginning of this century, some people had not addicted themselves to sowing seed, we should not possess the excellent varieties of apples and pears now existing.

If the question is settled about the extinction by time, it is necessary to encourage sowing by selection.

I suppose that no one knows the medium existence (life time) of fruit trees, and I suppose that it has not been studied.

We know, and every one knows, the duration of annuals and bi-annuals, but no one, I suppose, that of the so-called perennials.

Can it be done? If so, I think that the study ought to be undertaken forthwith.

Notwithstanding what precedes, I am of opinion that grafting has been a splendid discovery and must be largely practised, and also that the influence of the stock on the graft must be carefully studied and not neglected, because, till now, a great many propagators have overlooked that influence, and have sown the seeds for stock at random, without paying attention to the general law of variability which rules the universe.

Jean Sisley.

Monplaisir, Lyon, France.

CONGRESS PEARS.

British Queen.

This fine pear has not given universal satisfaction, for in some places it decays in the centre before it is fully ripe, a fault due to some peculiarity of soil, no doubt, for whether on pear or quince stock appears to make no difference. It is a fine pear for all that, and where the soil suits it, combines beauty of appearance with high quality, and the tree is hardy and an abundant bearer.

British Queen was raised by the late Mr. Thomas Ingram, gardener to her Majesty the Queen, at Frogmore, and was first sent out by Mr. Charles Turner, of Slough, in the year 1863. It was spoken of by the late Prince Consort as the best pear he had ever tasted, and at its first appearance in public it received a first-class certificate from the Fruit Committee of the Royal Horticultural Society.

The fruit is of large size, pyramidal, slightly undulating, the skin smooth, of a fine golden yellow, freckled with patches of cinnamon-coloured russet, and sometimes a blush of lively crimson. The eye is small, the stalk short or medium. The flesh is yellowish white, fine grained, juicy, sugary, and piquant. A truly handsome and delicious pear.

Calls at Nurseries.

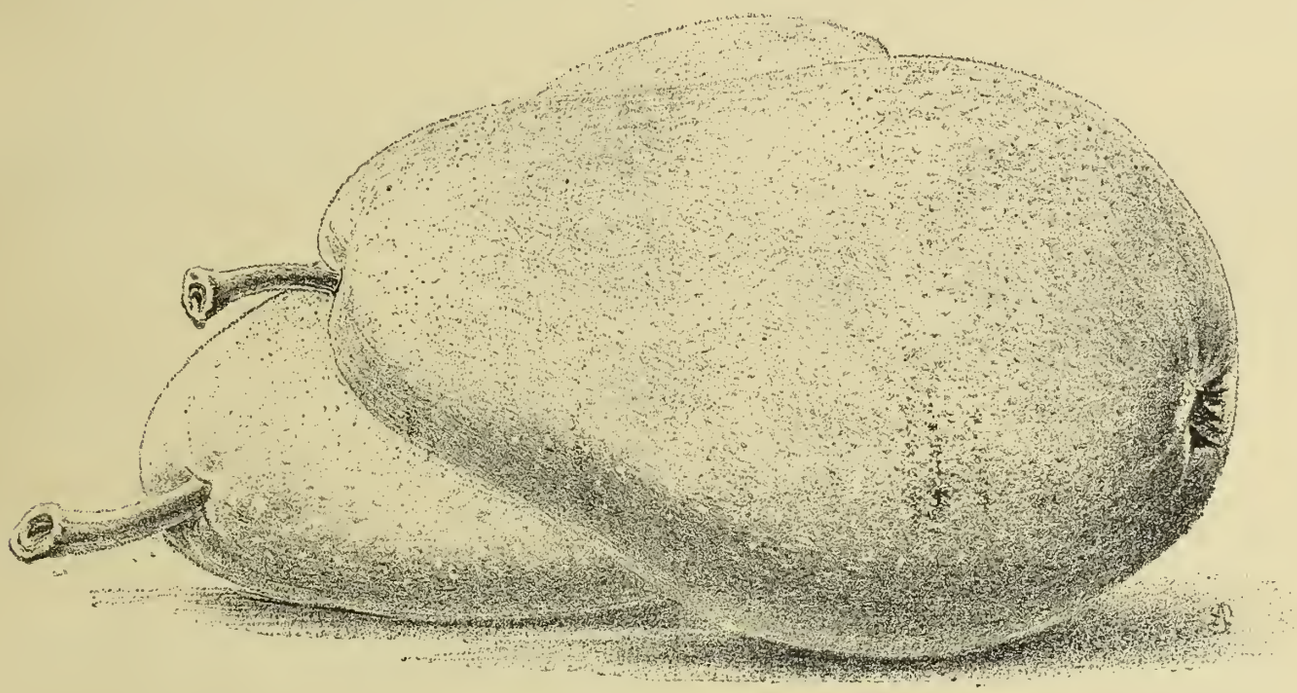
MESSRS. J. VEITCH AND SONS' CARNATIONS AND PICOTEES.

Although complaints are being made by cultivators of the injury done to both carnations and picotees by the severity of the weather experienced during the past winter and spring, the collection in the nurseries of Messrs. J. Veitch and Sons, at Chelsea, is in the best possible condition, and the plants are flowering with a freedom that will surprise those who see the collection this season for the first time. A few of the varieties have not, perhaps, made quite so much grass as in seasons in which the weather early in the year has been in every way favourable to the production of a vigorous growth, but those form but a very small proportion of the stock, and the plants generally are as remarkable for the abundance and luxuriance of the grass with which they are furnished, as for the profusion and high quality of their flowers. As stated on previous occasions, the carnations are grown in open beds near the large camellia house, which forms the entrance to the nurseries from the Brompton Road, and are protected from the sun and rain and the dust by movable blinds of scrimb canvas. There are thirty-two beds altogether, and the effect produced by the immense display of bloom is surprisingly rich and beautiful. All the finest of the show carnations and picotees are well represented, and many hundreds of flowers could be cut that are in every way suitable for placing on the exhibition stage. But the strongest feature is that formed by the selfs, in which the collection is particularly rich, a fact well worthy of special mention, for it is seldom that cultivators have so good an opportunity for becoming acquainted with so many varieties under conditions so favourable for determining their relative merits.

In referring to the self carnations it will be convenient to group them according to their colours, chief amongst them being the scarlet varieties which form a rather large and a very important group. Of those in the Chelsea collection, one of the very best is Magnum Bonum, a fine old variety, dwarf in growth, and producing a profusion of large, well-formed flowers of the most brilliant scarlet. For the decoration of the border and for the supply of cut flowers it has no equal amongst varieties in the same line of colour. Brigadier, Field Marshal, and Fire Eater are three good varieties bearing flowers of various shades of scarlet, and robust in growth, and free in blooming; Lord Mayor is a strong-growing variety with well-formed deep scarlet flowers; Illuminator has a dwarf habit, bears large, finely-formed and brilliantly-coloured flowers, and has the merit of blooming rather late and forming a succession to the other scarlet varieties enumerated; Beauty of Whitby is a tall growing variety with flowers of a rich scarlet hue, and Standard is an effectively coloured orange red flower.

The crimson varieties are hardly so numerous as those bearing scarlet flowers, but there are five so good as to well merit a place in a collection of even moderate extent. Black Knight is a distinct free-blooming variety, possessing much of the character of the Crimson Clove. General Stewart, a tall-growing variety, bearing medium-sized flowers of good shape, and a rich marone-crimson hue. It is tall in growth, rather late, and wonderfully free, the flowers being produced in immense quantities. Amethyst and Sparkler are two comparatively dwarf varieties, bearing flowers large in size, and of good shape; the colour, rich deep marone-crimson. Masterpiece differs from the preceding in being as yet but little known, and in bearing flowers of a bright crimson-scarlet. It is one of the most effective of the series, and is quite indispensable to a very small collection. There are four purple varieties of great excellence, and these are Royal Purple, Auctioneer, Improvement, and Lady Manning. They are all distinct from each other and thoroughly good, but in selecting it would probably be well to take them in the order in which their names are here given.

The pink and rose coloured flowers form a rather large group, and include several varieties of great beauty. Six may well be selected, and those who are compelled to limit themselves to that number should select the following: Celia, a robust growing variety, bearing very large flowers of a brilliant rose colour; there is a large bed of this, and in attractiveness is certainly not surpassed; John Barnet, a dwarf free-blooming variety, the flowers rose-carmine and very effective; Brilliant, bright cerise, strong in growth, and very free in blooming, a comparatively new variety of great merit; Beauty of Boston, a very fine variety, the flowers of beautiful shape, and a rich rose hue; Queen of the Roses, a charming variety, with large flowers of a bright rose colour; King of Italy, bright cerise, very distinct and pleasing in colour. If more are wanted, Mary Morris, Corsair, and Gertrude Teigner will be found well worthy of attention.



DESSERT PEAR, BRITISH QUEEN.

The collection comprises about twelve really good white varieties, but as few cultivators require so many it will probably be useful to mention a few of the best. The Bride and W. P. Milner still occupy a high position amongst the white carnations, and are perhaps the most generally useful. Ossian has large pure white flowers of good shape, and the edges of the petals are elegantly serrated. Laura is a free-blooming variety of dwarf habit. Virgo can be strongly recommended, the flowers are of good form and very freely produced, and the constitution is remarkably strong. Dora Williamson is a tall variety, useful for the back row of a border. Miss M. North and Exquisite are two distinct varieties, with large, full flowers of the purest white, the last-mentioned being especially good.

The fancies include so many fine varieties that it is difficult to keep the selection within reasonable limits. The following are all exceedingly beautiful and remarkable for their vigorous habit and freedom of flowering: Goldfinder, Grandiflora, Ruby, Earl of Beaconsfield, Walter Ware, Knapton Yellow, Sir B. Seymour, Charles I., and Countess of Ellesmere. The last-mentioned is a charming old variety, the flowers being of large size, and thickly spotted with rose on a white ground. Special mention must be made of Peacock, a new variety, with flowers richly flaked with red and crimson on a bright yellow ground. The yellow varieties are just coming into bloom, and of those in bloom mention may well be made of King of the Yellows, Bell Halliday, General Roberts, Miss Buller, and Florence, for their great excellence.

The beds devoted to the show carnations and picotees are not perhaps so effective when seen from a distance as those filled with the self carnations, but they are highly interesting, and the flowers present an exceedingly beautiful appearance. Especially attractive amongst the large assemblage of picotees were Dr. Epps, Grosteen, Hilda, Jewess, J. B. Bryant, Lothair, Lord Valentia, Mrs. Keynes, Picturata, Rev. F. D. Horner, Dorothy, Lady Carrington, Mrs. Webb, Lady Boston, Miss Gibbs, Mrs. Wood Ingram, Rev. H. Matthews, Admiration, Baroness Burdett-Coutts, Her Majesty, Zerlina, and Mrs. Chancellor. The flaked and bizarre carnations that are most conspicuous are Guardsman, Duke of Grafton, Mars, Robert Lord, George John Hines,

Harrison Weir, Gracilis, Shirley Hibberd, John Harland, William Skirving, James Taylor, Squire Llewelyn, Sarah Payne, Dan Godfrey, Jupiter, John Ball, Scarlet Keet, James Douglas, Earl of Wilton, Florence Nightingale, Ajax, Jessica, Lord Chelmsford, Lovely Ann, Lady Florence, and Rose of Stapleford.

Exhibitions and Meetings, 1886.

AUGUST.

MONDAY, AUGUST 2.—WARWICK HORTICULTURAL SOCIETY.—Annual Exhibition.
MONDAY, AUGUST 2, AND TUESDAY, AUGUST 3.—NORTHAMPTONSHIRE HORTICULTURAL SOCIETY.—Annual Exhibition.
TUESDAY, AUGUST 3.—LEICESTER HORTICULTURAL SOCIETY.—Annual Exhibition.
TUESDAY, AUGUST 3.—OXFORD UNION CARNATION SOCIETY.—Annual Exhibition.
MONDAY, AUGUST 9.—DARLASTON FLORAL SOCIETY.—Annual Exhibition.
TUESDAY, AUGUST 10.—CLAYCROSS HORTICULTURAL SOCIETY.—Annual Exhibition.
TUESDAY, AUGUST 10.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Exhibition of Plants and Flowers.
THURSDAY, AUGUST 12.—WITNEY HORTICULTURAL SOCIETY.—Annual Exhibition.
THURSDAY, AUGUST 12.—TAUNTON HORTICULTURAL SOCIETY.—Annual Exhibition.
TUESDAY, AUGUST 17.—CALNE HORTICULTURAL SOCIETY.—Annual Exhibition.
TUESDAY, AUGUST 17.—BILSTON HORTICULTURAL SOCIETY.—Annual Exhibition.
WEDNESDAY, AUGUST 18.—TROWBRIDGE HORTICULTURAL SOCIETY.—Annual Exhibition.
WEDNESDAY, AUGUST 18.—LUTON HORTICULTURAL SOCIETY.—Annual Exhibition.
WEDNESDAY, AUGUST 18, AND THURSDAY, AUGUST 19.—SHROPSHIRE HORTICULTURAL SOCIETY.—Summer Exhibition.
THURSDAY, AUGUST 19.—MAIDENHEAD HORTICULTURAL SOCIETY.—Annual Exhibition.
FRIDAY, AUGUST 20.—DEVON AND EXETER HORTICULTURAL SOCIETY.—Summer Exhibition.
TUESDAY, AUGUST 24.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Exhibition of Cottage Garden Produce.
WEDNESDAY, AUGUST 25.—READING HORTICULTURAL SOCIETY.—Summer Exhibition.
WEDNESDAY, AUGUST 25.—LUDLOW HORTICULTURAL SOCIETY.—Annual Exhibition.
THURSDAY, AUGUST 26.—STOKE-ON-TRENT HORTICULTURAL SOCIETY.—Annual Exhibition.
FRIDAY, AUGUST 27.—HINCKLEY HORTICULTURAL SOCIETY.—Annual Exhibition.

SEPTEMBER.

WEDNESDAY, SEPTEMBER 1.—OXFORD HORTICULTURAL SOCIETY.—Summer Exhibition.
WEDNESDAY, SEPTEMBER 1.—BRITISH ASSOCIATION.—First Day of Meeting at Birmingham.
FRIDAY, SEPTEMBER 3, AND SATURDAY, SEPTEMBER 4.—CRYSTAL PALACE.—Exhibition of Fruit and Dahlias.
TUESDAY, SEPTEMBER 7, AND WEDNESDAY, SEPTEMBER 8.—ROYAL HORTICULTURAL SOCIETY.—Exhibition of Grapes, Dahlias, &c; Floral and Fruit Committees, 11 a.m., on first day.
WEDNESDAY, SEPTEMBER 8.—GLASGOW AND WEST OF SCOTLAND HORTICULTURAL SOCIETY.—Autumn Exhibition.
WEDNESDAY, SEPTEMBER 8, AND THURSDAY, SEPTEMBER 9.—ROYAL CALEDONIAN HORTICULTURAL SOCIETY.—Annual Exhibition.
THURSDAY, SEPTEMBER 9, AND FRIDAY, SEPTEMBER 10.—NATIONAL CHRYSANTHEMUM SOCIETY.—Exhibition of Early Chrysanthemums, &c.
TUESDAY, SEPTEMBER 21.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.

OCTOBER.

TUESDAY, OCTOBER 12, AND WEDNESDAY, OCTOBER 13.—ROYAL HORTICULTURAL SOCIETY.—Exhibition of Hardy Fruits; Floral and Fruit Committees, 11 a.m., on first day.
WEDNESDAY, OCTOBER 13.—NATIONAL CHRYSANTHEMUM SOCIETY.—Floral Committee, 1.30 p.m.
TUESDAY, OCTOBER 26, AND WEDNESDAY, OCTOBER 27.—ROYAL HORTICULTURAL SOCIETY.—Exhibition of Chrysanthemums and Vegetables; Floral and Fruit Committees, 11 a.m., on the first day.
WEDNESDAY, OCTOBER 27.—NATIONAL CHRYSANTHEMUM SOCIETY.—Floral Committee, 1.30 p.m.

NOVEMBER.

TUESDAY, NOVEMBER 2, AND WEDNESDAY, NOVEMBER 3.—EALING HORTICULTURAL SOCIETY.—Autumn Exhibition.
WEDNESDAY, NOVEMBER 3, AND THURSDAY, NOVEMBER 4.—HAVANT CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
THURSDAY, NOVEMBER 4, AND FRIDAY, NOVEMBER 5.—TWICKENHAM HORTICULTURAL SOCIETY.—Autumn Exhibition.
THURSDAY, NOVEMBER 4, AND FRIDAY, NOVEMBER 5.—STOKE NEWINGTON CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
FRIDAY, NOVEMBER 5, AND SATURDAY NOVEMBER 6.—CRYSTAL PALACE.—Exhibition of Chrysanthemums.
MONDAY, NOVEMBER 8, AND TUESDAY, NOVEMBER 9.—SURREY CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
MONDAY, NOVEMBER 8, TO WEDNESDAY, NOVEMBER 10.—LAMBETH CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 9.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.
TUESDAY, NOVEMBER 9, AND WEDNESDAY, NOVEMBER 10.—KINGSTON CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 9, AND WEDNESDAY, NOVEMBER 10.—SOUTHAMPTON HORTICULTURAL SOCIETY.—Autumn Exhibition.
WEDNESDAY, NOVEMBER 10, AND THURSDAY, NOVEMBER 11.—CROYDON HORTICULTURAL SOCIETY.—Autumn Exhibition.
WEDNESDAY, NOVEMBER 10, AND THURSDAY, NOVEMBER 11.—NATIONAL CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
WEDNESDAY, NOVEMBER 10, AND THURSDAY, NOVEMBER 11.—BATH FLORAL FETE.—Chrysanthemum Exhibition.
THURSDAY, NOVEMBER 11, AND FRIDAY, NOVEMBER, 12.—TUNBRIDGE WELLS CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
THURSDAY, NOVEMBER 11, AND FRIDAY, NOVEMBER 12.—PORTSMOUTH CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
THURSDAY, NOVEMBER 11, AND FRIDAY, NOVEMBER 12.—RICHMOND HORTICULTURAL SOCIETY.—Autumn Show.
FRIDAY, NOVEMBER 12.—DEVON AND EXETER CHRYSANTHEMUM SOCIETY.—Chrysanthemum Exhibition.
FRIDAY, NOVEMBER 12, AND SATURDAY, NOVEMBER 13.—HUDDERSFIELD CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
FRIDAY, NOVEMBER 12, AND SATURDAY, NOVEMBER 13.—CANTERBURY GARDENERS' SOCIETY.—Exhibition of Chrysanthemums.
FRIDAY, NOVEMBER 12, AND SATURDAY, NOVEMBER 13.—CHESHUNT CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—PUTNEY CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—SOUTHEND CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—WINCHESTER HORTICULTURAL SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—BRIGHTON CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
WEDNESDAY, NOVEMBER 17, TO FRIDAY, NOVEMBER 19.—YORK SOCIETY OF ANCIENT FLORISTS.—Annual Exhibition.
THURSDAY, NOVEMBER 18, AND FRIDAY, NOVEMBER 19.—HULL CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
THURSDAY, NOVEMBER 18.—TAUNTON CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
THURSDAY, NOVEMBER 18.—CHISWICK HORTICULTURAL SOCIETY.—Autumn Exhibition.
SATURDAY, NOVEMBER 20.—PUDSEY CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
SATURDAY, NOVEMBER 20.—RAMSBOTTOM FLORAL SOCIETY.—Autumn Exhibition.
TUESDAY, NOVEMBER 23.—BOROUGH OF HANLEY CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 23.—OXFORD CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 23, AND WEDNESDAY, NOVEMBER 24.—MANCHESTER BOTANICAL AND HORTICULTURAL SOCIETY.—Chrysanthemum Exhibition.
WEDNESDAY, NOVEMBER 24.—NATIONAL CHRYSANTHEMUM SOCIETY.—Floral Committee, 1.30 p.m.
WEDNESDAY, NOVEMBER 24, AND THURSDAY, NOVEMBER 25.—BIRMINGHAM CHRYSANTHEMUM SOCIETY.—Annual Exhibition.

DECEMBER.

WEDNESDAY, DECEMBER 1.—TADCASTER CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, DECEMBER 7.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.
WEDNESDAY, DECEMBER 8.—NATIONAL CHRYSANTHEMUM SOCIETY.—Floral Committee, 1.30 p.m.

SAYES COURT, DEPTFORD.

IN accepting at the hands of Mr. Evelyn a garden and playground at Sayes Court, Deptford, the public are not entering upon unfamiliar land. They have long been told how, in the early days of the Commonwealth, Mr. Evelyn's ancestor "set out" his "oval garden" at Sayes Court, and converted a rude orchard and bare field into "gardens, walks, groves, enclosures, and plantations." They have heard how, in the severe winter of 1683-4, Mr. Evelyn went to Sayes Court to see how the frost had dealt with his garden where he found "many of the greenes and rare plantes utterly destroied, the oranges and mirtills very sick, the rosemary and laurells dead to all appearance, but the cypress likely to indure it." They have sympathized with the still worn plight of the man, who had spent so much care and time in the formation of a beautiful place, when his gardens were ruined by the rough usage they received at the hands of the Great Czar during his temporary residence at Sayes Court, in close proximity to the Royal Dockyards where he was learning shipbuilding. What pleasure there could have been in riding through a holly hedge in a wheelbarrow it is difficult to imagine; but the disastrous consequences to the holly hedge it is more easy to conceive. It may have been the very spot where Peter the Great took this arduous form of exercise in which the public are henceforth to enjoy themselves, it is to be hoped, in more reasonable fashion. For many years past nothing has remained of Sayes Court but a fragment of the old building used as an almshouse, and a piece of wall, while the gardens have reverted to the condition of simple pasture in which John Evelyn found them. Much of the 100 acres which formerly belonged to the estate has, indeed, long been built over and forms a valuable London property. Some six acres still remain, and of these the present Mr. Evelyn has munificently dedicated to the public in perpetuity an acre and a-half. It has often been said that London is singularly unfortunate in tempting her great proprietors or rich merchants to endow her with public lands. The northern towns have received many gifts from patriotic citizens, but till now Leicester Square, the present of Mr. Albert Grant, is the only possession which London owes to private generosity. Mr. Evelyn has set a good example in making a present, which, though munificent when considered with reference to the value of the land in the building market, is yet not on so grand a scale as to be beyond imitation. A very charming garden can be formed out of an acre and a-half, and the Kyrle Society, which has borne the expense of laying out the land, has performed its task with taste and judgment. Grass plots, intersected with broad gravel paths, and varied by flower beds, trees, and shrubs, form a bright and pretty scene, while the wants of children are suitably met by the reservation of a gravelled playground. A kiosk has been erected for music, and seats, provided by the Kyrle Society and the Metropolitan Garden Association, will be found in plenty. On Tuesday the Baroness Burdett-Coutts performed the ceremony of formally opening the garden to the public. It is to be placed in the charge of the vicar of the parish and other local trustees; and Mr. Evelyn has generously made permanent provision, by a charge upon his estates, for the expense of maintenance and caretaking. A greater benefit could not be conferred upon the crowded riverside districts.

TALL *VERSUS* DWARF PEAS.

ON February 23 I sowed four rows of peas, two each of William I. and American Wonder. The first-named was about three days earlier in coming into use than the latter, but it is not on that point that I am so much interested. I wanted to test the correctness of a statement made in the *G.M.* the autumn previous, that the dwarf peas were not so good bearers as the tall-growing kinds, and I think I have done so to my satisfaction. But as I had some misgivings as to whether or not the statement was right, it is only fair to your correspondent that I should say at once that I have proved it was right, and that I was wrong in supposing one sort was as profitable as the other. The two rows (short ones) of American Wonder gave two gatherings, and produced altogether five half-pints of peas when taken out of their shells. Two gatherings made at the same time off the other sort (the rows being the same length) produced a little more than one quart of peas. But mark the difference. While two gatherings cleared every pod of peas from American Wonder, I had six pickings from William I., which, when shelled, produced as near as possible a total of three quarts of green peas. Of course the last-mentioned sort required a little more room than the other; but that was no object to me. From this experiment I am quite convinced it is more profitable to grow tall peas when it is convenient to obtain sticks. AMATEUR.

ROSES AND ROSE-GROWING.

By T. W. Girdlestone, Esq., Sunningdale, Berks.

[At the Bath Rose Show, July 8, Mr. T. W. Girdlestone was desired to give a short address on the subject of roses and rose-growing, the many rosarians present being anxious to hear his views on certain interesting points categorically stated. The following is the substance of his address, as kindly supplied by him for the advantage of our readers.]

It is with the utmost diffidence that I have accepted the invitation of your committee to address you for a few minutes on the subject of our queen of flowers, for two sufficiently obvious reasons: First, that I am not by way of speaking in public, and therefore little likely to do justice either to my subject or to my audience; and secondly, that I must appear to many of you, a very tyro in the art of rose-growing. But if I have not been engaged in the special culture of the rose for so long a period as some of my fellow-exhibiters, I have seen enough to convince me that the particular conditions of soil which are so often insisted upon as necessary, are not really essential to the successful cultivation of roses. I believe that climate is a far more important factor in the conditions advantageous to rose-growing than soil, if only because it is more completely beyond our control. For instance, in the immediate neighbourhood of large manufacturing centres, where the air never seems clear of chemical impurities, the satisfactory cultivation of roses out of doors certainly is impracticable. But, given a clear atmosphere, if the soil be too light or too heavy, means can be found to remedy the defect; if the situation be unduly exposed or too closely sheltered, either condition may be modified. It is notorious that a rich loam is the soil best adapted to rose-growing—that is to say, is the soil best calculated to produce first-rate rose blooms with the minimum expenditure of trouble on the part of the cultivator; for it may be accepted as an axiom that the production of the most beautiful roses is not to be spontaneously effected by any soil or situation under the sun, but it is in direct proportion to the amount of personal care and individual attention bestowed at all periods of their growth upon the rose trees.

The best soil for roses is a rich loam; if, however, the soil be light and sandy or peaty, it may be greatly improved by dressing it in autumn with loam or clay, to be left lying on the surface until quite broken down by frost and weather, and then well worked in in the spring. Clay is not beneficial to light land if dug in in wet clods in winter; as when so treated it never mixes with the surrounding soil; but when the clods after lying on the ground through the winter frosts are thoroughly dried by the subsequent March winds, they may be easily pulverized with the back of a hoe, and will then mix evenly with the native soil when dug in. If the soil be a very heavy solid clay, ashes or burnt earth may be advantageously worked in to make it more friable.

Where the soil is poor, some roses may be most advantageously grown on their own roots, in which state many are extremely long-lived; but it does not seem so easy to obtain first-rate blooms from own-root roses; and, owing to the much greater number of worked plants which can be produced from a given quantity of material, the latter will probably continue in the large majority. On the question of what is the best stock for roses, there may be some difference of opinion, and it will be advisable to mention the qualifications of each of the four forms of stock in general use. These are the common brier: (1) as a standard, (2) as a seedling, (3) as a cutting, and (4) the manetti rose.

The first is recommended by those who no longer like stooping, and by ladies who like to attend to their own rose trees themselves without the risk of getting their dresses torn. Standard rose trees are also useful for raising the back of large masses of plants, and for this purpose are perhaps most to be commended as pot-plants for effective grouping among or behind dwarfs in the conservatory. The objections to standards are, that the stem is liable to be broken by high winds, that the head is liable to be broken down by snow, and that, singly, they are perhaps the least picturesque form of tree known to horticulture. They also incur the greatest danger from winter frosts; for since, in the South of England at any rate, the cold is rarely sufficiently intense to injure rose trees below the ground line, when dwarf roses are frostbitten they often shoot up again from just below the surface of the soil; but in the case of standards, if the part above ground, whether stem or scion, be killed, there is nothing below but brier to replace it. From these causes standards are commonly shortlived and unsatisfactory. They will, however, continue to be grown for two reasons: first, because, as maidens, they often give exceedingly fine flowers which come in a little sooner than those on dwarf plants, and are thus especially useful to nurserymen for the earlier shows; secondly, because no speculative builder seems to consider his semi-detached villa architecturally complete and ready for the market without the twelve standard rose trees set each in its little ring on the grass beside the front drive.

The second and third stocks mentioned may be considered together, the chief differences between the brier seedling and cutting being in the propagation and working of the stocks. I may as well say at once that if I were to begin rose-growing again, on whatever soil, I would plant nothing but dwarfs on brier seedling or cutting. Dwarf plants on brier are long-lived, hardy, and from not beginning to grow quite so early in the year as manetti, are less liable to injury from spring frosts. Manetti are sometimes recommended for light soils owing to the fine fibrous nature of their roots, but even there they are surpassed by the briers, whose much more powerful roots are able to go after any moisture that may be available, while in excessively wet soil the hardness of brier roots resists the tendency to rot, to which the fibrous manetti are only too prone. At several extensive rose nurseries no other stock is now grown except seedling brier; and another great grower told me he would use only this stock if he could but teach his men to work them. For this is the one objection to seedling briers, that they are somewhat difficult to propagate and work. Like all seedling roses, they are victims in the young state to mildew, and owing to their thin bark and twisting stems it requires a good deal of practice to bud them successfully. The objections to brier cuttings I have yet to learn; for the stocks can be made with but little more trouble than manetti, and are just as easy to bud. The brier is the only stock for tea-scented and noisette roses out-of-doors, and the maiden blooms on brier stocks of any form are on the average far more perfect than those on the manetti.

From the foregoing remarks it may have been gathered that I would not recommend anyone to plant roses on manetti, the fourth stock named, and the most universally grown. It is true that these stocks have fibrous roots, but from the very fact of being near the surface they are liable to be burnt up in summer drought or injured by winter frost. Not that growers will give up manetti, for the stocks are practically no trouble to make or to bud. Sticks cut into nine-inch lengths and inserted in sandy ground are sure to grow into stocks, and when budded rarely miss, while they make immense saleable plants the first year. They grow well the first two years, and then steadily deteriorate, and unless the scion succeeds in getting on to its own roots in the meantime the plant commonly dies. I have made a point of planting side by side roses budded on each stock, in order to compare them in identical soil, situation, and age. Invariably, after the third year the manetti rows are deplorably gappy, while the health of the briers is maintained. There were generally a few strong plants left among the collapsing manettis, which for some time puzzled me, but on digging them up I found that all these had succeeded in getting on to their own roots before the death of the stock; and I am inclined to think that the chief use of manetti is as a means of raising own-root roses. Another reason I have for disliking manetti is that plants on it seem far more subject to orange fungus than plants on brier. From plants on the former stock I picked this year infested leaves enough to fill a round plant-basket, while from the plants on brier close by I did not gather a dozen leaves.

Again, a great many varieties do well on brier that will not grow on manetti at all well; and, generally, the dark-coloured and the smooth-wooded roses thrive best on brier. Among darks, A. K. Williams is no exception to this rule. Four years ago I budded eight manettis and eight standard briers with this rose; they all made good plants, and were duly transplanted, whereupon seven of those on manetti died, while all the standards lived. When grown on brier, however, I have found the apprehensions at one time entertained as to the vigour and vitality of this rose to be entirely ungrounded, and I should not have the least hesitation in selecting it as the very best all-round H. P. I have six-year-old plants on seedling brier still giving first-rate flowers, and have plants of all less ages, on every sort of soil, all doing well; its flowers are the first to come in and the last to give up, brilliant in colour and perfect in form; while it is the freest to give flowers, a good traveller, hardy, and not very liable to mildew.

Talking of mildew, a remedy seems at last to have been discovered for this fungoid pest, in a solution of sulphide of potassium. This chemical dissolved in water at the rate of half an ounce of sulphide to the gallon of water, and applied on the first appearance of mildew by means of a syringe or spray diffuser, effectually checks the spread of the unsightly disease.

The raising of roses which are capable of resisting mildew may well occupy the attention of raisers; and just as new varieties of potatoes are raised less and less liable to potato disease, so we may hope for a race of roses that shall be mildew-proof. A beginning has already been made with George Baker and Mrs. George Dickson, the latter of which is a very pretty rose of a distinct and pure shade of clear pink, while both varieties are exempt from mildew. I do know that this excellent quality is characteristic of any of the other novelties, but some few have considerable other attractions. Among the H.P.'s, Comtesse de Paris (the second of the name) is a very charming and free-flowering rose, somewhat in the style of Countess of Rosebery; Alphonse Soupert is a large and useful addition to the bright pinks, and is vigorous and very free; Prosper Langier is one of the best of recent darks, large, vigorous, and brilliant deep crimson in colour; Eclair is dazzlingly bright, but seems to be too characteristically transient, expanding very rapidly. There are two other roses, Marshall P. Wilder and Benoit Comte, which are very good, if distinct, but both come dangerously near Alfred Colomb. There are several good new teas, notably Madame de Watteville, a pointed white flower, tipped and washed with bright rose, very beautiful; Souvenir de Gabrielle Drevet, somewhat similar, but more creamy in colour: Grace Darling, a lovely pink-tipped tea with yellowish base, always in flower, and attractive in all stages; Sunset is not of much use as an exhibition rose, but to force for cutting in winter is invaluable. The much-discussed Gloire Lyonnaise is very pretty, though not perpetual flowering, but it will probably be useful in a wet season, and from being rather thin it should be a good seed-bearer.

The raising of seedlings is a branch of rose-growing that amateurs might very well take up more systematically, considering how many qualities are essential to a first-rate rose, and how few varieties possess all, or even several, such good points. In estimating the merits of a new rose, the beauty of its flowers should not be the only consideration, but regard should be paid to other characteristics, such as vigour, hardiness, freedom, perpetuity of blooming, and power of resisting mildew and analogous diseases; for it must not be forgotten that exhibitions are only a means to the end of decorating our gardens more perfectly, so that roses that will not grow or flower freely should not be encouraged. Two of the most beautiful of recent roses, Lady

Mary Fitzwilliam and Mary Bennett, are, unfortunately, both very stumpy growers, so that the cutting of the flowers generally involves the demolition of the plant; and in raising seedlings every effort should be made to avoid this lack of constitution. Perhaps the introduction of some of the semi-double, or even single, roses may be of service in this direction of imparting vigour; and, at any rate, some of them are highly ornamental.

Take, for instance, the beautiful Japanese species, which has already given us the charming "Mignonette," "Ma Paquerette," "Perle d'Or," &c., rosa polyantha, a climber that will cover a greater area in a given time than any rose I know. Its individual single flowers are not more than an inch across, but being borne in trusses of sometimes nearly a hundred blossoms, a good plant of it, twenty feet high and wide, sheeted with snowy bloom, is a sight of the greatest beauty. Or, again, show anyone a group of big bushes of the miscalled *copper* Austrian Brier in full bloom, and then see whether they will say that single roses are too rubbishy for garden plants. If it is objected that single roses so soon shatter when cut, let them be left to keep the garden gay at home while the other roses go to the shows. But, as a matter of fact, a considerable collection of single and semi-double roses has been successfully exhibited twice this year, and endured the ordeal of great heat under canvass remarkably well, in one case at Ryde, Isle of Wight, after a long journey of about four hours. The singles certainly have some colours and qualities which other roses lack, and if some amateurs are able to pursue the intelligent hybridization and raising of fresh varieties, we may all the sooner hope for a race of roses which shall combine with every desirable colour the essential qualities of vigour, hardiness, freedom, and perpetuity of flowering, and that most desirable power of resisting the attacks of mildew.

PLANTS OF THE ALPS.

By H. Correvon, Director of the Jardin d'Acclimatation, Geneva.
Translated by R. Irwin Lynch, A.L.S., Curator of the Botanic Garden, Cambridge.

CHAPTER III.—Vegetation in the Alps.

Arborescent vegetation—Under shrubs—Character of the Alpine flora—Digging up at the wrong time.—Alpine garden of acclimatization.—Upper limits of vegetation in the Alps.

If from the region of arborescent species we pass to the study of the vegetation which adorns the upper regions of the Alps, we find ourselves in the presence of a quite peculiar flora, which differs materially from that we meet with in the plains. The forms of vegetation become more and more dwarf; after the forests of fir come the shrubs, then the little creeping shrubs, and at last the turfy pastures. The rhododendron, the different vacciniums, and the dwarf birch form the last vestiges of ligneous vegetation, except sometimes the willows, which attain the extreme limits of flowering-plant vegetation, but are met with only in the state of frail creeping tufts, flat on the ground. Two arborescent species, however, belong to the Alpine zone; these are the Swiss stone pine and the larch.

The Swiss Stone Pine (*Pinus Cembra*) is the most majestic, the most imposing, and the most celebrated among the trees of our country. Though not belonging exclusively to the Alpine chain, being found abundantly in the Carpathians, the Altai mountains, and Siberia, this tree is considered as the cedar of our Alps. Its candelabra-like form, the penetrating odour which it diffuses in the air during the period of its growth, the tint of its verdure, the splendid cones which ornament its branches and enclose the kernels so much sought for by the shepherds, and also by the squirrels; all this gives to the stone pine a distinction that does not belong to any any other species of our forests. The single fact that this tree can grow at such high elevations, keeping close often to the border of the glacier, the moraines of which it animates and ornaments, adds still more to its value and importance. It accommodates itself, besides, extremely well to our plains, where it requires a cool position and light soil. There is a splendid specimen on the Naville estate at Villette, and another equally fine, though younger, in the garden of the Baroness Rothschild at Pregny.

With regard to the Larch (*Larix europæa*), it is certainly the most characteristic tree of our country. It is a species proper to our Alpine chain; the northern species (*Larix siberica*), which had long been regarded as identical with our own, is recognized as distinct. The larch is certainly one of the children of our chain of mountains, and among the most glorious of them.

What more beautiful and more majestic than those venerable larches, isolated in the middle of the Alpine pastures, which have seen at their feet so many human generations in succession, so many revolutions of the race to which we belong, and which, like the beacons that tempests do not disturb, raise their heads to the sky as if to defy the thunder and the wind! The wood of the larch is one of the most valuable furnished by the family of conifers. It is sought for a great number of uses, and makes an excellent fuel.

Whilst the Swiss stone pine requires coolness and shade, the larch, on the contrary, seeks the sun and dryness. In a group of these pines and larches it has been remarked that the last are generally situated so as to receive the sun, and that the pines grow in their shade.

The rhododendron among Alpine shrubs is the choicest and most popular of the species. It is our national flower, the flower of the Alps *par excellence;* it is the maid of our mountain chain, of which it constitutes the chief beauty. The genus rhododendron, widely distributed on the mountains of central Asia, is represented in Switzerland by two species, *R. hirsutum* and *R. ferrugineum*. The Tyrol possesses in *R. Chamæcistus* an especially beautiful and very different species to ours. In the north of Russia and in the plains of Siberia some species are found which approach ours without being exactly the same.

The rhododendron, can it be necessary to recall, is known by the glorious name of *Rose of the Alps* or *Rosage*. There is sometimes confusion with *Rosa alpina*, which it is more convenient to call the "Eglantine of the Alps." That which Henri Durand has sung the praise of is evidently not Rosa alpina, but certainly the rhododendron, even though he exclaims, carried away by poetical flight:—

> Remove not the soil of these heights;
> Transplant it not to the plains,
> Or briers and thorns will spring forth
> To mock all your wasted pains.

The Rose of the Alps is our national plant, and the word "Alpenrose" is found in most of the patriotic songs of our confederates of German Switzerland. Fancy the Alps without the rhododendron! It would be Nice without oranges, Genoa without its Riviera, Italy without its blue sky.

Alpine lovers and tourists, whoever you may be, whether you love flowers or whether you are indifferent to them, say what would Alpine nature be without that belt of roses which covers the flanks of our mountains as a river of diamonds heightens the brilliancy of the beauty of day? How happy the panting and fatigued climber when he perceives their joyous flowers, which from the bosom of verdure, composed of myrtle and bay-laurel, convey to him the first perfumes of Alpine nature. With what enthusiasm does he place them in the ribbon of his hat! How happy will he be on descending from the heights to gather bunches as large as possible, the freshness of which he will seek to maintain by exercising his ingenuity to succeed therein. How well do we mountain ramblers understand these verses which terminate the piece already cited from our dear Durand—

> Oh that of destiny I were the King!
> My Queen, the rose, I would then espouse:
> With every morn her praise to sing,
> No care should then my soul arouse.
> My tent of peace I'd lift to heaven,
> To catch the breezes all divine,
> Our joy should have no earthly leaven,
> A thornless rose would then be mine.

But there let us leave the "Alpenrose" (which we ought to call *Rosage*, but which we continue to call by its popular name) and see further. The more we ascend the more vegetation shrinks and dwarfens. Having reached an elevation of about six thousand five hundred and sixty feet, we find but little more than perennial herbaceous plants that spread on the ground. The genera, which are represented in the plain by trees and shrubs, such as the willow, birch, and azalea, are met with here in the form of dwarf and creeping species. In these regions, instead of developing in height, the plants spread on the ground, to the protection of which they seem to make an appeal. They shrink from the coolness of the atmosphere, and attach themselves to the ground, which longer preserves the warmth of the solar rays. In general these plants are perennial, stoloniferous, and cæspitose, for there are very few annual Alpine plants. The greater number are without perfume, and only the *Nigritella* diffuses the aromatic odour of its corolla in the air. There are no fungi in the Alps; the bright and intense light which reigns on these heights does not permit of their development. On the other hand the colours of the flowers are clear and brilliant, and their corollas are generally very large. The insects, these powerful auxiliaries of fecundation, having on these heights but a short time to live and accomplish their work, are guided by the brightness of the colours in the choice they have to make. The Pink of the Alps, which is found in Eastern Switzerland, possesses a corolla which is much larger than that of the pink of our plains, though it has scarcely any stem. Accordingly, when this plant is in flower, the petals occupy so much space and so cover the tuft that its verdure is not seen. The Pansy of the Alps presents to us on a short stem a large flower of bright and dark lilac, the corolla of which is much larger than that of the pansy of our plains or the violet of our woods. Examples of this could be multiplied.

Dr. Christ, speaking of the Alpine flora, says: "The powerful action of the sun has not failed to impress a particular character upon the exterior form and organization of Alpine plants. The leaves are thick, of compact texture, and, thanks to a firm epidermis, they are capable of resisting the drying influence to which they are exposed by the intensity of the solar rays. Often, too, they are protected from this drying influence by a close pubescence, which is composed almost always of starry hairs, especially among the *Cruciferæ*, of which the epidermis is usually very delicate. The hairs divide from the base in a series of branches, spread into rays, and so form, on all the organs, a covering which prevents the epidermis from drying up. The grey down, a kind of thick felt, which covers other Alpine plants, especially the compositæ, serves the same end. It is remarked that on stations exposed to the sun, upon the open heights and slopes, almost all plants have coriaceous leaves or a close pubescence, whilst in the shaded and sheltered ravines, in the gorges and passages which serve as beds for the torrents, the plants possess greener and more delicate leaves."*

It is, in fact, easy to prove concerning the Alps that in rocky parts exposed to the drying rays of the sun the vegetation is hairy, often greyish and silvery, of which the Edelweiss, the Artemisias, and the Senecios are examples, while in the cool and moist ravines we find that the opposite is the case.

"The anatomy of Alpine plants," continues Dr. Christ, "proves that the cells of their leaves are smaller, that they have thicker walls and more concentrated contents than the plants of the plains, so that in freezing and afterwards thawing the tissues are not torn, even at temperatures to which the plants of the plain, whose cells are provided with thinner walls and contain more water, would infallibly succumb. The more tufted habit and the imbricated leaves of Alpine plants contribute equally to protect them against the atmospheric currents which pass over the ground.

And it is precisely these frosts, which are renewed every night, that explain why these plants rest so low. The most recent physiological researches have proved that it is during the night that plants grow most rapidly; by day they grow so much the less the more they are exposed to the rays of the sun. For these plants of the high Alps it is not a question of nocturnal growth, for that is prevented by the frost. It is only during the hours of the day, when the heat of the sun is strong enough to warm the soil considerably, that they are permitted to grow, and this explains the shortness of their internodes. It is for the same reason that plants which turf the high Alps so easily change their aspect when transported to our plains; the nights being warm they continue to grow and exhaust themselves, all their parts are soon lengthened and rapidly become etiolated.†

These turfy clusters—these flowery masses, as one is tempted to call them—are the most enchanting among all the sights of vegetation. No language can describe them, no pencil can reproduce them; they are certainly the jewels of the Creator and His favoured ones in the world of plants. We love them, not only because they are Alpines and that they recall sweet remembrances, but also because they are pretty, graceful, and enchanting. They have the freshness that no sister of the plain has; they are refined and light; they are true enchantresses! Who can resist the desire to carry them away and cultivate them! Is it not quite natural? This enthusiasm, which now engrosses many amateur Alpine cultivators, is not however new. De Candolle, in found-

* La Flore de la Suisse et ses origines, p. 30.

† La Flore de la Suisse et ses origines, page 304.

ing our Botanic Garden, reserved certain borders for the culture of plants of the Alps, and before him Necker-de Saussure and Vaucher had made attempts at cultivation in the Jardin du Calabri.

And who then will be astonished? Alpine flowers have many advantages over their sisters of the plain. They have these, above all, that they require little room, and garnish the grottos and rockworks by spreading their tufts over them, and flower generally early in the spring. Their culture is, besides, interesting, and requires little care in addition to that which is given to all herbaceous plants. Alpine plants have then a true place in the horticulture of the present day, and cannot fail to play an important part in consequence.

The rooting up of Alpine plants and transplanting them to the gardens of the plain has, during some years, become so extensive that certain species in more than one district have been exterminated. The fear manifested by naturalists of seeing certain rare species of plants disappear from the localities where they exist one may consider exaggerated, but it is not the less true that it has happened more than once in Switzerland, to speak only of what has taken place with us.

Far from being chimerical, these fears are fully justified, and proof of this is found in the movement of to-day in favour of preservation in their respective localities and in the protection of wild plants generally. The first two bulletins of the Association for the Protection of Plants contain useful and interesting information upon this subject. A recent issue of this publication contains an article from the pen of M. Fischer-Siegwart, an apothecary and distinguished naturalist, of Zofingue. The author gives a list of localities of rare plants which are on the way to disappear, and speaks of trials he has made to naturalize wild plants in the environs of Zofingue.

M. Fischer seeks to establish statistics of the species which in Switzerland are on the decline and of those he desires to protect; he has the conviction that it is necessary to contend against the societies for exchange, which in his sight are not scientific societies, because he who devotes himself to exchange can scarcely attend to anything more than collecting and gathering for his connexion. M. René Guisan, engineer at Lausanne, has alike treated this subject in a pamphlet which he has sent to Alpinists. He thinks that it is above all necessary to contend with those who root up the plants for a purely speculative purpose, and he cites the fact that foreign horticultural firms have collectors and correspondents in our Alps, who furnish them with the rare plants of our frozen summits by thousands.

On January 29, 1883, was founded at Geneva a society under the title of "Association for the Protection of Plants," with the object of counteracting this scourge, which ravages the Swiss flora. The members adopt the principle of combating the trade in plants dug up in the mountains, and recommend the raising of these plants from seeds or their introduction in a considerate manner. Far from hindering the culture of Alpine plants, the object of the society is to encourage it by directing amateurs in their attempts at cultivation. It often happens that a great number of plants are destroyed in order to reach success with but very few. All these sacrificed plants are so many subjects, which, if they had remained in their place, might have given seeds and contributed to the reproduction of their species. For rare plants this argument is of undoubted importance, as it is precisely these plants that are desired.

The foundation of an "Alpine Garden of Acclimatization" responds precisely to a need strongly felt by all the friends of this cause of protection. The object of the new horticultural establishment is to raise the plants sought for in quantity, and to offer them to amateurs at reasonable prices. It hopes to be able to offer these plants raised from seeds to foreign horticultural establishments, which will no longer have occasion to provide themselves from the Alps.

Let us hope that very soon we shall cease to see in our markets these sad-looking masses of plants, torn up without care, and destined to perish so soon as they leave the hands of the merchant, and of which quantities not sold find their way to the gutter when the market is over.

May the lovers of plants and Alpine nature patronize the new establishment by purchasing its productions and causing them to be bought by others, and the proof will soon be had that the most efficient remedy to combat the evil is not the making of laws or demanding the support of Government, but by moral influence. Example is always the best means to employ in similar cases.

The upper limits of vegetation cannot be defined so far as the cryptogams are concerned, which attain the most elevated summits of the Alps. But phænerogamic vegetation stops at better defined limits. It scarcely attains an elevation of more than 10,500 or 11,500 feet in the chain of the Alps. However, *Saxifraga bryoides*, *S. muscosa*, and *Achillea atrata* have been found at 13,000 feet. Dr. Christ cites the fact that Calberla has found at 14,000 feet, Ranunculus glacialis with two flowers, having the appearance of being annual. On the Himalayas and on the Andes of South America vegetation rises to much higher altitudes. On Chimborazo vegetation attains rather more than 15,000 feet, and Hooker has found composites on the hills of Thibet at 18,500 feet, and shrubs of honeysuckle and rhododendron at 17,000 feet. In certain parts of Thibet the upper limit of phænerogamic vegetation is 19,000 feet.

The flowering tufts are not limited to beautify our pastures and to gladden the rocky slopes of our mountains. They are found everywhere in places free from snow and ice, where there is any soil into which they can strike their roots. In the frozen region of snow they are seen to adorn the smallest clefts in the rocks in which they take shelter. The phænerogams which reach the highest heights in the Alps are some pretty and elegant grasses, slenderly-formed saxifragas, *Androsace glacialis*, and two or three species of *Cruciferæ*.

Alpine plants often become very aged. I once examined on the summit of the Augsborgs pass in Valais a tuft of *Saxifraga oppositifolia*, which must have been at least one hundred years old. Tufts of Alpine plants are sometimes met with of which a part is decomposed, serving as soil for another more vigorous tuft, whilst the extremities of the stems of the parent plant are still living and full of health.

Daffodils.—At the meeting of the scientific committee of R. H. S., held July 13., Mr. Maw reported on the occasional occurrence of erect flowered daffodils. He stated that Narcissus minimus of *B. M.*, t. 6, was identical with N. Minor, and abundant in central Spain at high elevations. Drawings of various hybrids were shown, and the opinion expressed that N. calathinus and N. triandrus were identical.

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Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory should now be made attractive with palms, crotons, dracænas, and other stove plants that can be removed from the stove for a short time without suffering a severe check.

Greenhouse Plants, especially hard-wooded kinds, will be benefited by a few weeks' exposure in the open air, to ripen their seasonal growth and give them a stocky habit. This will afford opportunity for a general cleaning and painting of sashes, stages, walls, &c., and to clear out vermin from odd corners and old woodwork. Houses containing all ordinary kinds of stock to be ventilated day and night, but most soft-wooded plants in flower will enjoy to be shut up for an hour after watering, and then to have a little air again.

FLOWER GARDEN AND PLEASURE GROUNDS.

Pinks to be propagated largely now from pipings, which is an easy and certain method.

Dahlias want a heavy mulch after the ground has been lightly forked. This is said to harbour vermin, but practically its few disadvantages are balanced by the superior health of the plants and the beauty of the flowers, and the labour of watering is got rid of. As for earwigs, they always go upwards, and may be trapped with certainty.

Pansies to be propagated from cuttings of young wood; the old hollow stems are quite unfit for the purpose. Keep the cuttings shaded, and sprinkle frequently, but the soil of the cutting pans only moderately moist. Beds to be planted to stand over winter should now be deeply dug and manured, which will tend to reduce wireworm, as they will be turned up in the process and be destroyed. After the beds are made ready, set traps for vermin, and persevere to get the ground clean, as the losses in winter often arise through the eating away of the roots by marauders.

Roses may be multiplied by putting short cuttings, selected from the shoots of this season, in a bed of sandy soil, in a frame, keeping them shaded and sprinkled. Nine-tenths will root with ordinary care, and ninety-nine hundredths where the cultivator is quite *au fait* at propagating. Budding on brier and manetti stocks may be carried on. It is a good time to buy in new roses and plant them, as they will be well established before winter, if taken care of as to shading and watering for three weeks after planting.

Zonal Pelargoniums should be propagated during the next fortnight or so by cuttings put in the open ground in a sunny place, or singly in thumb pots in a frame, or on a moist bed in a house facing south. If this work is postponed the plants will be more difficult to keep through the winter. If quantity is an object, every two joints, one joint in and one out, will make a good plant; but one joint will do very well of any variety it is necessary to cut hard, as to form roots a joint in the soil is not necessary, as the internodes will rot nearly as soon as the joints.

KITCHEN GARDEN AND FRAME GROUND.

Celery newly planted will require abundance of water. Plant out as fast as possible, if any left in beds or pots. The fly has not seriously damaged the crop this season, and where it has not appeared there is now no further danger, and the late celery is likely to escape altogether.

Sow Early York, Battersea, Shilling's Queen, and Rosewort Cabbage, Early Horn Carrot, Green Curled Endive, Cabbage and Cos Lettuce, Turnips, and Prickly Spinach. Make ready the ground for winter Spinach, the time for sowing being near at hand.

Routine Work.—There should now be a general clearance of plots that have borne peas, beans, &c., to burn all the dry haulm and weedy stubble, and fork over and put on manure if necessary; all winter crops will do better in the ground well dug, even if not manured, than with a mere scratching of the surface. Where there is much demand for potting composts, the kitchen garden will supply useful material for the muck-pit, which is a more economical method in the long-run than the burning of rubbish, though the latter is a clean and quick way to get rid of it, and the ashes are useful. Save all the soot that can be obtained to make a puddle for dipping the roots of broccolis, cabbages, &c., when planting out from the seed bed, and store away at once all pea-sticks worth keeping to preserve tidiness and prevent waste.

Vegetables in Season include Kidney Beans, Broad Beans, Peas, Cauliflowers, Cabbages, Globe Artichokes, Lettuces, Cucumbers, Marrows, Onions, Mushrooms, Potatoes, Turnips, and Tomatoes.

FRUIT GARDEN AND ORCHARD.

Bush Fruits require attention now that the crop is gathered. Thin this present year's growth, tie and nail all the branches on fences and walls, and give the trees their final shape for fruiting next year. Thin out the new canes of raspberry stools, so as to leave only three or four of the strongest to each. As soon as the fruit is off, cut the old canes to the ground, and tie out the new ones that the wood may get hard and ripe. If manure is plentiful, mulch the raspberries at once, but do not disturb the surface more than may be necessary to remove weeds.

Fruit Trees that are still making young wood must not be stopped, or it will cause them to throw out useless side shoots, and the less the knife is used among them now the better. Espaliers must be tied in before the young wood becomes too hard to be brought into regular order without injury.

Potted Trees must have every necessary attention to complete their growth and ripen their wood. No more pinching, and the pruning of useless growths to be deferred till the sap is down. Peaches and nectarines to be put in a position where they will be roasted with sun-heat, as near a hot wall or fence. The lights of the peach house should be off for a month at least if movable, and any training hitherto neglected should be done at once, that the wood may ripen perfectly.

Strawberries.—Plant out the first lot of well-rooted runners in ground well manured, and shade for a week and keep well watered; these will at once form good crowns, and bear well next season. Lay more runners, always removing them as soon as rooted, as they do better for being on their own feet early, and distress the parent stool less

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A Specimen of Agave filifera, which forms part of Messrs. Thomson and Ireland's collection in the Edinburgh International Exhibition, is now coming into flower, and well merits the attention of visitors interested in hard-leaved plants.

STRAWBERRIES.

By J. C. Clarke.

During an experience extending over many years I do not remember the strawberry crop to be so disappointing as it has been this year. Until Midsummer-day there was a greater promise of a large crop than I have seen for several years past. The quantity of bloom was unusually large and the foliage ample, and as vigorous as it was plentiful; yet, notwithstanding these favourable conditions, there was in many cases very moderate crops. Indeed in some cases there was not any fruit, and in the district in which I write large fruit has been very scarce. Only in the most favourable soils have full crops been secured. The most remarkable feature in connection with the lightness of the crop is the large number of badly-formed fruit, plainly showing that the fertilisation of the flowers was imperfectly performed, owing, no doubt, to the heavy rainfall and absence of sunshine at the time the plants were in bloom. Then followed nearly four weeks of dry weather, accompanied with parching winds and tropical heat, which quickly caused the plants to give out. Taken altogether, it has been the shortest season that has been known in many gardens for some years. But it has not been without its lessons; for the behaviour of the plants has demonstrated two things. They have shown us that they can have too much root moisture as well as too little, and in the second place, that they will pass through a dry time when their roots are in a deep soil better than when they are in a shallow one. In addition, it has been clearly shown that some sorts are better able to stand adverse conditions than others. President and Sir Joseph Paxton are probably the two most popular of all strawberries grown in private gardens, and they well deserve their popularity, for they have succeeded where others have failed. Some good crops of Black Prince, Keen's Seedling, Vicomtesse Hericarte de Thury, have been secured in some gardens, and it is proper to say that all the sorts have suffered more in light soils than where the land is heavy.

Not to go beyond my own experience, I am more than ever convinced of the importance of trenching up the ground to a depth of two feet, for the present season's experience has shown that if we had not done so we should have had to report nearly a failure. But we have had a fair crop, although not by any means a heavy one. Young plantations produced fruit of a good size, notwithstanding the fact that we did not give them a drop of water. But all our strawberry plants are growing in deeply-stirred soil, with a layer of manure nine inches below the surface. This enables the roots to strike down deeply, so that they are not so much influenced by drought as those that cannot penetrate to so great a depth owing to the hardness of the bottom soil. One other lesson it has taught, and that is, old plantations of strawberries cannot be depended upon during a dry season, for in every case of which I have seen or heard the old beds were the first to give out, and the more crowded the plants the more effect the heat and drought had upon them. Surely we cultivators ought to turn these lessons to a useful account. The strawberry crop is such an important one that we cannot afford to ignore them, for although the weather has had something to do with the failures where they have occurred, there is no disputing the fact that young plantations have given the largest fruit as well as the heaviest crop, and that overcrowding the plants is a great mistake.

But while writing in this strain I must not forget that soil has a most important influence on the behaviour of strawberries. In some gardens they are in better condition at the end of six years than they are in others at the end of three, as in my case. Our beds are of very little use after they have borne two crops, and we make a fresh plantation every year. The earliest runners are secured and planted early in August, so that they become well established by the autumn, and bear a fair crop the first year. The next season they are in their prime, but if we leave them to the third year they bear but a poor crop. Therefore, to a certain extent, each one must decide for himself how long the beds should be allowed to stand. There is one thing pretty certain, and that is, young plants always give the earliest as well as the strongest runners. So that where plants for early forcing are required, it is a good plan to secure a young stock every year for the sake of the runners, even if they are not wanted for fruiting. Early planting of these is a very important matter, because the more established the plants are before winter sets in the earlier they will produce runners. The runners should be planted not later than the middle of August, and the ground should be equally as well prepared for these as for permanent beds.

With regard to enriching the beds for strawberries no one can doubt that manure from the farmyard or an old hot bed is the best. Strawberries require manure in liberal quantities, and it is desirable that some of it should be placed rather deep for the roots to feed upon. When I hear people say that the strawberry is a shallow rooting plant I know at once that they have not studied its habit under various conditions, or they would not say so. What is wanted to induce the roots to go down a foot or more in depth is a well-stirred and liberally-enriched soil a foot or so below the surface. It is only when one has watched their behaviour through a season of drought under such conditions that they can fully understand the capacity of the strawberry to sustain itself. In the way of experiment I have tried several of the concentrated manures mixed with the soil before planting, but I find them too excitable. They induce the plants to make too many leaves. A little sprinkled on the surface when the plants are in bloom if the ground is poor will help them, but I do not recommend their use in any other way.

TUBEROUS BEGONIAS.

Tuberous begonias are so distinct in character from the other classes of plants blooming during the summer season, and, moreover, flower so freely and continuously, that they are simply invaluable for the decoration of the conservatory from early in June until quite the end of September. They can also be grown successfully in indoor apartments, where they can be so placed as to enjoy full advantage of the light, but if placed in a dark position they become much drawn, and fail to bloom satisfactorily.

In the preparation of the plants intended for conservatory decoration it is important to start the corms with very little artificial heat, as they bloom more freely and continuously when brought along slowly than when forced into a rapid growth with the aid of a high temperature. The corms should be started at the end of February or early in March, and they may be put singly in small pots, or eight or ten together in shallow pans when there are several corms of each variety, The most suitable compost for begonias is prepared by incorporating fibrous loam, peat, sand, and powdery manure from an old hotbed, the proportions to be four parts of loam, two parts peat, and one part each of sand and manure. Whether pots or pans are used they should be filled to at least one third their depth with crocks, as begonias do not require any great quantity of soil until they are in full growth. When the new growth is three or four inches high, and the roots are beginning to run freely, they must be transferred from the small pots or the pans, as the case may be, into the pots in which they are to bloom. For the plants of small size five and six inch pots will be the most suitable, but large corms should be put into eight-inch pots. From the time the plants begin to make new growth until they are removed to the conservatory, they should have a place near the glass in a warm pit or greenhouse. They ought to be supplied with an abundance of moisture, both at the roots and overhead, and to enjoy a free circulation of air. The corms should be placed when at rest where they will not be subjected to a strong heat or exposed to frost, and they ought to remain in the pots in which they were grown the season previous.

The following comprise the best of those at present in commerce. They are arranged according to their respective colours.

The single varieties of special merit are as under:—

White, Mrs. Laing, Mrs. Morgan, White Perfection.

Yellow and Orange, Countess of Rosslyn, Golden Gem, Golden Queen, Maude Churchill, Primrose Queen, Torey Laing.

Scarlet, Ball of Fire, Earl of Rosslyn, J. H. Laing, Lord Lewisham, Madame Oscar Lamarche.

Rose and Pink, Her Majesty, Janet, J. Aubrey Clarke, Lady Brook, Lady Chesterfield, Lady Hume Campbell, Lady Lewisham, Marchioness of Bute, Mrs. Weekes, Mrs. J. Freeman, Princess of Wales, Rose Perfection, William Spinks.

Crimson, Countess of Kingston, Distinction, Earl of Chesterfield, Marquis of Bute, Mr. A. Forbes, Stanstead Surprise.

The undermentioned double varieties have a good habit, and are free in flowering and effective in colour:—

White.—Alba plena, Blanche Jeanpierre, Little Gem, Marchioness of Stafford, Princess of Wales, Virginalis.

Yellow.—Comtesse de Trielhart, Gabriel Legros, Lady Hulse, Louis d'Or, Marquis of Bristol, Mrs. G. A. Partridge.

Rose and Pink.—Gloire de Clamart, Glory of Stanstead, Mons. Keteleer, Madame Caistaigney, Madame Crousse, Madame Dumast, Madame Hachette, Miss Amy Adcock, Miss Brissenden, Queen of Scots, Rosamonde.

Scarlet.—Davisi fl. pl. superba, Eugene Lequin, Hercules, Leon de St. Jean, President Burelle, Ruhm von Erfurt, T. Hewitt.

Crimson.—Fulgurant, Goliath, Mr. Brissenden, Prince Albert Victor, Prince of Wales, Robin Adair, Queen of Doubles.

W. B.

EVERLASTING PEAS.

Few hardy plants are able to do greater service when a large demand for cut flowers has to be met than the perennial or everlasting peas. They commence flowering at the end of June, and when growing in good soil they will produce a continuous supply of flowers until late in the autumn. In many cases cultivators fail to ensure an abundant production of flowers because of their resorting to what may be aptly described as the starving system. They frequently select for the plants a position near large shrubs with a view to the peas obtaining support from their branches, and as the soil is necessarily more or less impoverished by the shrubs, the growth is seldom so vigorous as it should be. A moderately open and rather sunny situation is essential to success, and it is not less necessary to provide a deeply dug and decidedly rich soil. The soil should be well prepared by deep digging and liberal manuring previous to the plants being bedded out, and its fertility should be maintained by annual top dressings of half-rotted manure. The proper time to top dress is immediately after the shoots have made their appearance above the surface of the soil. The common form, Lathyrus latifolius, is not wanting in beauty, but the varieties known respectively as Roseus and Splendens are much more effective. Delicata is a beautiful variety, with pale rose-pink flowers, which will in due course become highly popular. The white variety known as Albus is indispensable for supplying cut flowers, and whether grown in separate clumps or in association with the other varieties, presents a very pleasing appearance. In addition to L. latifolius and its varieties, L. grandifolius, L. rotundifolius, and L. Sibthorpi are well worth growing where space can be found for several kinds. In all cases rather strong supports should be provided. G. H.

CATTLEYA MOSSIÆ.

The magnificent example of Cattleya Mossiæ, represented in the accompanying illustration, forms part of the select collection of orchids at Redlees, Isleworth, the residence of Mrs. Watson, and well merits attention as being one of the largest and most perfectly shaped *bona fide* specimens of this beautiful species in English collections. It is not unusual to meet with masses at the public exhibitions equally as large as the specimen in question, but they are almost invariably made up with several plants, as indicated by the form of the mass and the difference in the shape and colouring of the flowers, and consequently do not possess any special importance. The specimen figured consists, on the other hand, of one plant only, and it is a point of some interest that it has been grown from a comparatively small size to its present dimensions since it was added to the Redlees collection seventeen or eighteen years since. It is as remarkable for perfection of contour as for its large size; for instead of the new growth being produced on one side, as is frequently the case, it is each season equally distributed over the whole plant, so that when in bloom, the flowers form a convex surface almost as uniform as a skilfully-trained pelargonium. It is one of the best of the many good varieties in cultivation, the flowers being considerably above the average in size and of fine form, and the colours of sepals, petals, and labellum are remarkably bright. The plant measures rather over four feet in diameter, is in the most luxuriant state of health, and when exhibited by Mr. White, the able gardener at Redlees, at the May exhibition of the Royal Botanic Society, it had upwards of sixty splendidly developed flowers.

It may be mentioned, as a matter of some interest to cultivators, that although the greatest care was paid to the repotting, top dressing, and watering, it began some six or seven years since to gradually decline in vigour, and to produce flowers small in size and weak in colour. The growth became indeed so unsatisfactory that three years since it was determined to resort to extreme measures and give the plant an entirely fresh start. Accordingly it was taken from the pot which it then occupied and the whole of the old soil was carefully removed from about the roots. The next step was to plunge it in tepid water, and after it had been in the water several hours the whole

SPECIMEN CATTLEYA MOSSIÆ.

of the pseudo bulbs, leaves, and roots were thoroughly washed, and all roots that were dead or in a decaying state were cut away. It was then repotted, and with careful watering soon began to produce new roots and show signs of renewed health and vigour. After the repotting it began to steadily improve, and in about eighteen months it was completely restored and is now in the best possible condition. The unsatisfactory state of the plant was found to be wholly due to the peat in the centre of the mass having become so sour that the roots perished as they penetrated the ball. The specimen now occupies a deep pan twenty inches in diameter, the pan being filled to one half its depth with crocks of medium size to ensure perfect drainage, the importance of which is fully recognised by so skilful a cultivator as Mr. White.

Notes of Observation.

LASIANDRA MACRANTHA.

This richly-coloured and highly-attractive melastomad is so seldom seen in a really satisfactory condition that the large, splendidly-flowered examples in the exhibition house in the Botanic Gardens, Birmingham, are especially worthy of notice. On the occasion of the recent exhibition of the National Rose Society, Mr. Latham, the able curator, arranged along the wall on the north-west side of the exhibition house about a dozen large bushes, which formed a beautiful background to the roses, and presented a very attractive appearance. The plants, which are growing in nine inch pots, are about four feet in height and three feet in diameter, and were bearing a profusion of flowers, which as is well known are of a rich violet blue. The plants had been grown without either stopping or training, and to this fact probably may be attributed their satisfactory condition. They were certainly flowering more freely, and had a more pleasing appearance than any of the many severely-trained specimens that have come under my notice. G. G.

TROPÆOLUM SPECIOSUM.

Of the many interesting subjects that had a place in the great collections of hardy flowers exhibited at South Kensington on the 13th inst., there was not one more deserving of attention than Tropæolum speciosum in the collection from Messrs. Paul and Son. When grown as in this case it is one of the most beautiful hardy climbers we have, but it is very rare indeed to see it in such a vigorous condition, excepting in some parts of Devonshire and in Scotland. As a matter of fact, I have not seen such beautiful wreaths of flowers elsewhere than in Stirlingshire and Perthshire, more especially in the gardens in the Trossachs, where it grows with surprising vigour. Messrs. Paul's examples were grown in their nurseries at High Beech, where it is perfectly at home. G. G.

VIOLETS AND RED SPIDER.

Inexperienced cultivators of violets are sometimes perplexed to know why their violets do not grow in a satisfactory manner through the summer. They give the plants a suitable soil and a fair amount of root moisture. Still the leaves wear a yellowish hue instead of a dark green one, and they cannot tell why this should be so. Just such a case came under my notice lately, yet to all appearance the conditions under which they were growing were all that could be desired. The soil had been well prepared, and the position a shady one. On examining the leaves I found them to be seriously attacked with red spider. The proper way to treat violets that are to flower in frames during the autumn and winter is not to wait until the spider attacks them, but to begin syringing them with clear water every evening as soon as dry weather sets in. We do this every year, beginning about the middle of June, and we do not have any spider on our violets. With the garden engine it does not take long to syringe two or three hundred plants. Q. M.

HOUGHTON CASTLE RED CURRANT.

A few years ago I planted a collection of varieties of currants, and this year as fast as each sort ripened its fruit I put a saw to the base of the tree and severed it, using it at once for pea sticks. Thus I destroyed about a hundred strong trees, but I did not harm one of the trees of *Lord Houghton*, for I had determined by repeated observations that it is the best of all and so far as I am concerned is the only red currant worth growing. It is a fine berry and immensely fruitful. W.

PASSIFLORA CONSTANCE ELLIOTT.

I met with a plant of this new Passion-flower recently under what I consider very happy circumstances, for it had about half a-dozen branches ranging from two feet to two and a-half feet long, which were neatly trained to a south wall, and every shoot was covered with flowers from one end to the other. There was, indeed, a flower at every joint. Those nearest the ground were fully expanded and delightfully fragrant. Of course the individual blossoms were not so large as we should expect to see them on an older and established plant, but they were large enough to be very handsome. Never having seen before so small a plant of any kind of passion-flower with so many flowers upon it, I certainly was struck with its floriferous character. I am afraid, however, that it is not naturally so free to flower, as I cannot help thinking that the plant to which I allude must have made its growth before it was planted out. With its roots confined to a pot it had formed the flower buds before being turned out of doors; but even if that were so, it is very plain that with careful management the flowers would have opened quite as satisfactorily in a cool, airy house. Therefore there is every prospect of its adapting itself to pot culture and proving a most interesting and serviceable plant of easy culture for cool houses. J. C. C.

SUSPENDED ANIMATION.

Some five years since I bought a quantity of bamboo stakes for use in the garden. These have been taken indoors during the winter. By some accident three or four of them were left out during the last winter, and one, which was on a very sandy and dry bank, has taken root, and grown nearly two feet. It pushes out a leaf about an inch beneath each node. Some portions of the stem are still of the shining yellow colour of the old stake, but it is evident it will soon be green all over. Is not this an unusual occurrence? R. S.

[It is an unusual, but not an unprecedented occurrence. In the history of the Glastonbury Thorn, in G.M. December 21, 1878, a few instances are cited of trees remaining dormant for one or two seasons, and subsequently, under the head of "suspended vitality" as now adopted, will be found by reference to past volumes records of cases that have occurred under our own observation. At the present moment there is in the R.H.S. gardens at Chiswick amongst the ugly and useless pear trees one that at this moment is putting forth its first leaves for this season. But the bamboo cane is almost unique in its way; and, at all events, has the delightful characteristic of being amongst the things unexpected.]

ALPHA EARLY PEA.

This dwarf early pea is the best of its class in a trial of many for the particular purpose it is used for in my garden. I have grown it every year since its first appearance, and its behaviour is always the same. It is sown early on a piece of warm, sandy soil, with spinach between the rows, and very soon after its appearance above ground the sparrows pitch into it in a terrible manner. My main crop and late peas are better situated, and suffer nothing; but Alpha is so situated as to be exposed to risk of destruction. Now, many years of attention to matters of fact have taught me to treat with a certain degree of indifference the assaults of birds, insects, and other enemies of the garden; for life is too short for much fretting, and the world is too full of large business to leave room in one's head for trifles. Well, the sparrows peg away at my Alphas until the dawn of the merry month of May, and then suddenly quit them. It may be assumed that when many kinds of food are at command they like a change, and leave the peas because they no longer want them. Then it is my Alphas begin to grow, and very soon they look as well as though never a sparrow had touched them. And the flowers come, and the pods follow, and we gather a great supply of the best first early pea I have ever eaten. It has the fault of being a trifle thick in the skin, but the colour is good, the flavour is good, and the whole thing is good altogether. For a plant rising only two feet, and needing no stakes—in fact needing with us only to be sown and left alone—it is wonderful for usefulness. W.

THE COBWEB PLANT.

We have no more interesting object in the garden just now than a small mound of earth with the surface dotted over with stones about the size of a man's fist; and the spaces between the stones covered with a carpet of Sempervivum arachnoides, better known as the "cobweb plant." Every inch of the surface is covered with growth, and the leaves are laced together with a fine white web bearing a great resemblance to the work of the spider, hence its popular name. From the centre of the strongest plants rises a flower spike; the stem and the flowers being of a dull red colour, contrasting strangely with the white bed from which they rise. I should say the mound is irregular in outline and raised about nine inches above the level, and nearly a yard across. The undulating form of the surface is not the least of its features, for in a very small way it is a fair representation of a miniature mountain with valleys between. We have several forms of the small-growing hardy sempervivums growing in the same way, and they are at all times interesting, although not striking as contributors of colour to the garden. J. C. C.

BOTANICAL SPINACH.

Calling on an old gamekeeper the other day, I was asked by his excellent wife to take "a bite and a sup," and I therefore remained to assist at the midday meal. This was quite enjoyable, but there was a dish of delicious spinach on the table, and I remarked that spinach at my house was out of season, in fact gone to seed. "Ah," said my rustic host, "garden spinach is quite gone, but this is botanical spinach and in season all the summer long." I suspected spinach beet, but it was decidedly better than that useful vegetable, and I suspected New Zealand spinach, but it was better than that also. And so I did as one should always do, I asked for information. It consisted chiefly of the small cabbage-like hearts of Sowthistles not yet in flower, and the tender tops of the fat hen or Good King Henry Chenopodium. The use of the first named was quite new to me, the other I have long known and appreciated. When Sowthistles flower they are useless for spinach, but before the flowers rise the plant has a tender central tuft that answers admirably. My friend told me that a slip of waste where the rubbish of the place accumulated supplied with plenty of spinach all the summer long, and his good wife could make a capital dish of spinach from young leaves of rape, or cabbage, or lettuce, and consequently the surplus of the seed beds made a good change from peas and beans, as every day brought with it a new want for the family table. Parker B.

QUEEN OF BEVERAGES.—Refreshing the weary, stimulating the inactive, soothing the invalid, cheering the social.—Pure Tea alone, by its intrinsic and excellent qualities, "pales the fire" of all other drinks.—*A cup of good tea* is always welcome, as proved by the fact that 6,000,000 (six million) packets of Horniman's Pure Tea are sold every year by 4,000 duly appointed Agents, *Chemists and Confectioners*. The description, if Black, Green, or Mixed Tea, also the retail price, is plainly printed on each packet, with the Importers' warranty that their tea is free from all adulteration. Some unscrupulous persons copy the labels, wrappers, &c., used by Messrs. Horniman, purchasers are therefore cautioned to avoid *spurious imitations*. See advertisements in all papers, and at the railway stations.—[Advt.]

GARDENS OF GUNNERSBURY HOUSE.

Gardens become famous for reasons apart from their history, extent, or even the beauty and value of their adornments. Good keeping has something to do with it; taking the public into confidence has much to do with it, as the records of exhibitions assure us from day to day; and there is something also in keeping pace with the times, or, in other words, adopting in a rational way the ideas that prevail and the products of the latest invention and discovery. The gardens at Gunnersbury House, Middlesex, the residence of H. J. Atkinson, Esq., are as well known as many that are ten times larger, and better known than some that are, perhaps, actually richer, but they deserve for many reasons to be entered in the list of famous gardens, for they admirably represent the principal phases of an advanced and advancing horticulture.

The house stands snugly within its own beautiful grounds, with easy access to the great highways of the western suburbs, but with all the repose and seclusion proper to a country seat, where, of necessity, the social life must, like the peaches and strawberries, be of home growth and reflect the genius of the locality. There is here a beautiful and spacious grass lawn, without a flower bed or any such toy to mar its serious but serene expression. We know the character of a soil by one glance at the grass and the trees, provided we also know the average rainfall, or can fairly guess its amount. In all that range of rural suburbs from Acton to Richmond and from Chiswick to Hounslow the rainfall is less than the average of the metropolis within what are called the bills of mortality. At Gunnersbury House the annual rainfall probably does not exceed twenty-one inches, which is a small allowance, and allies the spot, so far, with the treeless districts of the East of England. But trees grow well here, and very much of the grass turf is perfect, the weak places being on the ramps, where probably there is calcareous or gravelly starving stuff near the surface. In such a season as the present the weak places discover themselves, and propound questions to the practical men whose policy it is to aim at perfection. Mr. James Hudson, the head gardener here, and the well-known winner of prizes at exhibitions, belongs to the select number of those who can find happiness in contending with difficulties, and to whom, perhaps, the world would be of less value were its pathways paved with gold and its grass lawns made of imperishable velvet.

For a garden so near the great metropolis, it is in the way of a sensation to note how thoroughly the brier roses prosper, and, in fact, roses of all kinds appear as happy here as though they were fifty miles away. All the several departments of a good English garden are seen here in a fair state of development, and the rose garden is an excellent feature. It is certainly not of great extent, and is the better for being restricted within reasonable bounds. It is a snug enjoyable nook with a clipped yew hedge to give a suitable back ground of colour to bring out the roses, and on one side a great mass of roses runs riot over the clipped yew, and at other points sempervirens and multiflora roses are allowed to expand into great masses in their own picturesque way that the hand of man may mar, but can scarcely ever influence to advantage. These rampant roses making mountains of bloom are mostly on their own roots, and have been long established, and they make every year a sufficiency of stout vigorous shoots to allow of the occasional cutting out of an exhausted rod that has flowered itself out of capital. The central compartments are filled with brier roses ranging from two to six or seven feet high, all with great natural heads that tell us plainly they have had but little pruning, and all clothed with flowers that tell not less plainly that a severe use of the knife is not necessary to the production of fine flowers. These brier roses have all the beauty possible in such trees, and while all are healthy, vigorous, and resplendent, a few are models of what may be called a buxom contour. A tree of Madame de Cambaceres that stands somewhat in front of the scene as a sentinel, might be referred to as a model of form as a rose tree, but one moment's attention will disclose the fact that it has formed itself, and the best of the cultivator's work has been in feeding it sufficiently, and, as for all the rest, leaving it very much alone. The "perfect" round heads that a clever use of the knife produces are horrid things as compared with the free form that nature imparts in accordance with a geometry too subtle for mastery by the mind of man. This model rose tree divides naturally into two heads that are glorious together, but perhaps would not be glorious apart. No master of pruning could hope to invent such an arrangement; it comes, as we may say, by "chance."

The interesting question if there are distinct varieties of asparagus is illustrated here in connection with questions on asparagus culture generally. Mr. Hudson has adopted the long line plan that ensures to the plant more light and air than the bed system, and at the same time gives the cultivator greater command of the ground for practical business. The lines are three to four feet apart, and the growth is such that cutting begins in the third year, the sample being of high quality, and showing a large proportion of exhibition sticks. The Early Giant Argenteuil, which has a purple top, comes in earlier than any other sort, so if the philosophers are right in saying that permanently distinct varieties of asparagus are impossible, it still remains true that shades of variation occur of sufficient distinctness to be at once perceptible and useful. A gain of a week in the first cutting of fine asparagus may make a difference of hundreds of pounds in the value of the crop, and in presence of money bags philosophy must sometimes "pale its ineffectual fires."

The vineries, pineries, and peach houses are such as would be looked for by those who are familiar with their productions as placed on the show table. The Queen appears to be the favourite pine. Amongst the grapes Madresfield Court is well done here, giving no trouble whatever; Lady Downes is well grown for late use, and while Hamburghs and Alexandrias are in separate compartments for special purposes, they are in one house grown side by side with complete success, and, as usual in such cases, the rods are allowed to carry heavy burdens, apparently without harm to the vines.

The home fruit garden contains a nice lot of apples, pears, plums, &c., from which exhibition dishes are freely selected, and there is no special thinning or feeding resorted to, but the vigour and health of the trees are well sustained by good management. An orchard occupying a portion of an outlying tract of meadow land is perhaps more productive than the home garden; that is, tree for tree without reference to number, a consequence, perhaps, of a freer air and less disturbance of the soil near their roots. But there was a time when the trees in the home garden and the out garden produced very small crops and gave a large amount of trouble. That was in the dark days of pinching and pruning, the rules for which Mr. Hudson carefully studied and conscientiously carried out, the result with him, as with thousands more, being trees without beauty and without fruit. In the year 1876 Mr. Hibberd gave his demonstrations on fruit pruning at the Society of Arts, in which, as remarked by the *New York Tribune* of March 29, 1876, "The whole system of European fruit culture received a free handling by one who understood orchard culture in its fullest sense." The abuse that was freely showered on Mr. Hibberd did not deter Mr. Hudson, and as we know now, did not deter many of the abusers from putting the matter to a practical test. Mr. Hudson's trees are now before us; they are no longer stiff, dense, ugly, and barren; they are handsome trees, full of free natural growth, loaded with fruit, and their heavy pendant branches show the true meaning of the term "pulley-pruning," which so perplexed and angered the superficial scribblers ten years ago. In the course of those ten years the subject has been continuously and freely discussed, with the importation into it of innumerable misconceptions and trashy arguments; but we have had an apple congress and a pear congress, and we may, without being chargeable with rashness, expect a plum crop sufficient to justify a plum congress, for the plum is as worthy of systematic study as the apple or the pear. The seasons will settle some of those matters without our aid, but where the old style of suppression prevails the seasons are very much alike in the fact that whether good or bad they put no fruit on the maltreated trees.

It is worthy of observation, too, in this interesting place that other things besides roses and fruits have been benefited by allowing nature a little freedom. Many ornamental wall trees that in former years were kept "close in" have been allowed to come out, and we see here and there and everywhere delightful bosky masses of vegetation, evincing on the part of the manager that highest form of art which "conceals art," the art that attains its triumphs not by opposing, but by encouraging nature. An interesting example is seen in an old Judas tree that was "kept in order" by means of knives and nails. It has been allowed to go out of order, but not out of control, and it has made a free growth, and when in flower constitutes a surprising spectacle. It is amusing to see here a Salisburia as a wall tree, but it answers perfectly, presenting a wall clothed with a gigantic growth of maidenhair fern, for such is its proper suggestion to the mind of the observant lover of plants. A special and peculiar feature is a great screen constructed expressly to hide some edifices that are not exactly ornamental. The screen is a block of artificial Gothic ruin, clothed with ivy, and is probably a copy of a portion of some such edifice as that of Tintern. In any case it is an admirable piece of work, and is as useful as it is beautiful, serving the two-fold purpose of a fruit room and a screen, while, as regards its appearance, it compels admiration while it excludes a view of things that might offend.

WILSON JUNIOR BLACKBERRY.

The subjoined few facts concerning the above will, we think, be of interest to many of your readers: In spring, 1885, one of our foremen took it into his head to pot a few of the Wilson Junior blackberries which had just then arrived. As he left soon after, they were, it appears, put into an out-of-the-way place outside, and up to a couple of months ago received no further attention than an occasional watering. About the time just mentioned their vigorous action attracted our attention. But even then the only thing done was to bring them out of their cramped position and allow them room in a cold house, simply seeing that they did not flag for want of water—our idea being to see how the variety would act as a pot plant.

The result has been as follows: About the middle of June many of the fruit were not only fine in size, but jet black as well; and by the third week were ripe! At time of writing (July 5th) they are quite a sight. We shall be pleased to show to any horticulturist who may happen to be in the neighbourhood what we think is not often seen in this country, viz., magnificent blackberries early in July!

This incident has given us a wrinkle which, we think, will be well worth the attention not only of those private growers who would delight in having this splendid fruit at dessert during the hot summer months, but also of market growers; and that is, if this variety is grown in pots and sent to market in June, July, and August—in fact, until the outside Wilson Junior is ready—such a course is sure to pay uncommonly well. The labour is of the very simplest (thus entailing scarcely any of the expense attached to pot fruit in general), and then the fruit is large, unusually handsome, produced in great abundance; and, as any Covent Garden or other fruit salesman will acknowledge, fine blackberries will always readily command first-class prices. In fact, as but evident, with some in pots for very earliest use, followed by others planted on a very early warm border outside, after these the ordinary crop, and, lastly, a few with a north aspect, blackberries could be gathered from early in June (if not before, for it must be remembered that our plants, of which we now write, did not receive, until two months ago, any of the attention, position, &c., necessary to what would come under the appellation of "orchard house culture") to, say, end of November. And, as before mentioned, there is no fear of this family becoming a glut in the market, like other popular fruit, for many years yet.

We should, perhaps, further mention, for the edification of those who have the later and much more tender variety, Kittatinny, that a couple of plants of this also had exactly the same treatment, but the disparity is at once to be seen; it (the Kittatinny) is only just commencing to colour, and, instead of growing "stocky" and of pyramidal form, like the Wilson Junior, it appears to be of a thin and delicate nature, not nearly so prolific, besides showing that terrible disease "rust," which marks this old and infirm variety as likely to prove a heavy pecuniary loss to any planter who, in growing blackberries, would trust to this once fine but now failing variety. A "Lawton," it seems, was also planted, but being such a late variety appears to be "nowhere" in the race.

Leicester. Viccars Collyer and Co.

The Stealing of Garden Flowers is a common offence, and one of the least pardonable (that is, if any theft is pardonable), because the stolen goods are usually destroyed in the process, and therefore, though stolen, cannot be appropriated. A man who steals a loaf may find it useful to feed his starving children, but when plants have been pulled out of the ground they are, generally speaking, utterly useless, and even, if planted again, rarely recover in time to make any further display of their flowers. Complaints reach us often of losses by theft, the writers hoping we may be enabled to indicate some method of preventing the repetition of the offence, or of discovering the offenders. We can do nothing more than everyone can do for himself, and therefore it is mere waste of time to come to us for help. We are now asked to assist the authorities at Seaford, where the cemetery is frequently despoiled by sacrilegious hands, but we can do no more than refer our friends to the local police.

Law.

GARTENBAU.

It may be allowable to employ the fresh German tongue when the English tongue is in a pickle. Here is a case requiring to be reported, but we do not clearly perceive how it should be entitled. As the garden is the scene of the contention demanding the exercise of the strong arm of the law, we head the report with "Gartenbau," but the report will show that it is more of a garden-bow-wow, with a tale appended. Without looking to the rights of the row with the bow-wow, we avow partizanship for the plaintiff, because the Lennoxes have always been partizans of gartenbau, and deep as the rolling Zuyder Zee in their sympathy for horticulture. It will be seen that a Lennox can "shy a brick," and if it happens to be a piece of coal it is all the same thing; for a colonel may launch a missile at an offending dog, or put his foot upon a pretentious puppy. But here is the tale which was not told (as it should have been) at Barking, but in the Westminster Police Court. Mr. James Gregson Chapman, gentleman, of 11, Elm Park Gardens, Chelsea, appeared to a summons before Mr. D'Eyncourt, charging him with assaulting Colonel Sussex William Lennox. Mr. Beven, barrister, appeared for the defendant. Colonel Lennox stated that he resided at 23, Elm Park Gardens, and the inhabitants of the houses abutting on the park enclosure had a common use of the grounds. He had taken part as chairman of a committee in framing regulations and rules for the conduct of the enclosure, and the defendant seemed to have taken umbrage in consequence, and on one occasion harangued him while seated at his garden window. On the night of the 6th inst. his dogs, a collie and a fox terrier, ran in the direction of Mrs. Chapman's dog, and the lady afterwards came up in an excited manner and said he had behaved in a most ungentlemanly manner by setting his dog on hers. He raised his hat and retorted that he had done nothing of the sort. She repeated the objectionable remark, and he then turned aside and resumed his conversation with his friend and guest, Dr. Rupprecht, of Nuremberg. A few moments elapsed and the defendant came towards him in a rage, called him a blackguard, and asserted that he had insulted his wife. Mr. Chapman followed this up by striking him twice. His hat was knocked off and he received a blow in the face. All he did was to seize the defendant's wrist to prevent further violence. In cross-examination, Colonel Lennox said that he had had differences with Mr. Chapman since their residence in Elm Park Gardens. He was sorry to say that he knew Mrs. Chapman's two dogs because they destroyed his garden. He had tried to drive them away and should not wonder if he had thrown a piece of coal at them. There was a rule made that no dogs should be permitted in the garden enclosure, but as it had been ignored by other householders he had intimated to the committee that he could not consider himself bound by it. He remembered one particular occasion when Mrs. Chapman walked across the lawn tennis ground with her dogs. Mr. Beven: You swore at them, I think? Witness: No; I think I said, "There are those confounded little curs again." I might have used a stronger term. Mr. D'Eyncourt said he did not object to examination which might show some motive for a grievance, but he could not regard all these questions as relevant. Mr. Beven observed that he could not possibly justify the assault, but he asked for a nominal fine, the blow given being the outcome of anger at the long-continued annoyance. In reply to further questions, Colonel Lennox said his collie dog did not shake Mrs. Chapman's little animal. He could not say whether she was greatly upset and agitated. Other evidence was called which established the complainant's case, and the defendant said he was sorry now for what occurred, and he could not deny that he pushed or knocked Colonel Lennox on the flat of his back, a fact which he had not himself deposed to although it was mentioned by other witnesses. Mr. D'Eyncourt observed that this did not improve matters. He thought there might have been an apology and a compromise. So far as he could judge Colonel Lennox had behaved as a gentleman and was not to blame in the slightest degree. It was a very gross assault, and he should fine the defendant the full penalty of £5. In the *Times* of July 12 is an awful leader about dogs; it is likely to lead to their abolition. An insurrection in the Isle of Dogs may be announced with safety, because it is the only proper response to the dogmatism of the leading daily until it appears weakly.

RIGHT OF SURVEYOR OF HIGHWAYS TO DIG FOR GRAVEL OR STONE.

An interesting question came before the Queen's Bench Division on July 12, in the case of Hooper v. Hawkins. Clause 50 of the Highways Act, 5 and 6 W. 4., empowers magistrates to authorise the Surveyor of Highways to dig on any land (except in a wood, unless exceeding 100 acres in extent) to find gravel or stone to repair the highways with, making compensation to the owner for the gravel or stone taken. In the present case the magistrates had made an order that the surveyor might dig on 13 acres of a certain wood, not specifying where he was to dig. The order was resisted on the ground that the place was not a wood over 100 acres, but was a distinct and separate wood under 100 acres, so that the magistrates had no jurisdiction to make an order at all; and that at all events, if an order could be made at all it ought to specify the place where the digging should be, or that otherwise the surveyor might dig all over the 13 acres, whereas to dig a few yards would be sufficient. The magistrates, however, made the order, but stated a case.

Mr. Maloney appeared in support of the order.

Mr. Graham appeared against it, and cited "R. v. Manning" ("Burrows' Reports," 382) and a *dictum* of Baron Parke in "Tapsell v. Croskey" (7 "M. and W." 441) as showing that at least the order should specify the spot where the digging was to be.

The Court came to the conclusion that on this ground the order was bad, and must be set aside.

Mr. Justice Wills said this was the only point of law which was raised, the other was a mere question of fact, which must be left to the magistrates to decide. As to the point of law, however, it was serious, for 13 acres was a very considerable space, and it could hardly be necessary to dig all over it; and though it was said that the compensation could be claimed for stone or gravel taken, he was not sure that it could be claimed for the mere digging, though it might seriously damage the land. He thought that, upon principle and even without looking at the authorities cited, the magistrates could not give a kind of roving power to go anywhere over so large an area and dig at discretion, but that the order ought to specify a reasonable space in which the digging should take place. On that ground therefore, the order was bad.

Mr. Justice Grantham agreed, and expressed an opinion that it might be found that the other point was maintainable if, in fact, this was a separate wood under 100 acres. At all events, on the other point the order was bad.

DISTRIBUTION OF PLANTS TO THE FELLOWS OF THE ROYAL HORTICULTURAL SOCIETY.

The Council of R.H.S. have had under consideration the means by which their experimental garden at Chiswick may be rendered of increased utility to the Fellows of the Society. In former years plants were distributed by ballot, but on investigation the Council found the result was not satisfactory, as rare and valuable plants frequently fell into the hands of those who had not the proper appliances for their cultivation. After full consideration, the Council have determined, instead of balloting for plants as hitherto, to allow Fellows to select for themselves any which, being the property of the Society, the Council are enabled to distribute. Every application for plants must be in writing, and not more than one specimen of any variety or species can be supplied. A list of plants prepared for distribution during the present season is herewith submitted, from which Fellows are requested to select those which they may desire to cultivate.

PLANTS FOR DISTRIBUTION, 1886.

Ferns and Mosses.

1 Adiantum assimile.
2 ,, Bausei.
3 ,, Farleyense.
4 ,, hispidulum.
5 ,, mundulum.
6 ,, rhodophyllum.
7 ,, scutum.
8 ,, Victoriæ.
9 Doryopteris palmata.
10 Pteris serrulata.
11 Pteris serrulata cristata major.
12 ,, ,, tremula.
13 Selaginella ascendens.
14 ,, caulescens major.
15 ,, Kraussiana aurea.
16 ,, Martensi.
17 ,, Poulteri.
18 ,, stolonifera.
19 ,, viticulosa.

Palms.

20 Brahea filamentosa.
21 Corypha gebunga.
22 Latania borbonica.
23 Phœnix rupicola.
24 Seaforthia elegans.
25 Washingtonia robusta.

Orchids.

26 Aerides affine.
27 Cœlogyne cristata.
28 Dendrobium nobile.
29 Saccolabium ampullaceum.
30 ,, guttatum.

Stove, Greenhouse, and Bedding Plants.

31 Abutilon Thompsoni, fl. pl.
32 Acacias (various species).
33 Aralia Sieboldi.
34 Begonia Ascotensis.
35 ,, metallica.
36 ,, Rex (in variety).
37 ,, sanguinea.
38 ,, semperflorens rosea.
39 ,, tuberous rooted.
40 Caladium argyrites.
41 Camellias (seedlings).
42 Ceanothus Gloire de Versailles.
43 Chrysanthemum frutescens Halleri.
44 Cobœa scandens.
45 Coleus Ada Sentance.
46 ,, Ariel.
47 ,, Prince Bismarck.
48 Cordyline australis.
49 Curculigo recurvata.
50 Cyperus alternifolius variegatus.
51 Dahlias, single.
52 Diplacus glutinosus.
53 Dracænas (in variety).
54 Eranthemum aureum reticulatum.
55 Erica hyemalis.
56 Eucalyptus globulus.
57 ,, sp.
58 Medeola asparagoides.
59 Melaleuca hypericifolia.
60 Montbretia crocosmiæflora.
61 Pachyphyton bracteosum.
62 Pandanus Vandermeerschi.
63 Pelargoniums, Cape species (in variety).
64 ,, French decorative (in variety)
65 Saxifraga pyramidalis.
66 Tradescantia multicolor.
67 Veronica Lyalli.

Hardy Plants.

68 Aquilegias (in variety).
69 Arabis lucida.
70 ,, procurrens.
71 Arenaria purpurascens.
72 Aristotelia Macqui variegata.
73 Aubrietia violacea.
74 Campanula pyramidalis.
75 Carnation, The Coroner.
76 Convolvulus mauritanicus.
77 Cotoneaster congesta.
78 ,, Hookeræ.
79 Erigeron mucronatum.
80 Erysimum rupestre.
81 Genista tinctoria, fl. pl.
82 Helianthemum rosmarinifolium.
83 Iberis corifolia.
84 ,, gibraltarica.
85 ,, superba.
86 ,, Tenoreana.
87 Ivies (in variety).
88 Leontopodium alpinum (Edelweiss)
89 Leptinella dioica.
90 Lysimachia nummularia aurea.
91 Olearia Haasti.
92 Origanum Tourneforti.
93 Phlox setacea atropurpurea.
94 ,, ,, Nelsoni.
95 Potentilla (seedlings).
96 Primula rosea.
97 Pyrethrum roseum, double flowered.
98 ,, ,, single flowered.
99 Sagina saxatilis.
100 Saxifraga hypnoides.
101 ,, Wallacei.
102 Silene maritima, fl. pl.
103 Soldanella alpina.
104 Stachys coccinea.
105 Teucrium aureum.
106 Tiarella cordifolia.
107 Thymus bracteatus.
108 ,, carnosus.
109 Veronica Andersoni.
110 ,, ,, variegata.
111 ,, Traversi.
112 White Pink, Mrs. Sinkins.

An Amorous Nurseryman.—A Pwllheli nurseryman who has just been cast in damages for breach of promise has contributed some amusing novelties to amatory literature. His favourite mode of addressing the lady was "My dear little contract," and he subscribed himself "your contractor." The contractor has now to pay £100 for failing to complete his engagement; but, as he has been speculating heavily in raspberry jam, he may find it difficult to raise the money. Perhaps the lady will be merciful, and take the damages in kind. A girl with a dowry of a hundred pounds' worth of raspberry jam would be a sweetheart indeed.

Exhibitions and Meetings.

CHISWICK HORTICULTURAL SOCIETY, July 15.

The annual exhibition of this society was held on the above date in the Chiswick Gardens of R.H.S., when a highly satisfactory display of plants, flowers, and fruits was produced by the cultivators of the district. With but few exceptions the numerous plant classes were well filled; there was a bright display of cut flowers; and fruit was well represented. The most important feature was that formed by the groups, for those in competition for the prizes were supplemented by several attractive collections from nurserymen and others who take an interest in the work of the society.

Groups arranged for effect may well be regarded as forming one of the most important and attractive features of the show. In competition for the prizes in the class for groups occupying a space not exceeding one hundred square feet, Messrs. Hooper and Co., Covent Garden and Twickenham, were first with an exceedingly effective arrangement; Messrs. Fromow and Son, Chiswick, were second with a group arranged in a most tasteful manner; and Mr. W. Brown, St. Mary's Nursery, Richmond, was third. For a group not exceeding sixty square feet, Mr. Hudson, gardener to H. J. Atkinson, Esq., M.P., Gunnersbury House, Acton, was first with an arrangement evincing much taste; Mr. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill House, Ealing, was second; and Mr. E. H. Watts, Gunnersbury, was third. Mr. T. May, gardener to the Marquis of Bute, Chiswick House, and Mr. J. Roberts also contributed beautiful groups not for competition. Messrs. C. Lee and Son, Hammersmith and Hounslow, contributed to the miscellaneous class an interesting collection of hardy shrubs. The prizetakers in the special class for groups were Mr. T. Buckland, Mr. H. J. Lake, and Mr. E. H. Watts.

Plant Classes were mostly well filled, and the collections were such as to do credit to the cultural skill of the respective exhibitors. For six stove and greenhouse plants in bloom Mr. Bates, gardener to Mrs. Meek, Poulett Lodge, Twickenham, was first with a collection in which Dendrobium clavatum and Sobralia macrantha were especially well represented; Mr. E. W. Watts was second with a collection in which occurred a fine specimen of Stephanotis floribunda. Mr. Chadwick was successful in occupying the first place in the class for six plants with ornamental leafage, and Mr. H. G. Lake and Mr. W. Brown were second and third respectively. Caladiums and coleus were both well represented, and the chief prizetakers in the two classes provided for these subjects were Mr. E. H. Watts, Mr. Chadwick, Mr. H. G. Lake, and Mr. C. Waite. Zonal pelargoniums made a bright display of colour, the principal collections being those from Mr. H. G. Lake, Mr. Chadwick, Mr. Garrod, Mr. Greenfield, and Mr. F. Milson. Capital collections of tuberous begonias were shown by Mr. Chadwick, Mr. E. H. Watts, and Mr. Hill, gardener to H. Little, Esq., Twickenham, and Mr. B. Hardy. Mr. W. Bates, Mr. C. Waite, and Mr. Hudson were the successful exhibitors in the class for table plants, and the awards for ferns were made in favour of Mr. Watts, Mr. Chadwick, and Mr. Lake.

Cut Flowers included several fine boxes of roses. For twenty-four roses Mr. W. Rumsey, Waltham Cross, Messrs. G. Bunyard and Co., and Mr. C. Turner, Slough, were the prizetakers; and for six roses Mr. Greenfield, Mr. Chadwick, and Mr. Milson were first, second, and third respectively. In the other classes for cut flowers the most successful of the numerous exhibitors were Messrs. Greenfield, Garrod, Hill, Stevens, Chard, Brown, Hudson, and Waite.

Fruit was plentiful, and on the whole of high quality. For a collection of six dishes Mr. W. Bates was first. The most successful exhibitors of grapes were Mr. F. Wilson, Mr. J. Coombs, Mr. W. Bates, and Mr. Greenfield. Strawberries were well shown by Mr. Waite and Mr. Chadwick; and in the class for cherries, Mr. Hudson and Mr. F. Milson were the prizetakers in the order of their names. Good melons were contributed by Mr. Greenfield, Mr. T. Buckland, and Mr. J. H. Tomlinson.

Vegetables were strongly represented, and the competition in the several classes was very keen. Mr. C. J. Waite, Glenhurst, Esher, was first in the society's class for nine varieties, in Messrs. Sutton and Sons' class for six varieties, and in Messrs. J. Carter and Co.'s class for a similar number of varieties. The other successful competitors in the three classes were Mr. J. Coombs, Mr. C. Garrod, and Mr. A. Robins.

Bouquets and table decorations were so well shown as to constitute a very pleasing feature. Mrs. Hudson was first for three stands, staging remarkably tasteful arrangements. Miss Fromow had the premier award made in her favour in the class for a vase with an arrangement evincing much taste. Mr. Chard was first for three bouquets, and Miss Prewett occupied the first place in the class for a basket of flowers.

MANCHESTER ROSE SHOW, July 17.

Notwithstanding the severe strain imposed on rosarians by the National and other exhibitions held during the week, there was a strong muster of both trade and amateur cultivators in the gardens of the Manchester Botanical Society at Old Trafford on the above date, and immense numbers of finely-developed flowers were staged. In extent the show was about equal to the best of those held in previous years, and the show-house in which the blooms were arranged was filled to its utmost capacity. As regards the quality of the flowers, the exhibition was considered to be somewhat above the average, the dark varieties such as Charles Lefebvre, Horace Vernet, and Prince Camille de Rohan, to the development of which the weather had for some time previously been very favourable, being particularly good. There was a plentiful contribution of teas, which were rather fresher than those staged at Birmingham on the previous Thursday.

There was a keen contest for the honours in the trade class for seventy-two varieties, three trusses of each, and in the result the first prize was awarded to Mr. Frank Cant, Colchester, whose blooms were of large size, very fresh, and otherwise in first-class condition; Messrs. Cranston and Co., Hereford, were a close second with a collection of a high degree of excellence; Mr. B. R. Cant, Colchester, was third; and Messrs. F. and A. Dickson, Chester, were fourth. As the previous rose shows have been so fully reported in these pages, it is not necessary to enumerate the varieties forming the several collections, but it may be mentioned that, amongst other varieties made note of for their special excellence, were: Maurice Bernardin, E. Y. Teas, La Duchesse de Morny, Heinrich Schultheis, Francois Michelon, La France, Baroness Rothschild, Horace Vernet, Lady Mary Fitzwilliam, Elie Morel, Duke of Edinburgh, Countess of Oxford, Marquise de Castellane, Auguste Rigotard, and Reynolds Hole. The competition was equally severe in the class for thirty-six varieties, three trusses of each, and the blooms were very even in the several boxes. Mr. B. R. Cant was first with large, well-developed blooms; and the remaining prizes were awarded to Mr. F. Cant, Messrs. Cranston and Co., and Messrs. Paul and Son, Cheshunt, whose blooms differed but little in relative merit.

The contributions to the classes set apart for amateur cultivators were, as at previous exhibitions held this season, remarkably good, and compared most favourably with those from nurserymen. For thirty-six varieties, single trusses, T. B. Hall, Esq., Rock Ferry, Birkenhead, was first with a splendid box; Mr. W. J. Grant, Hope End Farm, Ledbury, was a close second with blooms evincing high class cultural skill; Rev. J. H. Pemberton, Havering, Romford, was third with large, finely formed flowers; and T. W. Girdlestone, Esq., Sunningdale, who was fourth, had a capital box. In the class for twelve triplets Mr. T. B. Hall was again first, with excellent blooms, closely followed by Rev. J. H. Pemberton for second place; Mr. S. P. Budd was third.

Tea-scented and noisettes were admirably shown, and the numerous boxes proved very attractive to the large body of visitors. Mr. G. Prince, Oxford, was successful in occupying the first place in the trade class for eighteen varieties, his blooms being of large size and high quality; Mr. B. R. Cant and Messrs. Paul and Son were second and third respectively, with good boxes. In the amateurs' class for twelve, Rev. J. H. Pemberton, Mr. T. B. Hall, and Mr. S. P. Budd were the prizetakers, in the order of their names.

Chief amongst the open classes was that for twelve roses introduced subsequent to 1883. Here Messrs. Paul and Son were first with blooms in better form than those usually shown in the class for new roses. Mr. R. B. Cant was second. The successful competitors in the class for velvety crimson roses were Mr. B. R. Cant, Messrs. Cranston and Co., and Mr. G. Prince, to whom also were awarded in the same order the prizes for crimson roses. In the class for white roses Messrs. Cranston and Co. occupied the first place; and Mr. G. Prince and Messrs. F. and A. Dickson were second and third; and in the class for yellow roses Mr. F. Cant and Mr. B. R. Cant were first and second respectively. Garden roses were well shown by Messrs. Paul and Son, Mr. G. Prince, and Messrs. Cranston and Co., to whom the prizes were awarded.

District grown roses were represented by good boxes from Mr. Tatham, Wilmslow, Mr. G. Burgess, Tabley, Mr. R. P. Gill, Ashton Mersey, Mr. T. D. Eaton, Horwich, Bolton, and Mr. J. Brown, Heaton Mersey, to whom the awards in the several classes were made.

MOULSEY AND HAMPTON COURT HORTICULTURAL SOCIETY, July 21.

The annual exhibition of this ably-managed and prosperous society was held in the beautiful grounds of East Moulsey Court on Wednesday, and evinced a great advance on the best of the shows held in previous years. The plant classes were better filled than on any former occasion, and the contributions of cut flowers, fruits and vegetables were so numerous as to necessitate a material increase in the tent room. With an increase in the quantity of the productions staged in competition for the prizes there was a decided improvement in their quality, and the several exhibitors are deserving of high praise for the excellent condition in which the various collections were staged. The arrangements were admirably carried out, and did credit to the administrative ability of the honorary secretary, Mr. H. Andrews, and to Mr. G. Masters, and other members of the executive.

Plants were well shown in the leading classes, and, tastefully arranged in the large tent, produced a good effect. There was a spirited contest in the class for six stove and greenhouse plants, and the post of honour was occupied by Mr. Reeves, gardener to W. Hewett, Esq., who had finely-flowered specimens of Clerodendron Balfouriana, Bougainvillea glabra, and other well-known subjects; Mr. Sutton, Ashley Park, Walton, was second; and Mr. Hackett, gardener to H. O'Hagan, Esq., was third. Five or six collections were contributed to the class for ornamental-leaved plants, and the awards were made to Mr. Turner, Mr. Hackett, and Mr. Hunt, in the order of their names. Mr. Hunt was successful in taking the premier award in the class for a single specimen plant in bloom, with a large, well-bloomed example of Eucharis amazonica; Mr. Hackett was a close second with a good specimen of Allamanda Hendersoni; and Mr. Tumpter was third with a nicely-flowered begonia. Zonal pelargoninms were presented in capital condition, the best collections being those from Mr. Hall, Mr. Hughes, Mr. Berridge, and Mr. Tumpter, to whom the principal prizes in the two classes were awarded. Fuchsias were presented in high-class condition, the specimens being large, very fresh, and densely flowered. Mr. Tumpter and Mr. Hughes were first and second for four specimens, and in the class for two standards these exhibitors changed places. The awards for a single specimen were made in favour of Mr. Hughes, Mr. Tumpter, and Mr. Berridge. The first prize for balsams was awarded to Mr. Woodfield, gardener to Sir Henry Thompson, Moulsey, whose plants were very dwarf and neat, and furnished with flowers of good quality. Gloxinias were presented in capital condition by Mr. Turner, Mr. Hackett, and Mr. Tumpter, and tuberous begonias were well shown by Mr. Hughes and Mr. Berridge. There was a spirited contest in the class for table plants, and in the result the awards were made in favour of Mr. Hunt, Mr. Hackett, and Mr. Berridge.

Groups were so numerous and good as to constitute one of the most important and attractive of the many good features. In the class for large groups Mr. Sutton was first with a tasteful arrangement; Mr. Reeves was a close second with a beautiful group; and Mr. Hackett was third. The successful competitors in the class for groups, in which the competition was limited to residents in the district, were Mr. Berry, gardener to T. Andrews, Esq., Mr. Turner, Mr. Keene, and Mr. Hughes.

Ferns and Selaginellas were well represented, the best collection of exotic ferns being shown by Mr. Hunt, gardener to Sir R. Carden, Mr. Turner, and Mr. Tumpter. The prizes for selaginellas were awarded to Mr. Hackett, Mr. Turner, and Mr. Tumpter, in the order of their names; and the first prize in the class for four hardy ferns was awarded to Mr. Tumpter.

Cut Flowers were plentiful and of a high degree of excellence throughout, the roses being particularly good. In the open class for twenty-four roses, Mr. Harvey, gardener to Captain Terry, was first with a very beautiful box of blooms; Mr. W. Taylor, Osborn's Nursery, Hampton, was second with flowers of excellent quality; and Mr. Hughes was third. For twelve Mr. Yeo, gardener to Miss Fitzroy, was first, with highly-developed flowers; and Mr. Smith, gardener to W. Burgess, Esq., and Mr. Goodall were second and third respectively. In the class for six the prizes were awarded to Mr. Smith, Mr. Beaver, and Mr. Tumpter. The collections of miscellaneous cut flowers were exceptionally good, and those from Mr. Hunt, Mr. Hackett, and Mr. Yeo, to whom the awards were made, differed but little in relative merit.

Fruit was contributed in immense quantities, and in a condition highly creditable to the respective exhibitors. For collections, the prizetakers were Mr. Bradford, Mr. Turner, and Mr. Major. In the classes for grapes Mr. Woodfield, Mr. Hunt, Mr. Turner, Mr. Hughes, and Mr. Hackett were the most successful. The first prizes for nectarines and peaches were awarded to Mr. Woodfield, and in the two classes for melons the awards were made in favour of Mr. Bradford, Mr. Woodfield, Mr. Turner, and Mr. Daws.

Vegetables were so largely shown as to require the greater part of two tents for their accommodation. Six or seven collections of twelve kinds were staged, the best being those from Mr. Woodfield, Mr. Daws, and Mr. Major. Mr. Turner, Mr. Yeo, and Mr. Farrant were the prizetakers in the society's class for six dishes, in which there were ten competitors. The competition was equally keen in the special class for six kinds, in which the prizes were presented by Mr. G. Masters, seedsman, Walton. The successful exhibitors were Mr. Hunt, Mr. Beaver, and Mr. Bradford. There was an immense display of potatoes, and in the class for six varieties Mr. Yeo was first with remarkably fine samples, Mr. Turner was second, and Mr. Hunt third.

Table Decorations and other arrangements of cut flowers were so numerous as to fill a spacious tent, and produced an exceedingly beautiful effect.

The judges were Mr. George, Mr. J. Puttick, and Mr. George Gordon.

THE LEAF AS A PHYSICAL STUDY.

By George Austen Bowen, M.D., Woodstock, Connecticut. Massachusetts Horticultural Society.

How utterly insignificant appears the leaf as among its myriads of fellows upon a lofty bough in summer it quivers with every breath of passing wind,—quivers and gyrates with an unending rhythmical motion, as though, impatient with its circumscribed life, it would gladly sever its connection with its parent twig and seek a position less obscure; or when, with the quickening breeze, life brightens, and it seems to frolic and laugh with its companions as they bow and flutter to its boisterous caress; or in those golden days of autumn when the air is hushed and still, as though fearful of breaking the charm that has cast its magic spell over all nature, and the view over fields and hills shows that softened hue so pleasing to the eye, and we see the leaf, now still and quiet, receive its long-anticipated freedom, and flutteringly fall in many a graceful circle to the dampened earth, to be again lost to thought and vision amid the multitude, piled many inches deep; or, again, when the searching and piercing wintry winds have routed it out from its obscurity, and with many a rude buffet sent it scurrying down the frozen street, playing with it for a moment in some sheltered corner, then carrying it high in air and toying with it an instant before carrying it away from vision, to be lost in some obscure place, there to silently moulder away and become a portion of this life-sustaining earth. So small a thing as a leaf, ruthlessly torn and strewn by the fingers of the thoughtless school-girl, or crushed beneath the tread of the dainty maiden as she saunters through the wooded by-way, unnoted because of multitude, of little interest to us because common,—this little leaf and its kindred must serve us for a theme to-day, and, if we study it well, we shall see that out of this infinitesimal comes a grand and glorious page of nature, resplendent with beauty, showing plan, purpose, and design, and results therefrom stupendous in magnitude.

Let us consider the leaf in that broad view adopted by the physiologist, who looks upon it as part of matter, having its functions to perform, and its relationship to other great creative powers of nature. The botanist must take the second position; and to him we will leave the details of classification and scientific arrangement, which, though important and absolutely necessary when we study it as scientists to unlock the secrets of nature, are unnecessary to our present purpose.

The word leaf is of Saxon origin, and means broad and flat,—just what the leaf is. It is a characteristic word of that strong and expressive language.

Before we have the leaf we have the bud, which consists of a brief cone-shaped axis with a tender growing point, bearing a protective covering of imbricated scales and incipient leaves. Within this bud the botanist will point out to us the rudimentary leaf and bud envelopes, and will classify with the greatest minuteness the various characters therein presented, and a day could be profitably spent with him in considering the vernation of the bud alone; but as physiologists we pass on.

During my lonesome drives in spring-time I have whiled away many weary hours, and shortened the miles, by noting the bud development of our native trees and shrubs. Nothing can be more satisfactory to the lover of nature than to witness this evidence of awakening vitality, for it tells him that the inclement season has passed, and that the beauties of the spring-time are at hand. The great swollen buds, with their varnished surfaces, can present to the thoughtful man a sermon of trust and immortality, more pregnant with everlasting truths than all the theological reasonings we hear from the pulpits.

The growing bud throws off its now useless scales, and we have the miniature leaf before us; tender in its fibre, delicate in its tracery of outline, and beautiful beyond the painter's art in its softened colouring. A few days of warm sunshine and balmy winds, and what a change has taken place upon the whole face of the country! Every shrub and tree is loaded with verdure; bleak woodlands are now delightful resorts, and the brown fields are transformed into seas of emerald; hundreds of thousands of tons of foliage have appeared—from whence?

Anatomically considered the leaf is a portion of the substance of the bark, expanded into a broad, thin plate by means of a woody framework, or skeleton, issuing from the inner part of the stem. This plate is called the lamina, or blade of the leaf, and consists of two parts, the framework and the parenchyma. The framework is made up from the branching vessels of the footstalks; which are woody tubes pervading the parenchyma, and carrying nourishment to every part. From the analogy of their functions these vessels are called veins. The parenchyma consists of two parts or strata, more or less distinct; arranged differently in different leaves according as their natural position is horizontal or vertical. Externally the leaf is covered with a layer of empty, united cells, mostly tubular, forming a superficial membrane called the epidermis, which is analogous to the cuticle that covers our own bodies. Its office in the leaf is to check evaporation. The surface of the parenchyma, immediately beneath the epidermis, is composed of one or two layers of oblong cells, placed perpendicularly to that surface, and more compact than the layer of cells beneath them, which constitutes the lower stratum, and which contains in addition, in common with the whole epidermis, the stomata, or mouths, which are little clefts through the epidermis, and are always placed over and communicate with the intercellular passages. These little openings are guarded by valves, which are supposed to regulate transpiration. The number of these mouths, or stomata, is simply astonishing. A single square inch of surface of the leaf of the common garden rhubarb contains 5,000, the garden iris 12,000, the pink 36,000, and the hydrangea 160,000. Note the immense number of them. We shall allude to this point further on. Our leaf is also provided with glands, which are cellular structures, serving to elaborate and hold the peculiar secretions of the plant, such as aromatic oils, resins, honey, poisons, &c. A gland may be merely an expanded cell at the summit or base of a hair, or it may be a peculiar cell under the epidermis, giving to the organ a punctate appearance, as in the leaf of the lemon. Other glands are compound, and are either external, as in the sundew, or internal reservoirs of secretions, as in the rind of the orange. Whatever their construction or position, they are important adjuncts to the legitimate office of the leaf.

The beautiful green of the leaf, so restful to the eye, is a waxy substance termed chlorophyl (*chloros*, green, and *phyllon*, a leaf). It is soluble in chloroform and ether, but insoluble in water, and floats in the fluid of the cells as minute granules. The light of the sun seems to be essential to its formation. Although found in vast abundance in the vegetable kingdom, hundreds of tons being everywhere about us, chemists can tell, or have told us, but very little about it. They have not yet ascertained its component elements, much less their relative proportions. They cannot tell whether it contains iron or nitrogen; they have only got so far that they can say it is never produced in the absence of compounds capable of supplying those elements. It is possible that it may contain more than one substance, or that the leaf green of all plants is not in every respect identical. Chlorophyl is found in those cells of plants where the absorption and decomposition of carbonic acid gas go on; with which characteristic process of vegetable life it is closely connected. Thus starch granules are formed in the midst of a complex material, to which the name of protoplasm is given, this formative material being dyed as it were with chlorophyl. It is then extremely probable that chlorophyl, under the sun's radiant energy, stands, in relation to carbonic acid gas which is decomposed by plants, in very much the same position of importance that hæmaglobin does to the gas of our own blood; showing that the principle called "life" in the vegetable kingdom is similar to that in the animal. Solutions of chlorophyl present a very fickle colour when viewed in different positions, being either bright green, opaque red, or vermillion.

A second colouring matter is also found, common alike to fruits and flowers; as in the leaves of the red cabbage, the skin of the grape, and in that majestic queen of the garden, the dahlia. It has passed at different times under various names; but now I believe colein is the term most generally accepted, from coleus, a genus of plants in many species of which it occurs abundantly. It is generally very irregular in distribution; and might be called one of the curiosities of the leaf, as it has no important office to fulfil. The chemist is full of information regarding this principle, and gives as its percentage composition,—carbon, 57.7; hydrogen, 4.7; oxygen, 37.6; making it identical with the colouring matter of red wine and most red, blue, and purple flowers and fruits, and with the red pigment of some of the varieties of the beech; for with ammonia it becomes violet, indigo, green, and yellow. May we not look for the cause of our brilliant autumn colours to these chemical changes? Colein is not to be confounded with that other colour material of plants, the well-known madder, so long used to dye the colour called Turkish red, which is a principle of the root and not the leaf,—at least it is not stored in the leaf as are the others.

These are dry facts, perhaps; but ever since my early school days I have noticed that the drier the fact the more solicitous some one appeared to be that I should learn it. It now seems to be my turn to present, or recall, a few dry facts to your minds.

Thus we have the leaf, beautiful in its design, elaborate in its construction, presenting the same general characters, whether grown on the land or in the water, and varying in size from the diminutive, almost microscopic, leaf to that of the renowned and gigantic *Victoria regia*, which, in the waters of its native Guiana, presents a surface of eight, twelve, or even fifteen feet in diameter. The attenuated leaves of the far northern forests, although excelled by the profuse unfolding of those of the tropics with their unending variety of form and colouring, and anomalies of structure and habit, give us nevertheless the same physiological conditions, which, briefly stated, are as follows, and are all included under the term aëration, or respiration, which is of the same vital importance in the vegetable world as it is in the animal:—

1. The absorption of carbonic acid ($C\ O_2$) from the air under the stimulating influence of the sun's light.
2. The absorption of oxygen (O) when the influence of the sun's light is obscured or removed.
3. The formation of carbonic acid by the union of the oxygen thus obtained with the free or nascent carbon already in the tissues.
4. The assimilation of carbonic acid from whatever source it may be derived, which process, under the sun's light, decomposes the carbonic acid, retaining the carbon; and
5. Eliminating the oxygen,—one of the greatest functions of the leaf.
6. The exhalation of carbonic acid when the sun's rays are obscured, or darkness prevains.
7. The reduction of the volume of sap by transpiration.

We see by this enumeration that there are two phases of respiration, seemingly directly opposed to each other, and evidently occasioned by the light and heat of the sun. Surely we ought to derive satisfaction from the thought that, as we till our fields during the intense heat of the summer, the sunlight that exhausts us is at the same time giving us more oxygen to breathe, and is storing up food for our future sustenance in the plant we cultivate. The thought will not render the toil less fatiguing, but the consolation comes from the knowledge that we get the upper hand of nature when we harvest the crop.

To understand the full office of the leaf we must know that the sap that flows so freely in the spring is largely composed of water absorbed by the roots of the plants. This water holds in solution minute quantities of gas and mineral salts, and adds thereto on its upward way dextrine and sugar, which it dissolves out of the cells as it comes in contact with them gaining in density as it nears the leaf. Within the leaf it parts with much of its water, having no longer a use therefor, receiving in its place carbon, and the digested juices acted upon by the chlorophyl, as it passes through the surface of the leaf; from thence, by means of the leaf-stalk, it passes into the cellular and woody tissues of the bark, and continues its downward passage, making deposits of food, first in the cells of the pith at the base of every incipient bud; then a copious store in the cambium region; giving also a good portion to the medullary rays, some to be carried outward to the cortical layer, and some inward for solidifying the wood; and lastly the richest portion is sent to the root,

every branch and fibre being filled. The return sap also contains nitrogen, to a limited extent, and minute portions of mineral matter. From this nitrogen are first organized the protein substances, analogous in composition to the living tissues of animals; and cellulose, the peculiar principle of vegetable tissue, having in it the exact elements of water, $C_{12} H_{10} O_{10}$. The action of chlorophyl upon this substance developes gum, sugar, and starch, which are nutritive products common to all plants, and are stored away for future use, as fat is stored away in our own and all animal systems. As examples we have sugar stored up in the root of the beet, and in the stalks of corn, sugar-cane, and sorghum; and starch in the tubers of the potato. These substances, with cellulose, are all composed of carbon, and the elements of water, often in identical proportions. Thus, cane sugar, $C_{12} H_{12} O_{12}$; grape sugar, $C_{12} H_{11} O_{11}$; gum, $C_{12} H_{10} O_{10}$; starch, $C_{12} H_{10} O_{10}$; cellulose, $C_{12} H_{10} O_{10}$. The ease with which these five general products of leaf elaboration are converted into one another, both in the growing plant and in the chemist's laboratory, is accounted for by the similarity of their chemical conditions. Thus, starch, gum, and cellulose may reconvert by some change in the arrangement of their constituent atoms, or they may become sugar by the addition of one or two atoms of water.

Thus we have the physiological action of the leaf, presenting to the scientific mind one of the most interesting pages of nature's hand-book. It is an interesting study, not alone because curious, but because it has had no little part to perform in rendering this world habitable for man. In a brief glance at its action in this connection we recognise its relationship to our soil, which we know to consist of two parts, the mineral and the organic. The mineral is but the disintegrated and pulverised rock, containing, to be sure, many ingredients that enter into the composition of plants, such as potassa, soda, silica, and the universal lime, all more or less soluble in water. But what would our soil be if this were all? It would be but a collection of rocky hills and sandy wastes, like the great Sahara. But, mingled with the mineral matter, we find the organic matter, which consists of the remains of former tribes of plants and animals, and the products of their decomposition, carbonic acid and ammonia. But, as the earth supported vegetable life before it did animal, we see the important place given to our little leaf; year after year, century after century, age after age, has the leaf gone on elaborating the juices of plants, extracting carbon from the air, and leaving, by the final decay that comes to all, its organism to the soil, making it such as we have it to-day, a life-supporting element, affording, in its tillage, the occupation of a large majority of civilised men.

But it is not the soil alone that has been created by the instrumentality of our hastily-surveyed leaf, for we find within its depths hidden stores of coal and petroleum, enough to last for centuries to come. From whence came they? What has our perishable leaf to do with the formation of coal? It placed it there. That is, it developed the gigantic pines, ferns, and lycopodiums from which it was composed, and in doing so may have had much to do with rendering our atmosphere respirable for animals. We are indebted to M. Brongniart for a very ingenious hypothesis which he has raised upon the fact that an increased quantity of carbon may, under peculiar circumstances, be assimilated by the leaf.* He supposes that, at the epoch of the growth of those enormous primeval forests which supplied the material of the coal formation, the atmosphere was highly charged with carbonic acid, as well as with humidity; and that from this source the ferns, lycopodiaceæ, and coniferæ of that era were enabled to attain their gigantic proportions. He imagines that they not only thus converted into organised products an immense amount of carbonic acid which had been previously liberated by some change in the mineral world, but that by removing it from the atmosphere they prepared the earth for the residence of a higher class of animals. It is now regarded by scientists as a fixed fact that the whole vast accumulation of carbon at present in the earth was at one time a component part of the atmosphere, and recent investigations and experiments justify the assertion of M. Brongniart. Five parts in ten thousand is the amount of carbonic acid now contained in our atmosphere, and this seems to be in general as much as plants require; but it is not at all improbable that in those early epochs a higher percentage may have existed, for we know by direct experiment that plants will thrive in an atmosphere of from five to eight per cent. of carbonic acid, provided they are supplied with strong sunlight; and we know that in those regions where a larger percentage does exist plants seem to thrive with increased vigour. Thus, in the Lake Solfatara, in Italy, where carbonic acid gas escapes from the bottom with such violence as to give the appearance of ebullition, floating islands are constantly being formed, which consist of confervæ and other simple cellular plants. The celebrated springs of Gottingen, which abound in carbonic acid, are another example; for there, also, we find the surrounding vegetation of increased luxuriance; appearing earlier in spring, and continuing later in autumn. So it may be that the leaf rendered our atmosphere respirable, as well as keeps it so to-day, by the removal of an ingredient so destructive to animal life.

Let us analyse this a little further. What do we mean by the statement that leaf action is keeping our atmosphere respirable to-day.

One of the great drawbacks or hindrances to rapid investigation in any of the natural sciences is the temptation to depart from the main line of study, and to search out the side questions; because nature is so complex in her structure that we cannot search one line far without finding it linked and interlinked with those which seem to be of equal, or even greater, importance. Keeping this in view, then, we will content ourselves with the simple statement of the phenomena of animal respiration, without going at all into its interesting details. In the act of respiration the animal absorbs oxygen from the air by means of the blood cells, or disks, which, so to speak, come in contact with it as it is spread out in the tissue of the lungs. At the same time that it absorbs its oxygen it liberates large quantities of carbonic acid gas. Vegetable respiration is the reverse of this: oxygen is eliminated, and carbonic acid gas received. Thus are the two kingdoms of the organic world dependent upon each other, the plant furnishing the oxygen that the animal consumes, and the animal the carbonic acid that the plant consumes. Is there not an evidence of reasoning and design, from some source, in this arrangement?

But the question that comes most pertinently home to us to-day is, How are we, as farmers and horticulturists, to derive any benefit from a knowledge of leaf physiology? How are our acres to be benefited thereby? Can we ensure better and larger crops? I answer, most assuredly, Yes, if we will systematically put in practice the ideas we gain from a study of our subject; not only individually, but collectively, for oftentimes if we would profit by Nature's laws we must enact State and national laws to harmonise with them.

* Carpenter's Principles of Comparative Physiology.

Let us take an example of the latter point. We have all of us suffered more or less from the effects of drought, and we hear much said in connection therewith regarding the preservation of our forests. The press of the country, both agricultural and general, is filled with it at times. The leading arguments seem to be that the dank, moist atmosphere of our woodlands is occasioned by the deep shade from the foliage preventing the sun's warm rays from penetrating and dispersing it by evaporation, and that the soil of woodlands is also protected from the parching effect of the sun's influence and from drying winds; consequently such soils prove to be reservoirs for water, and in time of drought will keep the streams well fed. Undoubtedly these views are correct, and forests do play important parts in lessening the injurious effects of drought; but to my mind there is a stronger reason yet why these leaf treasuries should be carefully guarded. We have seen that the surface of the leaf is abundantly supplied with mouths, or pores, for the transpiration of sap. Numerous experimenters have investigated this subject, and have placed on record many interesting facts connected therewith, which go to show that the quantity of pure water daily transpired is immense, and that forests make a damp atmosphere for miles around, simply from this transpired matter.

According to Hales, a cabbage presenting a surface of 2,736 square inches exhaled from day to day nineteen ounces, and on some days as high as twenty-five ounces, and these days of twelve hours only; a sunflower from twenty to thirty ounces, &c., long lists being given. According to Johnston, the English agricultural chemist, a field in crop to grain or grass will transpire from 3,000,000 to 5,000,000 pounds of water in its season's growth; an immense amount, we must all acknowledge. We know that a rainfall of one inch is equal to one hundred and one tons of water to the acre. At this ratio, could all this evaporated water be returned in the shape of rain, it would amount to an inch and a-half to two inches. If one acre of grass can give a result as wonderful as this, what will be the effect of large tracts devoted to forestry? In this connection we cannot but admire the silent workings of Nature, as, unseen and almost undetected, she carries on these stupendous operations.

The leaves of aquatic plants perform essentially the same offices as those which have their habitat upon the land, and there is reason for the belief that they in no small degree contribute to the purification of the waters wherein they grow, and of which, in many instances, both we and our cattle drink. When our various State legislatures are called upon to pass laws regarding the purification of streams, as in time they will be, and as is now being done in Connecticut, we shall hear more and know more of the action of the leaves of aquatic plants regarding this important office.

We see carbon extracted from the air through the leaf, and stored within the living tissues of plants—a process universal throughout the whole vegetable world. It is within our province as inquiring agriculturists to follow it still further, and learn of its action within the soil we cultivate; for it becomes incorporated with it, sooner or later, as organic matter, by the decay of vegetable growth. During the decay a portion of the matter escapes in the form of gas; the remainder undergoes a slow process of combustion, leaving the carbon as charcoal, in which form it always remains one of the most indestructible elements. The agricultural value of charcoal does not consist in the fact that it is a component of plants, but upon other offices of great importance which it performs. It makes the soil retentive of manures, because it is one of the greatest absorbents of gases known, receiving them not alone from the decaying matter of the soil, but from the air as well. Both air and water, in their circulation through a carbonaceous soil, readily part with their fertilizing gases to this greedily absorbing agent. It also gives power to the soil to absorb moisture, because it is itself an absorbent of water. We all know with what great rapidity peaty soils, which are simply carbonaceous soils, absorb moisture, and with what evident reluctance they part with it. Decayed vegetable matter darkens the soil, rendering it warmer; for we all know that a dark surface will absorb more of the sun's rays than a light one. A dark coat is warmer to our backs than a white one, although of the same weight and texture. The decay of vegetable matter is always accompanied by the evolution of heat—perhaps not sensible to our feelings, but the rootlets of the growing plant realize it and are quick to respond to it. Is there not food for reflection here? Is our little leaf to be despised when its changes and many influences are thus traced out? I think not, for it opens the whole theory of the application of manures, either of our barn-yard composts, or of the so-called commercial fertilizers.

Aside from its utility in agriculture, we can view carbon as a wonderful curiosity of nature, for in its universality of condition we find it varying from lamphlack, with its velvety softness, to the unyielding hardness of the brilliant diamond.

The grasses of the world, over six thousand species, or nearly one-sixth of all the flowering plants, can legitimately come within the subject of our inquiry, for they are leading crops in most sections. The principal point is that a leaf, when grown, never changes its form or size, and that when quickly grown its size is far larger than when its formation is slower. The leaves of grass follow this rule; hence would we have large grass we must grow it *quickly*, producing a large leaf, valuable not alone for itself, but because it also adds to the volume of the stem.

The fruit culturist will thoughtfully consider the subject of pruning in its relation to the proportionate capacity of the leaf to the plant and the fruit, and will guard his knife accordingly.

The anatomy of all leafy structures; the physiology depending thereon, including absorption and inhibition; the circulation of nutritive fluids; respiration, exhalation, nutrition or growth, secretion, the evolution of electricity and heat, and the chemistry of leaf action, should all be familiar ground to the agriculturist, for the leaf is the most important portion of the plant—the business portion, so to speak—and he who would grow his crop well must understand the relationship.

Putting aside its physiological history, and looking at it from a commercial point of view, we see grand and ever-increasing tests of its utility as supplying food or comfort to man. Beginning with our simple garden vegetables whose leaves are edible, we stray from one item to another with augmenting interest, for we find that our subject includes those leaves in vast abundance whose medicinal qualities restore our impaired functions—tea, the solace of old women, with the leaves of thirty-two different species used as substitutes, and as many more tried and rejected; and tobacco, that vile weed so universally used to soothe the petty and perplexing cares of man. Our little leaf stores up food in the form of grain, and grain we know forms the chief food of man, besides enabling him to get rich on "corners." It furnishes dyes soft and beautiful, and offers the artist subjects for his easel. The decorator copies it to beautify the interior of our homes; the architect refers to it as the first material used in constructing dwellings; and Holy Writ assures us that it was the first article used for clothing by the first human pair in the

earliest historic period. The geologist finds its impressions and petrifactions deeply buried within the ground, and infers much of earth's history therefrom; the botanist revels in its unending beauties, and lends his aid to the naturalist in solving the vexed problem of evolution; but to the physiologist alone are its gigantic labours in making this world habitable for man revealed.

Replies to Queries.

Harefield.—We can only recommend the use of sulphur in the old-fashioned way. It might be prudent to destroy the crop.

H.S.—You may water with the hose with perfect safety, but, of course, not when the temperature is at a maximum. Excess of light with lack of moisture will render cucumbers bitter; but they will bear much light without harm if not distressed in any other way.

Hardy Ferns.—W. J.—If the position is ready for their reception it will be much better to plant them out at once than to keep them in pots until the autumn. Planted at once they will, with due attention to the watering, become well established by the autumn, and be in the best possible condition for making a strong growth next season.

Pollywolly.—It is a crime against humanity and common sense to keep parrots without water. They may live, and, in fact, it is not easy to kill these birds. But what of that? They are not put into cages by good people to be subjected to torture. "They say" that parrots do not drink, but prudent people observe for themselves, and pay but little attention to what they say. Give your parrots water, and observe and reflect on what may happen.

Clematis.—G. H.—The examples of Clematis Jackmanni that are not growing so freely as in previous years have probably exhausted the soil, and require the assistance of a rich top dressing, or two or three liberal applications of liquid manure, which should be of a moderate degree of strength. A mulch of half rotted manure would be highly beneficial, but it is too unsightly to admit of its application to plants trained to walls of the dwelling houses, or occupying prominent positions. A dressing of some artificial fertilizer would afford them the desired assistance, and would be easy of application, and Clay's Fertilizer and Jensen's Fish Manure may be mentioned as being the most suitable. Apply sufficient to cover the surface to a depth of about one third of an inch, and then very lightly prick it into the border, but be careful not to stir the soil deep enough to injure the roots.

Violas.—S. M.—The best time for propagating violas depends upon the season in which they are required in flower. The plants required for spring bedding should be raised from cuttings struck early in July, and those for the embellishment of the flower garden during the summer season at the end of the month. The stock raised at the first of the two periods should be transferred to a nursery bed as soon as the plants are struck, and be bedded out at the middle or end of September. Those intended for summer flowering should be planted in a bed of soil in a frame, where they should remain until the spring. The following varieties comprise the best at present in cultivation: Acme, Archibald Grant, Ardwell Gem, Bullion, Chelsea Bell, Countess of Kintore, Crimson Gem, Goldfinder, Holyrood, King of the Bedders, Lutea grandiflora, Mrs. Gray, Purple Gem, Psyche, Sovereign, Vestal, Virginalis, and Yellow Boy.

Marguerites—S.S.—You will find the varieties of Chrysanthemum frutescens very useful in the decoration of the conservatory and for the supply of flowers for decorative purposes in a cut state. To ensure strong plants for flowering during the spring and the early part of the summer it is necessary to strike the cuttings in the course of the previous summer, and have them well established by the autumn. In growing them in pots under glass use a rather rich compost, consisting of turfy loam, well-rotted manure and sand, the manure to be employed in the proportion of one part to four parts of the loam. To cultivate them successfully in the open the plants must be strong and bushy when they are bedded out and have a sunny position. The soil in which they are planted must not be over rich, or they will produce an excess of leafage. The number of varieties is not large, and the best are Alice Crousse, Etoile d'Or, Frutescens, and Halleri maxima.

Epacris.—W. G. H.—The cultural requirements of the epacris can be explained in a very few words. In the cultivation of the epacris the chief points are to provide good fibrous peat and well drained pots, to water carefully, and to place them, when indoors, in a position in which they can enjoy uninterrupted light and a free circulation of air when the weather is such as to admit of the free ventilation of the structure. It is necessary to prune them annually, and this is done by cutting the shoots back, soon after the plants have flowered, to within half an inch or so of the base. Place in a pit, or other structure, where they can be kept rather close and warm, to assist them to break freely, and on the young shoots attaining a length of three-quarters of an inch shift into pots one size larger. The finest of the numerous varieties now in cultivation are the following: Ardentissima, Campanulata rubra grandiflora, Coccinea major, Eclipse, Hyacinthiflora candidissima, Hyacinthiflora carminata, Lady Alice Peel, Miniata splendens, Rosea elegans, Vesuvius, Waltoni.

Pansies.—W. Smith.—The chief difficulty with which cultivators in the southern and eastern counties have to contend is the dryness of the atmosphere during the early part of the summer, and very little can be done to overcome it. The most suitable place for pansies, whether in pots or planted out, is the north side of a rather tall hedge, as they are then screened from the sun, and at the same time enjoy a free circulation of air about them. The soil best adapted to the requirements of these flowers is one that is deep, friable, moderately rich, and well drained. Where the soil is very light a liberal addition of strong loam will be highly beneficial; and, on the contrary, soils that are naturally heavy should have incorporated with them drift sand, walk sweepings, or some other grit. Generally speaking, a liberal dressing of leafmould and manure in equal proportions and a deep stirring of the soil will be sufficient. Annual renewal of the stock from cuttings is necessary, and the young shoots that rise from the base should be selected. Take the cuttings in July or early in August, and insert them in pots or a bed either made up in a frame or on the north side of a wall. The soil in the beds should be well broken up, and the surface be covered with a thin layer of sand. Sprinkle the cuttings lightly once or twice a-day according to the weather, and as soon as struck plant the show and fancy varieties in a bed of soil made up in a cold frame, in which they can remain until February. If they are to be grown in pots, put them in three-inch pots when rooted and shift them into five or six inch pots at the end of January or early in February. As you purpose competing in classes for twenty-four, you should certainly grow not less than thirty-six varieties of each section. The under-mentioned are the best in their respective shades of colours, and are arranged in their order of merit. *Fancies.*—Mary Tate (Laird and Sons), W. Cuthbertson (Dobbie), Catherine Agnes (Dobbie), Miss Bliss (Downie and Laird), Evelyn Bruce (McComb), James Gardner (Downie and Laird), Mrs. Findlay (Samson), Mrs. T. McComb (McComb), Mrs. Jamieson (Downie and Laird), Mrs. G. P. Frame (Weir), Bob Montgomery (Paul), Craigforth (Brodie), Endymion (W. Dickson), Miss J. Orkney (Dobbie), Mrs. W. Stewart (Stewart), David Saunders (Paul), John Gold (Weir), Agnes Mitchell (Paul), Mrs. J. Stewart (Paul), Mrs. J. Downie (Sutherland), Mrs. Goodwin (Dobbie), Mrs. Storrie (Paul), Charlie Stansell (Stansell), Perfection (Dickson and Co.), Mrs. Barrie (Downie and Laird), Ruby (Laird and Sons), Mrs. Forrester (Downie and Laird), David Wallace (Stewart), Earl Beaconsfield (Samson), Mrs. Duncan (Robertson), Bessie Stewart (Paul), Maggie Wier (Frew), Mrs. Sword (Sutherland), Flora's Gem (Matheson), A. Macmillan (Dobbie), Robert Goodwin (Dobbie).

Show Flowers.—Dark Selfs.—Rev. J. Morrison (Taylor), D. Malcolm (Cuthbertson), Peter Lyle (Paul), Mauve Queen (Paul), Andrew Miller (Paul), Crosshill Gem, Harry Paul (Paul), Alexander Watt (Paul). White Selfs.—Mrs. Galloway (Paul), Mrs. Dobbie (Dobbie), Mrs. Cadzow (Dobbie), Mrs. Turnbull (Dobbie), Mrs. Goodall (Paul). Yellow Selfs.—Gomar (Ross), G. McMillan (Dobbie), William Crockart (Dobbie), Lizzie Stewart (Dickson and Co.), Golden Bee (Paul). White Grounds.—Mrs. J. G. Paul (Paul), Mrs. James Millar (Paul), Jessie Foote (Downie and Laird), Miss Ritchie (Dobbie), Miss Barr (Robertson), Jeanie Grieve (Dickson and Co.), Miss Meikle (Paul), Mrs. Stewart (Stewart), Miss Baird (Paul). Yellow Grounds.—D. Dalglish (Robertson), William Robin (Paul), J. B. Robertson (Robertson), Robert Pollock (Paul), Lizzie Bulloch (Sutherland), Lord F. Cavendish (Robertson), Thomas Ritchie (Robertson), Bailie Cochrane (Dickson), G. S. Veitch (White).

Literature.

Library of English Literature (Cassell), by Henry Morley, is hurrying to completion, and will be a valuable addition to the substantial library, and we hope the possessors may find time to "dip into it" frequently for intellectual refreshment. The part (42) now before us treats of the more important poetical works produced between 1590 and 1597, a category including the works of Shakspere, Drayton, Spenser, and Daniel. Mr. Morley has such a fine judgment of proportion, and so firm a grasp of his subject, that to find a fault in his work may be in the way of hypercriticism, but we feel strongly tempted to object *in extenso* to the copious quotations from Shakspere, for it should be assumed by all compilers that the reader has always near at hand the works of the immortal poet, and in his head a key to all references. In every selection of sonnets, we find many from the same source, and they block the way against others that are less known, and may with advantage to the general reader be hunted up, because the general reader cannot find them for himself.

Familiar Garden Flowers (Cassell) has reached the 89th part, and will be completed in a century. Mr. Hulme's figures in this number give us border pinks and sweet williams. In the description of the last-named the editor describes the raising of double varieties, of which, at present, there are very few in cultivation.

Doré Gallery (Cassell) has reached part 40, which contains: Saul and the Witch of Endor, the Indian Mother, the Valiant Charge of Don Quixote, the Dwelling of the Ogre, and the Creation of Birds.

Quentin Durward is the story now in progress in the sumptuous edition of the Waverley novels in course of publication by Messrs. Ward and Lock. The illustrations are beautiful, and the printing is perfect. This will make a grand library edition of "The Wizard of the North."

From Messrs. Ward and Lock we have received: *Amateur Work*, part 56, *Universal Instructor*, part 20; *Whiston's Josephus*, part 9; *Langhorne's Plutarch*, part 8; *Library of National Information*, part 20; *Popular Histories*, part 9; and *Sylvia's Home Journal*.

Ladies' Gazette of Fashion and *Ladies' Treasury* have special attractions for the angels of the house, but as they both contain interesting papers on subjects far away from fashion and folly, the fiends (who, of course, are of the male sex) will be permitted to scan their bright pages.

Markets.

COVENT GARDEN.

Fruit.		
Apricots ... per doz.	0s. 6d.	to 0s. 8d.
Cherries ... per lb.	0s. 3d.	,, 0s. 6d.
Figs ... per doz.	1s. 0d.	,, 2s. 0d.
Gooseberries ... per quart	0s. 2d.	,, 0s. 4d.
Grapes ... per lb.	1s. 6d.	,, 3s. 0d.
Lemons ... per case	15s. 0d.	,, 25s. 0d.
Melons ... each	1s. 0d.	,, 2s. 0d.
Peaches ... per doz.	2s. 0d.	,, 6s. 0d.
Pine-apples, English, per lb.	1s. 6d.	,, 2s. 0d.
Strawberries ... per lb.	0s. 4d.	,, 1s. 0d.

Vegetables.		
Artichokes, Globe, per dz.	2s. 0d.	to 3s. 0d.
Beans, French ... per lb.	0s. 4d.	,, 0s. 6d.
Beet ... per doz.	1s. 0d.	,, 2s. 0d.
Cabbages ... per doz.	1s. 6d.	,, 2s. 0d.
Carrots ... per bun.	0s. 4d.	,, 0s. 6d.
Cauliflowers ... per doz.	2s. 0d.	,, 3s. 0d.
Cucumbers ... each	0s. 4d.	,, 0s. 8d.
Endive ... per doz.	1s. 0d.	,, 1s. 6d.
Herbs ... per bunch	0s. 3d.	,, 0s. 4d.
Horse-radish ... per bun.	3s. 0d.	,, 4s. 0d.
Lettuces, Cabbage, per doz.	0s. 8d.	,, 1s. 0d.
Lettuce, Cos ... per doz.	0s. 9d.	,, 1s. 0d.
Mint, Green ... per bun.	0s. 3d.	,, 0s. 4d.
Mushrooms ... per basket	1s. 0d.	,, 1s. 6d.
Onions ... per bunch	0s. 4d.	,, 0s. 6d.
Parsley ... per bun.	0s. 3d.	,, 0s. 4d.
Peas ... per quart	1s. 0d.	,, 1s. 6d.
Radishes ... per doz. bunch	0s. 9d.	,, 1s. 0d.
Small Salading ... per pun.	0s. 3d.	,, 0s. 4d.
Spinach ... per bushel	2s. 6d.	,, 3s. 0d.
Tomatoes ... per lb.	0s. 6d.	,, 0s. 8d.
Turnips ... per bunch	0s. 4d.	,, 0s. 6d.

Cut Flowers.		
Bouvardias ... per bunch	0s. 6d.	to 1s. 0d.
Carnations, per doz. blms.	1s. 0d.	,, 1s. 6d.
Eucharis, per doz. blooms	2s. 0d.	,, 3s. 0d.
Gardenias, per doz. blooms	2s. 0d.	,, 3s. 0d.
Gladioli ... per doz. bun.	5s. 0d.	,, 7s. 6d.
Heliotropes, per doz. sprays	0s. 6d.	,, 0s. 8d.
Lapageria, per doz. blooms	1s. 0d.	,, 2s. 0d.
Lilies ... per doz. blooms	2s. 0d.	,, 3s. 0d.
Marguerites, per doz. bun.	3s. 0d.	,, 5s. 0d.
Mignonette, per doz. bun.	3s. 0d.	,, 5s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d.	,, 0s. 8d.
Pelargoniums, per doz. trusses	0s. 8d.	,, 1s. 0d.
Roses ... per doz. blms.	1s. 0d.	,, 1s. 6d.
Roses, Tea ... per doz. blms.	0s. 8d.	,, 1s. 0d.
Roses, Moss, per doz. bun.	4s. 0d.	,, 5s. 0d.
Stephanotis, per doz. sprays	1s. 0d.	,, 2s. 6d.
Stocks ... per doz. bun.	3s. 0d.	,, 4s. 0d.
Sweet Peas ... per doz. bun.	4s. 0d.	,, 5s. 0d.
Tropæolum ... per doz. bun.	1s. 0d.	,, 2s. 0d.
Tuberoses ... per doz.	0s. 6d.	,, 1s. 0d.

BOROUGH AND SPITALFIELDS.

Potatoes.		
Regents ... per ton	60s.	to 80s.
Magnum Bonum ... per ton	70s.	,, 80s.
Scotch Champion ... per ton	50s.	,, 65s.
Jersey Kidneys, New ... per cwt.	12s.	,, 14s.
Jersey Rounds, New ... per cwt.	8s.	,, 10s.
St. Malo Kidneys, New, per cwt.	9s.	,, 12s.
St. Malo Rounds, New, per cwt	7s.	,, 9s.
Lisbon Rounds ... per cwt.	6s.	,, 8s.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. Aftor.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
1	S	**6th Sunday after Trinity.**	4 25	6 5	7 46	6 0	8 25	2 18	2 42	11 43	—	63·2	Acrides roseum	Sylhet.	213
2	M	Battle of Sedan, 1870.	4 26	6 1	7 44	7 21	8 56	3 6	3 28	0 7	0 31	63·2	Brassia vorrucosa	Gautemala.	214
3	Tu	Bank of England founded, 1732.	4 28	5 57	7 42	8 42	9 27	3 53	4 16	0 53	1 18	63·2	Cattleya labiata	Brazil.	215
4	W	G. Canning died, 1827.	4 30	5 52	7 41	10 1	9 54	4 41	5 6	1 41	2 6	63·2	Cypripedium Sedoni	Gar. hyb.	216
5	Th	Lord Howe died, 1799. [burgh born, 1844.	4 31	5 46	7 40	11 17	10 21	5 28	5 51	2 31	2 53	63·1	Dendrobium chrysanthum	Nepal.	217
6	F	☽ First Quarter, 9h. 6m. after. Duke of Edin-	4 33	5 40	7 38	After.	10 52	6 14	6 38	3 16	3 39	63·1	Miltonia Moreliana	Brazil.	218
7	S	Queen Caroline died, 1821.	4 35	5 33	7 36	1 39	11 24	7 3	7 30	4 3	4 28	63·0	Stanhopea Shuttleworthi	Colombia.	219

MAIDENHEAD HORTICULTURAL SOCIETY.—The ANNUAL SHOW of this Society will be held in the grounds of BRAYWICK LODGE, MAIDENHEAD (by kind permission of J. Hibbert, Esq.), on THURSDAY, AUGUST 19, 1886. Entries close on Thursday, August 12th. Schedules and full particulars can be obtained on application to the Hon. Secretary, Mr. O. KING, Ray Park Cottage, Maidenhead.

READING HORTICULTURAL SOCIETY, 1886.—The SECOND SHOW will be held on WEDNESDAY, AUGUST 25. Schedules to be obtained of the Secretary, Mr. WM. SMITH, 97, London Street, Reading.

Exhibitions and Meetings for the Ensuing Week.

MONDAY, AUGUST 2.—WARWICK HORTICULTURAL SOCIETY.—Annual Exhibition.

MONDAY, AUGUST 2, AND TUESDAY, AUGUST 3.—NORTHAMPTONSHIRE HORTICULTURAL SOCIETY.—Annual Exhibition.

TUESDAY, AUGUST 3.—LEICESTER HORTICULTURAL SOCIETY.—Annual Exhibition.

TUESDAY, AUGUST 3.—OXFORD UNION CARNATION SOCIETY.—Annual Exhibition.

Auction Sale for the Ensuing Week.

FRIDAY, AUGUST 6.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London, E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, JULY 31, 1886.

CARNATIONS AND PICOTEES have now attained to a higher position in public esteem than they have ever enjoyed in this country since the far-off day when the "great Harwich" was adopted "as a president for the description of all the rest" and the "stript Sauadge," the "blew Hulo," and the "Grimelo or Prince" were regarded as types of the flowers required. Whether it is good for a flower to become fashionable we are not prepared to say, but as a matter of fact the carnation is fashionable, and its near relatives share with it the sunshine of the social world, being at once fashionable and popular flowers. The exhibition of the southern section of the National Carnation Society, at South Kensington, on Tuesday last, justified the expectations of the florists who, believing this to be a carnation season, prognosticated a brilliant display at the first of the great exhibitions. Fortunately there were no politics about to distract delicate minds or make pretence of dividing honours. The Dianthus is a divine flower and glitters in the garlands of the gods; we may assign it to the care of Diana, who already has charge of the poppy and dittany, for a chaste goddess who loved Endymion may be trusted to keep watch over the flower of Jove as a part of her own family inheritance. As Diana and Proserpina are the same, according to Lempriere, there can be no harm in supposing that some very fine show carnations were "let fall from Dis's waggon" by the frightened goddess. The supposition brings Perdita near to us when she speaks of them as "the fairest flowers o' the season," and gives a reason for their exclusion from her garden; for that same reason is one of the best examples in the books of what may be termed a woman's logic. But let that pass; the world of fashion came to see carnations and picotees on Tuesday last, and was gratified. At Oxford on Tuesday next the world of learning will pay its respects to these flowers, for then Mr. E. S. Dodwell will secure for the Oxford Union of carnation cultivators a substantial and delightful triumph.

It seems proper to repeat that we do not know if it is good for a flower to be fashionable. Some of our readers, possibly all of our readers, may happen to know exactly this very matter, on which we profess (and feel inclined to boast) our ignorance. Fashions change; the favourite of to-day, whether a man, a horse, a feather, or a flower, may be rejected to-morrow, and *then?* As regards the man, rejection may be a serious matter, involving more dreadfulness than we dare to think of with the carnations before us; but as regards the flower, we incline to the belief that it can live and be loved, can fill its place in art, and in all that is of abiding interest to humanity, without any aid whatever from fashion. Not that we object in any way to the approbation of the representatives of passing propriety in dress, manners, and conversation; for it must be good for such sometimes to take note of the lilies how they grow and the carnations how they smell; but we find more comfort in the reflection that the noblest of the dianthus family are the flowers of the people, and in the heart of the great world they have a better home than in the superficial and uncertain regard of any section of society that adopts a "mode" as a toy for a season. These are hardy plants; the winters do not harm them—or, at all events, they are proof against all but the severest, and therefore the rarest, shocks—and the summer is usually bright enough to bring their flowers to perfection. But they have one special quality that, although "known" from time immemorial, has in reality but lately been "discovered," and that is their complete adaptability to thrive in town gardens where smoke and dust prevail, and the sunshine at its best is much adulterated by the prevailing impurities of the atmosphere. We repeat, as a matter of importance, that the fact of their peculiar suitability for gardens in smoky towns has but lately been discovered, and we assign full credit for the discovery to Mr. E. S. Dodwell, of Oxford, who, during a series of years, grew carnations, as few other men can grow them, in a garden overlooking the Wandsworth Road Station of the South-Western Railway, where, throughout the round of twenty-four hours, Sundays and week-days alike, the "blacks" are showered abroad in darkening clouds by an endless succession of locomotive engines. Our report on Messrs. Veitch and Son's display illustrates the fact in another way, and innumerable illustrations of less magnitude may be discovered by those who desire them. But Mr. Dodwell's triumphs at Wandsworth Road surpass all other such experiences, because of the exceeding badness of the conditions and the exceeding splendour of the flowers.

It is a point of high importance that all the more refined exhibition varieties of carnations and picotees are good border plants, and, in the broadest sense of the term, adapted for the English garden. A few of the more delicate of the wire-edged and yellow-ground picotees may perhaps look a little dull amidst London smoke, but the exceptions in this great family of lovely flowers are of no greater moment than in many other much-valued groups of accommodating plants. There appears to prevail an injurious and, in some instances, unpardonable misconception on this point, for people who should know better are given to preach the doctrine that the border flowers are necessarily of inferior quality. We repeat that a very large proportion of the finest varieties may be grown to perfection in the borders of a town garden, and if proof be wanting it may now be found in Messrs. Veitch and Sons' Nurseries at Chelsea, where a very extensive collection of named varieties show their best colours and delight the sense with the fine old-fashioned spicy carnation fragrance.

It may be expected that the founder of the Oxford Union will present some of his flowers at the exhibition announced for Tuesday next, and in the event of his doing so we may safely promise and premise that they will be models of perfection. It is of larger importance,

perhaps, that the secrets of success are not locked up in Mr. Dodwell's head, to be demonstrated only in results at exhibitions, for he has deliberately placed on record a categorical statement of the few and simple measures requisite to success in this interesting department of floriculture. We cannot do a better thing for our readers while the carnations are conspicuous in the floral firmanent than to recommend perusal of his book,* which may be obtained at the cost of a few shillings, and will be found to contain a practical answer to any and every question of importance that may arise in connection with the cultivation of these flowers.

It is a point of some importance that the author of this book is not only a florist of the first order, but an experienced penman also, and quite at home in such a task as teaching the first principles of flower culture in terms that all may understand. Every branch of the fascinating subject obtains ample attention in a volume extending to only 136 pages, which may be committed to memory with advantage, and, certainly, for its method and directness, should be included in tests for an "exam" whenever floriculture shall acquire such a position as to form a department of systematic education in horticulture. Amongst the smaller books that treat of special subjects this is conspicuous by its goodness, while we regret to say not a few others are conspicuous by their badness. In due time it will acquire historical value, for it is the first of its kind by a master of the subject, its predecessors being defective in many particulars, while all are defective in respect of the properties of the flower, for the sufficient reason that it is only within recent years the form and proportions have been brought near to the true standard of floral perfection.

Mr. C. Turner has been engaged as gardener by D. Brimslow, Esq., Bitteswell Hall, Lutterworth.

Mr. J. Smythe has been engaged as gardener at Bistern Park, Ringwood, the residence of J. Mills, Esq.

Mr. F. Bray, late foreman at Sulby Hall, Rugby, has been appointed gardener to the Duchess Dowager of Abercorn, Coates Castle, Pulborough.

Parliament is announced to meet August 5. But there will be no surprise felt should the date of meeting be postponed, for political affairs are inchoate for the present.

Northern Section of National Carnation and Picotee Society will hold its annual exhibition in Royal Botanic Gardens, Manchester, Saturday, August 14.

Gardeners' Chronicle Prizes (Essay on functions of roots) were competed for by sixty-two persons, and editor of G.C. informs us that all the essays were respectable, and a goodly proportion of them excellent. The first prize essay is to be published shortly. The facts are creditable to all the parties, and, apart from business considerations, they are encouraging, as evidence of a healthy intellectual life in the great class to whom the invitation was especially addressed.

New Carnations and Picotees were presented in fair quantity, and in some cases of extraordinary quality, at the National Exhibition on Tuesday last. The most important contribution in respect of novelty was a box of twelve yellow-ground picotees from Mr. James Douglas; these, for size, style, finish, colour, were pronounced the finest lot of flowers of their class the experts present had ever seen, and they were the more interesting because all were seedlings.

The Volcanic Eruption of June 11 in the north island of New Zealand destroyed more than a hundred lives of men and women, and annihilated the celebrated scenery of the lake country with its wonderful terraces. From this time the mountains, lakes, and terraces have a purely historical existence; as matters of fact they have passed away, and a new interest attaches to representations of them, of which there are many beautiful examples in the Colonial and Indian Exhibition.

The Weather has followed the course anticipated in our note of July 10. The result is great benefit to the country in general, with but few and slight inconveniences to individuals. The barometer is now acquiring steadiness. St. Swithin appears satisfied; there is a prospect of a brilliant time for harvest, which, unfortunately, must be late, and may therefore be prejudiced by the weather breaking up too soon. For the present, at all events, the outlook is agreeable, and we can do very well without any more rain until October. But we should like just a little at the time of lifting potatoes, for they do not lift nicely when the ground is dusty.

Apparatus for Dealing With Vine Diseases.—Signor Grimaldi, Italian Minister for Agriculture, Industry, and Commerce, in consequence of the great success of the international competition of pumps and other apparatus for the treatment of parasites and noxious insects on vines, which was held at Conegliano, has given notice that a similar competition will take place at Udine next month, and requests for admission, accompanied by succinct descriptions of the apparatus to be exhibited, should be sent in to the committee by the 31st inst. Two gold medals, two silver, and two bronze will be given, one of the first being specially for the best apparatus for the application of lime water as a preventive of mildew.

* *The Carnation and Picotee; Essays and Papers* by E. S. Dodwell. Groombridge, London; and W. Bacon, Derby.

Memorial trees abound in the land, and their ages are known with sufficient accuracy to render them useful as guide posts in a systematic study of the growth of trees. Our esteemed correspondent H. M. C. suggests that the memorial trees dating back to the jubilee of King George III. should be measured and reported on. The proposal is full of possible usefulness. As regards the measuring, there are competent persons in every place where such trees exist, and the information desired could be best secured by their voluntary co-operation. Who will make a beginning in the interesting work?

A mysterious case of illness has come under our notice, and we have had the good fortune to effect a perfect cure with even less than the "half bottle" that was required to cure the man who was "cut in two in a saw pit." Ladies that love flowers may take warning from this case, which had a very serious aspect, the sufferers describing themselves as "drowsy, stupefied, headachy, and oppressed with a sense of nausea." The garden glowed with wonderful poppies, and quantities of these were cut to adorn the tables and sideboards, and the house was pervaded with the very unpleasant odour of the flowers. We prescribed complete abstinence from poppies within doors, and from that moment the pains ceased and health was restored.

Railway Rates.—Mr. John Stone, of Woodridings, Pinner, states: About ten days since a friend at Cambridge sent me two bushels of potatoes, value six shillings, to Pinner Station, London and North-Western Railway. When he left them at the station at Cambridge he was informed the carriage would be about two shillings and three pence. The label does not say per passenger train. On arrival (more than a week since) the station master at Pinner demanded seven shillings for carriage. I declined to pay it, and saw one of the chiefs at Euston, who promised me the matter should be inquired into. I am informed this morning that my potatoes will be sold by the company unless I pay the seven shillings."

PILLAR AND BOWER ROSES.

By J. C. Clarke.

I am very glad to see that you are directing the attention of your readers to the subject of pole roses, which are much neglected. One of the principal reasons why I consider growing roses on poles to be neglected is that many could grow the hardy pillar roses who have not a suitable soil for cultivating in a satisfactory manner the more delicate varieties that produce flowers of good form. This fact should be sufficient to convince anyone of the merits of the system. Then, again, the garden loses much of its attractiveness when these forms are absent, for as the illustration of a pole rose which you recently gave shows, they form a quite distinct feature and present a pleasing contrast to the ordinary forms. Therefore a reasonable number of either pillars or bowers in any garden is a distinct gain, because it opens up the way for an introduction of a very different class of roses.

If a judicious selection of the more hardy sorts of roses is made from sections other than those which are remarkable for their rampant growth a series of beautiful effects may be produced. In many sheltered gardens such attractive roses as Gloire de Dijon, Aimee Vibert, and Cheshunt Hybrid may be planted with safety. In all but the coldest districts of England these fine roses will do very well. To clothe pillars from six to eight feet high some of the hybrid perpetuals may be chosen, especially strong-growing kinds like Anna Alexieff, pink; Royal Standard, rose; Paul Jamain, dark crimson; Duke of Teck, bright red; Charles Rouillard, rose; Magna Charta, pink; Mons. Boncenne, purplish crimson. Many more than these might be named as suitable for the purpose. They must all be planted in deep holding soil, and if they are budded on the Manetti stock the point of union must be buried at least two inches below the surface.

With respect to the positions for pillar or bower roses no precise rules can be laid down, as gardens differ more or less in their general character. As the plants forming the bowers require but little space for their roots the bowers are often admissible in the kitchen garden, the most suitable positions being the junctions of walks. But they may be placed at intervals along walks of great length. In kitchen gardens where the borders skirting the principal walk are devoted to flowering plants both pillars and bowers may be freely used, and judiciously placed they will produce a charming effect. The climbing varieties may be trained over the bowers; and the hybrid perpetuals, supported by pillars, may be placed at intervals between them. These forms are also admissible in pleasure grounds when the sites are judiciously selected. Pillar roses, with their free growth, associate well with coniferous and other trees, and there are many other positions on grass where they are highly ornamental. I often wonder that people who can command space and means do not take to this phase of gardening more generally than they do, for roses are not the only plants suitable for training on pillars and bowers. There are clematis, honeysuckles, and jasmines, all of which are hardy and capable of being made attractive. But whether it be roses or any other class of plants that are to be dealt with in this way a good beginning must be made, or the end will not be satisfactory. The cultivator must begin with a suitable soil, or the growth will be slow and weak, and then the flowers will be small and few in number. I do not want to make it appear that a new soil must be provided in every case. It will not, indeed, be necessary except in a very few instances, but I must impress upon the reader the importance of trenching up the stations, which should be three feet in diameter, to a depth of two feet, and if there should be any part of the soil of an unsuitable character it must be taken away and replaced with fresh. In nearly all cases it will be advisable to put a barrow load of good farmyard manure to each station, and incorporate

it with the soil at various depths. It is also necessary to make the places ready at least two months before the time of planting, to allow the soil time to sink down to its proper level.

To form pillars there are no better supports than larch poles. The top of a moderately large tree let into the ground about two feet deep, and the soil well rammed to keep it firm, will last many years. Rustic-looking oak poles are also suitable for supporting pillar roses.

Bowers are sometimes formed with iron supports, which, of course, are durable and neat in appearance, but when the surroundings admit of it there is nothing so pleasing to the eye as a good rustic wood bower, if it is not too heavy in appearance. In many cases there is a disposition to use too much timber. A suitable number of uprights there must be, but the number of cross pieces may in some cases be advantageously reduced one-half. The end of February is the best time to plant roses of this class that are to be turned out of pots, but they must not be kept under glass up to the time of planting. The best way to deal with them is to plunge the pots to their rims in some sheltered corner out of doors for a few weeks before planting time. Strong plants with long branches and plenty of roots, that are taken from the open ground, may be planted in November. If they are small and weakly, and growing in pots, they had better be kept in a cold frame until the middle of May, and then be planted out. Newly-planted roses are liable to suffer for the want of root moisture the first year if the weather should be dry. It is therefore necessary to see that they are supplied with water as often as the soil about the roots becomes dry.

CARNATIONS AND PICOTEES AT CLAPHAM.

Calling upon Mr. Martin Rowan, of Manor Street, Clapham, the middle of last week, I was delighted to see his carnations and picotees in good condition, with a fine head of bloom. Had the South Kensington Carnation and Picotee Show been fixed a week earlier it would perhaps have suited Mr. Rowan better, but he has some good blooms, and I think will give a good account of himself when he exhibits. That Mr. Rowan grows at a great disadvantage must be admitted; his garden at the rear of his residence in Manor Street is a narrow one, and there are high trees near, which operate to obscure light and air—two essentials to the successful culture of the carnation and picotee. His plants, consisting of about 250 pots, are arranged upon a homely stage running the length of his garden. Some good-sized flower-pots are inverted upon heaps of soil, and on these some boards are laid, wide enough to take four lines of pots running lengthwise; four feet or so above his pots is a light framework resting upon uprights, over which is spread a covering of something like white duck or bleached holland, hanging down some twelve inches on either side, sufficient to shade the flowers from the sun and rain, but not in any way impeding a free circulation of air. The conditions of situation and climate are all in favour of an early bloom at Clapham. I daresay July 20 is the average date when Mr. Rowan has his first bloom in the best form, and it is when the flowers are at that stage that a grower likes best to exhibit; but Mr. Rowan gets good succession flowers, and he has some late varieties, carrying on the succession until the second week in August, perhaps. He has what may be termed a select collection—say, some fifty of the best sorts. He grows them well in spite of his surroundings, and I am sure must get from his bed a vast deal of enjoyment. He is a thorough amateur, leaving his home in the morning and returning to it at night, giving all his spare hours to his carnations and picotees, helped by his wife and little son, both of whom are keen florists, Master Rowan showing a wonderful knowledge of the various varieties for one so young. Layering and potting has to be done at odd hours, and there being no outhouse the latter has to be done within doors; but what enthusiastic florist was ever deterred by considerations of this character.

In looking over the collection I set down some of the leading varieties as they came in view, but group them in the various classes for the sake of reference. The first flower I noted was Purple Flake Florence Nightingale (Sealey), a beautiful flower, perhaps one of the best of its class; the rich deep purple being in such marked contrast with the white ground, and both laid upon such finely-formed petals. Sarah Payne, a sport from the Pink and Purple Bizarre bearing this name, comes poor here, but it is occasionally very fine with Mr. Dodwell; but as it cannot be depended upon as constant it has wisely not received another name. This sport originated with Mr. Dodwell about seven years ago. James Douglas (Simonite) is a fine flower, rather early, but when good really first-class. Squire Whithourn comes occasionally very fine at Clapham, the white pure, with flakes of bright clear purple, but it is a variable variety. George Melville (Dodwell) is a P.-F. of excellent quality, large, smooth, and finely marked. And here is old Squire Meynell (Brahhin) which first bloomed about 1832, and which has been well termed a "veritable patriarch of carnations"; it is the oldest variety in cultivation, and the best testimony to its quality and usefulness is in the fact that it has been grown for upwards of half a century; it has a good petal, fine white ground and rich colour. Of Scarlet Flakes there are Clipper (Fletcher), a fine variety, good in petal, pure white and brilliant scarlet flake; Annihilator (Jackson), a fine variety, but said to be difficult to propagate, being hard in its growth and unkind in rooting, besides being also of a somewhat sportive character; Henry Cannell (Dodwell) is a fine variety; and Scarlet Keet (Dodwell) is a seedling from R. F. John Keet, which it closely resembles in all other respects but that of colour.

Among Rose Flakes Miss Erskine Wemyss (Dodwell) takes high rank; it is admirably flaked with soft rose. John Keet (Whitehead) is at Clapham a decided beat upon Holmes Sybil, which is saying a great deal; the flowers are large in size, of fine form, and good substance, and richly marked with through stripes. Mrs. Gawn (Dodwell) is a charming flower, and so is Dolly Varden (Dodwell); it is of great refinement and of fine form; can be depended upon; rather late in blooming. Jessica (Turner), a beautiful, full-sized, well-marked, and well-formed flower, at one time thought to be too much like Sybil, but now known to be quite distinct; it is extra fine. Rob Roy (Gorton) is a delightful variety, raised from some of Mr. Dodwell's seed by Mr. R. Gorton, of Eccles, and is of decided merit.

Of Bizarres Mr. Rowan has excellent blooms of the following scarlet bizarres: Arthur Medhurst (Dodwell), considered one of the best for its fine quality and rich marking. George (Dodwell), regarded by Mr. Rowan as the best scarlet bizarre grown; very fine in petal, rich in colour, and handsomely marked on a pure white ground. Robert Lord (Dodwell), finely marked. Admiral Curzon (Easone), a grand flower, over forty years old; always to the front, indeed quite seven times in ten the best flower of the exhibition; it was first bloomed in 1884, and was sent out in 1885. This is what Mr. Dodwell says of it: "It has a beautifully-shaped petal, smooth, gently cupped, and of good substance, though from the size and number of the centre petals it requires the aid of a card in blooming. Its colours are rich, bright, well delineated, and strongly contrasted. Its outline is as unbroken as any flower I have ever cultivated, and its form, when skilfully dressed, good. It is of medium size and a good grower, and generally produces abundance of pollen, but rarely bears seed unless fertilized. When fairly started, during the swelling of the buds, an occasional dose of clear weak manure water will add to the lustre of its colours and the size of its flowers; but it must be understood this is never given to weakly plants." Admiral Curzon colours finely at Clapham.

I should have said that Arthur Medhurst is very fine this year at Clapham, the marking very rich on a white ground, and it is not often Mr. Rowan is able to have it so fine. On the other hand, Hextall's Mars is not good this season; it has a faulty white ground, and it is plainly apparent in Mr. Rowan's blooms.

Of crimson bizarres there are Master Fred (Dodwell), a good flower, but the petals a little rough; John Laing (Dodwell), a promising flower; Harrison Weir (Dodwell), a fine variety; and Black Prince (Dodwell), finely coloured, having black markings on a pure white ground. Of pink and purple bizarres, the following: William Skirving (Gorton), a large flower of good quality, raised from the same lot of seed which produced P. F. Rob Roy and Mrs. Anstiss (Dodwell), very fine and a good grower.

Coming now to the picotees, the following were in fine character—Red edged: Thomas William (Flowdy), fine broad petal, with a wire edge of bright red; J. B. Bryant (Ingram), of grand form and full size, heavy edge, very fine at Clapham, and quite pure in the ground; Brunette (Kirtland), a showy and useful variety with a heavy edge; John Smith (Bower), a beautiful variety, heavy edge, one of the best of its class, a flower that appears better suited to the north than to the south; Dr. Epps (Smith), white ground, with a striking heavy edge, bright and effective; Mr. Dodwell (Turner), a variety sent out in 1854, and probably one of the oldest picotees grown, finely-formed petal, and very distinct marginal colour of red, at times a little deficient in petals; and Violet Douglas (Simonite), an early bloomer, pure white ground, good petal, and a distinct wire edge of bright red. Purple edged: Clara Penson (Willmer), a variety with a grand petal, but requiring good cultivation to bring it to a high state of excellence, a good grower, and blooming fairly early; Muriel (Hewitt) is a heavy purple and probably one of the very best in the division, not a strong grower, and should be well cultivated; The Hon. Mrs. Duherley (Wood and Ingram), a new and promising light-edged variety; Jessie (Turner), a good useful variety of fair size and quality; Mrs. Niven (Niven), a finely-marked heavy-edged flower of fine quality and an excellent grower; Mrs. Chancellor (Turner), a large full flower, heavily edged with bright purple; Alliance (Fellowes), also heavy edged, a desirable variety and a good grower; Alice (Lord), medium purple, a flower that comes with more marginal colour in the north than in the south, but always of good quality; and Minnie (Lord), light purple, a charming variety with a lovely white ground and distinct marginal colour.

Of the rose and scarlet-edged section there were a few charming flowers, such as Favourite (Liddington), with a lovely wire edge of rose, on a pure, finely-formed petal; Miss Wood (Wood), a useful flower and pleasing in the case of young blooms; Daisy (Dodwell), a charming variety, so light and pleasing; Miss Horner (Lord), a charming variety in some localities, but it does not come well at Clapham; Fanny Helen (Niven), medium edge, a beautiful and winsome flower; Constance Heron (Fellowes), having the broadest edge and the brightest colour of any of its class, and undoubtedly the best heavy rose edge; Nellie (Rudd), light scarlet edge, and capitally developed by Mr. Rowan; Edith Dombrain (Turner), regarded by Mr. Rowan as the best heavy scarlet edge, a little thin in point of petals, but a charming variety; Mrs. Payne (Fellowes), a good and inviting light rose edge; and Esther Minnie (Dodwell), heavy rose edge, a very promising flower, first rate, pure white ground, margined with bright rose.

A few selfs and fancies are grown by Mr. Rowan, and he is so charmed with some of the newer forms that it is his intention to grow more of them. Some of the leading sorts now in bloom are Mabel, Pride of Penshurst, a fine yellow; W. P. Milner, pure white; Mrs. Hyde, a seedling from the Bride, also pure white; Mrs. William Walters, white; Belle Halliday, a good yellow and a capital grower; Janira, cream, edged with dark red; Mrs. Page, Cleopatra, Polly Cheetham, pale yellow; Muriel, deep pink; Edith (Finlayson), yellow, good grower; and Mr. Arthur Medhurst, carmine, a good tree carnation that blooms late.

Are the choice varieties of the carnation and picotee hardy? some one may be disposed to ask. Undoubtedly they are. At Clapham Mr. Rowan has a quantity of named varieties that were planted out in the autumn, that stood the winter well, and are now blooming as early as those in pots. Undoubtedly the carnation and picotee are good plants for London suburban gardens, provided they can have some good yellow loam to grow in. I have found by experience that they are short lived in a light soil, but succeeded when I gave them some good loam, free of wire worm. But the plants should be renewed annually by means of layers or pipings—the former method of increase is to be preferred. Many old plants of carnations and picotees growing in the open ground were killed during the past two winters, while young plants passed through the winter unscathed. Old plants become somewhat exhausted, and succumb in the case of a hard winter, hence the importance of renewal. I have at the present time a number of fine seedlings in full bloom that I obtained from Mr. Dodwell last autumn. They have been in the open air since I received them. They are now in flower, and furnish a charming variety—two or three flaked flowers are highly promising. Mr. Dodwell blooms all his seedlings in the open ground, and any of promise are taken up and put into pots simply for the convenience of layering. Let there be no mistake about it—the carnation and picotee is a thoroughly hardy plant, but, like many others, cannot be expected to survive a hard winter if planted in uncongenial soil.

R. Dean.

QUEEN OF BEVERAGES.—Refreshing the weary, stimulating the inactive, soothing the invalid, cheering the social.—Pure Tea alone, by its intrinsic and excellent qualities, "pales the fire" of all other drinks.—*A cup of good tea* is always welcome, as proved by the fact that 6,000,000 (six million) packets of Horniman's Pure Tea are sold every year by 4,000 duly appointed Agents, *Chemists and Confectioners*. The description, if Black, Green, or Mixed Tea, also the retail price, is plainly printed on each packet, with the Importers' warranty that their tea is free from all adulteration. Some unscrupulous persons copy the labels, wrappers, &c., used by Messrs. Horniman, purchasers are therefore cautioned to *avoid spurious imitations*. See advertisements in all papers, and at the railway stations.—[Advt.]

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Azaleas must be trained into whatever shapes they are to have when in bloom, and the plants should be placed in a sunny position to ripen their wood.

Cinerarias to be potted off from stock suckers and offsets; prick off seedlings; suckers not rooted to be put in as cuttings round the sides of pots, where they will make roots in a week. Beware of slugs and woodlice, which are exceedingly fond of the young plants.

Conservatory to be kept gay by introducing a few specimen plants in good positions. Keep climbers regularly trimmed, and encourage the ripening of the wood of all hard-wooded plants, to ensure plenty of bloom next season.

Cyclamens require a long season of rest, and during the time they are in a dormant state should enjoy a cool, moist atmosphere. It is better to keep them in a greenhouse or pit in the resting season, as they are not so likely to be forgotten as when they are placed in the open. The compost for the annual repotting should consist of mellow turfy loam three parts, leafmould one part, rotten hothed manure one part, and silver sand one part. The corm should be placed deep enough in the pot to bring the crown about level with the rim.

Fuchsias struck now will make nice plants to bloom early next season. To keep beds in bloom remove the berries and shorten in any too vigorous growth; the side-buds will push and flower soon after.

Greenhouse Plants and greenhouse shrubs should be well hardened now, before going to their quarters for the winter. Let camellias and azaleas have plenty of sun and little water. Summer-struck geraniums, achimenes, and fuchsias may be had in bloom now, to keep up a display till Christmas. Shift forward all stock required to bloom early. Sow now, for decorating the house in early spring, Clarkia pulchella, Nemophila insignis, Erysimum Peroffskianum, Œnothera rosea, Collinsia bicolor, Veronica syriaca, and Chinese primroses. Whatever needs potting pot at once. Late shifts result in deaths during winter. All plants winter best when their pots are full of roots.

Heliotropes for Winter Flowering.—Strike cuttings at once; the following spring select the strongest plants and pot into five-inch pots, and as they grow pinch back the shoots most determinedly, to lay the foundation for well-shaped plants. In June pot into nine-inch pots, place out of doors, and frequently water overhead. By the beginning of September they will be good specimens to take in for flowering all the winter and spring. Old plants, if cut back and watered with liquid manure, will produce several crops of flowers during the season.

Hydrangeas are showy summer-flowering plants, and a few may be grown to assist in dressing vases, steps, or balconies. Very neat-flowering specimens, only six inches high, may be had by taking off the points of the strongest shoots in August, and inserting them in three-inch pots. Tie up their heavy leaves to a small stick; water freely, so as never to allow them to flag; place under bell glasses till struck. The following season they will each produce a large truss of flowers.

Pelargoniums should be turned out of their pots, and the old compost shaken off for repotting, but never until they have broken well, after having been cut down. Give plenty of drainage, and use as small pots as possible.

Plants in Flower comprise Agapanthus umbellatus, A. umbellatus albus, Cape Heaths, Begonias, Fuchsias, Hæmanthus albiflos, H. coccineus, Kalosanthes, Lantanas, Lapageria rosea, L. alba, Lilium auratum, L. speciosum, Nerine venusta, Nerium splendens, Phœnocoma prolifera, Pleroma elegans, Tremandra verticillata, Veronica Andersoni, V. imperialis, and Zonal Pelargoniums.

STOVE AND ORCHID HOUSE.

Stove Plants that have attained to specimen size and are in free growth must have attention now to secure perfect ripening of the wood before the season closes. Let everything have now as much sun as can be borne without injury, which is best done by removing the shading from part of the house, and there placing whatever is likely to bear the exposure. Use water freely on the paths and beds to maintain a moist atmosphere, and give air at seasonable times liberally. Plants to be used for autumn and winter decoration ought now to be in a thriving condition; if any want a shift attend to it at once. Stop young plants of Euphorbia, Aphelandra, Justicia, Ixora, Æschynanthus, &c. As the month progresses shut up earlier, and give less and less water to the roots of plants, and especially those which should be going to rest. If we have a period of dull, chilly weather, use fire heat; for a chill will do more harm now than in a month or two hence, when vegetation will be in a state of repose.

Orchid Houses will require close attention to ensure the several classes of plants being placed under the conditions most favourable to the completion and ripening of their growth. Dendrobiums that have completed their growth should be placed where they will not be shaded, excepting during periods of bright weather.

FLOWER GARDEN AND PLEASURE GROUNDS.

Auriculas that have not yet received attention should be turned out of their pots and repotted in rich turfy loam in a very sweet state. If overpotted they never do well. Keep rather close for a week after potting.

Bedding Plants to be struck in quantities for next year. The great secret of keeping verbenas and petunias through the winter is to have them struck early, and either planted into boxes or pans by the middle of September, so as to be established before winter. Strike bedding geraniums in the full sun in open borders. Short cuttings make the best plants.

Hardy Shrubs and herbaceous plants may be propagated now in quantities from cuttings and divisions. Use a liberal admixture of sand, and choose a shady plot of ground for the purpose.

Pansies.—Plant out from the cutting pans during showery weather, and shade till they make fresh roots. Make the last sowing of seeds the first or second week of this month.

Roses.—Continue to bud roses, choosing damp dull weather—they take best just after heavy rain. In budding on the Manetti stock, enter the bud just above the collar, close to the ground, the proper mode of planting afterwards being to sink the base of the bud below the surface, so that the rose will root as well as the stock.

Plants in Bloom comprise Aster coccineus, A. formosus, Campanulas, Delphiniums, Dianthus deltoides, D. superbus, Gladioli, Lilies, Linum narbonense, Lychnis fulgens, Nierembergia rivularis, Pentstemon Jaffrayanus, Phloxes, Potentilla insignis, Scutellaria peregrina, Veronica longifolia subsessilis, Solidago altissima, and Tritoma uvaria.

FRUIT GARDEN AND ORCHARD.

Nets to be put over fruit bushes to keep off the birds and give a little shade to keep a few bunches hanging for a late supply. Put wasp traps about vines and peaches.

Nail in all good shoots on wall trees, that they may have the heat of the wall to ripen them. Encourage in every possible way the ripening of the wood of the season. If any shoots have been allowed to become crowded, thin them a little now to admit the sunshine amongst the well-placed shoots and spurs.

Gather fruit in dry weather, and, as a rule, not till quite ripe.

Strawberry Runners to be planted out as opportunities offer, as it is most important they should become well-established and form plump crowns by the autumn. When planted late in the season it is impossible for them to acquire sufficient strength to produce a good crop in the year following.

KITCHEN GARDEN AND FRAME GROUND.

Cabbages for supplying the table during the spring and early part of the summer may, in most districts, be sown soon; and the needful preparations should be made with as little delay as possible.

Celery to be earthed up with care after a heavy rain or good watering. Take care the soil does not find its way into the hearts. It should not be earthed up until well grown, the earthing being only to blanch it for use.

Cauliflowers for use during the early part of next year must soon be thought about. In raising a stock of plants for keeping over the winter the seed should be sown in August, September, or October, according to the climate of the place, the cultivator taking care not to have his plants too forward, or in any great degree luxuriant in habit before winter, or they may be destroyed by frost. In the south-west cauliflowers are wintered in the open with the aid of the shelter of a fence or wall only, but, generally speaking, they require the protection of frames or hand-glasses, and all the winter through to have as much air as can be safely allowed them. They should be planted out as early in March or April as possible, even if it be necessary to protect them with hand-glasses or inverted flower-pots while keen east winds and frosts prevail, for a long season of growth is needful for the production of nice heads.

Cucumbers that have been in bearing throughout the summer will shortly begin to fail, so those who want a succession must be on the alert. Sow seed or strike cuttings, the latter to be preferred, and get ready to make up new beds. Old plants still in vigour must have the help of linings of fermenting materials and be covered with mats at night.

Turnips should now be sown for use during the winter and spring, if not already done. It is necessary to remind cultivators that well-manured soil is required for the production of good roots, and that they require to be severely thinned and well weeded in their first stages, after which they will take care of themselves, as they soon cover the ground and kill all weeds by overshading them. The small early sorts may be nine inches apart, the larger kinds a foot to eighteen inches. If fly infest the young plants, dust with quicklime or soot when they are damp with dew. If the soil is rich and the weather favourable turnips soon grow out of the reach of the fly, as it is only while young that they are liable to injury.

Winter Greens require constant attention to ensure a good supply. By this time Scotch Kale, Brussels Sprouts, Broccolis, and Savoys ought to be strong, and where they have been planted between rows of peas, to stand the winter, should now be looked over, and every other plant taken out, to make fresh rows, if they are at all crowded.

Vegetables in Season comprise: Broad Beans, Beet, Cabbage, Cauliflowers, Carrots, Capsicums, Cardoons, Endive, French Beans, Globe Artichokes, Gourds, Lettuce, Mushrooms, Onions, Peas, Potatoes, Tomatoes, Turnips, Scarlet Runners, and Vegetable Marrows.

Notes of Observation.

TOMATO NAMES.

It appears to me that it is quite time the names of tomatoes were subjected to a careful revision, and the number which have a place in the catalogues might thereby be materially reduced. The majority of the varieties have two or more names, but of Trophy there is a goodly number of synonyms. We hear much about the merits of The Stamfordian for exhibition purposes, but very little about the Trophy, and I should like to ask those cultivators who have grown The Stamfordian and Trophy under similar conditions whether they have discovered any difference in them, and if so, in what they differ from each other. I have grown them side by side, and have failed to detect the slightest difference either in the growth or in the size and shape of the fruit. Goliath is Trophy under another name, and there are several Perfections which differ so little from it that I am certainly unable to appreciate the difference. Practical Cultivator.

CARNATIONS FOR EVERYBODY.

I was very glad to read your notice of the Chelsea collection of carnations and to see that you gave due prominence to the self varieties, which are simply invaluable for the border and for supplying cut flowers for indoor decorations. I have no conveniences for growing the bizarres and flaked varieties, and have in consequence devoted my attention exclusively to the selfs, of which I have now a good collection. As you have dealt so fully with the several varieties, I do not purpose doing more than to point out four which are so thoroughly good that they should be grown by every one who gives attention to carnations. These four are Magnum Bonum, W. P. Milner, Royal Purple, and Mary Morris, which have scarlet, white, purple, and pink flowers respectively. The last mentioned is one of the very best, for it blooms most abundantly, has a stiff, erect habit, and the flowers are large in size and very pleasing in colour. There appear to be two distinct types of this variety in cultivation, one with pale washy flowers and the other bearing blooms of a deep rose pink hue. I have had both, but the pale form has been discarded. A. B.

SPIRÆAS OR GARLAND FLOWERS.

In all the great family of rosaceous plants there are not many genera that can take rank above the spiræas for serviceableness in the garden. We might indeed do without them, and still find delight in roses proper, as also in the fruits that are so near akin to the queen of flowers. But having the spiræas, we may with advantage admire their diversity and their beauty, ranging as they do from lowly herbs to woody shrubs and shrub-like trees. They are mostly cold-climate plants; we know of none that are tropical, while as regards hardiness they differ but little, and the most tender may be described as hardy

Spiræa eximia (Flowers rosy red).

enough for all the more favourable climates of Britain. A considerable number are so hardy that no winter likely to occur in these islands would harm them. As regards other conditions, however, they are a little peculiar, inasmuch as they all love a strong damp soil, whether of peat or loam appears not to matter greatly; but in no case are they suitable plants for hot, dry limestone or sandstone soils.

A CATALOGUE OF SPIRÆAS.

Ariæfolia.—A tree-like shrub, with roundish or ovate deeply-toothed leaves, and a most abundant display of feathery plumes of greenish white flowers in July. A first-class garden plant.

Aruncus is the well-known Goat's Beard; a grand plant, with noble though rustic leafage, and tall plume-like panicles of white or greenish-white flowers. There are good and bad examples of this fine species in cultivation, and they differ by large degrees.

Astilboides.—A very beautiful herbaceous plant of dwarf growth, the flowers in cylindrical racemes, pure white. June and July.

Bella.—Neat in growth, forming a light shrub; the leaves ovate, oblong; flowers in spreading cymes, rosy red. June and July. B.M. 2,426.

Bullata is a dwarf, compact shrub of much beauty; the leaves thrice divided, the flowers in aggregated cymes of a lively rose red colour. A first-rate rockery plant.

Bumaldi is a very dwarf shrub with oblong dark green leaves, and flowers in smallish cymes much like those of the rosy yarrow. A beautiful rockery plant.

Cæspitosa is the turfy or tufty spiræa, a diminutive plant of a sub-shrubby nature, forming a woody root-stock, from which spring narrow glaucous leaves, above which rise the white flowers in small clusters; a quite pretty rock plant.

Callosa is in the style of S. Nobleana, but handsomer. The leaves are ovate lanceolate, of a dull green colour when mature, when young purplish. There are several varieties, one in particular with light green leaves and an abundance of pure white flowers, being desirable for its beauty.

Cana.—A shrub of dwarf wiry growth, leaves very small, dark, dull green, flowers white in small clusters. June.

Cantoniensis, a synonym of *S. Reevesiana*.

Confusa is probably well named, for it is often mistaken for *S. Thunbergi*. It is of wiry growth, with unequal blunt-toothed ovate leaves of a golden green, and roundish clusters of white flowers terminating the side shoots. These appear in May, and the plant is then extremely beautiful. Figured in *G.M.*, 1884, page 80.

Corymbosa, a synonym of *S. Reevesiana*.

Cuspifolia.—A very dwarf shrub of rigid growth. The leaves ovate, rugose, dark blue-tinted green. Flowers in numerous smallish cymes, the colour bright rosy red. A first-rate rockery plant, flowering in July.

Digitata.—Herbaceous, handsome, of free, diffuse growth, flowering in July; the leaves are digitate, the flowers in light thyrses on tall stems, the colour light carmine.

Douglasi.—A strong bush, with oblong grey-green leaves, and a plentiful display of flowers of a full pink colour in July. A fine shrubbery plant. B.M. 5,151.

Eximia is a dwarf form of *S. Douglasi*. Flowers rosy red.

Filipendula is the British Dropwort, a dwarf-growing herbaceous plant, with elegant fern-like leafage and tuberous roots. It makes a serviceable edging, and may be grown in quantity in the reserve ground to supply flowers for cutting. The double variety is the best.

Flagelliformis.—A pretty wiry bush with purple stems and roundish leaves, and very many heads of gauzy white flowers in July. A beautiful garden plant.

Fortunei is a form of *S. callosa*, the serratures of the leaves tipped with a gland. B.M. 5,164.

Grandiflora is better known as *Exochorda grandiflora*. It is a free-growing shrub, with oblong lanceolate leaves and large white flowers, that appear in spring. It is good enough to stand alone on the lawn.

Humboldti is a free-growing herbaceous plant in the way of *S. digitata*, of which it is probably a variety.

Hypericifolia.—A neat compact bush resembling a snowberry. Flowers in smallish clusters, creamy white. July.

Japonica is a dwarf shrub with narrow leaves and rosy flowers, which appear in late summer. Scarce and good.

Lævigata.—A very distinct dwarf shrub with blue leaves, like those of the hybrid rhododendron. Flowers white or pale pink. July.

Lanceolata, a narrow-leaved form of *S. Reevesiana*.

Lindleyana.—A very beautiful branching shrub, with large, unequally-pinnate leaves of fresh lively green, the flowers in feathery panicles appearing from July to September.

Lobata is the Queen of the Prairies; a free-growing herbaceous plant, with heads of flowers like those of the Meadow Sweet, but of a rosy-red colour.

Macrophylla.—Neat in growth, forming a compact dwarf shrub. The leaves ovate, two and a-half inches long, yellowish green when mature, when young bright bronzy crimson.

Millefolia is very distinct and interesting, though scarcely beautiful. The growth is rigid, the shoots thong-like, the leaves lanceolate, very much cut like those of the common yarrow.

Nobleana.—A free-growing robust bush, with entire leaves, resembling a snowberry; the flowers are in smallish bunches, rosy pink or purplish red. June. It is a form of *S. Douglasi*. B.M. 5,169.

Opulifolia is well named; the leaves are large, and resemble those of Viburnum opulus. It is a vigorous, spreading, handsome shrub, not of a

Spiræa Reevesi (Flowers white).

choice nature, but useful in large places. The flowers are white, gauzy, abundantly produced in May and June. There are several varieties, the most distinct of which is the golden-leaved, a very showy tree.

Palmata is the finest of all the herbaceous spiræas, and when grown in a rich deep soil in proximity to water it is one of the finest of all known herbaceous plants. The leaves are palmate, the colour vivid green, the plentiful heads of flowers brilliant carmine crimson. There is a white variety that we must speak of as good; it flowers later than the red.

Paniculata.—A spare-growing shrub in the way of *S. callosa*; the leaves roundish, flowers in smallish clusters, rosy pink. June. Closely related to *S. callosa*.

Pruinosa.—A free-growing branching shrub, leaves dull green; flowers pale pink. July. A good garden plant.

Prunifolia is always almost a good shrub, and the double variety is better than the single. It is of wiry growth, light, elegant, the flowers white, appearing in the spring.

Reevesiana.—A spreading, compact, handsome shrub, with red stems and lanceolate toothed leaves of a bluish-green colour. Flowers white. June and July. There are some half-dozen varieties, all good. The double is perhaps the best.

Rotundifolia.—A distinct free-growing bush, with red stems and small roundish leaves of a vivid green colour. Flowers white. July.

Ruberrima.—A neat wiry bush of dwarf growth; the leaves ovate, narrow, bluish-green; flowers rose and pink. July.

Salicifolia.—A free-growing tree-like species of considerable beauty, the leaves vivid green, the flowers pale pink or white. There are some half-dozen forms of this, all good. June and July.

Sorbifolia.—A fine tree-like species in the way of S. Lindleyana, but not its equal in beauty. Flowers white. July.

Splendens.—A dwarf compact bush, with broadish grey-green, roundish-oblong leaves, and an abundant display of rosy flowers during May, June, and July. One of the most showy.

Thunbergi is a shrub of very neat growth, dwarf and wiry; the leaves long and narrow and of a bright golden-green colour, like those of a small bamboo. The flowers are in axillary or terminal clusters.

Tomentosa.—A mean-looking shrub with broad elliptical leaves of a grey-green colour. Flowers pink. June and July.

Trilobata.—A smallish shrub, with leaves three-lobed; flowers white in June and July. Has the general appearance of a small-leaved rose.

Ulmaria.—Our British Meadow Sweet is not very variable considering how widely it is distributed. It is essentially a waterside plant, and very abundant in marshy places. For garden purposes the double-flowering form is the best, and is exceedingly beautiful.

Ulmifolia is of tree-like growth, with smallish leaves, resembling those of the common elm. Flowers white. It is *S. chamædrifolia* of B.R. 1,222.

Venusta is the same as *S. lobata*, but is not the same as *S. digitata* or *S. Humboldti*.

Shrubby Spiræas best adapted for the garden are Grandiflora, Lindleyana, Opulifolia, Bella, Reevesiana, Ariæfolia, Douglasi, Splendens, Thunbergi, Flagelliformis, Callosa, Salicifolia.

Herbaceous Spiræas best adapted for the garden are Palmata, Aruncus, Lobata, Double-flowering Ulmaria, astilboides, Filipendula.

Dwarf Spiræas best adapted for the rockery are Bullata, Ruberrima, Trilobata, Rotundifolia, Lævigata, Splendens, Bulmadi, Cuspifolia, Cæspitosa, Filipendula.

New Plants, Flowers, and Fruits.

Karatas (Eunidularium) amazonica (*Gard. Chron.*, 1886, 814).—A self-coloured nidularium, producing flowers in the axils as well as in the centre.

Aerides Godefroyanum (*G. C.*, 1886, 814).—A stately foxbrush with light flowers, comparable to those of Aerides maculosum.

Daphne Mezereum (*G.*, 550).—Truthful and tasteful figures of the white-flowered, red-flowered, and double-flowered varieties.

Albuca (Ualbuca) corymbosa (*G. C.*, 1886, II., 38).—It comes near to *A. juncifolia*, but has the erect flowers of *A. caudata*.

Tritonia (Montbretia) Wilsoni (*G. C.*, 1886, II., 38).—Like T. lineata, but differing in leafage. Native of Port Elizabeth.

Sagenia mamillosa (*G. C.*, 1886, II., 38).—A distinct and handsome fern. Native of the Moluccas.

Mormodes luxatum purpuratum (*G. C.*, 1886, II., 39).—Flowers light mauve-purple, with dark spots of the same colour.

Aconitum dissectum (*Gartenfl*, April, 1886, 16).—An interesting species.

Pæonia Broteri (*G. C.*, 1886, II., 49).—A single pæony, intermediate in characters between *P. corallina* and *P. officinalis*. Flowers single, crimson, fragrant.

Cistus ladaniferus maculatus (*G.*, 552).—A fine variety, the petals marked with small spots of deep crimson brown.

New H. P. Roses.

From Messrs. W. Paul and Son, Waltham Cross, we have received blooms of new varieties of English-raised roses, comprising the following varieties:—

Lady of the Lake (*H.P.*).—Growth vigorous, shoots armed with hard spines; leaves medium size, full green. Flowers medium compact globular, in clusters of five or more, the colour soft silvery pink. Sweet scented.

Florence Paul (*H. P.*).—Growth moderate, wood smooth, green, leaves large, full green. Flowers medium to large, imbricated, full; colour deep rich crimson with gleams of purple and shades of black. Distinct and fine.

Silver Queen (*H. P.*).—Growth robust, shoots smooth dark green, leaves short, roundish, dull green. Flowers large, globular, beautifully folded in the bud; colour silvery blush shading through warm flesh to delicate pink.

Grand Mogul (*H. P.*).—Growth stout with short hard spines, leaves large, dull green. Flowers medium, with petals reflected and folding neatly in the centre; colour deep velvety crimson much shaded with black toned marone. Very rich and distinct.

A Patient Gardener.—An interesting wedding has taken place in a pretty cottage on the Paterson Plank Road, North Bergen. The bridegroom was Ivan Leoski, a well-to-do florist, with property valued at 50,000 dols., who had been looked upon as a confirmed bachelor. The bride was Rachel Korpf, who recently arrived from Warsaw. The happy couple, who have both reached the age of 40, told a romantic story to the guests. Ivan is a native of Warsaw. His spouse was the daughter of a wealthy resident of that city. They were playmates, and, later, became lovers. Ivan was a Republican, and freely expressed his views. This antagonised Rachel's father, who refused to consent to the match. The young Republican was subsequently banished, and before leaving he urged his sweetheart to accompany him to the New World. She consulted her father, and he compelled her to remain at home. The lovers were faithful and corresponded indirectly. Recently Rachel acquired property on the death of a relative. She wrote to Ivan, and he invited her to come, telling her he had ample of his own, and not to allow the estate to detain her. She converted her land into cash promptly, and started to rejoin her lover. The neighbours and prominent officials were invited to the wedding feast.

HARDY PLANTS IN FLOWER.

Yuccas are showing that the summer of 1885 agreed with them, for many are now flowering or making a fine promise that way. Conspicuous in large places are the expanded flowers of *Y. pendula*, commonly labelled *Y. recurva* or *recurvifolia*, and the advancing spikes of *Y. gloriosa*, of which, however, there are not many showing flower as yet.

Gladioli are making a good show, but the named varieties want just another week in gardens near London to give fair indications of their splendid capabilities. *Gladiolus blandus*, *G. cardinalis*, *G. ramosus*, and *G. communis* have made a fine show. The *Watsonias* are now as gay as they can be, which, perhaps, is not saying much for them, although we are quite glad to see them. *G. floribundus* and *G. Byzantinus* have flowered finely; and now we see the fiery colour of the ever useful and never to be neglected *G. Brenchleyensis* making its first appearance for the season. This garden variety is particularly hardy, it has many times lived out with us unharmed by the winter; but a winter extra wet or extra cold makes an end of it. When we lose our left out Brenchleyensis we also lose our left out Lilium speciosum.

Senecios of the terrific kind have been glorious since the July rains made for them a new leafage. Very noticeable in the series are *Telekia cordifolia* and *T. speciosa*, with huge orange or full yellow coloured flowers crowning a vast massage of noble leafage. These are sumptuous plants in a roomy place, but when located in a small garden may be described in the words of Pope as "monsters of a hideous mien." *Senecio Japonica* may be admitted to a rockery in a small garden, but, as a plant of the rustic order, it will not suit all tastes.

Liatris may be pushed aside amongst the plants that nobody wants, but *L. spicata* is a plant that every amateur of hardy beauty should be acquainted with; its feathery heads of purple flowers are now quite pleasing. Nearly as good are *L. elegans* and *L. pycnostachya*.

Veronicas are plentiful, and a considerable proportion are good. One of the best now is *Veronica Virginica*, a quite elegant plant, pushing up spires of white flowers three to four feet, making a most chaste and ecclesiastical episode on the rockery. Some lovely varieties of *V. spicata* may be met with and secured by the determined ones, but we cannot say if the best of them—more especially those that appear to have originated in North Wales—are in commerce. *V. saxatilis* is a lovely rock plant not often seen, but easily obtainable. Nor should we dare to name the genus now with any intention of omitting *V. teucrium* from the list of species the eclectic hardy man is bound to secure.

Cylindrical Statice that is so variously labelled as *Statice Sowowori*, &c., &c., &c., &c, proves to be variable, which is a curious fact in the case of a newly-introduced annual—for such it appears to be. The wicked system of adopting commemorative personal names will be finely illustrated in the names of this plant, which are already half a-dozen in number. It will be necessary now to hang a botanist, and we are quite prepared to take the job at a low price, but it must be on the understanding that a florist is not to be banged either by way of reprisal or for the ridiculous purpose of showing that there is no 'mosity. The name that common sense proposes for this lovely plant is *Statice cylindrica*.

Bugbane is abolished, we shall recognize the name no more; and this note is to be regarded as an advertisement to such an end. Very well, we respect all orthodoxy and some heterodoxy, and it is sufficient to say that *Cimicifuga racemosa* is one of the best plants now flowering on the rockery. It is in the way of a spiræa in appearance, but is a crowfoot in affinities. It is a beautiful plant, rarely seen except in a botanic garden.

Himalayan Poppies have flowered well, and, as usual, have entertained us by their variations. Since the heavy rains they have put on new characters, and evidently atmospheric humidity is of importance to them. We have them starchy grey, starch blue, azure blue, nice soft indigo, and somewhat unpleasant purple blue. But all are good, and the Himalayan Poppy, *Meconopsis Wallichi*, must be put into the list of first-rate garden plants. The yellow-flowered *M. Nepalensis* is also good. All are biennials, or nearly so, depending, of course, on the time of sowing the seed.

Gentians have enjoyed the rain, and *Gentiana asclepiadea* and *G. septemfida* are in fine figure. The white variety of the first named is not fairly out, but promises to make a good show.

Polygonums are plentiful from the gigantic *P. sachalinense* and *P. cuspidatum* to the bistort and its kindred. We shall only make note now of *P. amplexicaulis*, which has a distinct leafage and a light, one might say airy, style of inflorescence; the flowers white.

Monardas are of especial value in moist soils, and, in fact, will enjoy proximity to water. They are a showy lot, though coarse, and the well-known *M. didyma* will always take the lead. It is well where space is sufficient to secure *M. fistulosa*, *M. Kalmiana*, and *M. purpurea*, for these are particularly good.

Morinas are handsome rustic plants that make a good show, and being distinct attract attention. *M. longifolia* now shows a fine mass of thistle-like herbage and cheerful clusters of flowers, in which white, lilac, and rose colours are happily mingled. The eryngiums associate agreeably with such plants.

Potentillas continue to make patches of gay colour, and will continue flowering for some time yet. We are enjoying the rich claret-red flowers of *Potentilla nepalensis*, and recommend it as A 1 in its class. It is scarce, and its name will suggest that in cold damp soils it may not prove so hardy as to defy all weathers.

Mallows and Malvas abound. A good plant is *Malvastrum lateritium*, with flowers full red; and nearly as good is *Sidalcea malvæflora*, the lilac-tinted flowers of which make an agreeable picture.

Lilies are conspicuous everywhere. In the neighbourhood of London *Lilium chalcedonicum* is now in perfection; *L. candidum* has run its course; *L. auratum* continues fresh and fine, although the first flowers appeared as early as mid-June; *L. testaceum* is nearly used up; *L. pardalinum* is in splendid colour, and gives a few distinct forms; *L. canadense* is in its first stage, and will be strong in another week, when we shall have a lily show in places where good things are plentiful.

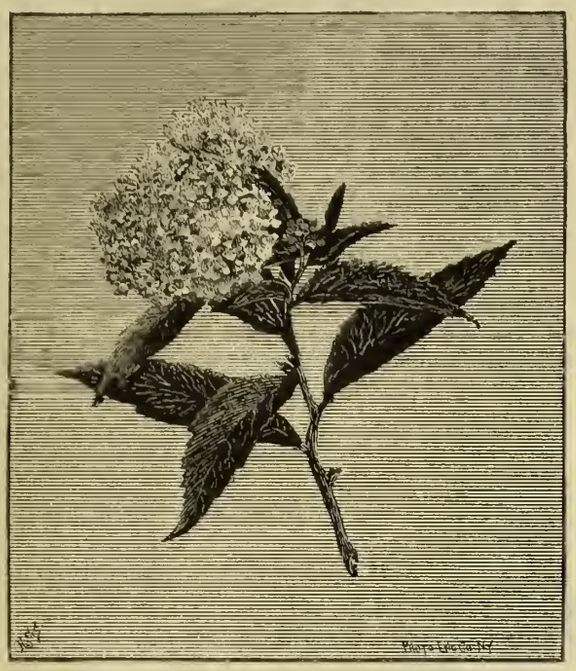
Pentstemons in flower include *P. diffusus*, *P. gentianoides*, *P. lævis*, *P. scouleri*, and its many near relatives; not the least important being P. grandiflorus. All the pentstemons should be raised from seed so far as may be possible.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled). Harmless to everything but insects. Tins, 6d. and 1s.—[Advt.]

SUMMER MANAGEMENT OF CHRYSANTHEMUMS.

By J. Mardlin, Finsbury Park, N.

In continuation of my previous notes on the cultivation of chrysanthemums for exhibition and conservatory decoration, I propose to briefly refer to a few points that require special attention at the present time. I am induced to mention a few of the more important points in



Spiræa Japonica (Flowers rose). (See page 443.)

the summer management of the stock because so many cultivators who have not had a very long experience fail to ensure really satisfactory results, because of their not fully understanding the requirements of the plants after they have become well established in the pots in which they are to bloom. Some think that when the plants have reached this stage they require comparatively little attention; but it is not so, and it cannot be too clearly understood that unless they are very frequently attended to they will fail to produce flowers of so good a quality as could be wished.

The matter to which reference must be first made is the watering, which must receive the most careful attention, or the plants will soon go wrong. Chrysanthemums when in full growth require liberal supplies of water, and because of this some growers suppose that they cannot have too much moisture at the roots; but the chrysanthemum can be over-watered as readily as almost any other class of plants that has a place in the garden. They may not, perhaps, be quite so soon killed by an excessive supply of moisture as delicately-rooted hard-wooded plants, but they, nevertheless, suffer severely, and when the flowering season arrives fail to produce blooms of really good quality. Especially must the watering be done with care where the plants have not as yet well filled their pots with roots, for if the supplies of moisture at this stage are too liberal the soil will become sour and the roots unhealthy, with the consequent result of the plants being seriously injured. It is very important to guard against giving them too much water when they are not in an airy position, which in many cases cannot be provided them. It may perhaps be useful to mention that very often the soil appears dry when it is sufficiently moist for the plants, and that it is in all cases advisable to well examine the soil in each pot previous to watering. One of the causes of the wood not becoming sufficiently ripe is over-watering, and another is overcrowding.

As far as practicable the plants should be grown on steadily, with just sufficient moisture at the roots to maintain them in a progressive state, and no more. Under these conditions the wood will not fail to ripen and become hard as growth progresses, and the plants will produce in due course flowers of good quality. If the wood is not ripe before the plants attain their full dimensions it will be very little use to try to harden it afterwards. Returning again to the watering, I would like to say that until the pots are properly filled with roots the water should be withheld as far as is consistent with the health of the plants. They are not, of course, to be kept so dry as to cause the wood to become prematurely hard, or indeed for the leaves to flag. What I am desirous of impressing on the attention of inexperienced cultivators is the fact that chrysanthemums can have too much water as well as too little, and that extremes should in all cases be avoided.

Overhead syringing during the summer season is an important factor in the production of full-sized blooms, and must have the attention it so well merits. In dry weather the plants should be syringed overhead in the early part of the day, and, as a matter of course, before the sun has acquired much power. When the weather is hot a second syringing will be highly beneficial, and this the plants should have in the afternoon or evening, according to the position occupied. If they are placed where the sun ceases to shine on them early in the day it will be an advantage to syringe them in the afternoon. But when they are so placed that the sun shines fully on them until late in the afternoon syringing in the evening will be advisable. In syringing the plants the upper and under surfaces of the leaves should be well moistened, and the pots and the ashes on which they stand should be sprinkled, as the moisture rising from the ash-bed is highly conducive to a vigorous growth. In practice it will be found that the syringing will help to harden the wood, and the importance of this will be better understood when it is said that strong green sappy wood will not produce such good blooms as that which is well matured. The suckers which are produced round the stems must be materially reduced in number, if not removed altogether, before they make much progress. This must be carefully done to avoid injury to the roots or disturbance of the soil. The main stems must also be kept free from surplus shoots, because both the suckers and the stem shoots help to divert the nourishment from the shoots intended for the production of the flowers. Insect pests that are partial to the chrysanthemum must be well looked after, and remedial measures be resorted to as soon as necessary. In some places the tips of the shoots are badly infested with aphis, especially where syringing has been neglected, and I would suggest that in all cases where the plants are infested with fly that they be syringed with some approved insecticide, or have the shoots dusted with tobacco powder.

YUCCA FLOWERS.

As the bold and handsome Yucca recurvifolia is now flowering freely in gardens it may be useful to remind those interested that the flowers are well adapted for indoor decorations, and can also be employed to great advantage in the formation of wreaths and crosses. They lack, it is true, the snowy whiteness of the eucharis, but they stand remarkably well, their stout texture enabling them to retain their freshness a much longer period than other flowers suitable for either crosses or wreaths. At the recent exhibition at Moulsey a wreath formed of the flowers of this Yucca was shown, and although it failed to obtain a place it presented a very tasteful appearance, and attracted much attention, many of the visitors being much puzzled as to what plant they had been obtained from. The blooms are, of course, gathered singly, and mounted in a similar manner to those of the eucharis and white lily. Visitor.

Reports on the Fruit Crops are in course of preparation from particulars supplied by our correspondents. We shall be glad of early replies from the friends to whom our papers have been forwarded, and others who wish to favour us with information but have not received the usual forms would much oblige us by forwarding their names and addresses. For such business post-cards will suffice.

Spiræa Reevesi flore pleno (Flowers white, double). (See page 444.)

THE STRAWBERRY.

By James Douglas.

In the midst of the strawberry season, it may not be out of place to take them next in order in my series of articles on hardy fruits. The strawberry is one of the easiest fruits to cultivate, and is adapted to any garden, whether it is large or small, rich or poor. The fruit is greatly appreciated in every family, both for purposes of dessert or for preserving, and it is withal the most wholesome of cultivated fruits.

Our ancestors seem to have possessed a very poor selection in the early days of gardening. In "Gerard's History of Plants" (1597) four varieties only are described. He says "there be divers sorts of strawberries; one red, another white, a third sort green, and likewise a wild strawberry, which is altogether barren of fruit." The two last-named might be omitted as far as utility is concerned. Parkinson, fifty years later, writes of them more in detail, and besides the varieties mentioned by Gerard, he adds the Virginia strawberry, which carried "the greatest number of leaves, but scarce can one strawberry be seen ripe amongst a number of plants." Another variety that his good friend "John Tradescant brought with him from Brussels long ago, and in seven years could never see one berry ripe on all sides, but still the better part rotten, although it would every year flower abundantly." A third variety, "the Bohemia," he says, "hath been with us but of late days; but is the goodliest and greatest, for some of the berries have been measured to be nearly five inches about." This was introduced by Master Quester, the postmaster. The fruit was used at table as a rarity, and eaten with claret, cream, or milk, added to sugar.

Miller, writing in the "Gardener's Dictionary" (1732), adds the Chili strawberry to Parkinson's list; a variety introduced to France by a Mons. Frezier, who found it growing in the fields at Chili in great plenty. Miller himself was the first to bring this variety into England in 1727. The numerous varieties at present in cultivation had their origin in the Grandiflora or Pine, the Virginia or Scarlet, and the Chili, alluded to by Knight.

The origin of the name has been the subject of several suggestions. Mr. McIntosh, the author of "The Practical Gardener," says it is derived from the practice of laying straw between the rows to keep the fruit clean. Some of the old strawberries that have gone out of cultivation, such as the Roseberry or Scotch Scarlet, the Grove End, the Downton, Old Pine, and Wilmot's Superb would be very interesting if we still had them to compare with the more recent varieties. Keen's Seedling is still a favourite variety, and has been so for eighty years. It was raised by Mr. Michael Keen, of Isleworth, from seeds of the Chili. Out of a large number of seedlings, for the most part white and of poor flavour, this was the only one thought worthy of preserving. It will probably be grown for many years to come; indeed, the only two varieties we force now are Black Prince for first supply, with Keen's Seedling to follow later. British Queen is a good old sort of exquisite flavour, by some considered difficult to grow. With the treatment presently to be described it may be grown on any soil, and if British Queen refuses to do well Mr. Radcliffe, a very similar but more hardy variety, may succeed. President is a "good all round" variety; it is very prolific, the fruit of large size, good flavour, and a bright red colour. Sir Joseph Paxton is one of the most popular market varieties, and has even a more handsome fruit than President. Frogmore Late Pine is a most excellent strawberry and a certain bearer. Loxford Hall Seedling is later, and also an abundant bearer; it is our latest strawberry, and has a distinct pine flavour. It was raised at Loxford Hall, and is a cross between Frogmore Late Pine and La Constante. The last-named, an uncertain variety, which was grown in many gardens about fifteen years ago, but is now perhaps out of cultivation. We also grow a few other sorts, but the above is a good selection for an ordinary garden. We are growing Pauline, a large-fruited, early variety, which will surpass Black Prince for out-of-door culture; and Mr. Laxton's new varieties will doubtless take a prominent position. But one cannot say much about new strawberries, or any other fruits, without having had some practical knowledge of them, such as growing them twelve months under one's own care in the garden.

The cultural requirements of the strawberry are simple enough; in fact they are too simple, for many persons just leave them alone to form a solid mass of leaves, the runners being allowed to run into each other and form roots where they can. Such want of management results in a complete failure to produce any presentable fruit. They ought to have generous treatment. A celebrated horticulturist called here to see our garden last week, and I was able to show him several rows of Loxford Hall Seedling laden with fruit. Each row was bearing twice as much as any two rows of any other variety, the plants vigorous, and producing plenty of runners. My friend told me he would have been quite satisfied if he had seen nothing else but those

SPIRÆA BULLATA (Flowers rosy red). (See page 443.)

rows of Loxford Hall Seedling. I was told that he and others failed to get the plants to grow with sufficient vigour. To all such I can only recommend our system of culture. The ground is prepared by trenching it eighteen inches or two feet deep, according to the depth of soil. In the bottom of the trench we place a layer of substantial farmyard manure, and when half the mould has been thrown out of the trench on to it another good layer of manure should be placed over it, when the trench is completed by throwing out the rest of the soil. This process goes on until the whole quarter is trenched, and it is as well to have it prepared some time before it is required, that is if the ground can be spared. We generally take a crop of early peas, potatoes, or cauliflowers from the ground first. We would rather it laid fallow for the spring and summer months, but this cannot be afforded.

The next process is preparing the plants. We have just finished ours. Each runner is pegged down singly into sixty-sized pots, and when well established they are cut from the parent plants, and are generally ready for planting out about three weeks after they have been layered. Each plant must be set out two feet apart in lines, leaving a slightly hollow depression around each. This is necessary, in case dry weather should set in, as each plant must be kept well supplied with water at the roots. We also dip them in some solution of tobacco-water to destroy any red spider that may be upon the leaves before planting them.

Red spider (*Acarus telarius*) is very troublesome sometimes, and destroys the leaves of early-planted runners. Dry weather is favourable to this pest and moisture is deadly to it. In a few weeks the plants will throw out runners, but these must be pinched off as fast as they form, in fact it is best to go over the ground every week. A large quarter can be done in an hour or two; they are simply pinched off with the finger and thumb when it is done weekly. The ground must also be kept quite clean with the hoe up to the end of the season. By good management these same young plants will produce a very large crop of fruit of superior quality the following season.

A routine of cropping may be carried out by securing all the runners required and destroying the bed, replanting it with broccoli, coleworts, or any other suitable crops. It is not too late to crop the ground with celery. When I followed this system of annual cropping we always had strawberries of the best quality, and plenty of them. The plants ought to be put out not later than the early part of the month of August.

The plants to be grown in pots should also be layered as early as possible, and ought also to be repotted into their fruiting pots in August. For this purpose we use five and six inch pots. Good loam with a third part of decayed manure added to it is all that is needed to pot the plants in. Drain the pots well, and ram the potting material in firmly with a wooden rammer. When potted stand them out on a

SPIRÆA DOUGLASI (Flowers rich rosy pink). (See page 443.)

hard bottom of ashes in an open position well exposed to the sun. Unless they are placed in this position the crowns will not mature well, and this is quite necessary in order to make sure of a good crop for next season.

Long lasting beds are secured by proper management. I would urge the importance of saving the roots of the plants when it is intended that the beds should remain more than one year. The plan pursued by many cultivators is to dig between the rows during the late autumn or winter months. This is a very objectionable practice, as the most active rootlets are cut off, and the plants very much injured thereby. If the ground is deeply worked and in good condition, and all runners not required are kept cut off, there will not be much else to do. The only cultural operation needful is to hoe the ground between the rows, and place over the surface a dressing of very much decayed manure, or equal parts of manure and loam. In very heavy soil when the surface will sometimes become so hard that the water does not percolate through it readily, I would suggest just stirring the surface to the depth of three inches with a digging fork, and placing over it immediately some short stable manure. This prevents the rain from making the surface hard and impervious. Except that red spider attacks the leaves in hot weather the plants are not liable to be attacked by disease or other insect pests. Not unfrequently the blossoms are destroyed by frost before they expand and after, and this is thought to be a disease. I have had blossoms sent to me this year black in the centre. The partially expanded blossoms are caught by the frost, the petals are not much injured, but the stigmatic portion, and perhaps the stamens also, are killed, and no fruit will be produced. The best cultivators may fail through this cause.

I may further add that in dry weather a thorough soaking with water is necessary. The best British Queens I ever saw were grown on the Lodge Farm near Barking in a hot season, and the ground was daily flooded with sewage. Dry, hot weather is the best for strawberries if they can have plenty of water.

BRITISH FERNS.

By W. Bradbury.

Managers of horticultural exhibitions held in the neighbourhood of London, and, indeed, throughout the southern and western counties, have much to answer for in not affording more substantial encouragement to cultivators of British ferns than is at present the case. Money, figuratively speaking, is on all sides poured out on the exotic species, but it is a very rare occurrence to find in a schedule a class for kinds indigenous to this country, and when there is a class the prizes offered are so miserably poor as to be not worth competing for. In a schedule of an exhibition at which I officiated the other day a class was provided for British ferns, but the exhibitors were required to bring nine plants, with a chance of winning a first prize of fifteen shillings, whilst the exhibitors of exotic kinds had only to bring six plants to compete for prizes of which the highest was of the value of £3. I am willing to admit that the prizes for exotics should be more liberal than for Britishers, as to grow the gleichenias, gymnogrammas, and other choice kinds successfully considerable skill is required; and it is, moreover, desirable in all cases to encourage the staging of large specimens of the arborescent kinds because of the fine effect they produce when judiciously placed in the tents. But the disproportion in the value of the prizes ought not to be so great as in the example cited, for when grown to specimen size, as they may be without any great difficulty, they are singularly effective. At the exhibitions held in the northern counties the Britishers receive the encouragement they so well merit, and they are invariably so well shown as to compare favourably with the choicest of the exotic kinds. York may be mentioned as one of the places where British ferns are exhibited in a high state of development, and at the shows held in the city it is no uncommon occurrence for the plumose Lady Fern and the crested Male Fern to be represented by specimens four feet in height and three feet in diameter, and the Killarney Fern by specimens fully four feet in diameter. It is not, of course, necessary to enlarge upon the great beauty or the effectiveness of specimens of these dimensions, and it is reasonable to infer that if cultivators were given proper encouragement they would be shown nearly if not quite as well at the southern exhibitions. In discussing with the managers of exhibitions the advisability of encouraging British ferns they almost invariably say, "We used to offer prizes, but the competition was generally so poor that we discontinued offering them." But as a rule, when inquiries have been instituted as to the provisions made in the schedule, it has been found that the exhibitors were expected to bring to the place of exhibition a van load of plants, with the chance of winning a prize of about ten shillings. Consequently it is not surprising that cultivators should fail to put in an appearance, or if they do so, to stage plants that afford but a very poor idea of the beauty and distinctive characteristics of the several kinds. I am not desirous that undue encouragment should be given to indigenous ferns and their numerous varieties, but they contribute so much to the interest of an exhibition that a class should be provided for them in the schedules of all the societies, with prizes sufficient to ensure their representation. I would also suggest that when good prizes are offered they be not awarded unless the collections exhibited are in every way worthy of them.

With reference to the cultural requirements of the British ferns, it may be well to say that in the production of first-class exhibition specimens considerable skill and rather close attention are required. But to grow them at home for the purpose of enhancing the interest of the garden they impose a very light tax on the time and attention of the cultivators. Planted out they require very little attention indeed, and they afford a very ready means of beautifying dark, shady corners in which but few other subjects will grow satisfactorily. They will grow anywhere where they can be screened from the rays of the sun during the middle of the day, but it is better that they should not be exposed to sunlight except it be early in the morning and late in the afternoon. When planted out, whether in the border or on the rockery or rootery, it is not necessary to incur much expense in preparation of the soil, as, with but few exceptions, they will thrive in any good ordinary soil. Where the staple is close in texture and retentive in character it will be an advantage to incorporate with it liberal quantities of coarse grit of some kind and leafmould, and, where available, peaty soil from the potting shed.

In growing them in pots it is necessary to provide them with a good compost, and to give them constant attention, but they will by their beauty afford an ample return for the care bestowed upon them. For all the free growing species and their varieties, a compost consisting of mellow fibrous loam, turfy peat, leafmould, and sharp silver sand will be the most suitable. The proportions should be two parts each of peat and loam, and one part each of leafmould and silver sand. The peat and loam should be used in a comparatively rough state, as the roots are then able to run more freely in it than when the whole of the soil is broken up as finely as possible. The pots ought to be well drained, as during the time they are in full growth they require liberal supplies of water, and when the drainage is wanting in efficiency there is a risk of the soil becoming sour, to the injury of the plants. The plants should, as a rule, be repotted annually some time before they commence to make new growth, and to give them a liberal quantity of new soil without any material increase in the size of the pots the ball of soil should be reduced from one to two inches, according to their size.

British ferns can, when in pots, be grown in a shady position out of doors, but specimens required for exhibition purposes should have a place in a cold frame, as it is only when the flowers are developed under glass that many of the kinds have that delicacy of texture and freshness of appearance that tell so well in the exhibition tent. When intended for the early summer exhibitions it is necessary to start some of the kinds under glass to have them fully developed by the time they are wanted for competitive purposes. Unless the circumstances are exceptional they ought not to be subjected to artificial heat, but from first to last be grown in a frame with abundant ventilation and sufficient shade to prevent injury to the fronds. The shading must be well looked after, as a moderate degree of sunlight is sufficient to disfigure the fronds, and the best course is to place the frame in a shady position. The plants will then enjoy all the advantage of the light without being exposed to the rays of the sun. Moreover, the labour of covering and uncovering the frame will be avoided. Whether grown in pots or in the open the plants should be liberally supplied with water at the roots, and they should also be frequently syringed overhead. Those in pots under glass should be syringed once daily, preferably in the evening, and those in the open as often as may be considered necessary. But it is a good rule to syringe plants growing in the open once a day during periods of dry weather, as a liberal degree of moisture about the fronds is not less necessary than to keep the roots well supplied with water.

In the selection of British ferns there are two points to be considered—one is to make the collection as representative as possible, and the other to select plants sufficiently developed to show their true character. It is too much the practice of those who take part in the competitions for the few prizes offered to stage an undue proportion of the varieties of the lady and male ferns. It is not unusual to see in a collection of six no less than four athyriums, when not more than one should be represented. In collections consisting of twelve or fifteen plants there is no objection to there being three or four athyriums or lastreas, but in all cases as many species should be represented as practicable. It is not desirable to exhibit such common forms as Lastrea filix-mas, Athyrium filix-fœmina, or Scolopendrium vulgare, with so many beautiful varieties of them from which to choose. But such distinct and beautiful species as Polypodium dryopteris, Asplenium marinum, and Polystichum lonchites, should certainly be represented, for when well grown they do not fail to produce a good effect. With reference to the selection of the plants it must be said that the seedlings of the several varieties vary very much, and that when obtained from a stock from which inferior forms are weeded out there is a risk of buying plants that give but a poor idea of the beauty of the varieties they represent. As showing how much the seedlings vary, it may be mentioned that at the present time I have about twenty plants raised from Athyrium filix-fœmina corymbiferum, of which not more than four are equal in the cresting to the plant from which the spores were saved. The others, although they are crested, are much less so than the parent plant, and are practically worthless, and will be destroyed.

The following are remarkable for their distinctness and beauty, and under good cultivation make effective exhibition specimens, namely, Adiantum capillus veneris magnificum (this should be grown in a heated structure), Asplenium marinum (should be grown under glass, preferably in a heated structure), Athyrium filix-fœmina acrochadon, A. f.-f. cristatum, A. f.-f. crispum cristatum, A. f.-f. Frizelliæ ramo-cristatum, A. f.-f. plumosum Barnesi, A. f.-f. Victoriæ, Blechnum spicant ramosum, Lastrea dilatata grandiceps, L. filix-mas cristata, L. f.-m. cristata angustata, L. f.-m. crispa cristata, L. montana cristata, Osmunda regalis cristata, Polypodium dryopteris, P. phegopteris, P. vulgaris cambricum, P. vulgaris cornubiense, P. vulgaris multifido cristatum, P. vulgaris omnilacerum, Polystichum angulare divisilobum cristatum, P. a. grandiceps, P. a. congestum, A. a. plumosum, P. lonchites, Scolopendrium vulgare crispum, S. v. crispum cristatum, S. v. digitatum, S. v. ramo-marginatum, and S. v. ramo-cristatum.

MESSRS. CARTER AND CO.'S SEED FARMS
AT DEDHAM AND ST. OSYTH.

A walk over Messrs. Carter and Co.'s seed farms with a party of observant critics furnished material for reports more lengthy than can be attempted in these pages at the present time. But we shall hope to convey some useful information to our readers in the brief record of a perambulation in which a considerable extent of ground was covered, and many interesting things were seen and noted. We began business in Mr. Dunnett's garden, preparatory to a review of the seed farm at Dedham, and once more we saw the champion black currants that many times have made an initiatory sensation for visitors, for rarely have bushes been seen so loaded with huge bunches of jet black currants as large as cherries crowded on the old wood as well as the new, and in many instances weighing down the stout branches to the ground. The garden commands extensive and beautiful views over undulating country, but one can scarcely give the scenery the attention it so thoroughly deserves because of the exceeding beauty and variety of the coniferous trees that are crowded around us, all in the most robust and healthy growth, very many of them being remarkably beautiful as specimens. Fine examples of Picea lasiocarpa, P. nobilis, P. pinsapo, and P. cephalonica are conspicuous by their picturesque forms and exceedingly vigorous growth; unusually large specimens of the golden Thuia orientalis in brilliant colour, Pinus cembra, P. excelsa, P. austriaca, P. macrocarpa, P. mugho; a considerable series of Abies, including, of course, the deodar, with junipers and cypresses, in considerable variety. As a test of growth, a particularly perfect specimen of Wellingtonia gigantea was selected for observation. It has been planted eighteen years, and is forty feet high. As it must have been at least two years old when planted, the growth up to the present time has been at the rate of two feet per annum. The soil is a kind of alluvial drift, such as might be called a pebbly loam, apparently of great depth.

Amongst the curiosities of the Dedham seed farm are the Godetias, now flaming with immensity of colour. There are twenty distinct varieties, all good, forming a resplendent group of cheap hardy annuals. A novelty in this class is a dwarf plant called *Dunnett's Tom Thumb*, the flowers soft purple-rose, with rich scarlet-crimson spot at the base of each petal. *Roseo-alba* is white, with rich carmine spot. *Lady Satin Rose* is rosy crimson. *Lady Albemarle* comes near to it, and both may be described as rosy crimson, although they differ considerably in tone. The darkest of the series is *Princess of Wales*, deep rich crimson. A pretty sort of Sweet Sultan is *Centaurea involucrata*, a very leafy plant, with a large yellow head inclosed in a conspicuous involucre. Quite a trifle is *Lupinus luteus*, a dwarf yellow annual with a rich fragrance like honey. This we should have supposed lost to cultivation, for we have so rarely met with it, but a largish piece grown for seed proves that a good thing can, in some measure, take care of itself.

Leaving the farm at Dedham we pass on the road a series of outlying plots of mangels, peas, beans, beets, and other crops, for which great spaces are required, and that are necessarily isolated to ensure the purity of the seed. In due time, after a delightful drive, we reach St. Osyth, and amongst the first subjects of attention are the new varieties of Wheat raised by cross breeding, not simply "to see what can be got," but for the very definite and laudable purpose of adapting the wheat plant to the requirements of various of our colonies. It is possible that in the course of many hours' enjoyable inspection of seed crops we saw nothing of greater interest or value than these wheats. The cross breeding has been carried on in the nurseries of the firm at Forest Hill, and as stocks of the several selected seedlings have been secured they have been sent to St. Osyth to be grown for bulk, and for the necessary supervision as regards character. The foundations of the new race may be described as Talavera, Royal Prize Red, Square-headed, and Hunter's White. The importance of the undertaking will be suggested by stating that in these wheats we have several distinctive characters. For example, one labelled No. 13 is adapted for spring sowing, as it ripens off fourteen days earlier than its parents, and, as a matter of fact, was nearly ready for harvesting when we saw it on July 21. For Canada this is likely to prove of great value. Another quality is firm setting, so that the crop may stand until dead ripe without shelling out, a peculiarity likely to be especially valued in New Zealand, where the mode of harvesting is peculiar. Yet another quality, very finely developed in one of the varieties, is a certain bristly or prickly growth of short awns on the ears that render it almost impossible for small birds to obtain a lodgment for picking out the grain. This bird-proof wheat will, we suppose, when sufficiently known, be appreciated everywhere. But all these points would be as nothing without strong straw, free tillering, full heads, and a good constitution. We can answer for these points that they are not wanted, but we cannot answer for the milling qualities, but must leave that question for the miller and his men.

Peas are grown on a great scale at St. Osyth, and the purest stocks obtainable are secured of all the leading sorts. We noticed as particularly fine, the *Duke of Albany*, a newish variety, rising five feet, very stout in growth, and bearing an immense crop of large, well-filled pods. The best stock of Veitch's Perfection is *G. F. Wilson*, a most prolific pea, of fine variety, that answers well without stakes. *Carter's Stratagem* keeps its place as a profitable pea, occupying but little space, and taking care of itself entirely; and *Telephone* and *Pride of the Market* are still amongst the wonders of the family. But a new candidate for favour has appeared in the useful way of Veitch's Perfection, but dwarfer, earlier, and more prolific. This is called *Anticipation*, but when the tasting committee gave a verdict on its merits it was proposed to name it "Realization," for it gave such satisfaction, that although vast quantities were cooked there were none left, and yet there were flesh meats enough for a parish put on the table with them, the mutton was delectable, and there was no quackery in the ducks. The experts were agreed that Anticipation would surpass that conception of Butler, for he defined it—

> To swallow gudgeons ere they're catched,
> And count your chickens ere they're hatched.

It may be added here that sweet peas cover ten acres of land, but the experts found none sweeter than those they tasted.

Mignonette has a great place as a farm crop here, and of course the sorts are grown in various quantities to meet the demand. A few years ago the white, red, and yellow appeared to be required in about equal proportions; then *Golden Queen* acquired a lead, and proved a thoroughly good thing. The leading kind now is *Nana compacta*, a very close-growing flowery plant, delightfully fragrant. But let all and sundry take notice that the common mignonette still makes a good figure amongst the varieties that compete with it, and possibly, for all common purposes, it is as good as any and better than some. "Will you take a little golden syrup?" asked the lady of the table. "Well, marm," replied the affable guest, "I will take a goodish lot of that treacle; it is common stuff, but uncommonly wholesome." It is just possible—and we guard ourselves with the language of caution—that the common mignonette is the sweetest of all, and we should like to hear what others have to say about it.

Dwarf Tropæolums, as seen at St. Osyth, might suggest to a Barnum a new road to fortune, for the blocks of colour the varieties present are beyond belief surprising, and carry the colour sense to the verge of painfulness, owing to their extent, uniformity, solidity, and excessive brilliancy. For sunny situations, and more especially for dry, poor soils, these must be the cheapest and showiest of bedding plants, more especially as there are about twenty varieties, all distinct, and all of them as manageable as any annuals under the sun. *Tom Thumb Scarlet* is tremendous in colour when seen in a solid block; *Crystal Palace Gem* is sulphur colour, with dark spot; *Golden King* is brilliant yellow; *Ruby King* is a peculiar tone of blue-tinted red; *King of Tom Thumbs* is rich crimson-scarlet; *Empress of India* is of the deepest crimson, with neat leafage of a purple-tinted green, a solemn but truly grand thing, that demands of one an effort to believe that it is a cheap annual. One called the *Pearl* gives us a creamy-white flower. Thus, in this one group, we have nearly all the needful elements for colouring a great parterre.

The novelty made note of recently in report on plants in flower, *Statice Suworowi*, a name variously spelt because understood only in Russian or Polar regions, may be seen here as a "farm crop"! The statement will probably take away the breath of every one of our readers, but we cannot be responsible for any breath but our own, which has been seriously shortened by compulsory utterance of these ugly names. We shall propose to call this beauty "Statice cylindrica," a name that will be descriptive and likely to put Suworow, or Suvaroff, or Suvarov in a shady place, for as associated with this beauty he certainly does at present stand in our sunshine. The marshal of that name, who stormed Ismail in 1790 and crushed Poland in 1794, can scarcely be welcome even as a remembrance in the flower garden. His proper monument is in Byron's verse, and he appears opportunely to keep a marvellous story warm with life and sparkling with fire—

> On the sixteenth day, at full gallop, drew
> In sight two horsemen, who were deem'd Cossacques
> For some time, till they came in nearer view.
> They had but little baggage at their backs
> For there were but three shirts between the two;
> But on they rode upon two Ukraine hacks,
> Till, in approaching, were at length descried,
> In this plain pair, Suwarrow and his guide.

There is no evidence at present before us as to the duration of this delightful statice, but probably it is strictly an annual. It has given some trouble at St. Osyth, but it is completely conquered, and the large plot we saw was in perfect condition throughout, and the tail-like inflorescence was of a richer colour than any examples we had previously seen. Appreciation of the beauty was made clear in the fact that the mightiest experts in the party had lowered themselves to petty larceny by purloining flowers wherewith to adorn their portly persons. A *Double Silene compacta* makes a great show now of a most refreshing tone of rose pink, the colour uniform and solid. *Lychnis Haageana* tells with force in a mass, the colour amidst surrounding greenery is delightful. All the *Chinese pinks*, including *Heddewigi*, are brilliant in their several colours, and in the open expanse their free flowering surprises one. *Pansies* cover acres enough to fill us with wonder as to what becomes of them, but when we note the fine qualities of the flowers it is pretty well demonstrated that the raising of pansies from seed is superseding the time-honoured naming and propagating. Larkspurs, Antirrhinums, Drummond's Phlox, Zinnias, Petunias, Dwarf Convolvulus, Eschscholtzias, Delphiniums, and Clarkias are seen in such great breadths and distinct varieties that it is hard to believe in the commercial principle as underlying the whole business, but so it is, and these remarkable results are due to the demands of the world for flower seeds of sorts, but they display much more talent and tenacity than the world has any idea of as aids in seed growing to the promptings of the commercial spirit. Finally for a windup, what do you think of *Eccremocarpus Scaber* as a farm crop? Well, we saw a considerable piece of this beautiful climber rioting on feathery stakes some six or more feet high, which were covered with the light leafage and gay flowers, and the fact seemed a proper parallel to the cylindrical statice as amongst the floral surprises of a very happy day.

MESSRS. J. CARTER AND CO.'S SEED GROUNDS, FOREST HILL.

A few years since Messrs. J. Carter and Co. instituted at their Forest Hill Seed Grounds a series of experiments in the cultivation of stocks and asters, with a view to determine the practicability or otherwise of saving the seed of these two important classes of flowers on a large scale in this country, and the results have been such as to prove to demonstration that it can be satisfactorily accomplished. It has, of course, been long known that seed of both asters and stocks can be readily saved in limited quantities, and the points the firm had to settle were whether so large a percentage of double flowers could be obtained from English as from German seed, and whether there would be any material difference in the cost. In what way the second of the two points has been determined we are unable to say; but it is quite certain that the seed of home growth produces equally as large a percentage of double flowers as the best obtainable from Germany. This is especially so in the case of the stocks which are now in bloom, and shows what can be done by careful selection and a proper course of culture. At the present time there are about 35,000 plants in bloom, of which at least 65 per cent. have double flowers, the average obtained from good German seed being 60 per cent. The plants are grown in six-inch pots, seven in each, and placed on stages constructed on the same principles as those employed by the Continental growers, and the effect produced at the present time is surprisingly rich and beautiful. The stages, which face the south, are about four feet high in front and five feet at the back, hold about half-a-dozen rows of pots, and have wooden shutters so fixed over them that the plants are protected from heavy rains without being deprived of either light or air. In a few days hence the stages will lose much of their attractiveness, for as soon as the double flowers begin to fade the plants will be carefully withdrawn from the pots, and the plants bearing the single flowers be left in undisputed possession to ripen their seeds. Four types are grown, and these are known respectively as the Large-flowered, Pyramidal, Dwarf German, and the Wallflower-leaved. Of each type there are about twelve colours, the firm having reduced them to that number by rejecting the ineffective shades which form such a large proportion of the German collections. The large-flowered is a remarkably fine type, the spikes of great length,

and the flowers of fine form and very thickly set on the spikes. Some of the most effective colours afforded by the type are crimson, light blue, light rose, dark purple, and yellowish buff, whilst the white form is particularly good. These colours are also well represented in the collection of pyramidal varieties, and these are in a very pleasing shade of primrose yellow and a brilliant shade of scarlet crimson. The wallflowered varieties are distinguished by their glossy green leaves and brilliantly-coloured flowers, in the latter respect quite surpassing the other types. The dwarf German type is dwarfer in growth than either of the other sections, and is also earlier in coming into bloom, and is therefore useful when a succession of flowers is required.

In addition to the stocks, there are immense displays of balsams, petunias, and gloxinias, all of which are alike remarkable for the high quality of their flowers, and the admirable manner in which the plants have been grown. Of the balsams there are upwards of three thousand plants, all of which occupy eight-inch pots, and are flowering profusely, the individual blooms being of large size, and the colours very bright. The petunias are still more numerous; the stock comprising about five thousand plants. The flowers of these are all of immense size and superb form, and the colours are wonderfully rich and diversified. Amongst the new colours that have been fixed is a rich shade of violet blue, which is so singularly effective that it will not fail to be appreciated.

Other matters of interest in the seed grounds include a very important trial of peas in the open quarters, and a trial of tomatoes under glass. Both include all the new and old varieties in cultivation, and amongst the peas are several new sorts not yet in commerce, which promise to take, in due course, a high position amongst the standard varieties.

PLANTS OF THE ALPS.

By H. Correvon, Director of the Jardin d'Acclimatation, Geneva.
Translated by R. Irwin Lynch, A.L.S., Curator of the Botanic Garden, Cambridge.

CHAPTER IV.—Origin of the Alpine Flora.

From whence comes the flora which covers the Alps? What is the country of its origin? and how has it become established on the craggy summits of the mountains? Is it endemic, and may the alpine territory be considered as the focus of creation of this brilliant vegetation; or is its presence on our frozen mountains due to emigration? These questions, so interesting to those who are concerned with the Alps and their nature, have been studied in a special manner during the last few years. We owe to the works of Dr. Christ, in this province, a new impulse towards discovery. His "Histoire des Plantes de la Suisse" is the most important work which has appeared on the subject. After a very profound study of the flora of the Alps, from the point of view of geographical distribution, the author concludes to assign different origins to different categories of species. Whilst some, originating from the North and the Arctic zones, would have invaded our European centre during the glacial epoch, and then climbed the highest summits of our mountains, others, on the contrary, would have a southern origin, undergoing modification of form by the influence of a colder climate. He recognises, however, that among the 693 species of plants found in the chain of the Alps there are 230 which properly belong to it.* But these species, according to Christ, are limited to the warm and dry parts of the Alps, whereas the arctic species go higher, and occupy all the places exposed to moisture and cold. Here is what he says on this subject:—

"It is a well-established fact that the chain of the Alps, endowed with a warmer and drier climate, gave birth to species which for the greater part have chosen a home in the stations which did not suit the arctic species; on the other hand, these last have sought the humid places, and abandoned the dry places to our endemic plants. It is also precisely in their character as plants of humid regions that they have spread over so vast a territory.

"A. de Candolle has proved that the plants which are cosmopolitan in the true sense of the word are almost exclusively aquatic species. It may then be admitted that the arctic-alpine species which found a sufficiently moist soil, have been victorious in the struggle with their rivals, and that they have spread from their central homes of the north of Asia and America, to all the circumpolar region, and to all the chains of the temperate zone, to the Himalayas, and are there maintained; while for long periods the plains have been occupied by a flora made up from dry and warm parts."

It is not so of our endemic alpine plants; they stopped at the limit of the zone, which has the same climate as the Alps; beyond the great chain formed by the Carpathians, the Alps, and the Pyrenees, they advanced no further towards the north than the mountains of the interior of Germany, towards the south to the peninsulas of the Mediterranean, and towards the east to the Caucasus. At greater distances but seventy species are found among the rare and common plants of Norway, Great Britain, Ireland, and the Ural mountains. Two species have reached the Himalaya, viz., *Pedicularis asplenifolia* and *O ytropis lapponica*. In spite of its name this last species is alpine, and is elsewhere found only in Norway, where it is widely spread.

It is not only in the humid stations, but also in those most elevated in the snowy and sub-snowy zone, where the most considerable power of adaptation of the arctic group is revealed. Of 287 plants growing in this region, and belonging to all the chain, 125, or about half, are arctic. Of 172 alpine species which may be considered the most widely spread, being at the same time those which, by the number of individuals, form the most considerable part of the vegetation, there are no more than 93 which are not arctic.

The endemic element of our alpine flora does not then attain to preponderance, except when sustained by the softness of the southern climate; when the humidity and cold of the heights are too great for this vegetation these species give way to species of the north with greater powers of resistance.

What more remarkable than the following? It is not only in the human population of the Alps that an indigenous Celtic race, a Germanic race more apathetic and cold, and a Roman race more lively, can be distinguished; the very flora is composed of a quite similar mixture, and we find in reality an endemic element, an arctic, and a Mediterranean element.†

The author insists on the duration and the importance of two glacial epochs to which our country has been subject. The alpine flora would have occupied at that time all the territory of our plains and plateaux which were not covered with ice. Then, whilst the limit of glaciers and eternal ice under the influence of a warmer climate, and perhaps by the appearance of the "föhn" commenced to withdraw upwards, the flora followed this ascensional movement and gained the heights where it found its anterior condition of existence. It will redescend perhaps in the future, if, as is quite possible, the temperature of our country lowers to a point that will permit the glaciers of the Alps to cover the plains once more.

The theory of Dr. Christ is based on the data of the greatest naturalists, of Cuvier, Oswald Heer, and Agassiz. The author has, besides, studied the question very deeply, he has worked himself, and is provided with the most exact information. In spite of this, his theory is far from entirely satisfying those who observe the Alps and all that concerns the flora. It may be asked, among other questions, What are the laws which impel the alpine flora in a march upwards, and allow it to invade the summits from below, by scaling the most abrupt walls, free from all trace of glaciers? From the data of Dr. Kerner, of Innspruck,* who has given careful study and long experience to this subject, there exists in the Alps but a very limited number of species, of which the seeds are liable to be transported by the winds. He divides the seeds of alpine plants into several series. Some, and the greatest number of them, are absolutely naked, without asperities, and destined to remain on the spot or to be carried by water to lower levels. The others, furnished with tufts of hair or wings, are carried by the wind in all directions, and float in the air, as may easily be seen by the naked eye, on a fine evening in summer, when the air is clear and the sun going down. The flora which adorns the gorges of the mountains and the beds of alpine torrents, is almost entirely composed of species belonging to this category of seeds. But the number of these species is very limited, relatively to the richness of the alpine flora. Others, finally, have no appendage, but have a twisted or shagreened structure that offers a weak hold to the wind, which cannot be of long duration. These species never remove far from the parent plant, and are generally carried in a horizontal direction; it is these, with the plants of the first series, which adorn the pastures and the ridges of the Alps. But we find in the elevated regions, which are the most richly endowed with species, a very limited number of plants belonging to the series of winged seeds, or those subject to the influence of wind. The number of those which might be disseminated by means of animals is much more limited still. No law then seems established to permit the upward march of vegetable life, all seems on the contrary to conspire to lower the limit. Examine the various phenomena of the mountains, and you will soon be convinced, like myself, that far from allowing this upward movement, all that happens up there tends to drive the vegetation from above downwards, and to spread it in the plains. From the avalanche, which carries with it more or less considerable masses of soil, to the rumbling of thunder capable of shaking the tops of the mountains and to roll from them the *debris* into the valley, all contributes to bring down the mountain and to lower its summit. There can be no exception, so far as I can see, but for the Cryptogams (Lichens), the light spores of which fill the atmosphere and transport the species to regions the most diverse and the most elevated.

The plants of the Alps are endowed with astonishing tenacity, and a positive force of resistance, which permits them to cling to the places which gave them birth. Their strong roots, their thick rootstocks, often furnished with adventitious roots, attach them to the soil and permit them to resist the several devastating currents which would carry them away to the plains. But there end such features of our flowering-plant flora; it has a resisting character, invading but not ascending. The upward march of certain plants in several regions of our Alps has been well pointed out. †Tschudi points out a case of this kind on the summit of the Piz Linard, where a certain number of species are at present established, of which Heer, thirty years before, had found the last traces some hundreds of yards lower down. I do not think, however, that one can rely on any isolated facts, which may be produced by peculiar circumstances, and it is besides very possible that the plants discovered on the summit of the mountain thirty years after Heer's ascent grew from seeds deposited in the soil a great number of years before, centuries perhaps, and which, like those found in the pyramids of Egypt, had preserved their power of germination. What, indeed, could be the means by which, in thirty years, the comparatively heavy seeds of *Androsace glacialis* and *Ranunculus glacialis* could be transported from glaciers at 300 feet elevation, the local circumstances, so little favourable to the rapid development of vegetation, being understood? I hasten, however, to cite on this subject the opinion of an eminently competent man, though not a native of our country, who, in a paper read before the Royal Geographical Society of London, expresses on the subject of the origin of the alpine flora an opinion entirely different from that of other naturalists. Mr. John Ball, who for a long time has been president of the English Alpine Club, has made some very interesting observations on the flora of the Alps, and has engaged this question in a very learned manner. Mr. Ball informs me that later on he will publish the complete results of his work and researches. In the meantime, here in a few words, is a *résumé* of his theory.‡

Instead of basing his considerations on the correlation which exists between the flora of the Alps and that of the Polar regions, in order to conclude like other naturalists that there has been an emigration from the one to the other, he seeks to demonstrate that this correlation is quite as great between the floras which cover some of the mountains of the Northern hemisphere not Arctic; that these mountains, at a very remote epoch, must have been continuous the one with the other, and that the flora to a certain extent was the same on all their summits.

Of species contained in the alpine flora, 17 per cent. he says, are common to the arctic regions, and 25 per cent. to the Altai chain. He asks himself, then, how many centuries it must have required for these plants of the North to reach our Alps. Then he would know whence come the 83 per cent. of other species which are not found in the North. Is it possible that in the interval, comparatively so short, which separates us from the glacial epoch, some hundreds of species, perfectly distinct, and even a certain number of distinct genera, can have taken their birth in the Alps? Is it, above all, possible that these species and these genera, not arctic, have been able, during an epoch yet nearer our own, to become distributed over such vast intervals on a chain of mountains of 1,500 English miles, reaching from the Pyrenees to the Carpathians, and of which some are separated from others by vast territories? But there even the difficulty does not end; how is the fact explained that a certain number of types, not arctic, are found disseminated in the mountains of regions absolutely foreign the one to the other, and that they are there represented by quite distinct species, all descended, however, from the same ancestor? That a species of *Wulfenia*, for example, inhabits the Alps of

* "La flore de la Suisse et ses origines," p. 325.

† "La flore de la Suisse et ses origines," p. 335.

* Der Einfluss der Winde auf die Alpenvegetation. Zeitschrift der O. u. D. Alpenvereine, B. II., S. 141.

† "Le Monde des Alpes," page 680.

‡ Proceedings of the Royal Geographical Society, London, 1879.

Coriuthia; while another species, similar, but different, is found in the North of Syria; and a third on the Himalaya mountains.

Mr. Ball does not allow that genera very rich in distinct species, such as saxifraga, of which the appearance and character is very varied, can have been formed since the end of the Tertiary epoch. He differs from Engler, who believes that at this period there existed but six types of saxifraga. It is not possible, in a time relatively so short, that such a number of diverse and perfectly characterised species could have been differentiated, all descended from one and the same ancestor. How can it be admitted that *Saxifraga oppositifolia*, which would have been introduced from the arctic regions to our Alps during the Glacial epoch, could have given birth to a very distinct species of the same group, the *S. retusa*, which is found in the Alps, the Pyrenees, and the Carpathians, only at very great intervals.

Passing to another side of the question, he asks, assuming that a part of the arctic flora was disseminated on the mountains of the northern hemisphere since the commencement of the Glacial epoch, where could this flora have been before it existed in the arctic regions? It is known, indeed, in a very positive manner, that during the Tertiary epoch the flora of the extreme north was similar to that of our temperate zones, and that the climate which then reigned in those regions did not altogether suit the flora found there at the present time. In the Carboniferous epoch the organic life which covered the earth was different from that of our times. The atmosphere was then charged with a very large proportion of carbonic acid, and contained much less oxygen than it does now. After the calculations that have been made, it may be supposed that the atmosphere then contained on the surface of the earth twenty times more carbonic acid than it does at present. But it is probable that the equilibrium was being established on the summits of the mountains, which were much more elevated than they are now. He resorts to a calculation made by the Count de Saint Robert, of Turin, that in allowing 100 parts of carbonic acid at the surface of the earth there would be no more than 67 at 16,404 feet (5,000 metres) and 12½ at 32,808 feet. The proportion, still great at 16,404 feet, diminishes rapidly and becomes natural at double the height. There phanerogamic plants of the kind belonging to our alpine flora should be able to live.

The idea that the flora may have followed a descending rather than an ascending movement appears to me right, and the other arguments which Mr. Ball employs in favour of his theory appear to me equally difficult to refute. For my part, I do not believe that the polar regions can by any means be centres of creation. It would necessitate an intensity of light which they do not possess. Indeed, the solar rays there reach the earth obliquely, after traversing a depth of atmosphere greater than anywhere else. The intense light which reigns on the summits of mountains, the great heat during the day, the moisture of the air, are so many causes capable of activating and modifying the flowering vegetation, and these causes exist no longer in the polar regions.

Mr. Ball's theory has, besides, this advantage, that it explains the problem of the dispersion of the same species on mountain districts far distant from one to another. It is to be supposed, in fact, that during the Carboniferous epoch, the greater number of the chains of mountains of our northern hemisphere were more or less joined to each other. The disturbances which have changed the surface of our globe have not, however, so far transformed it that one cannot gather some traces to prove that these different chains of mountains formed only a single one at a certain epoch. It is perfectly certain, for example, that at a far distant epoch South America was a very mountainous country. Brazil was then linked to the African continent by an archipelago, or even by a chain of mountains, which extended across the Atlantic ocean, but which have been submerged. This explains, without doubt, the presence on the Andes of certain genera of plants common to the mountains of the two continents. It is easy, therefore, to form an idea of the first causes which have aided in the dissemination of species and genera on summits and in countries very different and distant from each other. The mountains of the European centre are more particularly rich in the eastern than in the western part, and besides it is there that one of the principal foci of creation must be sought. The relations between the floras of these different mountains are also closer in the east than in the west of the Alps. It is thus that, whilst the Pyrenees have only half the species common to our Alps, the proportion rises to two-thirds for the Carpathians, and descends to one-sixth for the northern regions.

EARLY PEACHES.

By J. Macdonald.

With regard to the flavour of early peaches, the general verdict is that they are not equal to the mid-season kinds. But whether this is so or not, the fact that such sorts as Hale's Early, Princess Beatrice, and Alexander ripen at least a fortnight before such varieties as Early Grosse Mignonne and Royal George is of great importance, and I think we can afford to forego a little want in flavour, seeing that their early ripening prolongs the season considerably.

With regard to the flavour of the three early sorts I have named, I do not think there is much difference. But Alexander is decidedly the largest, and a very handsome fruit it is, for it is highly coloured. It is also more free in bearing than Hale's Early. Princess Beatrice is a lighter-coloured peach and an excellent bearer, and not nearly so much planted against open walls as it deserves, for in favourable seasons it will ripen its fruit early in August. Under glass in an unheated house the fruit attains maturity about the middle of July, while Hale's Early is a few days later. I think the last-named has the most delicate constitution of any of the early peaches. Friends of mine in the Midland counties, however, say that it is not so suitable for outdoor culture as Early Rivers or Early Beatrice. At the same time I am bound to say I have seen it in fair condition in some of the Southern counties.

There is another early peach I want to recommend to your readers, and that is a sort named Waterloo, because I not only think that it will beat all the others with regard to earliness, but that it will prove the most hardy and prolific. In appearance the tree is quite distinct from all others, the colour of the wood being of a bright bronzy red. This variety has not been largely distributed yet, but if I am not much mistaken the present season will bring it prominently forward.

I cannot let this opportunity pass without saying a few words with reference to the management of these early peaches, because I believe that in some cases when they prove to be indifferent croppers the fault is in the management, or, in other words, the trees are not managed properly in the late summer months. Too many, I fear, gather the crop, and think no more about the trees until the following spring. Such treatment is not right. The trees require syringing at least three times a week to keep away red spider, and the roots want to be as carefully watered after the fruit is gathered as before; but the greatest enemy to the next year's crop is red spider, and this pest is often numerous in August and September, and if allowed undisputed possession of the leaves it will cause them to fall prematurely from the tree, and then the buds are imperfectly nourished. This, I believe, causes them to fall, just as they are on the point of opening, in the spring.

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, July 27.

Floral Committee.

Present: G. F. Wilson, Esq. (in the chair), and Major Lendy, Rev. W. Wilks, Dr. Masters, and Messrs. J. Shirley Hibberd, James Hudson, John Dominy, H. M. Pollett, James O'Brien, E. Hill, Charles Noble, W. Holmes, H. Herbst, W. Bealby, A. Perry, H. Bennett, T. Baines, H. Cannell, W. B. Kellock, G. Duffield, J. Walker, H. Ballantine, J. Douglas, H. Turner, and R. Dean.

Hardy Flowers formed a conspicuous and interesting feature, and were contributed by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham; Messrs. Barr and Son, 12, King Street, Covent Garden; and Messrs. Paul and Son, Old Nurseries, Cheshunt. The collection of Mr. T. S. Ware was of large extent, and amongst things of interest were Lilium auratum platyphyllum album, a fine variety, with large creamy white flowers, with a broad yellow band down the centre of each petal; Helenium pumilum, Lychnis chalcedonicum, Polemonium Richardsoni, Lilium dalmaticum, L. chalcedonicum, Veronica elegans, very pleasing, light pink flowers, Spiræa filipendula, fl. pl., Disa grandiflora, Erigeron speciosum superbum, Œnothera speciosa, Matricaria inodora grandiflora, fl. pl., which received the award of a first-class certificate, and Campanula grandiflora pumila. The last-mentioned is far superior to the type, possessing a dwarf, compact habit, and bearing large, bell-shaped flowers of a blue colour. The collection put up by Messrs. Paul and Son was also of great interest, and was strong in lilies and phloxes. Amongst the former, L. dalmaticum was worthy of attention; the flowers are neither handsome nor beautiful, but are noticeable for their powerful repugnant odour. Several fine spikes of Gladiolus Colvilli albus were put up, and other striking subjects were Poppy Danebrog, Statice speciosa, Liatris spicata, and Lathyrus latifolius splendens. In the collection of Messrs. Barr and Son the scarlet Gladiolus brenchleyensis, Lilium speciosum roseum, L. auratum, and varieties of Papaver nudicaule were well represented.

Roses made an attractive feature, and a fine collection, consisting of twelve boxes and twelve baskets of cut flowers, was put up by W. Paul and Son, Waltham Cross. The most noticeable varieties were Souvenir de la Malmaison, Pumila alba, Perle des jardins, Brilliant, Lady Mary Fitzwilliam, Perle d'Or, Queen of Queens, Merveille de Lyon, Madame Falcot, A. K. Williams (fine), Catherine Mermet, Marie Van Houtte, and Grand Mogul, a new hybrid perpetual, a grand, dark-coloured form of A. K. Williams. Messrs. Paul and Son, Cheshunt, also staged a collection of roses, the flowers being fresh and well developed, especially Prince Camille de Rohan, Comtesse de Nadaillac, Annie Wood, Etienne Levet, Dr. Andry, A. K. Williams, and Baroness Rothschild; and a collection came from Messrs. T. Rivers and Son, comprising well-known varieties.

Mr. Robert Owen, Floral Nurseries, Maidenhead, exhibited a collection of seedling begonias, comprising both single and double, some of the flowers being noticeable for large size, fine form, and distinct and brilliant colouring. From Mr. T. Jannock, Lily Nursery, King's Lynn, came Adiantum capillus veneris var grande, a fine form of the English Maidenhair, remarkable for the large size of the pinnules, the fronds bearing in appearance a close resemblance to those of Adiantum Farleyense. Mr. H. B. May, Dyson's Lane Nursery, Edmonton, showed Pteris cretica "H. B. May," and was accorded a vote of thanks. Mr. R. Dean, Ealing, contributed Dean's White Intermediate and Mauve Beauty Stocks, two fine varieties, the spikes dense, and the flowers powerfully fragrant. A vote of thanks was awarded. Mr. W. Bealby received a cultural commendation for Begonia Louis d'Or, a well-grown specimen, the flowers quite double, well formed, and in colour sulphur yellow. From Mr. S. Davenport, gardener to C. G. Hill, Esq., came three varieties of Cattleya gigas, one of which was deservedly awarded a first-class certificate, and will be found described below. A vote of thanks was awarded to Rev. A. Rawson, Bromley, Kent, for a peculiar and attractive variety of Papaver somniferum. Cypripedium Morganiæ was well shown by Mr. Ballantine, gardener to Baron Schroder, The Dell, Egham, and attracted considerable attention, as it is not only exceedingly rare and valuable, but possessed of great beauty. W. Lee, Esq., Downside, Leatherhead, sent two fine spikes of Lælia elegans Turneri, a fine form of this popular species. Messrs. Hansom and Larson, Stamford Hill, exhibited their "Automatic Ventilator," and were accorded a vote of thanks. From the Chiswick gardens came several fine hollyhocks which were especially interesting, as showing that the plant is slowly but surely recovering from the dire disease which threatened to exterminate it completely. Mr. C. Noble, Bagshot, contributed some clematis flowers; and from Messrs. H. Cannell and Son, Swanley, came plants of Carnation Pride of Penhurst, which has been frequently described. Seedling Gladiolus, with flowers remarkable for bright colouring and good form, were sent by Messrs. E. H. Krelage and Son, Haarlem, Holland.

Fruit Committee.

Present: Mr. T. F. Rivers in the chair; and Dr. Hogg and Messrs. T. J. Saltmarsh, J. Willard, W. Denning, G. Norman, G. Bunyard, J. E. Lane, P. Crowley, J. Ellam, J. Woodbridge, G. T. Miles, and A. W. Sutton.

The most important exhibit was the collection of fruit trees in pots, contributed by Messrs. T. F. Rivers, Sawbridgeworth. The trees were full of health and vigour and laden with fruit. The kinds represented were Goldoni nectarine, Bigarreau Gros Cœuret and Black Hawk cherries, Monarch and Grand Duke plums, Beacon and Louise Bonne of Jersey pears, and The Nectarine and Sea Eagle peaches. The same firm also showed eleven dishes of cherries and three of peaches, the fruits being remarkably fine. Amongst the peaches was Rivers's Early Louise, which had been grown in a cold frame; the fruits were large and well coloured. The cherries shown comprised

Ludwig's Bigarreau, Bigarreau Noir de Guben, late Black Bigarreau, Bigarreau Napoleon, Bedford Prolific, Bigarreau Monstreuse de Mezel, Geant d'Hedelfingen, Grlotte Imperiale, Turkey Black Heart, Emperor Francois, and Early Rivers. A silver medal was awarded the firm for their interesting exhibits. Reginald Kelly, Esq., Lifton, Devonshire, exhibited a seedling melon named "Kelly Hybrid," which was too ripe for the committee to determine its merits. Mr. G. Humphrey, The Gardens, Nash Court, Faversham, also sent a seedling melon, and a small collection of cabbages came from the Chiswick Gardens of the R.H.S.

Special Prizes.

The competition in these classes was keen, and the exhibits of fine quality. Messrs. James Carter and Co., High Holborn, offered prizes for the best twelve pods of Leviathan bean, for two specimens of Giant White Cos, Longstander, and All the Year Round lettuces, and for three heads of Heartwell Early Marrow cabbage. In the first-named class Mr. R. Timbs, Tyler's Green, Amersham, came first; Mr. T. A. Beckett, Cole Hatch Farm, Pinn, Bucks, second; and Mr. C. J. Waite, gardener to Colonel the Hon. W. P. Talbot, Glenhurst, Esher, third. In the class for lettuces Mr. T. A. Beckett took the first prize, Mr. C. J. Waite coming second, and Mr. L. Harris, High Wycombe, Bucks, third. Mr. C. Osman, Sutton, Surrey, headed the prize list in the last-mentioned class, the second award being made in favour of Mr. R. Timbs, and the third prize went to Mr. W. Jacob, Prince Street, Petworth. Messrs. Sutton and Sons, Reading, also offered special prizes. In the class for the three heads of First Crop cauliflower Mr. T. A. Beckett came first, Mr. C. J. Waite second, and Mr. C. Osman third. For a collection of six dishes of peas, to include Sutton's New Marrow, Satisfaction, and the Duke of Albany, Mr. H. Marriott, Skirbeck, Lincolnshire, occupied the principal place, the second award being made in favour of Mr. H. Marriott, jun., Boston, Lincolnshire, and the third prize was awarded to Mr. E. Walter, Clapham Park, Bedford. Mr. John Cook, Boston Long Hedges, Boston, came fourth. For three heads of Little Gem and All Heart cabbages the prize-takers were Mr. W. P. Cornish, gardener to James Downing, Esq., The Shrubberies, Enfield; Mr. George Woodham, North Dulwich, and Mr. C. Osman, in the order of their names. Messrs. Webb and Sons, Wordsley, Stourbridge, offered prizes for twenty-four pods of Chancellor pea, and Mr. H. Marriott and Mr. H. Marriott, jun, were first and second respectively.

Novelties.

The novelties brought before the Floral Committee were not numerous, but included subjects of rare interest and beauty. First-class certificates were granted as under:—

To Messrs. J. Veitch and Sons, Chelsea, for

Todea grandipinnula.—A supposed hybrid between T. Fraseri and T. hymenophylloides, with very elegant, much-divided fronds, of delicate texture and pleasing light green colour.

Rhododendron balsamæflorum Rajah.—A striking and valuable variety, free flowering, and bearing large trusses of double flowers of great substance, in colour light buff suffused with orange red in the centre, and the broad outer petals margined with the same hue.

To Mr. H. Simpkins, gardener to R. T. Measures, Esq., for

Oncidium stelligerum Ernesti.—A distinct and pleasing form, the sepals and petals heavily blotched with rich brown on a greenish yellow ground, the lip prominent, the lower lobe mauve-pink, and the side lobes pure white.

To Mr. S. Davenport, gardener to C. G. Hill, Esq., Notts, for

Cattleya gigas, Hill's variety.—A magnificent variety of this well-known Cattleya. The flowers are of immense size, and distinguished by gorgeous colouring. The sepals and petals are lively pinkish lilac, the lip of huge size, with the lower half deep velvety crimson and the upper part lined in the centre with purple and embellished with two large sulphur-coloured eye-like blotches.

To Mr. J. Douglas, Great Gearies, Ilford, for

Picotee Terra Cotta.—A distinct and showy yellow ground, the flowers of immense size, full, perfect in form, the ground yellowish buff, heavily edged with rose-mauve.

To Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for

Matricaria inodora grandiflora fl. pl.—A fine form of this well-known border plant, with perfectly double pure white flowers, which are likely to prove valuable for decorative purposes.

NATIONAL CARNATION AND PICOTEE SOCIETY, July 27.

Cultivators and others who take a special interest in the carnation and picotee have good cause to be satisfied with the exhibition of the southern section of the National Carnation and Picotee Society, which was held at South Kensington on Tuesday, in conjunction with the meeting of R.H.S. It was not so long since supposed that the exhibition would be somewhat smaller than for several years past, and that the flowers would be below the average in quality. But the entries poured in at such a rate that several days before the date of the exhibition it became evident that the show would be larger rather than smaller, and as the flowers were placed on the stage on the morning of the exhibition it was proved to demonstration that cultivators had been able to overcome the exceptionally adverse influences with which the plants had to contend during the past winter and spring. In no previous year has the competition in the several classes been more spirited, and certainly the flowers generally have not been staged in such splendid condition as on this occasion. Show carnations were remarkably good, but the picotees were simply magnificent, and selfs, fancies, and yellow grounds were so largely shown as to form a very distinct feature, which proved highly attractive to the visitors who appreciate bright colouring more than perfection of form and regularity of markings.

Carnations were staged in large numbers, and in a condition that reflected much credit on the cultural skill of the large body of cultivators who took part in the competition for the prizes. There were five entries in the great class for twenty-four blooms, and the premier award was made in favour of Mr. Charles Turner, Slough, whose flowers were of large size and bright in colour. The varieties were George, Matador (two blooms), Rob Roy (two blooms), James Taylor, H. K. Mayor (two blooms), Sporting Lass, Robert Lord, Miss Tomes, Sarah Payne, James Douglas (two blooms), Arthur Medhurst (two blooms), William Skirving, Mrs. Bridgewater, Henry Cannell, E. S. Dodwell, John Ball, Rifleman, Edward Adams, and Miss E. Wemys. Mr. J. Douglas, gardener to F. Whitbourn, Esq., Great Gearies, Ilford, was a close second with blooms hardly so large as those from Slough, but perfect in colour and finish. The varieties consisted of Joseph Crossland, Squire Whitbourn, Seedling S. F., Felicity (Douglas), P. and P. B., Tim Bobbin, Duc d'Aumale (Douglas), P. and P. B., Matador, Unexpected, Mrs. Barlow, Thalia (Douglas), C. B., Fred, James Douglas, Samuel Barlow, and Dianæ R. F., a brightly-coloured flower of good quality. Mr. John Hines, Ipswich, was third with good blooms; Mr. T. Garratt, Bishops Stortford, fourth; and Mr. F. Hooper, Bath, fifth.

There were nine entries in the amateurs' class for twelve varieties, and the post of honour was occupied by Mr. J. Douglas, with superbly-developed blooms of Thalia, Sarah Payne, Merryweather sport C. B., Unexpected, Fred, Alismond (Douglas) S.F., James Douglas, Duc d'Aumale, Squire Whitbourn, Matador, John Keet, and Arthur Medhurst; Mr. J. Hines was second with a capital stand, in which the following varieties were admirably represented: Fred, Robert Lord, Sporting Lass, Matador, James Taylor, Squire Dodwell, John Keet, James Douglas, John Ball, Edward Adams, Sarah Payne, and Tim Bobbin; Mr. J. Lakin, Temple Cowley, Oxon, was third with good flowers of Samuel Barlow, Florence Nightingale, Charles Phillips, Mrs. May, Robert Lord, Tom Lord, H. K. Mayor, Seedling P. F., John Laing, Fred, Admiral Curzon, and Henry Cannell; Mr. Huson Morris fourth; and Mr. M. Rowan, Clapham, fifth. There were ten entries in the class for six, and the first prize was awarded to Mr. C. Phillips, Earley, Reading, for large and superbly-finished flowers of Tom Power, John Harland, George Melville, Robert Marris, W. Gawn, and H. K. Mayor; Mr. T. E. Henwood, Hamilton Road, Reading, was a good second; and Mr. T. Anstiss, Brill, Mr. Aubury Spurling, The Nest, Blackheath, and Mr. H. Startup, 3, Stanley Road, Bromley, Kent, were third, fourth, and fifth respectively.

The classes for single blooms were well filled, and the flowers generally were large in size and high in quality. The prizes were awarded as under: Scarlet bizarre—Mr. C. Turner first and second with Robert Lord; Mr. J. Douglas third with Arthur Medhurst and fonrth with Master Stanley; and Mr. Phillips fifth with George. Crimson bizarre—Mr. J. Douglas first with Duc d'Aumale and second with Merryweather sport; Mr. C. Turner third with Rifleman; and Mr. Lakin and Mr. Anstiss were fourth and fifth respectively with Master Fred. Pink and purple bizarre—Mr. C. Turner first and second with Sarah Payne; Mr. Donglas third with Unexpected; Mr. Lakin fourth with Squire Llewelyn; and Mr. M. Rowan fifth with William Skirving. Purple flake—Mr. C. Turner first with Mayor of Nottingham and fourth with Sporting Lass; Mr. Lakin second with Squire Meynell and fifth with Major Gane; Mr. Phillips third with Sarah Payne sport. Scarlet flake—Mr. J. Douglas first with Matador and fifth with a seedling; Mr. C. Turner second with Henry Cannell and fonrth with Figaro; Mr. Phillips third with Sportsman. Rose flake—Mr. C. Turner first and second with Rob Roy; Mr. Lakin third with Tim Bobbin; Mr. Douglas fourth with Dianæ and fifth with Thalia.

Picotees were contributed in large numbers and of exceptional excellence. The collections of twenty-four were of a high order of merit, and equal first prizes were awarded to Mr. C. Turner and Mr. J. Douglas, both of whom, it is hardly necessary to say, staged splendidly-developed flowers. The varieties represented in Mr. Turner's stand were Orlando (two blooms), J. B. Bryant (two blooms), Mrs. Payne (two blooms), Her Majesty (two blooms), Lucy, Thomas William, Juliette (two blooms), Edith Dombrain, Mrs. Chancellor, Liddington's Favourite (two blooms), Constance Heron, Duchess, a superb heavy rose-edged flower not yet in commerce, Brunette, Dr. Epps, Muriel, Maud, Princess of Wales, and Louisa. Mr. Douglas's blooms were very bright and perfect in finish, the varieties being: Her Majesty, Mrs. Payne, Princess of Wales, Henruse, Clara, J. B. Bryant, Liddington's Favourite, Constance Heron, Alice, Mrs. Chancellor, Dr. Horner, Seedling, Thomas William, Muriel, Clara Penson, Brunette, Seedling, Mrs. Gorton, and Princess of Wales; Mr. J. Hines was second with rather small, but otherwise good blooms; Mr. F. Hooper was third; and Mr. T. Garratt fourth.

There were twelve competitors for the prizes for twelve blooms, and the first place was occupied by Mr. J. Douglas with excellent blooms of Her Majesty, Constance Heron, Thomas William, Princess of Wales, Mrs. Gorton, John Smith, Alice, Liddington's Favourite, Clara Penson, Seedling, Muriel, and Mrs. Payne; Mr. J. Lakin was second with medium-sized and well-finished flowers of Her Majesty, Mrs. Payne, John Smith, Constance Heron, Ethel, Edith Dombrain, Liddington's Favourite, Clara Penson, Miss Horner, Jessie, Royal Visit, and Mrs. Rudd; Mr. J. Buxton, Clapham, was third; Mr. M. Rowan fourth; and Mr. Hines fifth. There were thirteen competitors in the class for six, and the awards were made in favour of Mr. T. Anstiss, Mr. T. E. Henwood, Mr. Phillips, and Mr. Glasscock, Bishops Stortford, all of whom had excellent stands.

The blooms staged in the single specimen classes were plentiful, and of good quality. The awards were made as under: Heavy red-edge—Mr. Turner first and second with Henry; Mr. J. Douglas third and fifth with Princess of Wales; and Mr. Henwood fourth with Mrs. Dodwell. Light red edge—Mr. C. Turner first and second with Mrs. Gorton; Mr. J. Douglas third and fourth with Thomas William; and Mr. Phillips fifth with Clara. Heavy purple edge—Mr. C. Turner first and second with Muriel; Mr. J. Douglas third with Mrs. Chancellor; Mr. A. Sanders fourth and fifth with Zerlina. Light edge purple—Mr. C. Turner first and second with Juliette; Mr. J. Douglas third with Her Majesty; and Mr. A. Sanders fourth and fifth with Nymph. Heavy rose edge—Mr. C. Turner first and second with Mrs. Payne; Mr. Rowan third with Mrs. Payne; Mr. J. Hines fourth with Edith Dombrain; and Mr. Douglas fifth with Mrs. Payne. Light rose edge—Mr. J. Douglas was first and third, Mr. J. Lakin second, Mr. Anstiss fourth, and Mr. Turner fifth with Liddington's Favourite. Yellow ground:—Mr. J. Douglas first and second with Agnes Chambers, a large, richly-coloured flower; Mr. C. Turner third and fourth with Prince of Orange; and Mr. Rowan fifth with Lord Rothschild.

Selfs and Fancies were somewhat above the average both in numbers and the quality of the flowers, and produced a very attractive display of colour. In competition for the prizes for twenty-four, Mr. C. Turner was first with a capital stand; Mr. Douglas was second, with blooms of high quality; Mr. Toby, St. Mark's Grove, Chelsea, was third with a collection of great excellence; Mr. F. Hooper was fourth; and Mr. Cattley, Bath, fifth. There were eleven stands of twelve, and the prizes were awarded to Mr. Aubury Spurling, Mr. J. Lakin, Mr. Anstiss, Mr. Rowan, and Mr. Moddick, Bath, in the order of their names.

Yellow Ground flowers have seldom been shown so well as on this occasion, and in the class for twelve Mr. J. Douglas was first with the finest stand of blooms that has yet been placed on the exhibition stage. The flowers consisted exclusively of seedlings raised by Mr. Douglas. Mr. C. Turner was first with a good stand consisting of the following varieties: Thomas Page, Fairlight, Jaulre, Prince of Orange, Mrs. Coleman, Lightning,

and Princess Beatrice; Mr. Spurling, third; Mr. F. Hooper, Bath, fourth; and Mr. Cattley, fifth.

Premier Flowers were as follows: Carnation, Rob Roy R. F., exhibited in Mr. C. Turner's first prize twenty-four; picotee, Mrs. Payne, heavy rose edge, staged by Mr. C. Turner in his first prize stand of twenty-four.

Plants were represented by two well-grown collections, the exhibitors being Mr. J. Douglas and Mr. C. Turner, who were first and second respectively.

Miscellaneous Contributions included a very large and interesting collection of carnations and picotees from Messrs. J. Veitch and Sons, Chelsea. The collection consisted of 320 well-developed blooms, and included all the finest varieties in the several classes. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, exhibited a collection in which the flowers were set up with foliage in bouquets of about eight blooms each. The collection contained about one hundred bouquets, and proved immensely attractive to the visitors. Messrs. Hooper and Co. contributed several excellent stands of flowers.

New Flowers were not very numerous, and but few certificates were awarded. The following are the certificated varieties:—

Picotee Pollie Brazell.—Heavy purple edge; a large, finely-formed flower, with excellent petal, pure ground and richly-coloured edge. F.C.C. and first prize in the seedling class. Exhibited by Mr. Anstiss.

Carnation General Stewart.—A valuable clove-scented variety, remarkable for its vigorous habit and profusion of flowering. The blooms are of medium size and fine form, the colour rich marone-crimson. F.C.C. Exhibited by Messrs. J. Veitch and Sons.

Picotee Annie Douglas.—A yellow ground flower, distinguished by its large size, superb form, and rich colouring. F.C.C. Exhibited by Mr. J. Douglas.

ACTON HORTICULTURAL SOCIETY, July 28.

This society is increasing in importance, and the nineteenth exhibition, held on Wednesday last, was the largest yet held under its auspices. This result must be gratifying to all interested in the welfare of the society, which, we may add, is managed with great tact and success. There were several good features in the show, the best being the vegetables, while ferns and flowering plants were well represented, the whole of the exhibits occupying three large marquees.

Flowering Plants made a gay display. Gloxinias were well grown, Mr. G. Fulford coming first in the class for six, the second place being filled by Mr. Hughes, and the third by Mr. Parnell. For six cockscombs Mr. W. Polley was first, and Messrs. G. Fulford and S. Parnell were second and third respectively. The last-named exhibitor won the first prize in the class for six balsams, putting up handsome, well-grown plants, Mr. W. Jennings second, and Mr. J. Stone third. Tuberous begonias were well shown by Messrs. W. Polley, J. Stone, and G. Stone, who were the prizetakers in the order of their names. For a specimen plant in flower Mr. W. Ford was first, exhibiting a well-grown Impatiens Sultani; Mr. H. Davis came second with Allamanda Hendersoni. In the class for four stove plants in flower Mr. H. Davis occupied the post of honour, staging in good condition Bougainvillea glabra, Clerodendron Thomsoni, Allamanda Hendersoni, and Vinca rosea. The second prize was awarded to Mr. W. R. Copestake. For one stove or greenhouse plant in bloom Mr. C. Brackley headed the list, putting up a well-flowered plant of Oncidium sphacelatum; Mr. G. Stone second, and Mr. A. Cox third. Mr. H. Davis came first in the class for four greenhouse plants in bloom, the second place being occupied by Mr. J. Stone. Fuchsias were well represented, the first place in the class for four being occupied by Mr. G. Fulford; the second prize went to Mr. J. Stone. Zonal pelargoniums made a great show, and the plants were well flowered. Mr. H. Davis was first in the class for four, and Mr. Parnell second.

Foliage Plants formed an interesting feature, and there was a good competition in the class for four ferns, the chief prize going to Mr. H. Davis, who had Cyathea princeps, Nephrolepsis exaltata, Cyathea dealbata, and Adiantum cuneatum; Mr. W. Ford was second, and Mr. J. Stone third. For a single specimen foliage plant Mr. J. Stone won the first prize, and for four the prizetakers were Mr. H. Davis, Mr. Parnell, and Mr. J. Stone in the order of their names. There was good competition for four coleus, the premier award being made in favour of Mr. J. Fidler; the second prize went to Mr. J. Stone, and the third to Mr. Parnell.

Groups were well arranged, and in the class for a group of stove and greenhouse plants, not to exceed a space of six feet, Mr. G. Fulford was awarded the premier prize for a tasteful arrangement; Messrs. H. Davis and T. Butcher were second and third respectively. In the florists' class for a group Mr. J. A. Morris gained the first prize.

Vegetables were well shown, and the competition in the several classes was keen. In competition for the prizes offered by Messrs. J. Carter and Co., High Holborn, for the best six dishes, Mr. T. Butcher was first, and Mr. J. Strudwick second. Messrs. Sutton and Sons also offered prizes for the best collection of vegetables, six kinds, and the prizetakers were Messrs. J. Venn, G. Matthews, and T. Haggis in the order of their names. For a collection of eight kinds Mr. C. Hughes, Mr. G. Matthews, and Mr. Beech were the principal prizetakers. There were other classes for collections, and the chief prizewinners were Mr. W. Spowage, Mr. C. Hughes, Mr. G. Stone, Mr. G. Fulford, and Mr. W. Polley. In the class for a brace of cucumbers Mr. W. Polley headed the prizetakers; Messrs. H. Davis and J. Strudwick were second and third. Messrs. G. Sizmur were first in the class for a single cucumber, exhibiting Model; Mr. W. Spowage was second with Telegraph, and Mr. R. Copestake third. The vegetables in the classes for cottagers were remarkably well grown, and the competition was spirited.

Fruit, although not exhibited in quantity, was of fair quality, and in the class for six dishes Mr. W. Spowage won the first prize, his strawberries and raspberries being conspicuous for their large size and good colour. For four dishes Mr. G. Stone was first and Mr. A. Cox second. For three bunches of black grapes, Mr. W. Ford was first, exhibiting heavy, well-shouldered bunches of Black Hamburgh; Mr. T. Butcher exhibited nicely-coloured clusters of Black Alicante, and was adjudged the second place. In the corresponding class for white grapes the last-named exhibitor came first, staging well-ripened bunches of Muscat of Alexandria; Mr. W. Ford second with Foster's Seedling. In the class for the heaviest bunch of any kind Mr. W. Ford came first, staging Black Hamburgh, Mr. W. Polley second. A good collection of fruit comprising gooseberries and currants was exhibited, not for competition, by Mr. E. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill House, Ealing, and was highly commended.

Cut Flowers formed an important portion of the show. In the class for a collection of cut flowers, eight distinct varieties, Mr. W. Spowage gained the first prize, Mr. C. Brackley coming second, and Mr. W. R. Copestake third. For nine bunches of bedding pelargoniums Mr. J. Fidler, Mr. J. Stone, and Mr. C. Hughes were the prizetakers in the order of their names; and in the class for six bunches Mr. J. Fidler came first, Mr. Hughes second, and Mr. C. Brackley third. Messrs. Charles Lee and Son, Hammersmith, contributed a collection of cut roses.

Table Decorations occupied a large portion of one of the tents. In the class for a dinner table arrangement Miss Sutton and Mr. J. A. Morris were first and second respectively. For a vase of flowers Mr. A. Cox came first and Mr. C. B. Green second. Mr. H. Davis was first for a hand bouquet, and Mr. Beech second. In the class for the best bouquet composed solely of yellow flowers Messrs. W. Ford and G. Fulford were first and second respectively. For a wreath or cross the first prize was awarded to Mr. J. A. Morris.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.

Summer Show.

The annual exhibition of the Royal Horticultural Society of Aberdeen was opened on Thursday, 22nd inst., in the large hall, Music Hall Buildings, Aberdeen, by Sir Francis W. Grant, Bart., of Monymusk, and remained open until Saturday, the 24th. The weather during the three days was all that could be desired, and a very large number of people visited the show. A prominent feature of this year's show was the splendid collection of plants arranged for effect in competition for the Queen's prize. Last year, which was the first year of the Queen's prize, it went to the best collection of fruit. The number of entries this year was as follows: Vegetables, 201; cut flowers, 224; fruit, 82; pot plants, 143; total, 650. Class 1 comprised three tables of plants arranged for effect. The premier lot was shown by Mr. James Malcolm, Sunnyside Asylum. The plants were well chosen, and were more adapted for the purpose than the others, which were somewhat heavy. The crotons, dracænas, and ferns, principally the maidenhair variety, were especially good. Mr. Malcolm well deserved the honour the judges conferred on him, that of Queen's prizeman. The second prize was taken by Mr. Alex. Grigor, gardener to Mr. A. O. Gill, with a lot of splendid plants, well grown but too bulky. The most noticeable of his collection was the crassula, and the anthuriums were also very fine. The Earl of Aberdeen took third place. In the competition for the best collection of stove or greenhouse plants Mr. Edward Noonan, gardener to Messrs. Pirie and Sons, Stoneywood, had no difficulty in carrying off the first honours. He showed a splendidly-grown eucharis and a very handsome achimenes, a statice, and a Tethretheca verticillata. The second place was taken by Mr. Forrest, gardener to the Earl of Aberdeen, Haddo House, with a collection which was scarcely in the best condition. Mr. Noonan was also successful in carrying off the first prize for the best six ferns. Amongst them was a grand specimen of the golden fern; Mr. A. Grigor came second with a smaller but remarkably good-looking lot. Mr. John Hendry, gardener to Mrs. Duthie, Albyn Place, also made his mark in the fern class. The only specimens of pelargoniums were shown by Mr. Ogg, gardener to Mr. Forbes, of Morkeu; but in the zonal geraniums, for which Mr. Ogg has somewhat of a reputation, he was beaten by Mr. Grigor. Mr. Ogg amply made up for this defeat by his splendid show of variegated or tricolor geraniums, which were undoubtedly the finest that have been seen in Aberdeen for some time.

In fuchsias Mr. Ogg bore off the first and second prizes, Mr. John Hendry coming in for third place. The tuberous begonias were a first-class lot, and all came from Morkeu. There were both doubles and singles, and while the former had a good appearance the singles far eclipsed them in beauty of form and colour. The cut flowers included some lovely collections of rose blooms. For this class a challenge cup and money prize was the reward for the best exhibit, and it was unmistakably won by Messrs. Cocker and Son, Sunny Park. Amongst the best of their blooms may be mentioned Madame de Sertot and Gloire Lyonnaise, new and very fine tea-scented varieties; La France, a capital specimen of a good old kind; and A. K. Williams, the finest rose on the stand, perfect in form and colour. In the professional class Mr. James Hunter, Richmond Hill, took first place for roses. Mr. Robert Grigor's cut trusses of zonal geraniums have yet to be beaten. After taking the first place nine consecutive times he again carries off first and second prizes on this occasion with some exceedingly pretty blooms. The amateur classes were, on the whole, good; in fact both the amateur and working men's classes are not far short in point of quality with the professional. The vegetables were a splendid show, but the lateness of the season has materially diminished the number of exhibits. The same cause that interfered with the vegetable classes militated against a large collection of fruit, but what was shown was of the highest quality. A very interesting part of the show was the display of plants, for exhibition only, by Messrs. Smith and Sons, Aberdeen. Their collection of herbaceous plants numbered in all about three hundred varieties. Many of them were new, and it was undoubtedly the finest collection of the kind ever brought together in Aberdeen.

The judges were: Pot plants, Mr. Cameron, Forglen House, and Mr. Broadfoot, Aberdeen; cut flowers, Mr. McLeod, Ardmiddle, and Mr. Wyness, Usan, Montrose; vegetables and fruit, Mr. Reid, Dunis House, and Mr. Kennedy, Brucklay. In conclusion, it has to be stated the show was a complete success, and was favoured with beautiful weather during the three days it remained open.

CATERHAM HORTICULTURAL AND COTTAGE GARDEN SOCIETY, July 21.

The annual exhibition took place in the grounds of the Vicar, the Rev. J. N. Heard, and was the best yet held, which was all the more surprising as this season the committee decided to confine the competition to the residents of Caterham only. One large tent was completely filled with exhibits of excellent character, and two small tents were also called into requisition. This was the eighth show, and the committee had much reason to be satisfied with the progress made. A great many good residences are found in the neighbourhood, and the gentry generally give a cordial support to the society. The leading exhibitors were: Mr. Pearman, gardener to H. Horne, Esq., Salmons, Caterham; Mr. Brand, gardener to Mrs. Gardiner, Essendine, Caterham; Mr. Harris, gardener to B. H. Salmon, Esq., Caterham; Mr. Hicks, gardener to J. E. Street, Esq., Woodside, Caterham; Mr. Papworth, gardener to S. Vorley, Esq., Ridings Court, Caterham; Mr. Wyatt, gardener to J. Perry, Esq., Bradenhurst, Caterham; and Mr. Pannell, gardener to Dr. Smith, Caterham.

Flowering and foliage plants, ferns, begonias, &c., were all of a praiseworthy character, and the same can be said of out flowers, fruits, and vegetables. One feature of more than ordinary interest was the class for a group arranged for effect, to fill a space of sixty superficial feet; there was an excellent competition, though the groups generally were a little too crowded and heavy. Mr. Pearman was first, Mr. Brand second, and Mr. Harris third. Some good begonias were shown. A single specimen, double variety, exhibited by Mr. Pearman, was worthy of high praise; so was a Caladium esculentum shown by Mr. Wyatt. Caladiums were represented by admirably-grown plants. Mr. Pearman had a first prize for three, consisting of Houllettei, Albert Edward, and Laingi.

Table decorations by ladies, to fill a space of six feet by two and a-half feet, were a very pleasing feature, there being several competitors. Miss E. Winter, Caterham, was first; Miss F. B. Winter, Miss E. Birt, and Miss Hall being bracketed equal in point of merit.

In the vegetable classes there were some good productions, Mr. Wyatt being awarded a first prize for four excellent dishes of potatoes, consisting of International Kidney, Radstock Beauty, Beauty of Hebron, and Vicar of Laleham.

Of cottagers' produce there was a good display, and we were pleased to see this department of the show is growing in importance, being encouraged by the local residents.

Contributions not for competition from the following greatly assisted the effectiveness of the show: A group of plants and cut roses from Messrs, J. Laing and Co., Stanstead Park Nursery, Forest Hill, S.E.; cut roses from Messrs. Paul and Son, Old Nurseries, Cheshunt; plants and cut roses from Mr. G. J. Woollett, nurseryman, Caterham; and cut hardy flowers of a very interesting character from the Westerham Nursery and Seed Company.

WALTHAM ABBEY AND DISTRICT HORTICULTURAL SOCIETY, July 22.

This was the first exhibition of a new society, which sprang out of the exhibition held in connection with the meeting of the Essex Agricultural Society held at Waltham last year. There were so many good local exhibits that it was suggested a district society should be formed, and Mr. H. Gough, of Waltham Abbey, who acted as co-hon. secretary with Mr. George Paul in 1885, kindly undertook the duties of co-hon. secretary with Mr. J. Parnell, in association with the new venture, and the first show took place on the above date in the grounds attached to the residence of Miss Francis, at Farm Hall, Waltham Abbey. The leading exhibits were arranged in one large tent, two smaller ones being also required; and if the financial results equal the character of the local contributions in plants and flowers the first exhibition must be regarded as a successful one.

Groups Arranged for Effect.—One leading class was for a group of plants arranged for effect, five exhibitors competing. The first prize went to Mr. Green, gardener to Sir T. F. Buxton, Bart., Warlie Park, Waltham Abbey, whose group consisted of palms, ferns, &c., and unquestionably displayed the greatest skill in arrangement; Mr. S. Perry, gardener to S. Rowlett, Esq., Woodlands, Cheshunt, being second; and Mr. T. Bettesworth, gardener to R. Ewing, Esq., Burton Grange, Cheshunt, third. The usual failing was observable in these groups—too thickly packed.

Plants.—The best six miscellaneous plants came from Mr. James Nicholson, gardener to Mrs. Melles, Seawardstown Lodge, Waltham Abbey, who had Cycas revoluta, Plumbago capensis, Croton Veitchi, Pandanus Veitchi, Aspidistra lurida variegata, and Yucca aloifolia variegata. Mr. Green was second. Mr. Green had the best six ferns, staging a very good lot, consisting of Gymnogramma Lancheana, Lomaria gibba, Platycerium alcicorne, Thamnopteris nidus, Adiantum Farleyense, and A. tenerum. Mr. Nicholson was first with six stove and greenhouse plants, the leading subjects being Cordyline Australis, Areca Verschaffelti, Bougainvillea glabra, and Crotou undulatum. Mr. Nicholson was first with six excellent caladiums, well grown and coloured, the following being particularly noticeable: Mr. A. Hardy, Sirius, Prince Albert Edward, and Pyrrhus. Mr. Nicholson was also first with six coleus and six tuberous-rooted begonias. Other plants comprised pelargoniums, fuchsias, &c., and also those suitable for table decoration.

Cut Flowers.—The best twelve roses in the open classes came from Mr. P. Perry, Waltham, Mr. C. Carr, gardener to Mrs. David Carter, Waltham Abbey, being second. Mr. Green had the best six blooms of any one kind, showing Celine Forestier in good form. Mr. Nicholson had the best six bunches of cut flowers, Mr. A. Smith, gardener to W. H. Sewell, Esq., Warren Hill, Loughton, being second. Bunches of hardy flowers were also a good feature.

Fruit.—Mr. A. Smith had the best two bunches of white grapes, showing Muscat of Alexandria; Mr. P. W. Andrews, Groveyard, Waltham Abbey, being second with Buckland Sweetwater. Mr. Smith also had the best two bunches of black grapes, showing Muscat Hamburgh, Mr. Andrews being second with Black Hamburgh; and Mr. Smith was also first with two bunches, distinct varieties, having Muscat of Alexandria and Black Hamburgh, Mr. Andrews being again second. In the class for six varieties of fruit Mr. A. Smith was first, having Black Hamburgh and Muscat of Alexandria grapes, peaches, nectarines, black and red currants; second, Mr. J. Green. There were some good peaches and nectarines shown in their several classes.

Prizes were offered for table decorations, for bouquets, and also for vegetables, and the competition was good generally.

Contributions not for competition were a good feature. Messrs Paul and Son, Old Nurseries, Cheshunt, contributed twelve boxes of out roses, begonias, ferns, &c., which made an excellent display, and were highly commended. Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, quite filled a small tent with cut roses, quite a little rose show in itself, and was similarly rewarded. An excellent group was contributed by Mr. Reding, gardener to A. J. Edwards, Esq., Beech Hill, Plaistow, and a similar one by A. Lancaster, Esq., Honey Lane, Waltham Abbey, in each case highly commended.

COMMEMORATIVE TREES—A SUGGESTION.

Seventy-six years ago was celebrated the Jubilee of King George the Third. On that occasion, and at the coronation of Queen Victoria, in 1838, the jubilee of which is approaching, many commemorative trees were planted in public and private grounds in all parts of the kingdom. It has struck me that it would be interesting to collect information respecting the present condition of such of these trees as are now worth notice. Brief records of their present state, accompanied by a few simple measurements on some uniform plan, would possess practical value and interest now, and more for the arboriculturists of the future. H. M. C.

Replies to Queries.

H. H., Marlborough.—Remove a considerable portion of the fruit, and if possible give the trees a liberal supply of water. It is always best to reduce the crop when trees show more fruit than they can fairly carry.

Endive.—Young Gardener.—A good breadth of the Green Curled and Round-leaved Batavian, put out at once, will give a good supply throughout the autumn. The first-mentioned should be planted about eight inches apart in rows, with a space of twelve inches between them, and the Batavian should be put twelve inches apart each way. The soil cannot well be too rich for endive.

Cinerarias.—B. F.—The usual practice in raising cinerarias from seed is to sow in May and June for the production of plants for flowering during the autumn and winter months, and in July for spring blooming. Sow preferably in pans, which should be efficiently drained and filled with a light sandy mixture. Cover the seeds with a thin coat of fine sandy soil, and place the pans in a frame or pit, and keep close and shaded until the seedlings make their appearance, when a little air must be admitted, and a thinner shading material be employed. Immediately the seedlings are large enough to handle put them singly in three-inch pots, and shift into pots two sizes larger as soon as they are well established. For exhibition purposes varieties that are grown under name or have been selected from seedlings raised in previous years are decidedly the best, for they are more compact in growth, and they cannot only be depended upon to produce flowers of good quality, but the cultivator knows exactly the colours of the flowers, and is therefore able to have a good assortment. When it is intended to raise a stock from offsets the plants from which they are to be taken should have the flowers removed as soon as they have lost their beauty, and be placed in a cold pit, where they should be kept moderately moist. In a fortnight or three weeks topdress them with a light rich mixture, and pay careful attention to the watering. As soon as the offsets are large enough remove them and put them separately in small sixties, unless exhibition specimens are required, when a rather different course must be taken. In the production of specimens for exhibition turn the old plants out of the pots, shake away the whole of the soil from about the roots, which must be shortened, and then remove all but three or four of the strongest offsets from each. Each plant is then to be repotted with the three or four offsets, as the case may be, adhering to it, and to be put low enough for the base of the offsets to be well below the surface. They should be put into five-inch pots, and when these are well filled with roots be shifted into others eight inches in diameter. By this practice much finer specimens can be produced than is practicable with single offsets, and if the offsets are not separated the specimens comply with the conditions of the schedule. The double varieties should be invariably raised by means of offsets. The most suitable compost is one consisting of fibrous loam four parts and well rotted manure, leafmould, and silver sand one part each. The best of the double varieties are: Amazon, A. F. Barron, Ada, Chad Valley Beauty, Edison, Fairy Queen, Hermia, Milton, Mr. Thomas Lloyd, Professor Henslow, Rosina, Sophia. The most desirable of the single varieties obtainable under name are: Advancer, Burgundy, Dr. Masters, Excelsior, General Gordon, J. Douglas, March Past, Mr. J. B. Alston, Mr. Cullingford, Princess of Wales, Royal Purple, Victory, W. E. Gladstone.

TRIAL PEAS AT CHISWICK.

At a meeting of the Fruit and Vegetable Committee, held at Chiswick, July 20 (Present: C. Silverlock, Esq., in the chair, Messrs. Harrison Weir, Arthur Sutton, Miles, Norman, Denning, Warren, Lane, and A. F. Barron, secretary), the collection of peas growing in the garden was examined, and first-class certificates awarded to the following:—

Fame (Eckford).—A green wrinkled marrow, with large, deep green, well-filled pods. Height, five feet.

Empress (Eckford).—White wrinkled marrow; well-filled, large, broad pods; vigorous grower. Height, five feet.

Seedling No. 16 (Wildsmith).—White wrinkled marrow; very long pods; strong grower, good cropper. Height, four feet.

President Garfield (Veitch).—White wrinkled marrow, large, well-filled pods; heavy cropper. Height, three feet six inches.

Seedling Unnamed (Sharpe and Co.).—A dwarf wrinkled blue marrow.

Markets.

COVENT GARDEN.

Fruit.

Apricots	per doz.	0s. 6d. to	0s. 8d.
Cherries	per lb.	0s. 3d. ,,	0s. 6d.
Currants, Black, per ½ sieve		2s. 6d. ,,	3s. 0d.
Currants, Red, per ½ sieve		3s. 0d. ,,	3s. 3d.
Figs	per doz.	1s. 0d. ,,	2s. 0d.
Gooseberries	per quart	0s. 2d. ,,	0s. 4d.
Grapes	per lb.	1s. 6d. ,,	3s. 0d.
Lemons	per case	15s. 0d. ,,	25s. 0d.
Melons	each	1s. 0d. ,,	2s. 0d.
Peaches	per doz.	2s. 0d. ,,	6s. 0d.
Pine-apples, English, per lb.		1s. 6d. ,,	2s. 0d.
Strawberries	per lb.	0s. 6d. ,,	1s. 0d.

Vegetables.

Artichokes, Globe, per dz.		2s. 0d. to	2s. 0d.
Beans, French	per lb.	0s. 4d. ,,	0s. 6d.
Beet	per doz.	1s. 0d. ,,	2s. 0d.
Beans, Runners, per sieve		5s. 0d. ,,	6s. 0d.
Cabbages	per doz.	1s. 6d. ,,	2s. 0d.
Carrots	per bun.	0s. 4d. ,,	0s. 6d.
Cauliflowers	per doz.	2s. 0d. ,,	3s. 0d.
Cucumbers	each	0s. 4d. ,,	0s. 8d.
Endive	per doz.	1s. 0d. ,,	1s. 6d.
Herbs	per bunch	0s. 3d. ,,	0s. 4d.
Horse-radish	per bun.	3s. 0d. ,,	4s. 0d.
Lettuces, Cabbage, per doz.		0s. 8d. ,,	1s. 0d.
Lettuce, Cos	per doz.	0s. 9d. ,,	1s. 0d.
Mint, Green	per bun.	0s. 2d. ,,	0s. 3d.
Mushrooms	per basket	1s. 0d. ,,	1s. 6d.
Onions	per bunch	0s. 4d. ,,	0s. 6d.
Parsley	per bun.	0s. 3d. ,,	0s. 4d.
Peas	per quart	1s. 0d. ,,	1s. 0d.
Radishes	per doz. bunch	0s. 9d. ,,	1s. 0d.
Small Salading	per pun.	0s. 3d. ,,	0s. 4d.
Spinach	per bushel	2s. 6d. ,,	3s. 0d.

Vegetables.

Tomatoes	per lb.	0s. 6d. ,,	0s. 8d.
Turnips	per bunch	0s. 4d. ,,	0s. 6d.

Cut Flowers.

Bouvardias	per bunch	0s. 0d. to	1s. 6d.
Carnations, per doz. blms.		1s. 0d. ,,	1s. 6d.
Eucharis, per doz. blooms		2s. 0d. ,,	3s. 0d.
Gardenias, per doz. blooms		2s. 0d. ,,	3s. 6d.
Gladioli	per doz. bun.	5s. 0d. ,,	7s. 6d.
Hellotropes, per doz. sprays		0s. 0d. ,,	0s. 8d.
Lapageria, per doz. blooms		1s. 0d. ,,	2s. 0d.
Lilies	per doz. blooms	2s. 0d. ,,	2s. 6d.
Marguerites, per doz. bun.		3s. 0d. ,,	5s. 0d.
Mignonette, per doz. bun.		3s. 0d. ,,	5s. 0d.
Pelargoniums, Zonal, per doz. trusses		0s. 0d. ,,	0s. 8d.
Pelargoniums, per doz. trusses		0s. 8d. ,,	1s. 0d.
Roses	per doz. blms.	1s. 0d. ,,	1s. 6d.
Roses, Tea	per doz. blms.	0s. 8d. ,,	1s. 0d.
Roses, Moss, per doz. bun.		4s. 0d. ,,	4s. 6d.
Stephanotis, per doz. sprays		1s. 0d. ,,	2s. 6d.
Stocks	per doz. bun.	3s. 0d. ,,	4s. 0d.
Sweet Peas	per doz. bun.	4s. 0d. ,,	5s. 0d.
Tropæolum	per doz. bun.	1s. 0d. ,,	2s. 0d.
Tuberoses	per doz.	0s. 0d. ,,	1s. 0d.

BOROUGH AND SPITALFIELDS.

Potatoes.

Jersey Kidneys, New	per cwt.	6s. ,,	7s.
Jersey Rounds, New	per cwt.	4s. ,,	5s.
St. Malo Kidneys, New, per cwt.		5s. ,,	6s.
St. Malo Rounds, New, per cwt		4s. ,,	5s.
Early Rose	per ton	70s. ,,	80s.
Beauty of Hebron	per ton	90s. ,,	100s.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.	Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.		1886
8	S	**7th Sunday after Trinity.**	4 36	5 25	7 34	2 45	—	7 58	8 30	4 55	5 23	62·9	Galeandra Baueri ..... Guyana.	220
9	M	Greenwich Observatory commenced, 1675.	4 38	5 17	7 32	3 45	0 1	9 4	9 44	5 55	6 29	62·9	Galeandra cristata ..... Guyana.	221
10	Tu	St. Lawrence.	4 40	5 9	7 31	4 39	0 43	10 22	11 0	7 9	7 47	62·8	Huntleya meleagris ..... South America.	222
11	W	Dog Days end. [tings end.	4 41	4 59	7 29	5 27	1 31	11 36	—	8 25	9 1	62·8	Miltonia bicolor ..... Brazil.	223
12	Th	Grouse-Shooting begins. Trinity Law Sit-	4 42	4 49	7 27	6 9	2 22	0 10	0 37	9 35	10 2	62·7	Miltonia candida ..... Brazil.	224
13	F	Old Lammas Day.	4 44	4 39	7 25	6 43	3 19	1 1	1 23	10 26	10 48	62·6	Miltonia spectabilis ..... Brazil.	225
14	S	○ Full Moon, 6h. 24m. after.	4 45	4 28	7 23	7 14	4 18	1 45	2 3	11 10	11 28	62·5	Peristeria elata ..... Panama.	226

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS: Fruit and Floral, at Eleven a.m., in the Conservatory, on TUESDAY next, August 10.

SHOW OF PLANTS AND FLOWERS.

N.B.—Open to Fellows at Twelve o'clock and the Public at One o'clock.

ROYAL HORTICULTURAL SOCIETY. — A few ORCHIDS and CAMELLIAS to be SOLD from the Gardens, Chiswick, at low prices, are offered to Fellows of the Society, who may obtain priced lists on application to the Secretary, South Kensington, S.W. The plants may be seen at Chiswick on application to the Superintendent.

MAIDENHEAD HORTICULTURAL SOCIETY.—The ANNUAL SHOW of this Society will be held in the grounds of Braywick Lodge, Maidenhead (by kind permission of J. Hibbert, Esq.), on THURSDAY, August 19, 1886. Entries close on Thursday, August 12th. Schedules and full particulars can be obtained on application to the Hon. Secretary, Mr. O. King, Ray Park Cottage, Maidenhead.

SANDY (BEDFORDSHIRE) HORTICULTURAL SOCIETY.—EIGHTEENTH ANNUAL EXHIBITION, open to all England, FRIDAY, August 27, 1886. 190*l.* in prizes, including—For Ten Stove and Greenhouse Plants in flower: first prize, 12*l.*; second, 8*l.*; third, 4*l.*; fourth, 3*l.* Show ground close to Great Northern and London and North-Western Railway Stations. Plant vans horsed to and from free of charge. For schedules, apply William Green, Secretary, Sandy.

Exhibitions and Meetings for the Ensuing Week.

Monday, August 9.—Darlaston Floral Society.—Annual Exhibition.
Tuesday, August 10.—Claycross Horticultural Society.—Annual Exhibition.
Tuesday, August 10.—Royal Horticultural Society.—Floral and Fruit Committees, 11 a.m.; Exhibition of Plants and Flowers.
Thursday, August 12.—Witney Horticultural Society.—Annual Exhibition.
Thursday, August 12.—Taunton Horticultural Society.—Annual Exhibition.

Auction Sales for the Ensuing Week.

Tuesday, August 10.—Messrs. Protheroe and Morris, at their Central Sale Room, 67 and 68, Cheapside; Orchids.
Thursday, August 12.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.
Friday, August 13.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
Saturday, August 14.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Dutch Bulbs.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London, E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, AUGUST 7, 1886.

Weeds are conspicuous amongst the phenomena of the season, and may arouse in some minds an interest more than superficial. The welcome rains have brought them forth in prodigious vigour and variety, and men who are responsible for keeping the ground clean may be pardoned if perplexed how to do it. The hoe is a terrific instrument in its way, for at a touch on the ground line it separates the happy green growth of the thriving weed from the roots that sustain it, and the touch proves fatal; the weed is seen no more. But Nature is prolific, and as one weed falls another rises in its place, and the prosperous race appear capable of self-sustaining fecundity for ever. It might be worth an effort by a poet to entertain the thought of the absolute blessedness of the life of a weed, but remembrance of the capabilities of the hoe might prove crushing to a sensitive imagination; and in any case the blessedness of a weed, as conceived by the poet, must be contrasted with its "cussedness" in the thoughts of gardeners. Whatever inspiration may result from a meditation on weeds, it is very certain that neglected lands are now richly loaded with them, and the sturdy plants that have made more than average growth by the aid of warmth and moisture are just ready to send forth their seeds in numbers beyond human estimate to keep the world well peopled by their riotous race.

There are many misconceptions prevalent in relation to weeds. It is commonly said and believed that they exhaust the ground, but the truth is they replenish it, and a piece of land abandoned for a season to the crops that nature may choose to plant upon it will be all the better, generally speaking, for whatever crops the hand of man may plant, provided, of course, they are such as the soil and the season are adapted for. It will be said that the weeds take something out of the ground, which is perfectly true, for their potash, soda, lime, perhaps even some of their carbon, certainly all their earthy constituents, are taken directly from the soil, and the soil is, necessarily, at one stage of the process, the poorer for the proceeding. But when the weeds are dug in, or when they are carried to the compost heap, or even when they are burned where they grew, they return the whole of their earthy matter and very much of the material they have derived from the atmosphere to the soil again, and thus one feature of Nature's inexhaustibility is simply and fully explained. The careless man may find much comfort in the consideration that weeds are but borrowers capable of repaying what they borrow with liberal interest. But we have no intention of allowing the careless man any lasting comfort in the consideration, for there can be no mistake about it, and we would impress the fact upon the minds of all who are interested in the matter, that weeds mixed with proper crops are thieves and robbers, and sometimes worse, for they kill as well as rob, and it is no consolation to reflect that they will in due time return to the earth the lime, potash, sulphur, and phosphorus that were intended for the cauliflowers the weeds impoverished, or for the saladings they completely killed. Often the war of weeds below ground is a cause of loss in the crop, but always the war above ground is loss of quality, loss of bulk, and loss of respectability, for a garden of weeds is, generally speaking, discreditable to its possessor.

The first way to deal with weeds is to keep them in check from the first, and every scraping and scratching, digging and delving between growing crops for the destruction of weeds promotes the growth of the crop and the improvement of the soil concurrently. It is simply astonishing to note the advantage to a plantation of potatoes that results from plying spade or fork between the rows until the shaws meet and put a stop to the operation. By neglect of weeds they soon acquire the mastery of the ground, and while their roots rob the proper crop of root food they do much worse, for their leaves rob the crop of leaf food by depriving them of light and air. The short, stout, healthy growth that tends to profit is never seen where weeds are allowed to run riot, for there ensues between the weeds and the crop a competition, one result of which is that both grow taller than they ought to be, and the weed, having chosen the ground, is likely to obtain the mastery and crush its adversary out of healthy existence. While this goes on the weed is preparing its million seeds to keep the game going, and the mischief increases in a geometric ratio. It is easy work to keep down weeds when time is taken by the forelock; but neglect has to be paid for in more ways than one, and it should always be remembered that weeds are free agents and locate themselves where they will, an advantage the crop cannot have, or which can occur only in very exceptional cases.

The second way to deal with weeds is to allow them to spread in their own way on vacant plots, but to be careful to dig or plough them in before they can shed a single seed. We may call this scientific fallowing. The weeds return to the soil all they took out of it and something more, for very much of the substance of plants is derived from the atmosphere, and when mixed with the soil not only enriches it, but promotes the process of disintegration—that is the true secret of continued fertility. The spreading of seeds is an unmitigated evil, and extends beyond our own borders to the injury and annoyance of others, not merely of such as we call "neighbours," but of those who live miles and miles away—for who shall declare the travelling capabilities of the downy seeds of the thistle or the dandelion?

The third way to deal with weeds is to enjoy them as Nature's generous gifts, and as eloquent teachers of the mysterious movements of the universal mother. The exceeding beauty of such things as fumitories, poppies, foxgloves, ragworts,

vetches, and a thousand more that might be named, may be allowed to enchain one without detriment to the moral nature or risk of reproach for supposed waste of time. There may be in the world people who drink so deep of garden beauty that a taste of the freshness of wild nature may be as medicine to them, and the green weed may serve to "cool their eyes" when the glare of gay flowers threatens to fatigue the vision. But we are not bound to look for such eccentrics, or favour the growth of weeds for their special advantage. It is enough if, by their observations, we are taught that weeds have their uses in the world and may be made subservient to severe economy in the cultivation in the land, more especially when the industrious hand is employed to check their progress at the point where their growth is likely to prove injurious.

Battle Flower Show will be held August 25.

Peter Lawson and Son (Limited).—As the result of the business transacted during the year, the directors propose to pay a dividend of 10 per cent., which will absorb £1,750, and to carry forward the balance, amounting to £5,386 4s. 11d., to next year's account.

Bath Floral Fetes continue to delight the citizens of the solar city. The autumn show will take place September 1 and 2. On the first day, at four in the afternoon, Mr. Shirley Hibberd will indulge in a small talk about mistakes in gardening.

Parliament met on Thursday, according to appointment, for formal business only. On Tuesday the House of Commons will adjourn to Thursday, the 19th, when the Queen's Speech will be read for the inauguration of a brief session for completing the supplies.

On Tuesday next the meeting of R.H.S. will present some features of interest. An exhibition of plants and flowers will be sustained by many leading exhibitors, and gladioli, dahlias, and pentstemons will be conspicuous.

The Weather has altered its ways, as in last week's note we anticipated, but the temperature has been much below the average for the season. There appears to be forming a warm wave for our comfort, but we fear it will bring with it showers of rain that will scarcely be welcome.

Insect Killing Bottles are denounced by the Pharmaceutical Society of Great Britain as dangerous, because of their containing the deadly cyanide of potassium. But the chief danger appears to be that they are sold by persons who are "not registered as Chemists and Druggists."

Garden Irrigation.—Messrs. Merryweather and Sons, the originators of the famed "Antimonial" garden hose, which has gained a character for strength and long usage during the past nine years, have made for Baron Rothschild a new lawn and garden apparatus after the Paris system, with various improvements.

A Case of Suspended Animation of an interesting character is reported by Dr. Wittmack in a recent issue of the *Deutsche Garten Zeitung*. A cargo of cycads was imported in 1878 by Mr. J. C. Schmidt, of Erfurt, and amongst others were two trunks of Cycas media, which were on examination supposed to be quite dead. The two trunks were, however, planted, but they did not show any signs of vitality until the current year, when they began to make new growth, and quickly produced a fine head of leaves.

How to do it.—Everyday, everywhere, examples abound of How Not to Do it. They are, as a rule, Instructive, and often they are also, in their sphere, Destructive. This time we record a fact that may be worth the attention of those who are "pure in heart and sound in head." The Northampton Show on Bank Holiday was a big affair, but the judging was finished and the show was opened at eleven a.m., and all things were done decently and in order. Take note, all ye of the shilly-shally persuasion, that the world is not constructed solely of "By-and-bye." Some of it is made of "Here we are," and there are people who know how to "strike the iron while it is hot."

Potato Disease is reported as prevalent in West Cork, and in other parts of the Emerald Isle it is looked for as the inevitable result of the recent heavy rains. We are much wanting warm, dry weather to finish up corn and potato crops, but the low temperature that prevailed during the recent rains tended very directly to the saving of the potatoes, for with sultry weather the excessive moisture would probably have proved generally fatal to the potato crop. As the case stands at this moment, the amount of mischief is comparatively trifling; but we advise all who have a substantial crop in the ground to secure it at the earliest possible moment.

Oxford Union Carnation Show, in Mr. E. S. Dodwell's garden on Tuesday last, was a brilliant affair, and many of the exhibitors and judges were the same as at the National in the previous week. As regards the exhibitors, the report will show the degree of correspondence, which is sufficient to prove that there is ample room for the apparently competing organizations, as also that the smiles of the goddess Flora have brought about a pleasant concord of hearts and heads. May it long continue. The Oxford party had an advantage over the National in a capital luncheon, at which the Mayor of Oxford (Mr. Alderman Buckle) presided, the speakers including Messrs. Rippon, R. Dean, J. Baddeley, Chris. Ridley, Shirley Hibberd, E. S. Dodwell, and others. The premier flowers were Carnation Robert Lord, from Mr. J. Lakin; Picotee Favourite, from the same; and Fancy Carnation Sir Toby Belch, from Mr. R. Lord.

OXFORD CARNATION AND PICOTEE UNION.

Second Annual Exhibition, August 3.

On the above date the second annual exhibition of the union was convened in Mr. Dodwell's garden, Stanley Road, Oxford, a large muster of cultivators being present with their several contributions. The number of blooms staged in the twelves and sixes was something over four hundred, while the single specimens reached two hundred and fifty. The "feast" was laid in a tent erected in one corner of the garden, and all around was the vast array of carnations in pots, numbering nearly one thousand five hundred, the whole of the beds being full of seedlings, which were in full flower. Those whose privilege it was to enjoy the feast so generously provided appeared delighted, the bulk of visitors appreciating the brilliant colours and delicate markings more than the perfect form so essential to the eye of the florist.

The show appeared equally as large as last year, and it was probably due to the adverse influences with which the plants have had to contend these two months past that many of the flowers seemed a shade smaller. Be that as it may, throughout the show were distributed any number of carnations and picotees the very essence of perfection.

As the show was instituted to form a sort of half-way house between South Kensington and Manchester, it will appear by the names of competitors appended that not a few came north of classic Oxford, while the south and midlands were well represented. The following is the list of awards:—

Carnations.—For twelve blooms, dissimilar, there were six competitors, Mr. Joseph Lakin, Temple Cowley, showing a grand lot, including Mrs. Symonds, R.F., Master Fred, C.B., John Ball, S.F., Sarah Payne, P.P.B., Robert Lord, S.B., George Melville, P.F., Rifleman, C.B., Rob Roy, R.F., Squire Whitburn, P.F., Tom Chapman, S.F., Arthur Medhurst, S.B., and Squire Meynell, P.F., ten blooms of the dozen being extra sized; Mr. W. L. Walker, Reading, was placed second with an exceedingly level lot, comprising George, S.B., Henry Cannell, S.F., Biddy Malone, R.F., Charles Phillips, S.B., Cordon, Sarah Payne, P.P.F., John Laing, C.B., Harrison Weir, C.B., John Whitham, S.F., Tim Bobbin, R.F., Arthur Medhurst, and Sportsman, S.F.; Mr. Martin Rowan, Clapham, third with Fred, S.B., James Douglas, P.F., Black Prince, C.B., George, William Skirving, P.P.B., Miss Erskine Wemyss, R.F., Jessica, R.F., Clipper, S.F., Geo. Melville, Master Fred, Thomas Anstiss, P.P.B., and Annihilator, S.F.; Mr. W. Slack, Chesterfield, being adjudged worthy of fourth place, with smaller, but very clean, flowers of Tom Lord, S.F., E. S. Dodwell, C.B., Master Fred, Syhil, R.F., Mrs. Barlow, P.P.B., James Douglas, Rifleman, Samuel Barlow, C.B., Tom Brown, S.B., John Bridgwater, C.B., Admiral Curzon, S.B., and John Towle; Mr. George Chaundy, Marston Road, Oxford, fifth, with freshly cut blooms of Dolly Varden, R.F. (seedling), Martin Rowan, P.F., Robert Lord, Mrs. Gane, R.F., Rifleman, Geo. Melville, H. K. Mayor, P.P.B., Harrison Weir, Henry Cannell, John Whitham, and Eglatine; Mr. W. Wardill, Luton, Beds, sixth.

For six blooms, distinct, seven boxes were staged, Mr. T. Bower, Bradford, Yorks, first, with Mrs. Symonds, Dr. Symonds, C.B., John Ball, Florence Nightingale, P.F., J. D. Hextall, C.B., and Rifleman; Mr. J. S. Hedderley, second, with Mars, C.B., Mayor of Nottingham, P.F., Syhil, Sportsman, Admiral Curzon, and Harrison Weir; Mr. Robert Lord, Todmorden, third, with Geo. Fawcett (a full flower), Syhil, Dr. Forster, P.F., Mars, Cristagalli, R.F.; Mr. Huson Morris (gardener to Mr. G. Wynne, Hayes, Kent), fourth, with Florence Nightingale, Fred, Rob Roy, John Whitham, Charles Phillips, and William Skirving; Mr. C. Phillips, Reading, fifth, with President of Corpus, P.F., Dolly Varden, John Harland, C.B., Robert Low, and John Ball; Mr. Thos. Anstiss, Brill, sixth, with W. L. Walker, C.B., Electric Light, Mrs. W. M. Hewitt, R.F., Thomas Anstiss, John Whitham, and Master Stanley, S.B.; Mr. T. E. Henwood, Reading, seventh, with John Harland, George, Sarah Payne, P.F., Sarah Payne, P.P.B., Tom Lord, and Biddy Malone; Mr. A. R. Brown, Birmingham, eighth, with T. E. Henwood, S.B., Seedling, Miss Burton, Master of Balliol, P.F., William Johnson, and Harrison Weir; Mr. Samuel Checkley, Corpus College, Oxford, ninth, with Mrs. Tomes, R.F., Harrison Weir, John Laing, C.B., Brian Wynne, C.B., Samuel Checkley, C.B., and A. Holmes; Mr. W. Hovell, Headington Hill Gardens, Oxford, tenth, with George, Seedling, John Hines, S.B., Seedling, Dolly Varden, and Harrison Weir; Mr. H. Startup, Bromley, Kent, eleventh, with fair flowers of Squire Llewellyn, P.P.B., Fred, George, Aubrey Spurling, C.B., John Hines, and Biddy Malone.

Picotees.—In this division the flowers appeared to be excellent all round, and while the competition in the long number was less keen than in the corresponding class for carnations, yet the host of sixes made up quite an equal display. For twelve blooms, dissimilar, the premier card again went to Mr. Joseph Lakin, who showed grand development with Favourite (Liddington's), light salmon edge, Mrs. Niven (Niven), heavy purple edge, Constance Heron (Fellowes), heavy scarlet edge, Jessie (Turner), medium feathery purple edge, William Summers (Simonite), medium feather red edge, Royal Visit (Abercrombie), a charming heavy rose edge, Mrs. Dodwell (Turner), finely formed flower, heavy red edge, Mrs. Payne (Fellowes), grand form, bright rose edge, Purple Prince (Dodwell), broad heavy purple edge, Edith Dombrain (Turner), heavy rose edge, a very showy flower, Nymph (Low), light purple edge, good in its class, and Brunette (Kirtland), heavy red edge, a grand flower with broad, smooth, stout petals, ground colour pure; Mr. R. Lord second with Lady Holmesdale (Schofield), heavy rose edge, full size, good white ground, Winifred Esther (Dodwell), medium red edge, Miss Horner (Low), heavy rose edge, fine, Zerlina (Lord), heavy purple edge, Emilie, Miss Wood (Wood), light salmon edge, rather wanting in colour, Clara Penson (Willmer), light purple edge, a choice flower, Nellie (Rudd), light rose edge, very distinct, Favourite, Mrs. Rudd (Rudd), heavy scarlet edge, a bold flower, Royal Visit, and Master Norman (Norman), broad, heavy red edge; Mr. Martin Rowan third with Jessie, Nellie, Alliance (Fellowes), heavy purple edge, a full flower, smooth, and good ground colour, Mrs. Payne, Constance Heron, Dr. Epps (Smith), very heavy red edge, a most distinct flower, Thomas William (Flowdy), light red edge, a fine flower for exhibition, Mrs. Gorton (Simonite), light red edge, grand, Mrs. Dodwell, Minnie (Lord), light purple edge, margin distinct, colour pure white, Edith Dombrain, and Muriel (Hewitt), broad heavy purple edge, a queen of its class; Mr. George Chaundy, Oxford, fourth with Royal Visit, Alliance, Favourite, Zerlina, Brunette, Dr. Epps, Daisy (Dodwell), medium rose edge, fine formed flower, Clara Penson, Constance (Dodwell), heavy purple edge, pure white ground, distinct margin, Purity (Payne), heavy rose edge, with good form, substance, and pure ground, Thomas William, and Medina (Fellowes), broad, heavy purple edge, very distinct.

For six, Mr. John Payne, Worcester Cottage, St. Paul's, Oxford, took first honours with grand blooms of Zerlina, Royal Visit, John Smith (Bower), heavy red edge, a good variety, Mrs. Payne, Muriel, and another; Mr. T. E.

Honwood, second, with Purple Prince, Brunette (fine), Mrs. Rudd, Clara Penson, Jessie, and Royal Visit; Mr. C. Phillips, third, with Mrs. Payne (good), Clara Penson, Mrs. Dodwell, Royal Visit, Jessie, and Zorlina; Mr. J. S. Hedderley, fourth, with Clara Penson, Constance Heron, John Smith, Lucy, Mrs. Payne, and Tinnie (Dodwell), narrow purple edge, inclining to heavy; fifth, no name, with Alliance, Constance Heron, Mrs. Dodwell, Dr. Epps, Edith Dombrain, and Clara Pearson; sixth, Mr. T. Anstiss, with Favourite, Lady Holmesdale, Dr. Epps, Clara Penson, Master Nichol, and Edith Dombrain; Mr. W. L. Walker, seventh, with Her Majesty (Addis), light purple edge, a large well-built flower, Alliance, Winifred Esther, Clara Penson, and Mrs. Rudd; eighth, no name; ninth, Mr. A. R. Brown; tenth, Mr. W. Wardill; eleventh, Mr. Bower; twelfth, Mr. Huson Morris; and thirteenth, Mr. W. Slack.

Premier Carnation, Robert Lord, from Mr. J. Lakin's premier box of twelve.

Premier Picotee, Liddington's Favourite, from Mr. J. Lakin's premier box of twelve.

Premier Fancy Carnation, Sir Tohy Belch, scarlet bizarre, from Mr. R. Lord.

Fancy Carnations (twelve blooms, dissimilar).—First, Mr. W. Read, gardener to Mr. E. S. Dodwell, Oxford, with Huson Morris, Janira, Mrs. Mostyn Owen, Eurydice, Wm. Bacon, Florence, and four seedlings; Mr. J. Lakin, second, with Florence Nightingale, Seedling, Mrs. Mead, Princess Teck, Imperatrice, Mrs. W. Musgrave, Pride of Penshurst, Polly Clark, Emma Lakin (seedling purest white), Black Knight, Sir B. Seymour, and a seedling (rose self); Mr. Huson Morris, third, with Euphrosyne, Dick Whitehead, John Ball, The Governor, Marechal Niel, Mrs. Logan, Florence, Huson Morris, Carito d'Orion, William Skirving, and Queen of Yellows. For six fancies, the awards were made in favour of Mr. C. Phillips, Mr. R. Low, Mr. W. L. Walker, Mr. W. Gawn, Iffley Road, Oxford; Mr. J. S. Hedderley, Mr. T. E. Henwood, Mr. W. Slack, and another.

Single Specimens Carnations.—Scarlet bizarre, first, Mr. C. Phillips, with Robert Lord; second, Mr. J. Lakin, with Fred; third, Mr. M. Rowan, with Fred; fourth, Mr. T. E. Henwood, with George; and fifth, Mr. C. Phillips, with Charles Phillips. Crimson bizarre, first, Mr. J. Lakin, with Rifleman; second, Mr. A. R. Brown, with John Laing; third, Mr. M. Rowan, with Master Fred; fourth, Mr. J. Lakin, with Samuel Barlow; and fifth, Mr. A. R. Brown, with Diamond (a seedling, colour much like Samuel Barlow). Pink bizarre, first and second, Mr. Phillips, with Faust; third, fourth, and fifth, Mr. H. Startup, with Master Fred, Samuel Barlow, and W. L. Walker. Purple flake, first, Mr. W. L. Walker, with H. J. Startup; second, Mr. T. E. Henwood, with Sarah Payne; third and fourth, Mr. R. Low, with James Douglas and Dr. Foster; and fifth, Mr. J. S. Hedderley, with Mayor of Nottingham. Scarlet flakes, first, second, third, and fourth, Mr. J. S. Hedderley; and fifth, Mr. J. Lakin, with Tom Low. Rose flakes, first Mr. J. Lakin, with Dr. Symonds; second, Mr. J. S. Hedderley, with Sybil; third, Mr. M. Rowan, with Dolly Varden; fourth, Mr. A. R. Brown, with a seedling; and fifth, Mr. J. Lakin, with Rob Roy. Fancies, first and second, Mr. J. Lakin, with Geo. Fawcett and Huson Morris; third, Mr. T. Anstiss, with Mrs. Pratt; fourth, Mr. J. Lakin, with a seedling; and fifth, Mr. T. Anstiss, with Delicata. Selfs, first, Mr. R. Low, with Huntsman; second, Mr. W. L. Walker, with Cleopatra; third and fourth, Mr. Anstiss and Mr. J. Lakin, with seedling; and fifth, Mr. T. E. Henwood, with Cleopatra.

Picotees (heavy red edge), first and second, Mr. Thos Anstiss, with Mary D. Anstiss (to which a first-class certificate was awarded); third, fourth, and fifth, Mr. C. Phillips, with John Smith, Mrs. Dodwell, and Brunette. Ditto (light edge), first, Mr. C. Phillips, with Thomas William; second, Mr. J. Lakin, with Mrs. Gorton; third, fourth, and fifth, Messrs. Henwood, Startup, and Phillips, with Thomas William. Heavy purple edge, first, Mr. W. L. Walker, with Purple Prince; second, Mr. M. Rowan, with Alliance; third, Mr. Startup, with Purple Prince; fourth and fifth, Mr. C. Phillips, with Zerlina and Purple Prince. Light purple edge, first and second, Mr. J. S. Hedderley, third, Mr. Walker, fourth, Mr. Anstiss, each with Clara Pearson; fifth, Mr. Walker, with Mary. Rose or salmon (heavy edge), first, second, and third, Mr. M. Rowan, with Mrs. Payne; fourth, Mr. T. E. Henwood, with Edith Dombrain; fifth, Mr. J. Lakin, with Elise. Ditto (light edge), first, second, third, and fourth, Mr. M. Rowan, with Nellie; fifth, Mr. T. Anstiss, with Liddington Favourite. Yellow grounds, first, Mr. J. S. Hedderley, with Edith; second, Mr. J. Lakin, with Midas (seedling); third, Mr. C. Phillips, with Florence; fourth, Mr. T. E. Henwood, with Florence; and Mr. J. Lakin, fifth, with Pride of Penshurst.

The Luncheon.

By permission of the Warden, the Rev. R. M. Benson, and the Head Master, Mr. R. Thomas, the luncheon was served in the hall of Cowley St. John's High School. The Mayor (Alderman Buckell) ably presided, and those present included: The Mayoress and Mrs. Dudley, Dr. Guinness (Oxford), and Messrs. E. S. Dodwell (hon. sec.), Bower (Bradford), Rippon (Brill), Anstiss (Brill), Benson (Steeple Claydon), W. Slack (Chesterfield), E. Wilkins (Sutton, Surrey), J. Lakin (Temple Cowley), T. Storror (Derby), Gibson (Reading), Walker (Reading), Phillips (Reading), J. Lloyd Evans (Warwick), S. Hedderly (Nottingham), T. Haynes (Warwick), J. Sharp (King's Heath), A. Brown (Handsworth, Birmingham), Robinson (Selby Park, Birmingham), R. Sydenham (Birmingham), Henwood (Earley, Reading), Rowan (Clapham), Turner (Cowley), E. Organ (Oxford), Wynn (Hayes Common), Startup (Bromley, Kent), D. Organ (Oxford), J. Fleetwood Hunt (Summertown), Checkly (Oxford), C. Ridley, sen. (Oxford), G. Rippon (Oxford), W. Greenaway (Oxford), R. Dean (Ealing), W. Matthews, W. Hovell Payne (Oxford), G. D. D. Dudley (Oxford), A. Lowe (Donnington Wood), Makin (Duffield, near Derby), R. Lord (Todmorden), W. Bacon (Derby), W. E. Terry (Clapham), Wardill (Luton), Medhurst (Oxford), Dodwell (Aynho), Shirley Hibberd (Kew), and Dodwell, jun. Mr. Colhorn, of King Edward Street, catered in an excellent manner, and at the conclusion of the luncheon,

The Mayor, in felicitous language, gave "The Queen and other Members of the Royal Family," which was loyally honoured.

Mr. Geo. Rippon said it must be the irony of fate that he, of all men in Oxford, should he called upon to propose the toast of "The Mayor and Corporation," because he followed a profession which placed him in the invidious position sometimes of criticising the acts of those gentlemen, and rightly or wrongly he had occasionally come to cross purposes with them. But it would be remiss of him to propose the toast of the Mayor and Corporation of the distinguished city of Oxford without adding a few words, especially when they knew that those gentlemen influenced the whsels in the complicated machinery of our local life. (Hear, hear.) They had had a most brilliant show that day, and he was induced to come there by seeing that the Mayor was to be in the chair. That was no disrespect to Mr. Dodwell. On the contrary, he had very great respect for him, and a higher respect than he had before, for he could not have believed it possible that any one man in Oxford could produce the magnificent show they had had that day. (Applause.) Without going from his purpose, he wished he had to propose Mr. Dodwell's health. Were it so, he would have something more to say and relieve his feelings on the subject. Whatever might he said of the Mayor and Corporation, there was no doubt they had the good fortune to have a Mayor in the chair who was one of those admirers of Nature, and who believed in the grand sentiment that

> Sad indeed would be this world of ours,
> Denied the sweet smell of the beautiful flowers.

(Applause.) Therefore, it was with peculiar pleasure that he accepted the invitation to propose the toast of their worthy mayor, without exception the best they had ever had in Oxford. (Cheers.)

The Mayor thanked them heartily for the manner in which they received the toast, and he only wished he might live to deserve the kindly words used by Mr. Rippon. It was very pleasant for the municipal authorities to be remembered at those social gatherings. On the other hand, he thought it was but the duty of the chief magistrate and the members of the Corporation to render all the aid, countenance, and assistance possible to every social gathering, and everything for the social interest, welfare, and prosperity of the City. (Applause.) He did not mind whether it were in the direction of assisting all those enterprises growing up in their midst, and fostered by the working classes, those institutions generally known as benefit societies, whether it be in connexion with religious orders, whether it be in connexion with the sports and pastimes of the people, or whether they were met to rejoice together in the beautiful flowers which the earth furnished for the enjoyment and happiness of man. (Applause.) It had been a charming afternoon. Like his friend, Mr. Rippon, he had been perfectly astounded at the magnificent display of beautiful flowers they had witnessed, and he had no idea that there was anywhere within the circuit of a hundred miles of Oxford, much more in their midst, such a garden of beauty, such a display of wealth and magnificence in the direction of these beautiful flowers, or he thought Mr. Dodwell would have seen him about Stanley Road before then. (Applause.) He thought Mr. Dodwell was very likely to be troubled with him in the future more even than he cared for, for he must confess that next to the Queen of Flowers, the beautiful rose, he thought he loved the carnation better than all. (Hear, hear.) It belonged to that order of flowers which was peculiarly English and old, and was associated in his mind with old England, but they had brought this flower to such wondrous perfection that he had been charmed more than he could express.

Mr. R. Dean proposed "The Health of the Judges." He dared say in the course of a day or two the *Oxford Times* or *Chronicle* would inform them whether the sheriffs of the City of Oxford went down to the railway station, met the judges, and conveyed them to the show. He was not aware they did so. He believed they did in the case of men who came to punish evil-doers. How much more ought they to do it in the case of men who came to sing the praises of those who did well. He had had the pleasure of following the judges, and he was certain they had taken the greatest pains that the best prizes should he awarded to the best flowers. He coupled with the toast the name of Mr. Shirley Hibberd, editor of the Gardeners' Magazine.

Mr. Hibberd, in the course of a humorous reply, said Mr. Dean seemed troubled that the judges were not conducted to the show by the sheriffs. He happened to know more about it than Mr. Dean, being in the official capacity of a judge at that show. He was conducted to the show by the Dean of Ealing. It had given him immense delight to walk round Mr. Dodwell's garden, to meet Mr. Dodwell and his friends, and to take his humble part in awarding the prizes.

Mr. E. S. Dodwell submitted the toast of "The Exhibitors." He was no longer an exhibitor himself, but he had a keen sympathy with his brethren. The exhibitors' part in a show of that kind was of the utmost importance. Without the exhibitor they would have no show and no beautiful flowers to look upon. With that toast he would associate the name of their old friend and fellow-lover of the carnation, Mr. Hedderly, the raiser of the celebrated *Sportsman*, now about forty years old, but as celebrated as it was in its youth. (Applause.)

Mr. Hedderly had pleasure in responding to the toast of the exhibitors, although it was mingled with some regret. As they all knew, many of their friends were absent through not having flowers to exhibit, and he was almost in the same category, through the untoward season. They had had a grand show, and he supposed there had been something like twenty-five exhibitors, a thing unparalleled at a carnation show in this country. It appeared to be a growing show, and he had no doubt in future years they would see it eclipsed.

The Mayor gave "The Horticultural and Local Press."

Mr. Hibberd, editor of the Gardeners' Magazine, responded for the first part of the toast, and Mr. Rippon, editor of the *Oxford Times* for the latter.

Mr. Hibberd proposed "Prosperity to the Carnation and Picotee Union." The union grew out of some circumstances that he remembered well, and which illustrated the good old doctrine they sometimes got from the pulpit, that everything was for the best. Here was a proof of it: here was floriculture taking a new start in a place where it appeared to be wanting. He could but wish prosperity to this movement representing the carnation and picotee. Of old time they always used to look to this district for the best flowers of this class. He could not say why that should be, because they thrived very well in London; and, in fact, it was a universal flower, and thrived everywhere. (Applause.) He gave them "The Health of Mr. Dodwell" with all his heart. (Cheers.)

The toast was drunk with musical honours.

Mr. Dodwell, in reply, said that as long as he was spared and was enabled to come out into the open air in the summer, he hoped his friends would come and see him, and they would have their annual feast of carnations and picotees. He thanked them for their attendance, especially mentioning the Mayor and Mayoress, and the other ladies. Flowers had been the delight and recreation of his life, and he would recommend them earnestly to young men and others. They had been sources of interest, and he hoped also of some information, and when they led, as they had sometimes led, from time to time to meetings like that, what a pleasure to dwell upon, what a pleasure to look forward to! (Applause.)

Mr. Ridley, in proposing "The Visitors," said he believed they had had one of the finest shows in England, because there were very few places where they got a display like Mr. Dodwell's. (Hear, hear.)

Dr. Guinness briefly returned thanks, remarking that it had indeed been a feast to the visitors, as Mr. Dodwell called it.

Mr. Dodwell, jun., gave "The Health of the Ladies."

Mr. Dodwell, sen., explained that the Mayor would, in response to the next toast, also respond for the ladies. His business was to propose the health of their chairman. (Applause.) That required no words of recommendation as good wine needed no hush; and for himself he expressed his obligation to the Chief Magistrate of this ancient and historic city for taking part in that little gathering. The Carnation and Picotee Union included a larger number of persons specially devoted to the cultivation of one flower than any other association known to him, and he spoke of fifty years experience, and it had brought, to his surprise and exceeding satisfaction, a larger number of friends at each of its gatherings—last year and this, despite the uncongeniality of the season—than ever took part in those delightful encounters of heart and intelligence occurring anywhere else. He did not look with anything like unkindliness upon the dissension that arose when he was thrust from the place he filled for some ten years in London. He was thankful to say the wound had healed up perfectly, and he dwelt with satisfaction on the fact that they had in that Union the opportunity of gathering together. He wished the Mayor continued life and prosperity. In the past he knew he had acted beneficently for his fellow-citizens, and he desired for him every possible enjoyment which life could afford, and continued fulfilment of those high things which belonged to his station. He asked them to drink the health of the Mayor, not forgetting the Mayoress. (Cheers.)

The Mayor, in briefly responding, said the pleasure had been on his side. He had spent a most enjoyable and agreeable afternoon, and hoped it would not be the last time he would meet the members of the Carnation and Picotee Union. He congratulated them upon the success which had attended their labours in the past, and they had his hearty wishes for their utmost possible success and prosperity in the future. (Applause.)

EXCURSION OF THE HORTICULTURAL CLUB.

The Horticultural Club continues to observe its laudable custom of "having it out" with somebody somewhere once a-year. On the 29th ult. the outing comprised visits to Heckfield and Strathfieldsaye by rail and road, under the fatherly direction of Mr. John Lee, the president, and the pious guardianship of the Rev. H. H. D'Ombrain, the ever affable and learned secretary. The party was judiciously made up of an equal number of ladies and gentlemen, with "an odd man out," the said man being odd because there was not a lady at command to make him even. Let us hope it will not be always so, for there must be a lady to spare in some part of the world.

As for the women, though we scorn and flout 'em,
We may live with, but cannot live without 'em.

Being gathered from various parts of the habitable globe the party made a great demand on the resources of the Great Western Railway Company at the hour of ten in the forenoon, when the train conveying them gave a shriek and fled for Reading.

Away, away, my steed and I,
Upon the pinions of the wind,
All human dwellings left behind;
We sped like meteors through the sky.

But, alas! we could not stir the embers of enthusiasm by a railway ride to Reading, and when we steamed in and streamed out of the station we were undistinguishable from everyday humanity. But at that very point the world appeared to expand, and the embers referred to above acquired a new glow. We saw a glorious sight, which might be described as the hoisting of the oysters. A luncheon provided by a generous friend, and packed in a series of hampers, was seen to be safely deposited in the several carriages commissioned to carry the horticultural party, and with great alacrity the humanities "sorted themselves," and with a bound the steeds started with their tails behind them. The town of Reading has been thoughtfully designed for the accommodation of people who object to towns in general, and one consequence of the arrangement is that, if you proceed at a proper pace in the right direction, you soon lose the town and find yourself in the country. It is good country too, for there are tongues in the trees and books in the brooks, the poppies are painted in fast colours, and the hay stacks are flavoured with the finest perfumery. Our course lies due south, towards the classic land, where to the right, or westerly, lies Silchester, the Caer-segont of the Britons, and something else of Romans and Saxons; while to the left, or easterly, lies Eversley, Heckfield, and Strathfieldsaye.

To describe the route in detail would be very nice if we could do it, but as we cannot we shall say we have arrived at Heckfield, and the very first business transacted was the eating of the luncheon. That excellent man, Mr. Wildsmith, had put up a tent with the intent to make the party comfortable, and the stewards of the day were soon employed in spreading out the viands that a friend indeed had provided for our need, in delightful abundance and variety—

I can't say that he gave us any tea,
But there were chickens, tongues, cakes, sandwiches, and honey,
With sparkling wine—and all for love, not money!

The perfection of a fortified town is seen in its immovableness, but fortified humanity is altogether a movable chattel. We moved, therefore, and Mr. Wildsmith kindly led us to a flowery terrace, over undulating lawns, amidst trees of size and beauty and renown, through vineries, pineries, and conservatories; amidst fruit trees and roses and sparkling parterres—in fact, the curtain was lifted, and a succession of scenes displayed to our delighted eyes regardless of expense. You may see here superb carpet bedding, wherein Herniaria glabra plays the part of green framework for pictures painted with alternantheras, sedums, iresines, and the like. And here you may see, amidst sylvan surroundings, lovely specimens of Pinus insignis of the most vivid green hue; groups of Picea nobilis making gleams of glaucous coldness; with any number of interesting trees of other kinds in perfect health and beauty.

While engaged in the delightful perambulation the visitors were heedless of time, and had at last to be collected into a lumpet by the sound of trumpet to make the journey to Strathfieldsaye. Whether the steeds had taken luncheon we did not enquire, but they flew like feathers in a strong wind, as though the light-hearted party had no weight for them, and the wheels were but a dream of the perpetual motion that is as yet undiscovered. We were soon in pedestrian form again, and personally conducted by Mr. Bell over the Duke of Wellington's property. Now, day and night are nearly related, and follow each other for ever and ever, but they are very different. Would you be surprised if told that between the first and the second of the places visited the difference is scarcely less than between day and night? But so it is; and each has its own characteristic beauties: if the day has its sunshine and bustle, the night has its stars and stillness. The entrance to the ducal property that was opened to us sustained the comparison, for it was an avenue of yew. Presently, at a turn, we entered upon an avenue of ancient Cornish elms, one mile in length. With the elms alternate horse chestnuts; the latter having been planted between to make amends, by their ample leafage, for the declining greenness of the patriarchs. Here again we went through graperies, peacheries, plumeries, flower gardens, orchards, and then away into the woodlands to pay respects to the giants, chief amongst them being the finest Wellingtonia in the country. It is absolutely perfect from head to foot, and has the finest tone of green we have seen in any tree of its kind. It measures six feet in diameter of trunk at the ground line; its height is fifty-five feet, and it was planted in the year 1857. The rate of growth, therefore, nearly corresponds with that of Mr. Dunnett's tree, lately reported on—say, for the present, nearly two feet per annum. But we must not go into details now, and we shall only add that amidst the beauties of this place is a great tree of Nyssa biflora (Mich.), the tupelo tree, a beautiful, shining, golden green thing, that one of our party likened to a gigantic Choysia ternata. We saw the grave of Copenhagen, for although the city of that name happily remains after Nelson's battering, the horse so named, that assisted Wellington to hatter "the meteor that dazzled the world," has gone the way of all horseflesh, and the only bad man in the party was heard to declare that death improves a horse, for when living we scarcely admire his mane, but when dead we pay respects to his manes. This disastrous follycism brought the visit to a close, and the curtain fell with a thud; but, happily, neither the curtain nor the thud did any harm to anybody. Whether the manes of Copenhagen were stirred we did not enquire, for the living steeds said "nay" to the nonsense, and wafted the party to Reading, where, in the hotel near the station, dinner awaited the once-more hungry travellers.

The banquet waits our presence, festal joy
Laughs in the mantling goblet.

For a short while silence reigned, for there were "forty feeding like one," or, if you prefer it, twenty lost in plenty. The ducks swam in their gravy, the chickens flew from dishes to plates, the delicate peas made us peaceful, and all the tongues in the room began to clatter about the wonders of the day and the next merry meeting. Mr. John Lee, as father of the family, made a kindly speech of twenty words to thank the secretary; and the Rev. H. D'Ombrain, as guide, philosopher, and friend, replied in a speech of fifteen words; and with a recognition by the gentlemen of the benignity of the ladies in assisting them to swallow the joyous hours, the train called at the door, and as the clock struck ten there was a dissolution of parliament at Paddington.

Replies to Queries.

Dobbie and Co., Rothesay.—Your auricula-eyed Sweet Williams are in every way good, the flowers large and well made, the colours pure, and the growth showing a vigorous habit.

Names of Plants.—Camden Road.—Your beautiful fern is Chielanthes elegans. Le C. and Co.—Gypsophila paniculata. R. R.—1, Phillyrea obliqua; 2, Quercus ilex. This is the "ilex" of the Roman poets, a tree they were well acquainted with; 3, Thuia gigantea; 4, a beautful form of Cupressus Lawsoniana, which we do not remember to have seen before, and is probably unnamed; 5, Pyrus pinnatifida. Quincunx.—1, Dracocephalum canescens; 2, Œnothera fruticosa (requires a deep, damp soil); 3, Camassia esculenta; 4, Campanula trachelium. Barnard.—We can give you the generic names of your plants by the aid of leaves alone, but for the specific names we must have the flowers. Pack them between fresh ivy leaves without any wool or any moisture, and send them in an ordinary letter. All thin textured subjects may be sent in this simple way. G. Whittingtou.—It is impossible to name your carnations, or we would gladly do it.

Neriums.—J. M. F.—To maintain the plants in a thrifty condition they should be repotted annually, and the most suitable period in which to shift them is the spring, although they may with advantage be repotted in the summer if they have become pot bound. Use a compost consisting of turfy loam and peat two parts each; and manure, leafmould, and sand one part each. To keep neriums dwarf and bushy they must be pruned in the spring, and the shoots of the previous season should be shortened to within three or four buds of the base. After the pruning place them where they can have the assistance of a temperature of between 65 deg. and 70 deg. and enjoy a moderate degree of atmospheric humidity. The undermentioned comprises the best single and double varieties in commerce, and will form an excellent selection: Album grandiflorum, Carneum fl. pl, Dr. Golfin, Grandiflorum plenum, Lilian Henderson, Madame Martin, Madame Poyre, Madoni grandiflora, Paul Sahut, Roseum plenum, Souvenir d'Auguste Royer, Splendens giganteum.

Daffodils.—W.S.—Daffodils can be planted as late as the end of October with the full assurance of their flowering satisfactorily, but the best results are obtained by planting during August, as the bulbs have then plenty of time to become well rooted before the autumn is far advanced. They are not particular as to the soil and situation, but they make the most vigorous growth and produce the finest flowers when planted in a deep and moderately rich soil. With the exception of the newer kinds they are very cheap, and should be planted in sufficient quantities to produce a good effect the first year. It is a good rule to lift and replant the bulbs every second or third year. The strong-growing daffodils are especially useful for planting in borders overhung with trees and shrubs. Polyanthus narcissi should be grown in six-inch pots, three bulbs in each, and receive precisely the same attention as hyacinths and tulips required for the decoration of the conservatory. The best for beds and borders are Abscissus, Bicolor, Bicolor Empress, Bicolor Horsfieldi, Bulbocodium, Cernuus, Cynosure, Emperor, Humei albidus, Incomparabilis, Incomparabilis aurantius plenus, Leedsi, Lincolnshire Yellow, Lorifolius maximus, Lobularis grandiplenus, Mary Anderson, Maximus, Moschatus, Nelsoni, Nobilis, Odorus, Odorus rugulosus, Pallidus præcox, Poeticus poetarum, Poetious ornatus, Princeps, Rugilobus, Shirley Hibberd, Sir Watkin, Spurius coronatus, Stella, Telamonius, Telemonius plenus. The most useful of the polyanthus varieties for pot culture under glass are Bazelman major, Double Roman, Gloriosa, Grand Primo, Grand Soleil d'Or, Paper White, Queen Victoria, Sir Isaac Newton, States General, White Pearl.

FRUIT GROWING AT SAWBRIDGEWORTH.

Sawbridgeworth, Herts, has become famous in two of its several rural industries, for wheat growing and fruit growing are there pursued according to scientific principles. Messrs. Prout's farm is about two miles distant from the famous Sawbridgeworth nurseries of Mr. F. T. Rivers, and the Harlow station on the Great Eastern line answers well for both places. It is not expected of a man who makes fruit trees that he should also produce fruit, for tree growing and fruit growing may very properly be separated; and it is always sufficient for a man of business to do one thing well. But as a matter of fact the production of fruit in bulk is carried on with spirit by Mr. Rivers, while there is still, as of old, produced here vast quantities of grape-vines, orchard and garden fruit trees, and, not the least important of all, trees specially prepared for orchard houses. Calling to mind our several visits to the place during, say, the past thirty years, we see that many things move in the same safe old grooves, while many other things have got into new grooves, and what is called the "march of improvement" is here illustrated in a very interesting manner. If the work, as a whole, was well done thirty years ago, there can be no question that it is better done now, and it will be part of our duty to place a few facts before our readers, for nursery practices bear directly on fruit culture in general, and on the profit and enjoyment of gardens in particular.

A walk amidst interesting trees and miscellanies soon brought us to fruit gardens and orchards of the productive sort, and myriads of young trees of apple, pear, cherry, and plum, with plantations of the several stocks that are to provide foster roots for trees of the future. Very much of all this is such as may be seen elsewhere, but there are some interesting exceptions. As regards apples, we will first say that a plantation of dwarf trees on the Nonsuch Paradise stock presents the agreeable spectacle of a great crop of fruit. The system of treating trees of this kind at Sawbridgeworth has been slowly, but definitely modified; the severe pinching and pruning advocated and practised by the late Mr. Thomas Rivers has given place to a system more generous every way, and therefore more natural. You cannot be generous to a tree, except in the way of nature, but you may be most ungenerous in the way of art. The young trees, when sufficiently made in the nursery quarters, are put out on good ground and *allowed to grow*. It follows that in their future course they are scarcely in any way interfered with, and one thing, certainly, is definite in the system: it is that the shoots or rods are allowed to run their full length, and the only check to growth consists in *once* pinching the side shoots to prevent any crowding of the head of the tree. The result of a continuance of this simple system is that the sturdy trees are not kept "close home and compact," but are open in their furniture, and their branches spread far, with rather more than the usual space allowed between them. So far we have the method, and the question will arise as to results. Those who will take the trouble to visit these nurseries will see what is probably the best apple crop in the country (that is, considering the size of the trees and the area of land covered). Every tree is in itself a model of diffuse, orderly, and healthy growth of the very best kind, as its productiveness will prove, for, after all, compact and skilfully pinched trees that produce nothing are not quite so good as they look, and the truth must be told, even if we appear wanting in courtesy to some of our readers, that many amateurs who delight in pinching trees above and starving them below do not know what is meant by a crop of fruit, but go into ecstasy over a score of pears as the product of a tree that ought to carry a couple of hundred. In presence of the dwarf apple trees Mr. Rivers can show us—we have no further use for the term "toy," as suggestive of their character—the problem is solved, and dwarf trees may be made to pay both in large and small gardens.

In looking through the plantations of fruiting pear trees we found the crop to be vexatiously small, but for all that there is in reality a very considerable crop of pears at Sawbridgeworth. Immense numbers of dwarf pears on quince stocks are grown for orchard house and sheltered garden culture, and with scarcely an exception the trees of this pattern are covered with fruit. If in the case reported above less art and more of nature proved a turn of the scale for profit, the case now before us reverses the position, for it is the hand of man, in one sense at least, that has put the fruit on the potted pear trees. They were advantaged by shelter during the time of flowering, and had, of course, other attentions, while the big trees in the open had to endure the assaults of the elements. But the difference between the two groups is instructive, and teaches again the sound lesson that pot trees, well managed, are to be depended on for fruitfulness, while for beauty, as the furniture of a suitable plant house, they are very much to be desired. The pot pear trees and most other kinds of pot fruit trees are out of doors now, and have long been enjoying the conditions that make for their well-doing, for, after all, the orchard house is a thing variable in degree; it may run one way to a heated peach house to supply early fruit worth a guinea each, or the other way to a mere protective shed for the shelter of the trees while flowering only, all the rest of their days and nights being passed in the open air.

This brings us to the orchard houses, of which there are many here. Many of the ingenious ideas of old time, such as walls of clipped trees, roofs of tiffany, and so forth, have been fairly worked out, and the favourite orchard house of the period is a roomy and very airy structure, span-roofed, with ventilation in place of shading, and a great flood of light from above and around. We are now in one of these houses; it measures 60 ft. by 18 ft. The roof is high, but the angle is low. The sides are of wood or brick, according to the particular purpose of the house, and the roof is braced with a few light tie bars. Side and roof ventilators of the customary kind are to be seen, but there are ventilators not seen, and of these we must speak. At intervals at the base of the side walls outside are to be found the open mouths of large drain pipe elbows. These are connected with drain pipes running under the earth floor, and terminating in small brick boxes flush with the floor, and that one may tread upon without suspecting the small opening to be a vital part of the machinery of fruit production. It is a very simple matter: the fresh air passed from outside and enters the body of the house from the small brick box in the floor. These boxes, of course, can be covered with slates, and the openings outside are easily covered with wire to prevent intrusion by birds or rats. Birds would not push their way up the pipes as rats would, but they would often build their nests in the mouths of the pipes if allowed, and so stop the ventilation.

As to the profitableness of such fruit houses, there is much to be said. Unless well managed they are more plague than profit, but good management consists chiefly in giving plenty of air and plenty of water. We are now in a house of peaches, containing one lot of trees planted out, and another lot of trees in pots, and there can be no mistake that the pot trees make the best show and occupy the least room, and are altogether beautiful objects. Here is a tree of Sea Eagle peach in a ten-inch pot, bearing six magnificent peaches, each fruit a model for size and colour and quality. Here is another tree with twelve fine fruit in the same sized pot, and we may properly value the fruit at half-a-crown each, in fact on the day we saw them they would have realised that figure in Covent Garden Market, and would have cost at least five shillings each to put them on the table. Peaches, nectarines, apricots, and even mulberries, are grown to profitable results in pots under glass, and while, of course, it must be admitted that the system has been completely ripened in every particular in this place, it remains a fact that the chief requirements of the trees are air and water. We do not forget our own early experiences in orchard house management, for the weak point was withholding water; the trees were denied their favourite beverage when they most wanted it, and the growth was insufficient.

It is necessary to say something about the trees apart from the houses. In moving about we see immense numbers that have ripened off their crops, and are now ripening off their wood in the open air. In old times peach and nectarine trees were lifted from the open quarters and potted for sale. This is never done now, for all the trees are made in pots, and the difference in results is enormous. But there is another difference, and it is in the pruning. The rods are allowed to go, and the side shoots are pinched in, and good feeding makes healthy growth with a regular and sufficient distribution of fruit buds. It may be necessary to shorten the growth when the leaves are down, but the trees are not tempted to make watery spray by untimely stopping—in fact the rule holds throughout with trees of all kinds, that nature is allowed to have her way in making useful wood; she is no longer compelled to make half a-dozen useless shoots where, if left alone, she would make but one, and that one a credit to the cultivator, because profitable to the owner.

Perhaps the prettiest things in the whole of this great establishment are the cherry houses. They are delightful. The pot trees may be roughly described as averaging the size of a man, and the trees are so densely clothed with fruit that it would be absurd to expect the pot that carries the tree to hold the fruit if the tree were taken out of it for the purpose. And such fruit! Behold the finest dishes of cherries at a first-rate exhibition, then transfer such fruit in heaps to the stems and principal side shoots of trees that are models of neatness and proportion, and you have at least a vague idea of the beautiful reality. Cherries are so easy to grow in pots and so enjoyable to eat in the cherry house, that above all other fads we are inclined to place this particular one as proper to the enjoyment of a respectable garden.

Plums suggest considerations parallel to those that have thus far occupied us in connection with apples and pears. There is a great crop, more especially of Early Rivers and Archduke. A curious feature is a great hedge of plums, the routine treatment of which consists in cutting it back with a Dunsie hook and gathering the plums when ripe. A similar hedge of medlars is treated in a similar way, and produces a lot of fruit, while affording useful shelter and a handsome boundary line. Orchard house plums are worthy of attention equally with peaches, nectarines, and cherries. Not a few of the finest dessert plums need a better climate at times than nature affords them here, and the comfort of glass makes all the difference; while as regards the final flavour and colour of the fruit the finishing can be accomplished in the open, for it is but a small business to move the trees to suitable sheltered localities for full enjoyment of air and light and natural humidity. At the meeting of R.H.S., at South Kensington, July 27, a pretty group of Sawbridgeworth trees appeared for the general delight, and the plums were conspicuous amongst them. But the best exhibition away from home of pot fruit trees loaded with fruit by Mr. Rivers was at the great exhibition at Liverpool, when he was awarded the Banksian Gold Medal of the R.H.S. for the perfection of his orchard house culture.

THE SWEET PRINCIPLE OF FRUITS AND PLANTS.

By Dr. James R. Nichols, Haverhill, Massachusetts Horticultural Society.

The most interesting phenomenon connected with the growth of fruits and vegetables is the development in their structures of chemical principles which influence in a peculiar manner the sense of taste. A variety of impressions are produced upon the nerves of taste, some of which are agreeable, and others disagreeable, by bringing in contact the juices of certain fruits, roots, grasses, leaves, &c., in their mature and fresh condition. The sense of sweetness is usually agreeable, while the sour and the bitter are of the opposite character.

The term sweet is applied to a class of bodies which are found in fruits, and in a considerable number of vegetable structures, but we do not clearly understand how they are capable of exerting so decided and pleasurable an influence upon the palate, not only of human beings, but upon animals as well. As we walk through our gardens and orchards, and watch the growth of the luxuriant products of the soil, we do not often stop to consider the intricate and wonderful chemical reactions which are unceasingly taking place in everything that springs from the earth upon which we tread. We place the luscious ripened fruits upon our tables, and partake of them with deep sensual gratification, but we do not often consider the origin and nature of the complex agents which render them so acceptable.

The sense of taste is in some respects the most mysterious and wonderful of all the senses. If the sense of touch is, as seems probable, the parent sense, or the primal avenue through which mind was able to assert itself, it must be that taste was the next most necessary sense for man's elevation and protection. All we know about it, chemically or physiologically, is that a delicate network of nerves ramifies through the tissues of the tongue, and in surrounding or adjacent parts, and that they have the the functional duty to perform of conveying to the "central office"—the brain—sensations as regards the nature of what is brought in contact. If we examine into the chemical or physical character of these nerves we do not find that they are in the slightest respect different from the optic or auditory nerves which transmit sensations so absolutely unlike. They are the same in colour, structure, and chemical constitution: but how different their office! Nature has fixed limits to our fields of investigation, and, however anxiously we may inquire, we cannot take a single step over the boundary line which divides the known from the unknowable. We must content ourselves, therefore, with the act of bringing substances in contact with the little telephonic nerve conductors of the mouth, and permit them to inform the interior man, whether they are noxious or innoxious, agreeable or disagreeable, and not ask how the messages are conveyed.

Substances characterzied by sweetness are assumed to contain an organic product called sugar, and, as a class, vegetable structures do contain it in some one of its forms. There are, however, a few substances which have a sweet taste not due to sugar. Acetate of lead is an example afforded in the mineral world, and glycerine is a sweet liquid, the base of fatty acid com-

pounds having no sugar. There is a form called *hepatic* sugar, which is a product of the liver, and some of the secretions of the body contain it. It is, however, in the organic world that we find sugar in the vast quantities needed by man, and in the juices of fruits and plants we find its hiding place.

Before vegetable physiology and chemistry were understood the belief prevailed that all the characteristic constituents of fruits and plants were in some way hunted from the soil, and conveyed to their resting places by the sap, which was known to circulate through living vegetable organisms. Although no sugar could be detected in any soil by the most persistent scrutiny, yet it was supposed that sugar, and its associated acid and other plant constituents, were present, and ready for transportation by the ascending sap. We are disposed to smile at this error of our fathers, but we should remember that, in accounting for natural phenomena, or seeking for a reason for things, the easiest and shortest path is the one usually followed. This remains true until we are guided by facts learned from accurate observation and experiment, or until science becomes sufficiently robust to act as an unerring guide.

Science, in our epoch, is capable of explaining many of the former mysteries of plant movements and plant production, and we now know the source of the sweet principle of fruits and plants—we know that the soil has no direct agency in supplying sugar to any organic structure.

Sugar is a very remarkable substance, and its investigation opens to view surprises and paradoxes not afforded by any other agent in nature. It is highly complex in its organization, having a high atomic constitution, and yet it is the simplest of all compounds when considered in regard to the nature of the elements of which it is composed.

In studying the sweet principle of plants, we soon discover that they possess the capability of elaborating more than one variety of sugar in their structures, and that there is a curious blending of several forms in the ripened fruits which come upon our tables. We discover, also, that each plant has the power of manufacturing a special variety, or a combination of varieties, and that this law of their constitution cannot be changed by man.

In beet roots, in the stems and trunks of the sugar maple tree, the sycamore, the palm, in sugar canes, in the sorghum plant, in the stalks of maize, in grasses, we have one kind of sugar, called *sucrose*, which is the sweetest variety; in grapes we have another distinct variety, called *dextrose* or *glucose*; in apples and other fruits we have still another, called *fructose* or *levulose*. In melons we have a sweet which is nearly pure sucrose, or cane sugar. We learn from this examination not only that sugars differ widely, but that, for wise and doubtless beneficent reasons, the Supreme Intelligence has not permitted all fruits and plants to be sweetened alike. In that vegetable monstrosity called a beet, which is hidden from the clear sunlight and the air during the whole period of its growth, there are found juices which hold the most noble and valuable form of sugar known to man. The crimson tissues of this root contain the snow-white sugar which graces the tea tables of the kings and princes of Continental Europe; and millions of pounds find their way into commerce, always commanding the highest prices. The humble, earthy beet, can hold up its head in pride when its sweetness is contrasted with that of the petted grape, which occupies the foremost place among our delicious fruits. The grape is sweetened with glucose, an ignoble form of sugar which the chemist can make in the laboratory, and its production does not require the employment of costly or rare materials. Even if it lessens our respect for the tempting fruit of the vine, the truth must be told. The chemist can make the sweet juices of the grape from old cotton rags and old newspapers; and if this statement does not indicate a sufficiently low origin, I have only to remark that it can be made from common sawdust as well. Human art has not yet been able to number among its triumphs the production of the sugar of the beet, the maple, or the cane.

The sweet principle of fruits, other than the grape, cannot be imitated in the laboratory. It is a mixture of at least two forms of sugar—sucrose and dextrose—in varying proportions, as is shown in the tables on page 51.

How curious and mysterious is this plan in nature, of delicately adjusting the taste of our noble fruits, so as to produce a sense of the highest enjoyment in their use. In some fruits we find the sweet to exist in its lowest modified form; but this is not due to a lessening of the amount of the sweetest sugar, but to the presence of an entirely different kind. It is probable that the peculiar delicate flavour and taste of the grape could not be secured by any adjustment of quantity of sucrose or cane sugar, or by any mixtures. It requires glucose, pure and simple, to act in conjunction with the delicate acids, in order that we may have this fruit in its highest perfection. The water melon would not be the fruit it is if it had not the capability of manufacturing cane sugar in large quantities; neither would the apple, the peach, the cherry, the strawberry, or the pear be what they are if the plants and trees upon which they grow had not the power of bringing into play a subtle chemistry by which is produced a mixture of distinct forms of sweets which no art of man can imitate. If there was in nature but one kind of sugar the number of choice delicacies in our gardens and fruit orchards would be lamentably small.

But nature does not, in the bestowal of her fruits, spontaneously, or of her own free will, sweeten them for us so acceptably. What are designed to be luxuries and the most highly-prized forms of food, she ordains shall be bestowed only though the exercise of labour, care, and skill, on the part of man. No one of the fruits in its wild or native state holds any considerable quantity of sugar of any kind—not enough to make it acceptable to the taste, or fit it to serve as food. It is only by skilful cultivation, by hybridizing, by budding and grafting, that we have secured the sweet principle in fruits. We have, as it were, educated the dumb chemists in the vegetable cell, and fitted them for the work which nature made them competent to perform under man's guidance.

It is indeed wonderful that we can increase or diminish the amount of sugar in any kind of fruit or plant by cultivation. The beet, for example, under ordinary care, will afford from four to six per cent. of sugar; but, by scientific and generous culture, the percentage can be nearly or quite doubled. I have succeeded in increasing the sweet principle in apples, grapes, and peaches by cultivation and proper fertilization, and this when the principle was originally present in normal quantity. In increasing the sugar we also increase every other desirable quality in the fruit; for one principle cannot be forced into prominence without being accompanied by all the others.

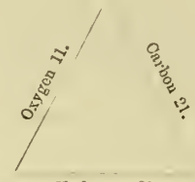
I will now endeavour to explain by the aid of chemical symbols the nature of the different sugars, and also show the nature of the sweet principle of some fruits. In the arrangement of symbols, table No. 1, I bring to view the atomic constitution of a molecule of sucrose or cane sugar; also that of starch, and the necessary changes to convert starch into sugar.

Table No. 1.

Sucrose	C_{12}	H_{22}	O_{11}
Aqua		H_2	O
Starch	C_6	H_{10}	O_5
Multiply by			2
	C_{12}	H_{20}	O_{10}
Add		H_2	O
Sucrose	C_{12}	H_{22}	O_{11}

Table No. 2.

Glucose	C_6	H_{12}	O_6
Multiply by			2
	C_{12}	H_{24}	O_{12}
Subtract		H_2	O
Sugar	C_{12}	H_{22}	O_{11}



Alcohol	C_2	H_6	O

Table No. 3.

How Fruits are Sweetened.

	Cane Sugar.	Grape Sugar.
Strawberries	6·37	4·98
Peaches	2·10	3·17
Pears	62	8.42
Oranges	4·22	4·36
Grapes (Black Hamburg)	00	17·26
do. (Concord)	00	14·08
do. (Green)	00	1·60
Melons (Water)	8·17	00
do. (Musk)	9 02	00

Dextrose	C_6	H_{12}	O_6
Levulose	C_6	H_{12}	O_6
Fruit Sugar	C_6	H_{12}	O_6

A molecule of common water is represented thus, H_2 O, which means that it is composed of two atoms of hydrogen and one of oxygen. Now to form sugar out of starch we must double the molecule, and this we do by multiplying the starch molecule by two, but this does not give us sugar; it is necessary to add a molecule of water, which gives us in the diagram sugar, as shown by comparing the resultant line of notation with the upper.

In table No. 2 is shown the composition of grape sugar or glucose, and also how it must be modified so as to change it into cane sugar. We must first double the molecule, as is shown, and then subtract one molecule of water, and this gives us cane sugar, C_{12} H_{22} O_{11}. In the triangle is presented a hypothetical molecule of cane sugar, composed of its constituent atoms, oxygen, hydrogen, and carbon. It is apparent that a substance so constituted must be in a condition of unstable equilibrium, for there is constant tendency to change and form new compounds. Sugar is a substance very easily decomposed, and by the application of heat a large number of new compounds result. One of these new bodies is alcohol, which is represented by the formula

$$C_2\ H_6\ O.$$

An examination of the diagrams will show you how starch is converted into glucose. Starch has the formula as shown,

$$C_6\ H_{10}\ O_5.$$

Now if we add to a molecule one molecule of water H_2 O, we have glucose,

$$C_6\ H_{12}\ O_6,$$

and this is all that is necessary to convert the starch of corn or potatoes into the sweet principle of grapes.

We cannot convert starch into cane sugar, because we cannot double the size of the molecule and force into combination one more molecule of water. If we could accomplish this result, all our crystallizable cane sugar would be made in the laboratory, and the growth of sugar cane, beets, &c., would cease, as the artificial process would supply sugar at cheaper rates.

We can make grape sugar out of starch, because we have discovered a method of forcing one more molecule of water into combination with it, and this gives us glucose.

Table No. 3 explains how several kinds of fruits are sweetened. The percentage of cane sugar and fruit sugars which enters into strawberries, peaches, pears, &c., is shown. It will be noticed that in grapes no cane sugar is presented; the sweet principle is entirely glucose. Of course fruits vary greatly in the amount of sugar they contain. These examples are presented as the results of analysis made with the view of obtaining general or approximate results. Whilst it is possible to increase the saccharine principle, and also to modify the hydrated malic acid constituent in fruits, it is entirely beyond our power to change the fixed nature of vines, shrubs, and trees by any methods of cultivation or fertilization yet discovered. I know of nothing more wonderful in nature than the persistency with which vegetable structures adhere to their original bent or design. Trees producing sour apples, pears, peaches, or vines producing astringent grapes, cannot be turned aside from their laboratory work, unless by the introduction of scions, or the employment of the knife in other ways.

We all know that two trees growing side by side, from the same soil, breathing the same air, and precisely alike in external and internal structure, will grow fruit totally dissimilar in chemical constituents and physical appearance. If a young sour apple tree is cut off low in its trunk, and scions of another kind inserted, it is changed only above the point where they are placed. The chemical reactions below continue true to their original instinct, and if fruit comes from a sprout it is charged with the acid juices of the parent tree.

We thus have the bewildering fact brought before us that sap circulating through one portion of a tree culminates in the production of excess of acid in the fruit; while in another there is found an excess of sugar. It is not unusual to observe a newly set scion bud, blossom, and bear fruit the first year. The apple may weigh ten times as much as the frail scion which held it up and supplied the nutriment necessary for its growth, but the little twig transplanted to an alien limb will set up a laboratory of its own, and from the strange juices brought to it will manufacture fruit entirely dissimilar to its companion fruits growing in close proximity. An example of this nature was afforded in my orchard, when from a scion having a surface for cell action of only nine square inches a sweet apple was grown weighing seven ounces, and affording from its juices ninety-three grains of fruit sugar.

We have, however, still more wonderful examples of fruit chemistry in apples which in their own structure exhibit sectional differences of composition, one-half or one-quarter being saccharine, the other portions being extremely acid, and having the sectional lines distinctly drawn. I have seen a basket of this remarkable fruit in which the divisions were in all proportions, but each one unmistakably marked.

I have brought to view these interesting examples of plant chemistry, not with the supposition that they are new to you, but simply to awaken inquiry and stimulate research, that we may, if possible, obtain new light upon some most perplexing problems.

The sap of plants, which is largely water, may have but little agency in influencing those changes which result in the production of the sweet principle in fruits. Cell action, controlled by the actinic solar ray, is unquestionably the source or active agent in the chemical changes which accompany vegetable life. The vast volume of water, which in the form of sap courses through our fruit trees, cannot, however, be lightly regarded. It brings to the cells the elements and molecules of inorganic material which enter into the reactions involved in plant chemistry; and it is only through the sap that we can beneficially influence the products of our orchards and vineyards. It is probable that we do not often stop to consider the immense preponderance of water in our fruits, which is shown by analysis.

Several years ago I made analysis of several varieties of apples, with the view of determining their exact food value. Among them were the Tolman's Sweet, Hubbardston, and Baldwin.

The apples selected were in different stages of ripeness, the Hubbardston being more advanced than the others. Very important modifications are produced by the chemical changes in apples as they approach the stage of maturity, or the period when they become mellow and ready for the table. The amount of sugar increases, and the hydrated malic acid decreases, or disappears altogether in some fruits. The cell walls of the structure become softened and readily break down; oxidation begins at any point where imperfection or abrasions in the skin occur. The amount of nutritive material is to some extent increased in ripe apples, and they are much more easily digested and assimilated by men and animals.

The results of the analysis were as follows:

Hubbardstons.	
Water	88·57
Albuminoids, pectose gum, and sugar	11·27
Ash	0·16
	100·00
Tolman's Sweets.	
Water	83·29
Albuminoids, sugar, pectose gum, &c.	16·54
Ash	0·17
	100·00

The unripe Baldwins gave 87 per cent. water, with a less amount of albuminoids and sugar than the others, and considerable free hydrated malic acid. The sugar varied from about 5 per cent. in the Baldwins to 9 per cent. in the Sweets. The total insoluble matters, including skin, seeds, pectine, ash, &c., averaged about 3·25 per cent.

The results show how largely preponderating in apples is the water, which in amount is about 85 per cent. of their weight. Therefore, a tree bearing thirty bushels (46 pounds to the bushel) holds up in the fruit about half a ton of water. The nutritive value of apples, is, of course, not in the water, but in the solids, albuminoids, sugar, and gum. In a bushel of Hubbardstons there is about six pounds of soluble nutritive material at the period of ripening; in Tolman's Sweets about seven pounds; in Baldwins five pounds; and this material will vary to a considerable extent in value. Sugar is a carbonaceous substance, and nutritive in a certain direction. It is mainly useful as fuel, and by oxidation serves to maintain animal warmth. The albuminoids are nitrogenous, and therefore are foods proper; the gum is also a food.

The albuminoids are seldom found above half of one per cent. in any varieties, and this would give us less than four ounces in the bushel; of sugar, we find in a bushel about two and a-half pounds in acid fruits, and considerably more in sweet.

The analysis of apples as presented shows that the amount of nutriment or absolute food they contain, in proportion to bulk, is small. This research extended over considerable ground, much of which is not pertinent to this discussion. I will simply say that, as regards apples as food for animals, my practical experience in feeding them confirms the results of analysis. They are of some value, and when fed in connection with meal, serve to give zest to the appetite and keep animals in health. The riper the apples the better the results, and they should not be fed in a half frozen state to milch cows, as this course will invariably cut short the milk supply. If they are cooked by boiling their value is much enhanced, as more perfect digestion results.

In the cultivation of fruits we should not be misled by the fact that they do not, in themselves, exhaust soils, except in a slight degree. The constituent principles of fruits are to a large extent organic, and therefore derivable from water and the atmosphere. Sugar, the important principle of all fruits, takes nothing from the soil which has money value. The albuminoids, as has been shown, are very sparsely distributed through most of our fruits, and, as they hold the nitrogenous element, it is seen that nitrogenous manures are not needed in large quantities in orchards or fruit gardens. Analysis of the grape shows that in most varieties nitrogen, as supplied in manures, is not necessary. The results of analysis in the case of all fruits have been satisfactorily confirmed in my practical experience.

I have never found nitrogenous manures to exert marked specific influence upon any of my fruit crops, and years ago I discontinued their use. Fruit trees, shrubs, and vines need nitrogen, but the spontaneous supply in soils is fully equal to the comparatively small amounts required. There is one mineral element which may be said to be the pabulum *par excellence* of growing fruits, and that is potash. It is certainly true that we cannot raise perfect and desirable fruits if we withhold this element from the soils of our orchards. When it is considered that we influence growing fruits only through the act of rendering the tree or vine vigorous and healthy, and when we further consider how much potash is required to maintain a normal condition in large fruit trees which are constantly under the pruning saw and knife we obtain some correct views of the importance of this agent in soils. Both the fruit of the vine, and the vine itself, are great consumers of potash. The same may be said of most of our small or soft fruits.

It is not usually advisable to attempt to reclaim and render productive a worn-out grape border, but if any satisfactory success is attainable it is only through a plentiful supply of good wood ashes and bone meal.

Twenty years ago I discovered that it was best, in preparing borders for cold grape houses, to use plenty of wood ashes, and to place the fertilizing materials in successive thin layers, rather than in the usual form of a mixed heap. I have one border prepared in this way which is made up of sixty alternating strata of different fertilizing substances, and they have remained undisturbed for twenty years. The fruit product from this border has been uniformly excellent in quantity and quality, from year to year, and renewal has not been necessary.

My view is that the subterranean feeders of the vine will follow what may be designated as vegetable instinct in procuring food, going no further for it than is necessary. If we place phosphoric acid, lime, potash, and nitrogenous salts in distinct layers, each resting upon one of good soil, we place our vine roots, as it were, at a table spread with many dishes, and unerring instinct will guide in selecting what is needed to keep the vine and fruit in the best possible condition.

The saccharine qualities of the Black Hamburg and Frontignan varieties are greatly improved by having at hand plentiful supplies of potash; and wood ashes is the best possible source for this alkali. The German chlorides are next to be preferred, but they do not, in vineyards, meet the desirable results supplied by ashes.

The ordinary German Kainit, as found in commerce, I class among the poisons in the list of assumed vegetable foods. I have never failed to observe injurious results in the use of these salts on my farm. Common salt is not a manure, and we may as well so decide once for all.

After an experience of nearly a quarter of a century in conducting an experimental farm, I have reached the conclusion that the growth of our fruits, and most of our cereal crops, is best promoted by the use of a fertilizing mixture made up of finely ground fresh bones and good wood ashes. This mixture I arranged and recommended twenty years ago, and I find after persistent soil experiments, extending over many years, that I am using it more freely than ever.

My method of preparing it is to take six barrels of pure raw bone flour and twelve of good wood ashes, and mix them well together upon a shed floor, adding, during the mixing, twenty buckets of water and one barrel of gypsum or plaster. This mixture may be allowed to stand a few weeks, or it may be used at once if needed. If permitted to stand long it heats from chemical action, and the freed ammonia is in part fixed as a sulphate by the plaster, but not all of it.

For fruits of every kind I know of no better fertilizing material, and as it supplies every needed element of nutrition its effects are remarkably persistent and immediate.

But, gentlemen, I must detain you no longer. I cannot think that I have presented anything new, or of special value to a company so intelligent and experienced as this. There are old facts and forms of knowledge which it is well to call up for consideration occasionally, as we often find that the good and excellent have been neglected because they are old.

Dr. Nichols added, in further explanation of the chemical composition of sugar, that it is a compound of pure water with carbon—absolutely pure water with the elements of a diamond. It is a very unstable compound; when placed over the flame of a lamp the water escapes, and the carbon is brought to view. A molecule of sugar is like a watch spring wound up; the struggle between the chemical forces is towards change into lower combinations. A potato is but a mass of starch, and can be changed almost entirely into sugar. The change of starch into sugar requires the presence of diastase, which is a starch solvent apparently provided for a specific purpose. Sugar cane, a few weeks before it is ripe, has no sugar; after it is mature it has no starch, and the case is the same with most fruits. The production of sugar is not exhaustive to the soil; the refuse from the manufacture of beet sugar returns to the soil all inorganic substances taken from it. In strawberries there are three kinds of sugar, two of which are uncrystallizable and one crystallizable. Most pears contain uncrystallizable sugar. The orange will grow in sand with the addition of potash and lime. The Black Hamburg grape, when ripe, has about seventeen per cent. of glucose, and its juices are most agreeable, though we cannot tell precisely why. Changes in fruits go on with great rapidity at the time of ripening. Beet sugar is as sweet as cane sugar. The chemical composition of milk sugar is the same as that of cane sugar, but it has only one-third of its sweetening power. We have in the sugars interesting examples of isomerism; bodies, so far as we can distinguish, constituted alike chemically, but having very unlike physical properties.

A CHARMING COMBINATION.

In calling upon a friend the other day who, with myself, resides in one of the southern counties, I saw one of the most beautiful combinations in his garden that I have yet seen. Trained to a trellis, in a rather sunny position, were the scarlet clematis (Clematis coccinea) and the Japanese honeysuckle (Lonicera aurea reticulata), both of which, as now generally known, are exceedingly elegant in growth. The plants are arranged alternately, and the shoots are allowed to intermingle, not perhaps exactly as they like, but with just sufficient regulation to ensure an equal distribution of the growth of the two plants over the trellis. Both the plants are in the most vigorous state, and the intermingling of the small bright red flowers of the clematis with the golden leafage of the honeysuckle is indescribably beautiful. In the same garden there is a combination of canary creeper and clematis Jackmanni, but although decidedly effective and well worthy of imitation cannot for beauty compare with the mixture of the scarlet clematis and the honeysuckle. R. W.

The Household.

SCIENCE IN THE KITCHEN.

The following notes, from the admirable discourses of Mr. Mattieu Williams, will complete our selections of his admirable directions and advices.

The Cooking of Milk is very simple. The only notable change which occurs is the coagulation of the small quantity of albumen it contains. This is shown by the scum formed on the surface of boiled milk. There is, however, a special reason why the milk supplied to London and other large towns, from sources unknown, should all be boiled before using it. There is now no further reason to doubt that certain disease germs, or species of microbia that disseminate disease, are nourished by milk, increase and multiply therein, and may thus be introduced into the blood, and produce very serious consequences. As these microbia are killed by subjecting them to a temperature of 212 deg. (the boiling point of milk is a little above this), there is little, if any, danger in milk that has been boiled. The loss of albumen as scum is very trivial.

Butter.—I greatly amused some of my friends, about twelve years ago, by predicting that such a revolution would occur—that dairy butter would, to a great extent, be superseded by butter manufactured from the waste fat of slaughtered animals. This is now the case. I have obtained samples of this product, technically named "bosch," at various times, and from various sources, since I wrote about it in 1871, and have observed a steady improvement from the early attempts which resulted in a yellow, granular, fat-like dripping, to a very recent sample, which neither myself nor the wholesale butter factor who showed it to me could distinguish from first-class fresh butter. It was offered and largely sold at 8½*d.* per lb., done up very neatly in rolls, wrapped in linen, and packed in boxes. I know one family, very particular in the matter of butter, who ate 24 lbs. of it, believing it to be superior cream butter. Many others do so, but pay more than double the price I have named, and are thereby assured that it must be real Devonshire. Most of the other samples I have recently tried were slightly tainted with a resinous flavour, due, I suspect, to careless preparation with apparatus or utensils made of resinous pine or deal wood. More carefully prepared, and sold honestly for what it is, there is no good reason why it should not take the place of butter very largely. It does so now by dishonest admixture, and by being sold under false pretences.

Cookery of Vegetable Food.—The proximate elements differ but slightly from those of animal food. The fat of the animal is represented by the starch, sugar, oils, and resins of vegetables. We do not eat the latter, and only a selected few of the oils, but starch and sugar, composed of carbon and the elements of water, constitute the greater part of the bulk of vegetable food generally. Arrowroot is nearly pure starch, tapioca and sago are similar, rice and potatoes are chiefly composed of starch, and in a less degree it contributes to the bulk of wheat, barley, oats, and maize. In all these it exists as minute granules enveloped in a special membrane. Arrowroot, as sold in the shops, consists of granules that may be felt between the fingers, or seen distinctly by the aid of a microscope of very moderate power. Such raw starch does not dissolve in cold water. The granules merely fall to the bottom, and rest there as granules.

Cookery of Starch resembles the cookery of gelatine; it is a conversion from an insoluble to a soluble or hydrated form, when heated in water. The change takes place very readily; at 140 deg. the granules absorb water, swell and burst; the result being the formation of the well-known mucilaginous material used by laundresses for stiffening linen. Here we have a case of endosmosis through the envelope of the granule. A dry heat of 320 deg. converts the starch into *dextrin*, or "British gum," which has the same composition as starch, but is freely soluble in cold water. This conversion of starch into dextrin is also affected by a curious substance called *diastase* or *mucin*, which is formed during the germination of grain and seeds generally. Like albumen, casein, gelatine, &c., this diastase is a nitrogenous substance, but is not very well understood. Very minute quantities act. It is estimated that one part of diastase will change above a thousand times its own weight of starch into dextrin.

The vegetable germ, lying dormant in the dry seed, is surrounded by the material of its food, the starch; but this insoluble uncooked starch is not food for the germ. When the conditions of germ growth are fulfilled the germ mysteriously produces a modicum of diastase; this cooks or renders soluble the starch, which now becomes dextrin, and after this, by further change, is converted into sugar, upon which the germ feeds freely.

The maltster uses this action by starting the germination, and carrying it forward until the sugar is formed; then, by heating the malt, he kills the germ, and appropriates its food.

The saliva of man and other animals converts starch into dextrin, and then into sugar, by a similar action, that has been ascribed to a rather hypothetical compound called animal diastase, or salivary diastase.

The chemist can easily imitate this in his laboratory, and convert any quantity of starch into sugar. I have not time to describe the process, but may add that he can do more than this, he can convert cellulose or woody fibre into sugar. Sugar may be made from linen and cotton rags, or from paper pulp, or even from sawdust, but at present it does not pay to carry this out commercially. Nature does it for us very cheaply.

Ripening of Fruit is an example of this. The best pears are those which, when gathered in autumn, are woody, sour, and uneatable. By simply storing them for a month or two they become deliciously soft and sweet. The woody fibre is converted into sugar, the process being probably aided by the acid, as the chemist uses an acid in effecting the metamorphosis I have just described.

Ensilage.—This leads me to a subject on which I have been pondering lately, viz., the possibility of applying the principle of ensilage, which is a sort of slow cookery, in the preparation of human food. You have heard, of course, of the ensilage of cattle fodder, how by storing very course fibrous vegetable matter, such as pea-stalks, the stem and flags of maize, &c., and leaving it in a humid condition, but covered from the air and well pressed together, it becomes digestible and nutritious fodder, well appreciated by cattle. If I mistake not, the change which takes place in the silo is similar to that which occurs in the ripening pear, a partial conversion of woody fibre or cellulose into sugar. Standing faithfully to my own subject, I may describe it as slow cookery, very gentle and deliberate stewing.

Nitrogenous Constituents of Vegetable Food correspond to albumen, gelatine, fibrin, and casein, and have been classed together as albuminoids. Gluten is one of these, and, being the flesh-forming constituent of bread, claims first rank. If some wheat flour, moistened to form a dough, be wrapped in a piece of loosely-woven linen, and held and kneaded in running water, the starch granules may be washed out until there remains a tenacious gluey substance. This is the gluten, having a composition almost identical with albumen, casein, fibrin, and gelatine, and a corresponding value as food. It is rendered less tenacious and more soluble by cooking.

Peas, beans, lentils, and other seeds of leguminous plants yield a somewhat different albuminoid, legumin, so nearly resembling casein that it has been named vegetable casein.

Like animal casein it is highly nutritious, and is difficult of digestion. Peas, beans, &c., contain far more nutriment than any kind of grain, and would be practically more nutritious, weight for weight, than either grain or flesh, if this casein could be rendered easy of digestion. I am experimenting upon it with growing prospects of success. These experiments have thrown a new light upon the old doggrel—

> "Peas pudding hot, peas pudding cold,
> Peas pudding in the pot, nine days old."

Why "nine days old"? In these words I see a deep prophetic meaning, the foreshadowing of a great vegetarian future, when by the ensilage or slow stewing of the cellulose, and similar treatment of the casein of some of the most abundant of vegetables, we shall obtain many new varieties of food that will supersede altogether our present barbaric dependence upon the digestive and assimilating organs of sheep, cows, pigs, &c., for the preparation of our food from its primary source, the vegetable world.

I find that oatmeal porridge "nine days old" is more digestible, and I believe more assimilable or nutritious, than freshly made porridge. My studies of peas pudding are at present limited, but are sufficient to indicate that this and pease brose may be rendered easily digestible by means of a sort of ensilage, when duly mixed with farinaceous or even fibrous vegetables, and aided by a little bicarbonate of potash. My difficulty hitherto has been mouldiness, but this is merely incidental, and may be prevented by better arrangements for the exclusion of air and a more capacious silo.

Vegetarianism.—The advantages possessed by flesh food do not depend upon its composition, but upon its condition. This is shown by the following comparative statement of the chemical composition of the nitrogenous constituents of animal and vegetable food:—

	Animal Casein	Vegetable Casein
Carbon	53 83	53 46
Hydrogen	7·15	7·13
Nitrogen	15·65	16·04
Oxygen, Sulphur, Phosphorus	23·37	23·37
	Albumen	**Gluten**
Carbon	53·5	53·27
Hydrogen	7·0	7·17
Nitrogen	15·5	15·94
Oxygen, Sulphur, Phosphorus	24·0	23·62
	Animal Fibrin.	**Vegetable Fibrin.**
Carbon	52·7	53.23
Hydrogen	6 9	7·01
Nitrogen	15·4	16·41
Oxygen, Sulphur, Phosphorus	25 0	23·35

Remembering that vegetable oils, and sugar, and starch, have a similar food-value to fat, nothing is easier than to select a purely vegetable *menu* that shall contain, in the same weight and bulk, exactly the same constituents as any given *menu* including animal food; but at present we cannot supply it in a condition so easy of assimilation. There is more work to be done after swallowing the vegetable meal, in order to convert it into blood, than is demanded by the flesh food of corresponding composition, and consequently some of it escapes, or the demand on our vital energy made to assimilate the vegetable food takes too much away from our other working powers.

Nothing is wanted here but more science applied to cookery, the problem is clearly definable and defined, and is obviously less difficult than many others that science has already solved.

Potatoes.—In connection with this, I must again be egotistical, by proclaiming another result of my own researches, viz., the determination of the difference between baked potatoes, and boiled or steamed potatoes, and between potatoes boiled in their jackets, and potatoes peeled before boiling. I find potash in the water in which potatoes have been boiled. It is evident that some of the soluble potash salts of the juice of the potato passes out by exosmosis into the water. By baking them or frying them, this is entirely prevented. We all know

that there is a difference between a baked and a boiled potato. I attribute it mainly to this.

As regards the great question of jackets or no jackets, I can only speak theoretically at present. I suppose that the natural envelope does resist the out-going of some of these saline juices, but have not yet proved it analytically. The highest of all practical authorities on this subject, the Irish peasant, has very firmly decided for himself. I have never seen raw potatoes in a state of nakedness in Ireland, and suspect that natural appetite has discovered that there is something in the full-dressed potato that is demanded in the system, just as it teaches the sailor to crave for potash food, as I and my fellow cheese eater did in Greece.

For the same reason raw salads are better than boiled vegetables of similar composition, unless the water in which they are boiled is used as a *potage* or *soupe maigre*. The Irish peasant's demand for "a stone in the middle" of his potato may be due to the better retention of the potash by the under-cooked tuber.

PALMATE SNAKE GOURD.

Trichosanthes palmata.

The figures of ornamental gourds in G.M. of July 3 have brought us inquiries on various matters of interest in connection with these, and the figure accompanying this note will serve as a reply to some of them. *Trichosanthes palmata*, figured in "Botanical Magazine," 6,873, is a conspicuous member of the group of gourds now adorning the rafters of the lily house at Kew, where, as a matter of course, it may be seen in flower in its season. A very considerable proportion of the cucurbits produce yellow flowers, of the cucumber, melon, and pompion pattern. But here we see a bold departure from the prevailing style of the family, the flowers being snow white, and fringed like a parasol, making a very striking appearance as contrasted with the broad, palmate, dark green leaves.

FLOWER AND LEAF OF SNAKE GOURD, *Trichosanthes palmata* (Flowers white).

There are some half-dozen species of snake gourds recorded, the principal of which are T. anguina, T. colubrina, and T. palmata. They are common in damp woods in India, and if conspicuously beautiful when in flower, they may be described as daringly brilliant when their scarlet fruits are ripe. In the remarks that accompany the figures in G.M., July 3, the snake gourds are referred to as edible, a point that may be again insisted on, because their looks seem to forbid their appearance on the table. Few would grow them for any reason other than their beauty, but it is an important matter in connection with every garden plant whether or not it may be eaten with safety.

ZONAL PELARGONIUMS FOR WINTER FLOWERING.

By William Cole, The Grove Vineyard, Feltham.

There is not, perhaps, any class of plants which will furnish a more abundant supply of flowers during the winter months in proportion to the space occupied than the zonal pelargoniums; and there are certainly no plants that will produce a more brilliant display of colour. They are, indeed, quite unsurpassed in their way, and where a liberal supply of cut flowers is required from October until the March following they are simply invaluable. To obtain the best possible results in the cultivation of the zonals for winter flowering there are two conditions that must be complied with, one being to prepare a stock of vigorous well-established plants in the course of the summer and autumn, and the other to provide them with a light, airy structure in which they can be assisted with a little artificial heat when necessary for maintaining them in a progressive state and drying up the superfluous moisture during periods of damp weather.

To prepare a suitable stock it will be necessary to begin with as little delay as possible, and to select plants of a moderate degree of strength. It matters not whether they are in three or five inch pots, but a preference should be given to examples that have been once stopped and are furnished with from two to four shoots each. In any case the plants must have filled their pots with roots, and be growing vigorously, because of the loss of time that would ensue from commencing with small weakly plants. Having selected the examples, preparations must be commenced for transferring them to larger pots. One shift will suffice, and it is a good rule in repotting to put those in small sixties into five-inch pots, those in large sixties into six-inch pots, and to shift from five-inch pots to others eight inches in diameter. The pots must be carefully prepared, for if the drainage is not thoroughly efficient the soil will become more or less sour, to the injury of the roots. The quantity of crocks in each pot must of course be determined by its size, and as a guide to the inexperienced it may be mentioned that the layers should range in thickness from one inch in the five-inch pots to two inches in those eight inches in diameter. The crocks must, in accordance with the usual practice, be covered with some loose material, to prevent the fine soil intermixing with them and interfering with the ready escape of the superfluous water. The compost most suitable for zonals intended for the production of winter flowers is one consisting of mellow turfy loam four parts, and well-rotted manure and sharp silver sand one part each. It is advisable to use the soil in a rather rough state, and in repotting care must be taken to press the new soil moderately firm.

The plants as they are shifted should be stood on a bed of coal ashes, made up in an open, sunny position, and there remain until the early part of September, the exact time for removing them under glass being determined by the weather. They must not be subjected to frost, and they ought not to be exposed to long-continued rains, for when exposed to an excess of moisture late in the summer the growth becomes much too soft to produce a good display of flowers during the winter. Consequently it will be well to bear in mind that as soon as a period of wet weather sets in after the middle of August they ought to be removed under glass, and until the end of September a frame will be in every way suitable for them. The watering must have the care its importance demands, and until the pots are well filled with roots a moderate supply will be sufficient. At no time should the water supply be excessive, but it must be sufficient to maintain the soil in a nice moist state.

For their winter quarters there is no place more suitable than a span-roof house of moderate dimensions in which they can be placed near the glass and enjoy a free circulation of air about them when the weather is favourable to ventilation. The water supply during the winter, as in the autumn, must be carefully regulated according to the requirements of the plants. Towards the spring those showing signs of exhaustion may be assisted with occasional supplies of weak liquid manure or receive a top dressing of some approved fertilizer, but generally speaking they will continue to grow freely and bloom profusely until the spring is far advanced without the aid of stimulants. The temperature most suitable is one ranging between 50 deg. and 60 deg., and fire heat should be employed when the temperature is likely to fall much below 55 deg. A little fire heat will also be necessary in close, moist weather to prevent an excess of atmospheric humidity.

It may probably be useful to suggest that a sharp look-out must be kept during the autumn months for the green caterpillars, which frequently do much injury to the foliage when allowed to go unchecked.

QUEEN OF BEVERAGES.—Refreshing the weary, stimulating the inactive, soothing the invalid, cheering the social.—Pure Tea alone, by its intrinsic and excellent qualities, "pales the fire" of all other drinks.—*A cup of good tea* is always welcome, as proved by the fact that 6,000,000 (six million) packets of Horniman's Pure Tea are sold every year by 4,000 duly appointed Agents, *Chemists and Confectioners*. The description, if Black, Green, or Mixed Tea, also the retail price, is plainly printed on each packet, with the Importers' warranty that their tea is free from all adulteration. Some unscrupulous persons copy the labels, wrappers, &c., used by Messrs. Horniman, purchasers are therefore cautioned to *avoid spurious imitations*. See advertisements in all papers, and at the railway stations.—[Advt.]

Notes of Observation.

PEAS.

Although several sorts have been infested with thrips, we have had a good supply. The varieties which have done the best are the following: For early crop, Wheeler's First Early. This has done very well indeed; I can always depend on this variety for a good early crop. Wheeler's Express is the earliest wrinkled marrow pea I know, excellent flavour, and a good cropper. I should recommend everyone to give it a trial. It is a dwarf pea about two feet. Other varieties that have done well are: Day's Early Sunrise, G. F. Wilson, Telegraph, Telephone, Prizetaker, Walker's Perpetual, and Charles the First. The last-named is an excellent blue wrinkled marrow pea, very prolific, peas large, of the finest quality. The seed was sent to me from a friend for trial, but I believe R. Smith and Co., of Worcester, sent it out originally, and keep the true stock. John Aplin.

CARTER'S PURPLE TOP YELLOW STRAPLEAF TURNIP.

We sow very early in the season the extra early Munich turnip, which comes in very useful for soups, &c., but, being so strong, I should not recommend it for any other purpose. We made a second sowing of the Purple Top Yellow Strapleaf Turnip, and also of Snowball. A great many of the latter ran away to seed, whereas of the former, that is, the yellow strap leaved, not one has done so, and we have been drawing for several weeks past very nice turnips, which are mild and well flavoured. J. A.

CARNATION GENERAL STEWART.

This beautiful clove well deserved the distinction of a first-class certificate conferred on it by the judges at the exhibition of N.C.S., July 27. The flowers are not so fragrant as those of the old Crimson Clove, but they are not wanting in odour, and they are of a bright marone crimson. Under ordinary cultivation the flowers are of medium size, measuring about an inch and a-half in diameter, and are produced in marvellous profusion. A strong plant will produce fifty or sixty blooms of a suitable size for decorative purposes. The growth is decidedly tall, and as the stems are rather thin and wiry they require the support of stakes. G. G.

HARDINESS OF CARNATIONS.

In the very interesting report of Mr. Rowan's carnations at Clapham, Mr. Dean refers to the fact that some plants bedded out in the autumn passed through the winter, and he mentions also that many old plants perished while young plants were uninjured. I am not disposed to question the accuracy of Mr. Dean's statements, but in the interest of beginners in the cultivation of carnations and picotees it appears desirable to say that neither young nor old plants can be depended upon to pass through the winter uninjured without protection. I agree with Mr. Dean that old plants are more likely to suffer in a severe winter than those raised from layers in the summer previous, but the latter are so far liable to injury from an excess of wet or cold that those who expose them incur the risk of losing their stock. I can speak with some degree of confidence upon this point. Last winter I made the experiment of growing the whole of my collection of selfs, which comprised about forty varieties new and old, and consisted of between four and five hundred plants, and the results were not such as to induce me to repeat it. The winter was exceptionally severe, and with the exception of between twenty and thirty plants the whole collection was annihilated, the few plants which escaped death being so crippled that they have presented a miserable appearance throughout the season, and bloomed most unsatisfactorily. Some of the layers were taken off and planted out, whilst the others remained undisturbed on the stools, my intention being to plant them out early in the spring. Both sections suffered in about the same degree, and quite satisfied me that there is no advantage in taking off the layers and planting them out as soon as they are rooted. In the matter of soil and situation nothing could well have been more favourable to the preservation of the plants, for the soil is a deep and rather light and decidedly well-drained loam, and the garden is well sheltered. The show carnations and picotees that were potted up and placed at the foot of a wall having a south aspect, and protected with mats in severe weather, came through the winter very well, a comparatively small proportion only having perished. In taking a broad view of the matter, it may be said that a very great risk is incurred in leaving choice carnations and picotees in open beds and borders, although many will pass through a mild winter without injury. Plants that are two years old will, when in a thoroughly healthy condition, produce a very fine display of flowers, but young plants in a thrifty state will not fail to bloom with sufficient freedom to satisfy the cultivator. George Gordon.

A LONG-KEEPING APPLE.

I have an apple tree in my garden which usually produces a fair crop. They are so hard, however, that I have seldom made any use of them. Last November I put a quantity of them in a heap in the garden and covered them over with soil. On taking them out in the beginning of June I was surprised to find them so good as they are, and I send you a few for your opinion, and also for the name. J. McG.

[The apple is the Cockpit, one of the most certain and abundant croppers in the north of England. The samples sent are much below the average size, an indication that the tree is insufficiently nourished, probably too dry at the root. The mode of softening them adopted by our correspondent is ingenious. On the 5th of August, when we first saw them, they were sound, very little shrivelled, and emitted an agreeable odour.—Ed.]

Calls at Nurseries.

MESSRS. W. CLIBRAN AND SON'S, ALTRINCHAM.

Few establishments illustrate in a more striking manner the remarkable development which commercial horticulture has undergone of late years than the Oldfield Nurseries, Altrincham, belonging to Messrs. W. Clibran and Son, which are now so well known throughout the United Kingdom. Commencing business, as they tell us in their trade announcements, fifteen years ago, with half an acre of ground, one man, and about one thousand feet of glass, the trade has so rapidly extended on all sides that their nurseries now comprise about sixty acres, of which more than two are covered with glass, and the labour bill amounts annually to nearly £3,000. It would be interesting to know by what means such enormous results have been obtained in such a comparatively short time, and in face of a sluggish condition of other branches of industry. But probably an explanation of the success which has been achieved by the firm may be found in the fact that from the first they have recognised the importance of paying due regard to the selection of varieties in the several classes and the production of strong healthy plants, and have also been careful to keep cultivators well informed as to the character of their stock and the description of plants they have to offer.

The Oldfield Nurseries are within fifteen minutes' walk of Altrincham Station, which is seven miles distant from Manchester, and they are readily reached also by way of the Broadheath and the West Timperley Stations, the distance in each case being under a mile. From the first-mentioned of the three stations it is a delightful walk, for the gardens of the various residences that are passed are well kept and liberally furnished with rhododendrons and flowering trees, which in the middle of June, when we were at the nurseries, were in the full flush of their beauty. The rhododendrons are indeed one of the great features of the gardens of the district, and do not fail to at once arrest the attention of those who are interested in horticultural matters. In walking through the houses and the quarters of the nurseries it soon becomes evident that the Messrs. Clibran are not prejudiced in favour of any particular classes of plants, for there is hardly one that obtains the attention of cultivators which is not represented by a stock remarkable for its magnitude. Stove and greenhouse plants, hardy flowers, ferns, fruit and ornamental trees, and roses, are all represented by collections of the most complete character, and, as indicated by the catalogue issued by the firm, there are but few varieties of either flowering or ornamental-leaved plants that are not represented.

In the structures devoted to the plants that thrive in the conservatory and greenhouse there are numerous subjects of special interest. It may be mentioned as a point of some importance that the firm have after various experiments devised a method by which they can propagate Acacia pubescens almost as readily as any of the soft-wooded plants. There is no great difficulty in raising this acacia from seed when the seed can be obtained, but according to the experience of the firm the greater proportion of the seed imported as that of this species is simply seed of A. affinis, a very distinct plant. The true A. pubescens has very elegant foliage, and produces a profusion of bright yellow and delightfully fragrant flowers. Not less interesting in its way is Clianthus magnificus, which, planted out in one of the cool houses, grows so vigorously and blooms so freely as to surprise those whose experience with the "Glory Peas" is limited to the miffy C. Dampieri, which, with the greatest skill, can seldom be kept in a healthy condition after the second year. Some of the plants have occupied their present position upwards of six years, and all are in the most luxuriant condition, and annually produce a profusion of their brilliant scarlet flowers; the racemes, we were assured, being produced at nearly every joint. Those fine old plants, Luculia gratissima and Rogiera gratissima, would appear to be acquiring a high degree of popularity, for they are grown in large quantities and are in brisk demand. Until recently the last-mentioned was grown in the stove, but it has been found to succeed more satisfactorily in the cool house, in which it produces a profusion of its large cymes of flesh-coloured flowers throughout the spring and summer months. Greenhouse rhododendrons, to which so many important additions have been made during the past decade, are grown in immense quantities, and of the numerous varieties represented in the collection special mention must be made of Countess of Derby, Duchess of Sutherland, Fragrantissima, Lady Skelmersdale, Princess Alice, and Sesterianum, all of which have white and deliciously-scented flowers. Chief amongst those bearing coloured flowers are Duchess of Edinburgh, Duchess of Teck, Javanicum, Princess Royal, and Taylori. A portion of the roof of the house in which the rhododendrons are grown is covered with the new white Passiflora Constance Elliott, which, when we saw it, was flowering so profusely as to quite surpass the most free-blooming of the passion flowers previously introduced. Another portion of the structure was embellished with Clematis indivisa lobata, which is unquestionably one of the most useful of the conservatory climbers, bearing pure white flowers.

The houses devoted to azaleas and camellias contain plenty to interest cultivators of these two important classes of hard-wooded plants. That they contain all the best varieties in the several shades of colour may be taken for granted; but it may be mentioned, as a point of some importance, that the whole of the camellias are propagated at home, and grown from first to last in the nurseries, the result being plants in a more satisfactory condition for growing on than those which pass through their earlier stages in a Continental nursery. With the azaleas are associated the epacris, which are also grown in surprisingly large quantities, the two most popular varieties being Eclipse and Grandiflora, which have exceedingly handsome flowers, and possess the great advantage of blooming two or three times in the course of the year.

In passing through the several houses devoted to plants requiring the temperature of the stove it is seen that all the principal subjects grown for their flowers, and remarkable for the beauty of their leafage, are well represented. Note was made of some splendidly-coloured specimens of the remarkably distinct Dracæna Lindeni, the rich golden variegation of which presents a striking contrast to the carmine-crimson and bronze hues of the other kinds. Amongst the caladiums, of which the collection is remarkable for its completeness, is Minus erubescens, a very distinct, small-growing variety, that forms a capital companion to the well-known Argyrites. Minus erubescens is about equal in height to Argyrites, and the leaves are of a brilliant crimson colour, with bright green margin. Trained to the roof of one of the stoves was Thunbergia Harrisi, a robust species, bearing in great profusion large blue flowers, which well deserves to be more generally grown than is at present the case. The flowers are produced in February and March, and contribute much to the attractions of the stove during these months. Especially noteworthy amongst the ixoras is I. Fraseri, which is considered by the firm to be one of the very best of the newer hybrids, for whilst unsurpassed in freedom of flowering it is singularly effective in colour. Euchari are grown in such large numbers as to require two or three spacious structures for their accommodation, and the stock includes all the kinds that have been introduced to commerce. With reference to these it may be mentioned that for the supply of cut blooms for decorative purposes, the well-known E. amazonica is far in advance of both E. candida and E. Mastersi, and that the flowers command fully one-third more in the wholesale market. Ferns occupy much space, all the more popular kinds, such as Adiantum cuneatum, A. Pacotti, A. Flemingi, being grown by the thousand.

Soft-wooded plants necessarily receive much attention, numerous large houses being devoted to show, fancy, and zonal pelargoniums and herbaceous calceolarias, which, at the time of our visit, were gay with colour. The calceolarias include two varieties of great importance obtained from crosses effected between Aurea floribunda and one of the herbaceous varieties. The habit of these is somewhat similar to that of Aurea floribunda, and produce huge heads of large yellow flowers. The flowers of one of the varieties are of a pleasing sulphur yellow, and those of the other are deep yellow. They are both well adapted for the decoration of the conservatory, and will, it is believed by the firm, prove of immense value for window boxes. Begonias, bouvardias, solanums, and tree carnations are all largely grown, and amongst the carnations we noticed a remarkably fine yellow variety under the name of Daniel Adamson. This has a good constitution, and the flowers, which are of a bright primrose yellow, are of large size, and have a long pod which seldom, if ever, bursts, a point of no small importance in estimating the value of varieties.

Of the outdoor stock it is impossible to speak in detail. Suffice to say that the herbaceous plants constitute a very important feature, occupying, as they do, an area of between four and five acres. Violas and show and fancy pansies are evidently at home, for the large breadths of these flowers were in the most luxuriant state of health, and well nigh solid with bloom. Equally remarkable for their attractiveness were the breadths of Primula Japonica and P. Sieboldi, both of which thrive most satisfactorily in the open at Altrincham, and comprise many beautiful and distinct varieties.

LILY OF THE FIELD.

Lilium chalcedonicum.

The lily of the field is not of necessity a lily of any kind that will correspond to our definitions; it may be understood as a flower, and that is sufficient. To make a serious botanical study of the purport of the impressive lesson of the lily in the Sermon on the Mount would be to put our paltry views of Nature on a level with the most homely and searching of Divine admonitions. It must suffice, therefore, to say that the frail flower painted by the creative hand surpasses in glory the greatest works of man, and teaches him the sources of his benefits and his dependence on the bounty of Heaven. But associations have their uses to the mind of man, and it is neither irreverent nor unreasonable to ask if any particular lily might be associated with the lesson that has sunk deeper perhaps than any into the human heart. There are probably only two species of lilium common to the Holy Land, at all events only two are mentioned in Dr. Tristram's "Survey of Western Palestine." These are *Lilium candidum*, seen wild on Lebanon, and *L. chalcedonicum*, marked as not seen, though known to be in the country.

This lily is known in gardens as the scarlet martagon. It is, however, quite distinct from *Lilium martagon*, which is commonly called the Turk's cap lily. The last one is of the commonest, but a good border flower for all that, and one that has many forms, as, for example, the pure white and the Dalmatic, the colour of which is blackish-purple. The common variety is of a dull purple colour, by no means attractive, nevertheless pleasing and useful.

The scarlet martagon is not common, although easy to cultivate and resplendent in its beauty. In the later days of July it presents a liberal head of turban-shaped flowers of the most brilliant sealing-wax red colour. It is quite hardy, and thrives in any good soil, but not happy in a calcareous soil, nor in one that is of a poor, dry nature.

How far east this lily extends we do not know. It is probably scattered through the temperate parts of Southern Asia, for we meet with one very much like it in Japan, the book name of which is *L. calossum*, less in growth than *chalcedonicum*, but serving fairly well as a smallish copy of it. Another nearly related kind is *L. carniolicum*, of which there are vermilion and yellow varieties.

For the full enjoyment of lilies a considerable extent of garden is necessary, for when many kinds are planted in proximity their several beauties seem to neutralise each other. In isolated clumps and groups, set off by masses of leafy vegetation, these distinct and striking flowers appear to singular advantage. Most delightful is it in a walk through a woodland scene to come upon great clumps of *L. auratum*, the golden-rayed lily of Japan; or the cream-tinted, sometimes buff-coloured, *L. testaceum*, also known as *L. excelsum*; or, most noble of all, and least of all understood, *L. giganteum*, that loves a deep, damp bed of loam or peat, and needs shelter in the spring from the frosts that are then so destructive.

The cultivation of lilies in pots is much practised, and with many special advantages. In large gardens pot lilies are needed for the conservatory and entrance hall; in market gardens they are wanted to supply cut flowers in advance of the season for lilies in the open ground. The amateur who would succeed in growing lilies in pots must observe a few golden rules. In the first place the potting should be completed at the earliest time possible after the plants have flowered, for immediately the flowering is over they begin to make new roots. If the bulbs have to be purchased, therefore, orders should be given early, and the potting should be completed immediately they come to hand.

Another golden rule is to ensure perfect drainage by packing the crooks with care before the compost is put in the pots, for unless surplus water can escape readily the soil will become sour, and the plants will not prosper. As regards the soil, a mellow hazel loam containing abundance of vegetable fibre, such as loam from rotted turf, will suit any lilies, as will also turfy peat of the best quality. The lovely *longiflorum* is decidedly partial to peat, but will thrive in loam with the rest. A calcareous soil is not good for any of them. Finally, they all enjoy liberal watering, and abundance of light and air. The common white lily (*L. candidum*) and the long-flowered (*L. longiflorum*) are often forced for Easter flowers.

The most useful of the garden lilies, and, therefore, those that should be first secured by the amateur who is as yet not rich in lilies, are the following: *L. Browni*, with very large trumpet-shaped flowers, white, delicately striped outside with purple. *L. auratum*, a giant of its race, the flowers expanded,

with yellow stripes on a white ground. *L. candidum*, the common white lily, thriving almost anywhere, and yet a little fastidious. *L. chalcedonicum*, thriving best in a deep, rich loam. *L. croceum*, good and cheap, very accommodating. *L. elegans*, usually orange red, but variable, and always useful. *L. longiflorum*, a lovely trumpet-shaped flower of the purest white; it requires a peaty soil, but it is not very particular. In a cold locality a sheltered spot should be selected for it. *L. tigrinum*, the tiger-lily, a very thrifty plant, that is not particular about soil or situation. It is very gay, and some varieties flower late. Hence the Laureate puts it into the Autumn garland:

Heavily hangs the broad sunflower
Over its grave in the earth so chilly,
Heavily hangs the hollyhock,
Heavily hangs the tiger-lily.
—*Familiar Garden Flowers.*

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Camellias must be examined frequently, and supplied with water according to their requirements. Many old plants will be found wanting water, and the best way to deal with those that have become dust dry will be to plunge the pots to their rims in a tub of water for half an hour, to thoroughly soak the ball. If allowed to continue very dry, now that their buds are set, the buds will fall off. Young plants that have not quite filled their pots with roots must be only moderately watered.

Calceolarias required for the decoration of the conservatory must have attention at once if no sowing has yet been made. Sow the seed in pans well drained, and place under a hand-glass or in a close, shady corner of a frame. The seedling plants may be pricked out into boxes filled with turfy loam and placed in a frame for the winter, making no demand upon the greenhouse for their keeping; or they may all be potted at once and wintered in the house, in which case they will begin to flower in May.

Cinerarias will in many cases need to be shifted on, and it is well to take advantage of the forward state of some of the plants to obtain a few extra fine specimens by encouraging vigorous growth. Starvation and fly go together in the cultivation of the cineraria. Keep the stock sufficiently watered, and use a good holding compost, and there will not be much fly.

Greenhouse to be cleared out and cleansed, and if needful repaired and painted, and made ready for restocking. All woodwork should be scrubbed, and brickwork lime-whited, previously stopping all holes with cement. This process will clear away vermin, and do much to prevent mildew and other plagues in winter. If painting and glazing are not done at once the house may have to be restocked before the effluvium consequent on the operation has been dissipated, and losses of plants will be the result.

Hard-wooded Plants that have been exposed to all weathers in pits and plunge-beds, and in the flower garden, must shortly be returned to their proper places in the greenhouse for the winter. It is not that there is any fear of frost just yet, but we may have long-continued and chilly rains, and these plants ought not to be exposed to such vicissitudes. At all events, where plants of any value, epacris, boronias, correas, and ericas are now out of doors, let the first cold rains that occur be the signal for housing them.

STOVE AND ORCHID HOUSE.

Orchids in full growth must have moisture and heat sufficient to maintain them in health, but the judicious cultivator will not often have to use much fire heat this month. Those going to rest to be encouraged by removal to a cooler part of the house, where they must have less water, but be kept plump by frequently sprinkling the paths and stages. This is a good time to divide old plants for increase of stock and to pot on small examples. Orchids that have been a long time in the same pots need top dressing with fresh material. Shut up at four till the third week of the month, and then shut up at three. After shutting up syringe gently with water of the same temperature as the house. Temperature of Indian house, 70 deg. to 75 deg. by night, 75 deg. to 85 deg. by day; Mexican house, 65 deg. to 70 deg. by night, 70 deg. to 80 deg. by day.

Stove Plants must be prepared betimes for the winter by gradually reducing the supply of water to such as have completed their growth, and exposing as much as possible to air and sunshine all hard-wooded plants that the growth of the season may be completely ripened. Shut up early, and use fire heat if needful. Climbers will in some instances need to be cut back in order to obtain an immediate and quick growth to produce a late bloom.

FORCING AND ORCHARD HOUSES.

Peaches and Nectarines under glass should, where practicable, be fully exposed night and day by removal of the lights. Thin out the young wood of the season, to promote the ripening of all the good shoots that have been laid in. The borders in which the trees are planted may be allowed to become comparatively dry with advantage.

Pines in a growing state to have a moist air and a steady bottom heat. Shut up early, and at the same time sprinkle the bed; this will greatly help any fruit now swelling. The bottom heat for pines must not be less than 90 deg.

Red Spider is one of the most troublesome of the several pests which have to be contended with in the cultivation of fruit under glass. A moist atmosphere is a great preventive, but it cannot be relied on; and indeed we cannot, without injury to either vines or trees, keep the air of the house always so humid that the spider cannot obtain a lodgment. Syringing operates in aid of a moist atmosphere, for, like other vermin, the red spider thrives best in heat and dryness. But the most decided repellant of spider is a painting of sulphur on the hot water pipes. This may be done by sprinkling dry sulphur on the pipes, or by making a paint of sulphur, clay, and water, with which the pipes should be painted. Be careful not to raise the heat at the same time, for if the pipes are hotter than the hand can bear fumes destructive to vegetation will be given off.

Vines from which the fruit has been cut will be better if treated the same as advised above for peaches. If the lights cannot be removed, open all the ventilators night and day, and slightly reduce the number of the laterals. Vines in pots to be laid on their sides as soon as the leaves decay, in order to induce a state of complete rest; but they must be maintained in a growing state until the wood is well ripened.

FLOWER GARDEN AND PLEASURE GROUNDS.

Auriculas require repotting annually, and where they were not shifted early in the summer the present moment is favourable to its being done. The soil should be full of fibre, and in a sweet and fresh condition. Put the offsets in thumbs singly, in a sandy mixture, and shut them up close for a week; this is better than inserting them round the sides of pots, as they can be allowed to fill the thumbs with roots, and then have a good shift at once.

Chrysanthemums should not be stopped any more, as in the event of a cool autumn those stopped now will not bloom satisfactorily. The quickest way now to secure a few nice small plants, to give two or three blooms each, is to layer the shoots in pots. These late layers, if taken from the tops of strong shoots, make very pretty specimens for the conservatory. In selecting the shoots for layering take such as will make plants of good shape at once. Many ugly old plants now sprawling about to the discredit of the place might be turned to good account to supply small plants by layers.

Herbaceous Plants may be divided now, and many may be raised from seed for next year. All the low-growing tufted plants, such as Aubrietia purpurea and Arabis albida, may be parted so that each little tuft has a few fibres; if shaded and kept watered for a week they will soon make new roots, and form nice tufts to remove from the reserve ground to the borders and beds in early spring. It is not too late to put in cuttings of Iberis sempervirens, which is of great value for spring flowering.

Liliums.—The time is at hand when lilies, having lately rested, begin to grow again. The brief period of rest affords an opportunity for taking them up and dividing the roots. This is the time, too, for making preparations for planting lilies out of doors.

Intermediate Stocks to be sown in pans and boxes in frames, or in some shady place under a wall. When large enough to handle, put them in pots for the winter, and house them in a light, dry, airy pit. A little frost will not hurt them.

Strawberries to fruit next year should be planted at once, and the surplus runners finally removed from the old plants. The newly-planted beds should have liberal supplies of water until they are well established. Those rooted in small pots will want a shift; repot them *firm* in a sound loamy compost, and keep well watered.

Wall Trees may now be trained in and moderately pruned; remove the foreright shoots, and all superfluous shoots, however well placed, and train in none but good wood, and that sufficiently far apart that it may ripen perfectly.

KITCHEN GARDEN AND FRAME GROUND.

Celery to be earthed up with care after heavy rain or a good watering. Take care the soil does not get into the hearts. It may be useful to mention the fact that celery fly, which is so troublesome in many gardens, cannot be destroyed by any of the insecticides, for it harbours within the blade of the leaf, in which it causes apparent blisters, which, however, are not blisters, but places deficient of parenchyma, which the insect eats while making itself a home. Dusting newly-planted celery with lime or soot may do something to prevent the fly laying its eggs; but when once the grub appears it should be crushed by pinching the leaf, or the leaves should be picked off and burnt. It should always be remembered, however, that the leaves are as much needed by the plant as the roots, and every leaf removed tends to the diminution of its vigour.

Leeks may still be planted out, and those already grown to a good size may be earthed up to blanch them.

Spinach must be sown now for winter. The common prickly spinach is an excellent variety, but the true Flanders is far better.

Turnips may still be sown to stand the winter, but it will soon be too late to sow any kind of seeds for winter crops.

Winter Greens.—This week offers the last fair and favourable opportunity for securing a sufficiency of winter and spring produce in the kitchen garden, and whatever is to be done *must* be done to make sure of supplies at a time when it is impossible to get them up quickly. Plant out every morsel of winter greens that may be left in seed beds or where first pricked out to strengthen, including Broccoli, Cabbage, and Kale, if the breadths already planted are not likely to be sufficient.

Vegetables in Season comprise Broad and French Beans, Cabbages, Cauliflowers, Cucumbers, Lettuces, Mushrooms, Onions, Peas, Potatoes, Radishes, Tomatoes, Turnips, Spinach, and Vegetable Marrows.

SCIENTIFIC BEE-KEEPING.

At a meeting last week, in the Conference Hall of the Colonial and Indian Exhibition, Mr. T. W. Cowan, president of the British Bee-keepers' Association, read the presidential address on "The Development of Bee-keeping as an Industry." He said that, although invented 30 years ago, Langstroth's hive was still a pattern of simplicity and perfection, and its principle was more popular than that of any other frame hive extant. Every change in the form of hives had been made, but the so-called improvements were often worse than the defects which they professed to remedy. The British Bee-keepers' Association had given a great impetus to bee-keeping by adopting a standard frame, one which experience had shown to be the most suitable size for working. There had been too much complication in hive construction, and the aim of the association had been to promote simplicity. In our own country it was not only improvements and discoveries in methods which had helped to develop bee-keeping; its progress was largely due to the co-operation which had existed between bee-keepers since the establishment of the British Bee-keepers' Association in 1874, and the 40 county branches affiliated to it. When the association first started it had but few members; now, however, it numbered 10,000, and it was their co-operation which had entirely revolutionised the system of bee-keeping in this country. The end they sought was to determine the principles which rendered successful production possible, and bee-keeping had by the agency of the association received such benefits, both commercially and scientifically, as mere individual effort would never have conferred upon it. Bee-keeping had now been reduced to a science, and was capable of becoming, as part of agriculture, a great national industry. As yet, however, it was in its infancy; and, although not an unimportant branch of industry even now, he believed it was but a foreshadowing of what would be done in the future. We were greatly in need of schools where the science could be taught, and where the young could receive certificates. Our agricultural colleges should take the subject up, and classes should be formed, as well as a working apiary instituted for the instruction of tyros. In sending out certificated

exports the association had done much; but this work should be supplemented by providing regular training under able teachers, as was now done in other countries. Profitable bee-keeping was not now as common as it would be in the future, for it was an occupation which demanded physical as well as mental ability, while the natural history of the bees must be thoroughly understood and the reason for all operations known. Success depended largely upon the queen-bees, as good and prolific queens were alone profitable. The introduction of Italian and other foreign strains had done good, bringing to us, as it did, fresh blood; but a great hindrance to improvement had been the introduction of cheap queens. The demand for Italian queens had been so great that it was not surprising that the supply had deteriorated in quality. He would point out that good breeding stock could only be obtained by the careful selections of both queens and drones. With regard to the constant complaints made as to the lowness of the price of honey, grumblers should bear in mind that it was increased supply which caused the downward tendency in prices. In conclusion, he would say that their show, the largest of the kind ever held, was a testimony to the progress made in the industry, for in the worst year they had had for a long time there were 340 entries and 250 exhibitors, nearly double the number of but a few years before.

After some discussion had taken place,

The Rev. G. Raynor, M.A., read a paper upon "Queen Introduction." He said that practical apiarists would allow that upon the condition of a colony which was to receive an alien queen very much depended. When the bees were in the midst of gathering in a plentiful harvest all feeling of irascibility was laid aside and the sting remained in the sheath. In the summer months, therefore, when the honey was briskly coming in, was the best time for changing and introducing queens. All queens, and especially virgin queens, could be more safely introduced when the bees were storing honey than at any other time. It was, however, often more convenient to the apiarist to introduce his queens in the spring or autumn, *i.e.*, in time of dearth. Taking, then, a leaf from the book of nature, at such times we should feed our bees continuously for a day or two before removing their queen, during the time of introduction, and after liberating the alien. The food should be presented from the top of the hive, since that plan was least conducive to robbing and produced least excitement or confusion in the hive, a state against which it was most important to guard. Mr. Raynor then described in detail the various methods of direct introduction and introduction by cage, concluding by observing that he had simply given his own experience of the various methods, and as the conditions which had to be dealt with were so numerous and diverse the method which succeeded in one case might fail in another.

The Rev. C. F. G. Jenyns next read a paper on "The Promotion of Bee-keeping among the Young." He said that though great strides of progress had lately been made in bee-keeping, yet that progress had been least where they would have liked to be most, viz., among the working classes. We found how difficult it was to break down the stubborn prejudices of old-fashioned bee-keepers. Should we not do well to think more of the young, and try to teach them what bee-keeping really was before their parents' prejudices existed in their minds, or at least had taken root; there was nothing in bee-keeping in a small way which was not possible for the young of every class to perform. The subject had an educational value, for it cultivated habits of observation, a love of nature, and induced in its students reasoning and thought. It would be best if this subject be undertaken in our schools, as it was in the schools of the Continent, but we could not wait for that consummation. He would suggest that something might be done by the experts who visited parish after parish giving lessons to the young; and even where experts could not be procured there were those who would willingly gather a few of the leading scholars of the parish together and explain to them the simpler features of the art. He would also have prizes given at the local shows for young bee-keepers, and he thought that an inspection should be granted of their apiaries just as they stood in the cottage garden. He would also suggest that much good might be done by a column in the *Bee Journal* being devoted to the explanation for the young of the simplest things of the art. If we had at heart the interests of bee-keeping among the working classes we should do well to sow early seed, which would afterwards bear fruit and lead to intelligent and profitable bee-keeping on a much larger scale and in a much wider field than we had hitherto seen.

Correspondence.

FRUIT TREES.

The information which I ask below, if supplied, will perhaps throw light on the question discussed by Mr. Jean Sisley in his letter at p. 424; at any rate it will elucidate the question of the fruitfulness of fruit trees. When the Maker of all things was about to give the Israelites, rent free, but subject to payments in the nature of tithe, a fruitful land containing very fruitful fruit trees, which they had not planted, He gave them also laws for the management of the land and trees. One was that every seventh year the land itself should keep Sabbath, besides a jubilee of rest on the fiftieth year. On the occasion of each such fallow the fruit trees were to rest. The promise of plenty is expressly annexed to observance of the commandment (Lev. xxv. 1—22). Then the land was to be taken in a series of sieges, and the besiegers were not to cut down the fruit trees (Deut. xx. 19).

I next refer to a law which borrows light from those above quoted, but is quite distinct from them. The Israelites were required, when they should have come into the land, and themselves planted fruit trees there, before they eat the fruit of these trees, to observe two conditions. First, for three years none of the fruit was to be eaten; second, the fourth year fruit was to be holy, *i.e.*, to be treated as first fruits (Ex. xxiii. 19, and Nehem. x. 19). From the fifth year and onwards the fruit was to be eaten by the people. An express promise of fruit-eating in abundance is annexed to observance of this law (Lev. xix. 23-5).

I desire information as to this law of NOT GATHERING THE FRUIT OF FRUIT TREES FOR THREE YEARS.

1. Does this law receive confirmation from ascertained physical causes?
2. Can cases be adduced where this law has been followed in practice in this country, and with what results?
3. In such cases, was the law of a seventh year's fallow for fruit trees also observed?
4. The vine and the olive, fig, and orange trees, were principal fruit trees in Palestine. Can anyone say at what age these trees commence fruit bearing in the open in Palestine? This question arises when one considers whether the three years commenced to run, not from planting, but from first fruit bearing.

London, July, 1886. JAMES GIRDLESTONE.

Exhibitions and Meetings.

ROYAL OXFORDSHIRE HORTICULTURAL SOCIETY.

SECOND SUMMER SHOW, JULY 29.

Under favourable circumstances as regards weather, this society held the second show for the season in Headington Hill Park, Oxford, by permission of Mr. and Mrs. Herbert Morrell, and being early closing day in the city there was a large attendance of visitors.

The show was a large one, the local growers appearing in force; the result of which made the competition very keen. To assist in making the afternoon still more enjoyable, the volunteer fire brigade held their annual competitions, and between these and the terraced flower lawns the visitors divided the six hours allotted.

Plants.—For a group of six kinds, stove or greenhouse, G. H. Morrell, Esq., took the card for grand specimens of Hæmanthus grandiflorus, Dracæna Baptisti, D. metallica, Dieffenbacha Pearcei, Croton Johannis, and C. variegatum; Mr. G. Jacob, Mill Lane Nursery, Witney, second, staging exceedingly fresh examples of Pandanus Veitchi, Variegated Pineapple, Alsophila Australis, Dracæna amabilis, Caladium Chantini, and a fine example of Cattleya Leopoldi; Thos. Arnall, Esq., Headington, third with a rotund bush of Begonia Weltoniensis, Eucharis Amazonica, Bougainvillea glabra, Latania borbonica, and a seedling tuberous begonia with flowers of a light crimson colour. For a specimen stove plant Mr. Jacob had a large cycad; E. D. Lee, Esq., Hartwell House, Aylesbury, second with Vinca alba-oculata; the Warden of Wadham College third with a beautiful specimen of Adiantum gracillimum. For a greenhouse specimen, W. Wootten-Wooten, Esq., Headington House, had a very fresh, well-flowered Erica Parmentieriana rosea; Mr. E. Thorne, 16, Kingston Road, Oxford, second, with a huge pyramid of Fuchsia Beacon; Mr. T. Anstiss, third, with Davallia canariensis. For hardy plants, the premier card went to Mr. E. Thorne for an immense bush of Niphetos rose, bearing about sixty blooms; the second place being filled by an attractive example of Lilium Harrisi, shown by Mr. Joseph Bates, Blenheim Nursery, Oxford.

Fuchsias were of large size and in good condition, and as arranged in single file the sixty odd specimens made an imposing show. For six, the Warden of Wadham College was awarded first for Gustave Doré, Wave of Life, Mrs. Marshall, Star of Wilts, Alba coccinea, and Beacon; Mr. John Walker, Thame, second, for Mrs. Rundell, Charming, Grand Duchess Marie, Rose of Castile, Warrior Queen, and Mrs. Marshall; Mr. Joseph Bates, third, with Madame Don, Mrs. E. Bennett, Splendens, Earl of Beaconsfield, Beauty of Bath, and Gustave Doré; J. W. Watson, Esq., fourth. For three, Mr. E. Thorne was first with Beacon, Rose of Castile, and Mrs. Marshall; Mr. J. Dearlove, Cherwell Street, Oxford, second; Mr. Joseph Green, 12, Adelaide Street, Oxford, third.

Zonal Pelargoniums also formed a prominent feature. For six single, Mr. J. Bates was first with Edward Sutton, Mrs. W. Paul, Mrs. Turner, Lady Sheffield, H. R. Clifton, and a white seedling; Thomas Arnall, Esq., second, with Mrs. Gordon, Sir H. Stanhope, Jeanne d'Arc, Mr. John Clifton, Mrs. Storey, and Henry Jacoby. While for four, Mr. E. Thorne led with John Gibbons, Majestic, Lady Emily, and Sir H. Stanhope; Rev. H. A. Pickard, Canterbury Road, Oxford, was second with Circulator, Sophie Birken, Captain Holden, and Mrs. Pickard; Mr. J. Green third. Doubles were hardly as good as we have seen them (many of the trusses having a decaying soft pip). The best four secured the card to the Warden of Wadham College; Owen Grimbly, Esq., Summertown Villa, Oxford, second; Mr. John Calcutt, Witney, third. For three, Mr. Thorne took the oard with neat specimens; Rev. H. A. Pickard, second; Mr. J. Green, third. Tricolors were presented in force, and proved an interesting class. The first prize group, shown by Mr. G. Jacob, included Mrs. H. Cox, Empress of India, Dolly Varden, Masterpiece, Lady Cullum, and Mrs. Turner; Mr. J. Mattock, second; Mr. C. Jacob, third. For four, Mr. E. Thorne put up Mrs. H. Cox, Lady Cullam, and Macbeth; Mr. J. Green, second; Rev. H. A. Pickard, third.

Exotic and Hardy Ferns made good classes, the whole of the exhibits being very fresh. The same remark applies to the selaginellas.

Coleus filled a wide stage eighty feet in length, and presented a beautiful appearance, as it was filled with dwarf-grown bushes. For six Mr. G. Jacob was first with the Queen, Major Kitchener, Ethel Baxter, General Gordon, Pompadour, and Choulex; F. Ryman-Hall, Esq., Summertown, second with Mrs. Sheriff, Mrs. Baxter, Pompadour, Queen Victoria, Duke of Edinburgh, and Choulex; Thos. Arnall, Esq., third with Duc de Montematre, Gloire de Rongemont, Hendersoni, Golden Pheasant, Ethel, and Mrs. Sheriff. While for four plants Mr. E. Thorne occupied the first place with Duc de Montematre, Harry Fitch, Pompadour, and the Queen; Mr. J. Green second with Queen Victoria, Chonlex, Rainbow, and Mrs. Baxter; Miss Greswell, 39, St. Giles' Street, Oxford, was third with Queen Victoria, Pompadour, Choulex, and the Queen.

Begonias, although very good, did not form a large feature. The premier group was staged by Mr. R. Price, Highfield, Headington, being well furnished with bloom; C. D. Batt, Esq., The Limes, Witney, was second; and Mr. John Mayo, St. Mary's Nurseries, Oxford, received a special prize.

Double Petunias were well put up, but chiefly seedling plants, the blooms large and nicely marked, Mr. C. Jacob leading with six plants; Mr. G. Jacob, second; and Mr. J. Calcutt, Witney, third.

Cut Flowers made a magnificent display. In the class for bouquets (twenty-four) there were eight collections, and in twelves four or five collections, the number of handsome bouquets, ranged in three rows, filled a space of one hundred running feet. For twenty-four, Mr. J. Walker, Thame, was first, Mr. J. Mattock second, Mr. Joseph Bates third; in the class for twelve, Rev. H. A. Pickard, Mr. T. Anstiss, Brill, and Miss Greswell divided the honours, the whole very tastily displayed.

Roses, for the advanced period of the year, were regarded as being thoroughly good. Mr. George Prince was first with eighteen, his selection being Annie Wood, La France, Madame C. Wood, Merveille de Lyon, Duke of Edinburgh, Etienne Levet, A. K. Williams, Queen of Queens, Mrs. Jowitt, Adam, Francois Michelon, Countess of Oxford, Captain Christy, Marie Verdier, Mrs. George Dickson, Alfred Colomb, and Alphonse Soupert; Mr. J. Mattock, second, with Paul Neyron, Pierre Carnot, Mdlle. E. Verdier, Prince Arthur, Victor Verdier, Etienne Levet, Dupuy Jamain, Marie Verdier, Horace Vernet, Baroness Rothschild, Ulrich Brunner, Duchesse de Morny, Annie Wood, Madame Lambard, Harrison Weir, Marie V. Houtte, Black Prince, and Comtesse de Serenye; Mr. John Walker, third, with Baroness Rothschild, Etienne Levet, Louis Peyroney, Paul Neyron, Marquise de Castellane, Sultan of Zanzibar, Madame Gabriel Luizet, Merveille de Lyon, Charles Lefebvre, Belle Lyonnaise, Ferdinand de Lesseps, Emille Hansburg, Harrison Weir,

Francois Michelon, Duke of Teck, Comtesse de Serenye, and A. K. Williams. For twelve trusses, Mr. A. Evans, Marston, was first with Madame V. Verdier, Camille Bernardin, Baroness Rothschild, Alfred Colomb, La France, Catherine Mermet, Xavier Olibo, Madame G. Luizet, Marie Rady, Pride of Waltham, and Louis Van Houtte; Mr. W. Narroway, Headington Quarry, second; Mr. R. Price third. For nine Mr. F. Freeman, 3, Park Street, Oxford, had premier honours for a very level lot of fresh blooms of good size and colour; Mr. W. Narroway second; and Mr. John Tranter third.

Dahlias.—Although early, the blooms exhibited were fairly well developed. Mr. T. Anstiss, first, with Rev. J. B. Camm, Mrs. Gladstone, Oracle, John Wyatt, Henry Walton, Chancellor, John Walker, Condor, and Prince of Denmark; Mr. J. Tranter, second, with Hope, Mrs. Saunders, Mrs. W. Hall, Prince of Denmark, Mrs. Jeffery, and Miss Henshaw; W. H. Wall, Esq., Bampton, third, with Flora Wyatt, Flag of Truce, Admiration, Mrs. Gladstone, Muriel, Henry Walton, Burgundy, Condor, and James Vick.

Pelargoniums in a cut state made a very dazzling show. For twelve Mr. John Walker was placed first, Mr. J. Bates second, and Mr. J. Mattock third.

Carnations and Picotees were a pretty show, though somewhat limited in extent. For twelve carnations the card went to Mr. Joseph Lakin, Temple Cowley, for good blooms of Master Fred (Low), Henry Cannell (Dodwell), Christa galli, Rifleman (Wood), John Laing (Dodwell), Florence Nightingale, Robert Low (Dodwell), Cowley Pet (Lakin), Charles Phillips (Dodwell), Delicata (Dodwell), Tom Low (Dodwell), and Jessica (Turner); Mr. J. Walker, Thame, second, with Thomas Moore, Flirt, Sarah Payne, Matador, Ada, Rob Roy, Jessica, Ranger Johnson, Ajax, Mrs. Hurst, Arthur Medhurst, and W. Englefield. For six Mr. T. Anstiss, Brill, put up the best lot, his varieties being Sarah Payne, P.F., seedling much in the way of Rifleman, Jessica, Robert Low, William IV., and Sarah Payne, P.P.B.; Mr. J. Tranter, second, with Arthur Medhurst, Ben Simonite, Mayor of Nottingham, Henry Cannell, Mrs. E. Winfell, and Edward Adams; Mr. G. Kirtland, Bletchingdon, Oxon, third. For a dozen picotees Mr. J. Lakin was again first, his box containing Her Majesty (Adams), Constance Heron, Favourite (Liddington), Jessica (Turner), Mrs. Payne (Fellowes), Ethel (Fellowes), Clara Penson (Wilmer), Royal Visit (Abercrombie), John Smith (Bower), Edith Dombrain, Miss Horner (Low), and Mrs. Rudd (Rudd); Mr. J. Walker second; while for six Messrs. Anstiss, Payne, and Kirtland divided the honours. As an extra Mr. Charles Turner staged a fine lot of blooms of carnations and picotees.

Fruit was not so plentiful as is sometimes seen at the July shows here, but there were fine pines, peaches, nectarines, melons, grapes, apricots, strawberries, and plums. There were also some big gooseberries exhibited by Mr. W. Broadfoot, Shotover House Gardens, Oxon, which were much admired; and an excellent dish of Walburton Admirable peach

Vegetables were a strong feature, the broad and long pod beans especially good, while Neal's Ne Plus Ultra runner beans were shown in abundance, nine inches long, three-quarters wide, and perfect in form. Carrots appear to have done well this season, and peas, chiefly the tall-growing kinds, were truly grand. Potatoes were large, handsome, and clean. In the class for Red Rounds, first, Queen of the Valley; second, third, fourth, and fifth, Reading Russet. Red Kidney—Mr. Bresee, first to fifth. White Kidney—first, Prime Minister; second, third, and fifth, International; fourth, Snowflake. White Round—first, Standard; second and third, Sutton's First and Best; fourth, Sutton's Favourite; and fifth, Sutton's Early Regent. Amateurs.—Red Kidney—first, second, and fourth, Mr. Bresee; third, Trophy; fifth, Cardinal. Red Round—first, second, fourth, fifth, Reading Russet; fourth, Triumph. White Kidney—first, second, third, International; fourth, Cosmopolitan; fifth, Chancellor. White Round—first and second, Rector of Woodstock; third, Foxe's Seedling; fourth, Sutton's First and Best; and fifth, Chancellor.

Sutton and Son's Special Prizes.—For these five exhibitors competed, the cards falling to Mr. James Gough, gardener to Sir W. Throckmorton, Bart., Buckland Park, Faringdon; Mr. Geo. Neal, gardener to Philip Southby, Esq., Bampton; Mr. Holland Wingrove, gardener to R. N. Byass, Esq., Rousham Park, Oxon; and Mr. James Holton, gardener to the Rev. the Provost of Worcester College, Oxford, in the order of their names.

NORTHAMPTONSHIRE HORTICULTURAL SOCIETY, August 2 and 3.

The high position occupied by the Northamptonshire Horticultural Society was fully maintained by the exhibition held on Monday and Tuesday, which, having regard to its extent, the excellence of the majority of the contributions, and the financial results, may be safely described as one of the greatest horticultural successes of the year. The show was held in Delapré Park, the residence of J. A. S. Bouverie, Esq., which is conveniently situate within a mile of the centre of the town, and is in all other respects admirably adapted to the purposes to which it was put on this occasion. Some five or six immense tents were provided for the accommodation of the plants, flowers, fruits, and vegetables exhibited in competition for the prizes in the one hundred and twenty classes which had a place in the schedule, and the whole of the space was occupied to the fullest extent. But large as the display of horticultural produce invariably is, the executive of the society does not rely exclusively on it for attracting and entertaining the public. But it provides good music and various high-class entertainments, a liberality which is very highly appreciated by the townspeople, as proved by the fact that it is not unusual to take £500 or £600 at the gates. This year the attendance was exceptionally large, and on Monday the visitors poured into the park from noon until the evening in such a large and continuous stream that although there were four or five entrances they were barely sufficient. The arrangements were admirably carried out, and it may be mentioned as a matter of some interest that the greater part of the judging was over and the principal tents open to the visitors before noon.

Flowering and Ornamental-leaved Plants were presented in large numbers and in magnificent condition. Two classes for mixed collections were provided, and the entries in both were so numerous that the several collections sufficed to fill an immense circular tent, at the same time producing a splendid effect. In competition for the prizes in the open class for eighteen, to comprise equal numbers of flowering and fine-foliage plants, the first prize of £18 was awarded to Mr. J. Cypher, Cheltenham, for a magnificent collection. The specimens, all of which were of large size and in a high state of development, comprised Allamanda Hendersoni, Statice profusa, Erica Thompsoni, a handsome pale-coloured form, Erica Shannoni, Ixora coccinea, rather small, but furnished with huge flower trusses, Bougainvillea glabra, Allamanda grandiflora, Erica Marnockiana, one of the best of the late-flowering heaths, Croton Prince of Wales, a very handsome form, with long, twisted, pendulous, and highly-coloured leaves, C. Sunset, unsurpassed in brilliancy of colour, C. Queen Victoria, Dasylirion acrotrichum, Cycas revoluta, Latania borbonica, and Kentia Fosteriana. Mr. W. Finch, gardener to J. Marriott, Esq., was a good second with a collection consisting exclusively of large, well-developed specimens. Especially noteworthy were the examples of Stephanotis floribunda, almost solid, with its large, pure, waxy-white and deliciously-fragrant flowers; Sobralia macrantha, dwarf and beautiful flowered; Eucharis amazonia, fully four feet in diameter, and bearing between forty and fifty flowers; Allamanda Hendersoni, Statice profusa, Ixora Williamsi, and good crotons and palms. Mr. C. Roberts, gardener to A. Nicholson, Esq., Highfield Hall, occupied the third place with a collection consisting of specimens bearing the impress of skilful cultivation. The most important of the specimens were Dion edule, Dipladenia splendens, Gloriosa superba, Ixora amboinensis, Dipladenia profusa, a free-blooming variety, bearing delicate pink flowers, Croton fuscata, a distinct form, with large leaves, richly variegated with pale yellow, Ixora Williamsi, Allamanda nobilis, and Thrinax elegans, the last-mentioned being one of the most perfect specimens ever placed on the exhibition stage.

The competition was very spirited in the gardeners' class for ten, to comprise five in flower and five remarkable for the beauty of their foliage, and the collections were of a high degree of excellence. The first prize of £9 was awarded to Mr. W. L. Bird, gardener to A. Seymour, Esq., Norton Hall, for a capital group, which included large and well finished examples of Bougainvillea glabra, Ixora Williamsi, Allamanda Hendersoni, Statice profusa, Stephanotis florihunda, and good crotons. Mr. W. G. Miller, gardener to R. Loder, Esq., Whittlebury, was a capital second with a collection in which there was a magnificent hydrangea, and good specimens of Allamanda Schotti, Stephanotis floribunda, and Vinca alba-oculata. Mr. J. Holland, gardener to W. Jeffrey, Esq., Billing Road, Northampton, third with a good group in which both flowering and fine foliage plants were well represented.

Groups for effect constituted a feature of great importance, and proved immensely attractive to the general body of visitors. There were two classes, one of which was open and the other limited to gardeners within the county, and the competition was so keen in each that two of the largest of the tents were occupied by them. In the open class Mr. J. Cypher was first with a highly effective arrangement, in which the crotons were especially good. Mr. J. Parker, Victoria Nurseries, Rugby, was a close second with a group at once rich and tasteful, and Mr. C. Roberts was third. In the gardeners' class Mr. W. L. Bird had the premier award made in his favour for a very attractive group, in which two large finely-flowered specimens of Bougainvillea glabra were conspicuous. Mr. Miller was a close second with a group in which the examples of Eucharis amazonica, Vinca alba, and V. rosea and the Cockscombs were of a high degree of excellence. Mr. J. Holland was third with an arrangement evincing considerable taste.

Coleus and Caladiums were well represented, the first mentioned being particularly good. In competition for the prizes for six coleus Mr. J. Underwood, gardener to J. A. S. Bouverie, Esq., Delapré Park, was first, staging large, densely furnished, and richly coloured specimens of Hendersoni, Mrs. Steddall, Princess of Teck, Edith Sentance, Mrs. Vaughan, and Lord Beresford, all of which are well adapted for specimen culture. Mr. J. Knightley, gardener to Sir Herewald Wake, Bart., Cornleen Hall, was second with medium-sized specimens remarkable for their bright colour. Mr. Farr, gardener to Sir R. Knightley, Bart., Fawsley Park, was third with excellent pyramids. In the class for six caladiums Mr. J. Holland and Mr. Farr were first and second respectively with neat examples.

Begonias were hardly so well represented as might have been expected in a district abounding in good gardens. The premier award in the class for six begonias in flower was made in favour of Mr. J. Dovey, gardener to F. Simson, Esq., Spratton, who had medium-sized and well-bloomed specimens. In the class for six begonias with ornamental leafage, Mr. Garfirth, gardener to R. Phipps, Esq., Collingtree, and Mr. Underwood were first and second respectively.

Fuchsias and Zonal Pelargoniums were both staged in considerable numbers, and in a condition that did credit to the respective exhibitors. For six fuchsias Mr. Knightley was first with rather large and beautifully-flowered specimens of Beacon, Arabella, Souvenir de Chiswick, and other good old varieties. Mr. Beard and Mr. Garfirth had the second and third awards made in their favour. There was a sharp contest in the class for six double zonals, and Mr. Underwood was first with well-finished and superbly-flowered specimens of Madame Thibaut, Wonderful, Madame C. Baltet, Guillion Mangeli, Jules Simon, one of the finest of the double pink zonals, and F. V. Raspail. Mr. Beard, Great Bington, was second, and Mr. Knightley third, both having good groups, differing but little in relative merit. For six zonals, single varieties, Mr. Knightley was successful in occupying the first place, the plants of medium size, and the flower trusses finely developed. The varieties were Eureka, Rev. F. Atkinson, Olive Carr, J. C. Masters, West Brighton, Gem, and Lizzie Brooks.

Ferns and Selaginellas were very unequal, the first-mentioned being remarkably good, whilst the selaginellas were miserably poor. Mr. Bird and Mr. Holland were the two most successful exhibitors in the class for ferns, their collections comprising good specimens of Thamnopteris nidus, Davallia Mooreana, Gymnogramma chrysophylla, and Gleichenia Mendeli.

Cockscombs and Gloxinias were numerous and of a high order of merit. Mr. Knightley was first for six cockscombs, and Mr. Miller and Mr. Underwood second and third, the plants dwarf and furnished with splendid heads. Mr. Bird, Mr. Holland, and Mr. Farr were the successful competitors for the gloxinia prizes, and in the class for achimenes Mr. Knightley and Mr. Farr were first and second respectively.

Cut Roses had liberal provisions made for them in the schedule, and were exceptionally fine for so late in the season. In the open class for twenty-four Messrs. Perkins and Son, Coventry, were first with superb blooms of Louis Van Houtte, Heinrich Schultheis, Duke of Edinburgh, Etienne Levet, Marie Baumann, E. Y. Teas, Beauty of Waltham, Captain Christy, Prince Arthur, Countess of Rosebery, Mdlle. Annie Wood, Merveille de Lyon, Dean of Windsor, Marie Verdier, Eclair, a comparatively new hybrid perpetual, with well formed flowers of brilliant scarlet hue, Louis Peyroney, Exposition de Brie, Emilie Hausburg, A. K. Williams, Baroness Rothschild, Harrison Weir, Earl of Pembroke, Henry William Eaton, a flower in the way of Marie Baumann, and Elie Morel; Messrs. R. Mack and Sons, Catterick, Yorkshire, were second with an excellent box of blooms. For twelve, open, Messrs. Perkins and Son were first, and Mr. Bennett, gardener to Rev. W. H. Jackson, Stagsden Vicarage, second with flowers differing but little in relative merit. For twelve teas, open, Mr. Bennett was first with large and delightfully fresh blooms of Catherine Mermet, Francisca Kruger, Comtesse de

Nadaillac, Hon. Edith Gifford, Marechal Niel, Souvenir de Marie Pernet, Etendard de Jeanne d'Arc, Souvenir d'un Ami, Madame Lambard, Niphetos, Madame Willermoz, and Jules Finger; Messrs. R. Mack and Son were second. In the classes limited to residents in the county Mr. Bennett, Mr. F. G. Ingram, and Mr. E. Cole were the successful competitors.

Cut Flowers other than roses formed an attractive feature. In the class for twenty-four bunches of flowers Mr. W. Finch was first with an excellent collection, in which were good bouquets of Allamanda grandiflora, Eucharis amazonica, Dipladenia Brearleyana, Bougainvillea glabra, and Ixora Fraseri. Mr. J. Parker was a good second. Bouquets and baskets of flowers were, on the whole, very poor for so important an exhibition. Two of the bouquets were an exception to the rule, and those were shown by Messrs. Perkins and Son and Mr. J. Cypher, who were first and second respectively in the open class. Neat button-hole bouquets were contributed by Mr. Holland, Mr. T. Manning, Kingsley Park, and Mr. T. Baseley.

Fruit was fairly well represented, the black grapes and peaches being the most noteworthy. The collections were few in number and rather poor, owing probably to the poverty of the prizes as compared with those offered in the plant classes. There were five entries in the classes for a dish of black grapes, and the awards were made in favour of Mr. H. Birch, gardener to Lord Northampton, Castle Ashby, Mr. W. S. Miller, and Mr. Finch, all of whom had well-finished Black Hamburgh. Mr. E. Cole, gardener to Earl Spencer, Althorp Park, also had an excellent dish. In the class for white grapes Mr. Farr was first with Trebbiano, and Mr. Bird second with Foster's Seedling. There was a sharp contest in the class for peaches, and Mr. Bird and Mr. Finch were first and second with Royal George, and Mr. Taylor, Lamport, was third with Dr. Hogg. In the class for nectarines Mr. Bird was first with Violette Hâtive, and Mr. Farr was second with Elruge.

Vegetables were largely shown, and on the whole remarkably good. Mr. Bird, Mr. Taylor, and Mr. Underwood were the prizetakers in the class for fifteen varieties. Potatoes were plentiful, and in three of the four classes Mr. Bird was first, and in the other the first place was occupied by Mr. Allen. Mr. Knightley was first in the cucumber class with a good brace of Blue Gown, and Mr. Underwood second. The first and second prizes for salads were awarded to Messrs. Garfirth and Bird. The vegetables contributed by the cottagers were of exceptional excellence, and did great credit to the large body of exhibitors.

The judges for plants and groups were Mr. T. Baines and Mr. R. Carr, Welbeck Abbey; and for fruits and vegetables, Mr. W. Cole, Feltham, and Mr. Smith, Mentmore.

ROYAL SOUTHAMPTON HORTICULTURAL SOCIETY.

The twenty-fourth annual exhibition of the above society took place on Saturday, July 31, and Monday, August 2, and was opened by Princess Beatrice. There was a general display of bunting, as well as mottoes of welcome to Princess Beatrice, and other devices, the whole giving the town along the route a very gay appearance, and doubtless greatly assisted the society by attracting the public. On the occasion of the summer show of last year the society sustained a serious loss, and it is to be hoped, favoured by fine weather, as on this occasion, coupled with Royal patronage, it will more than make up the deficit of last year.

Plants.—In the open class for twelve stove and greenhouse plants, six in bloom and six with fine foliage, Mr. Locke, gardener to B. W. Cleve, Esq., Newcomb House, Crediton, was awarded the first prize for a grand group. Amongst other specimens were those of Statice Holfordi, Ixora Williamsi, Croton Warreni, and a large and fresh specimen of Latania borbonica. Mr. J. Cypher, Cheltenham, was second with a collection including a grand specimen of Phœnocoma prolifera, and Ixora amabilis and Clerodendon Balfouri in excellent style. Mr. Rann, gardener to J. Warren, Esq., Handcross Park, Crawley, was third, his best specimens being Ixora Williamsi and Allamanda Hendersoni. In the class for twelve stove and greenhouse plants, six in bloom and six with ornamental foliage, nurserymen, there were three good groups. Mr. J. F. Mould, nurseryman, Pewsey, was placed first for a very creditable group, containing, among others, Clerodendron Balfouri, Kalosanthes coccinea, Cycas revoluta, and Croton Andreanum. Mr. H. James, nurseryman, West Norwood, was second, and staged good specimens of Allamanda Hendersoni A. nobilis, and Dieffenbacha Bausei. Messrs. J. and C. Ransom, nurserymen, Hill Garden, Hill Lane, were third, their best specimens being Croton Morti, Statice profusa, and Anthurium crystallinum.

In the corresponding class for gardeners, Mr. E. Wills, gardener to Mrs. Pearce, The Firs, Bassett, carried the leading honours, having good examples of Clerodendron Balfouri, Statice profusa, and Kentia Fosteriana. Mr. J. Amys, gardener to the Hon. Mrs. E. Yorke, Hamble Cliffe, second, with Allamanda Hendersoni, Rhynchospermum jasminoides, Stephanotis floribunda, and Cycas revoluta in fine condition. Mrs. Hasleford's gardener, Moor Hill, West End, being third with Dipladenia amœna, Bougainvillea glabra, and other good things. In the class for nine miscellaneous plants, not less than three to be in bloom, the first prize, presented by the president, the Right Hon. Lord Montagu, was easily secured by Mr. Molyneux, gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, who had a grand lot of specimens, among which were Bougainvillea glabra, Croton Queen Victoria, Trachelium cærulea, Allamanda Hendersoni, Croton variegatum, and Latania borbonica. Mr. J. Reynolds, gardener to the Hon. H. Crichton, Netley Castle, was second, staging Croton Morti, Allamanda Hendersoni, and Croton majesticus. Mr. W. Peel, gardener to Miss Todd, Sidford Lodge, Shirley, was a good third.

The groups of miscellaneous plants formed a fine feature, no less than six groups being put up, and all were of great excellence, especially the first prize group, which came from Mr. H. James, nurseryman, West Norwood. This consisted of very light palms, dracænas, and orchids, set in a groundwork of maidenhair ferns, which had an edging of Isolepis gracilis and Caladium argyrites. Messrs. J. C. and H. Ransom, and Messrs. J. Reynolds, Wills, and Amys followed in the order in which their names are given, all showing well. For a collection of orchids, to occupy a space of six feet by four feet, Mr. T. Osborn, gardener to H. J. Buchan, Esq., Wilton House, was first with a very fine group containing, among others, Dendrobium Dearei, Odontoglossum Uro Skinneri, and Oncidium Lanceanum.

For six stove or greenhouse ferns (open), Mr. Wills was first, Mr. Locke second, having Gleichenia rupestris glauca in fine condition, and Mr. J. Amys third. And for four stove or greenhouse ferns Mr. Reynolds led with Microlepia hirta cristata, Adiantum concinnum latum, and A. farleyense. Mr. J. Mould second.

In the class for six begonias (distinct), Mr. Hasleford, first, staging fine specimens of the Hon. Mrs. Brassey and other good kinds; Mr. Wills, second having Paul Masurel in fine condition. For four double begonias, Mr. Wills was the only exhibitor, and staged handsome, well-flowered plants. In the class for six fuchsias there were two competitors, who staged creditable specimens. Mr. Wills was first, and his six comprised Avalanche, Charming Bride, Mrs. J. Ley, Bountiful, and Miss Ley; Mr. W. Joy was second. For six pelargoniums, Messrs. J. C. and H. Ransom first, Mr. G. Windbank second, and Mr. West, gardener to J. R. Wigram, Esq., Northlands, near Salisbury, third. For a single specimen stove or greenhouse plant, Mr. Amys was placed first, with a large specimen of Allamanda Hendersoni; Mr. Wills second with Stephanotis floribunda; Mr. T. Osborne third. In the class for a single specimen heath, Mr. J. Cypher was first, with a handsome specimen of Erica retorta major. Mr. James and Mr. Locke followed as here arranged. Petunias were represented by two good lots, and Mr. Amys was first and Mr. Betteridge, Old Bassett, second. In the class for six celosias, Messrs. Wills and Amys were awarded the prizes in the order of their names. For six coleus this order of things was reversed by the same exhibitors. In the class for six hardy ferns Mr. Wills was once more to the fore, followed by Messrs. Locke and Haseleford. For six mosses (distinct), Mr. J. Beider, gardener to J. G. Mere, Esq., Hillford, Bassett, was placed first, his best plants being Selaginella robusta, S. apoda, S. densa, S. formosa; Mr. Locke and Mr. Wills were second and third. For a collection of plants from nurserymen Mr. M. Kingsbury was first, Mr. G. Windbank second, and Mr. Andrews third.

Flowers.—In the division for table decoration there were two classes provided, one for lady amateurs and the other open. Two tables were set up in each class. In the ladies' class Miss Flight, Cornfield, Winchester, was placed first with a very prettily-arranged table, consisting of three glass stands elegantly filled with light flowers, ferns, and grasses, and Miss F. Stratton was awarded the second prize for a very pretty arrangement. In the corresponding open class Mr. J. Cypher was first with a table arranged in his usual style, having a centre glass stand and two dishes with a plant of Cocos Weddeliana surrounded with orchid flowers and water lilies.

In the bouquet class several very creditable arrangements were put up, Mr. Cypher being first both for bridal and ballroom bouquets, and Mr. H. Rogers was a good second; Mr. C. Warden was third in one class, and Messrs. W. and G. Drover, Fareham, taking the same position in the other class. Pancratium flowers were used largely by each of the three first-named, and Messrs. Drover had a predominance of tuberoses. For the best and most tastefully-arranged basket of flowers Miss Flight was placed first for a very pretty arrangement, and Miss Golding was second. For a similar arrangement of wild flowers Miss M. Hobbey, Shirley Road, was deservedly placed first with a light arrangement, composed principally of grasses and cornflowers; second Mr. J. C. Bissett, and third Miss F. Coles; and in the class for six buttonhole bouquets Mr. H. Rogers, Miss M. Hobbey, Messrs. Drover, and Miss Golding took the prizes in the order in which their names appear.

There were two classes for cut roses, one for twenty-four, open to nurserymen and others. In this Messrs. Keynes, Williams and Co. carried off the premier award with a stand of large blooms, the most conspicuous among which were Duc de Montpensier, Camille Bernardin, and Marie Rady; Mr. F. W. Flight, Twyford, Winchester, was a very good second with smaller blooms, but very fresh and neat, the best of which were Caroline Kuster, Marquise de Castellane, and Dr. Seaton; and Mr. Warden followed with a stand but little inferior. There were six competitors in the class for twelve blooms open to amateurs and gardeners. Mr. Warden, gardener to Sir F. H. Bathurst, Bart., Clarendon Park, Salisbury, led, having good blooms of Perle des Jardins, Narcissus, Baroness Rothschild, La France, and Prince Camille de Rohan; Mr. Flight was again second; and Mr. H. J. Gibbs, Stratford, Salisbury, was third.

For twelve bunches of cut flowers Mr. Budd was first, having in his stand good bunches of tuberoses, Oncidium flexuosum, Cattleya crispa, and dipladenias; Messrs. Evans, James, and Amys followed in the order of their names. And for twelve bunches of herbaceous cut flowers Mr. Molyneux was deservedly first; Mr. H. Guillauve and Mr. Evans were second and third. For twelve trusses of pelargoniums Mr. Molyneux and Mr. Flight took the prizes in the order of their names; and for a corresponding number of double zonals Mr. West was the only exhibitor, and secured the first prize. In the class for twelve dahlias, distinct, Messrs. Keynes, Betteridge, and Fiford secured honours as their names appear; and for a like number of pompone varieties Mr. Fiford was first and Messrs. Keynes and Co. were second.

Fruit.—In the principal class for fruit, eight dishes, pine excluded, the first prize, presented by the Southampton Tramway Co., was awarded to Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, who had fine examples of Muscat of Alexandria and Black Hamburgh grapes, Dr. Hogg peach, Victoria nectarine, melon, figs, and cherries; Mr. Evans, gardener to Lady Ashburton, Melchet Court, Romsey, was second, his best dishes being those of Muscat of Alexandria grape and Barrington peach. In competition for the prizes for three bunches of black grapes, any variety, Mr. Pratt gardener to the Marquis of Bath, Longleat, Warminster, was a good first, having large and well coloured bunches of Black Hamburgh; and Mr. Molyneux second with smaller but well-finished bunches of the same variety; Mr. Warden third; and Mr. Sanders, gardener to J. East, Esq., Longstock House, Stockbridge, was a good fourth, showing Madresfield Court. In the corresponding class for any white variety Mr. Pratt was again to the fore with grand bunches of Muscat of Alexandria; Mr. Budd, gardener to F. G. Dalgaty, Esq., Lockerly Hall, Romsey, second with handsome bunches of the same variety; Mr. Wildsmith third with well-finished but smaller clusters of Golden Queen; Mr. Warden fourth with Buckland Sweetwater. For two bunches of black grapes, not open to exhibitors in the three bunch classes, Mr. W. Browning, gardener to J. Wylie, Esq., West Cliff Hall, Hythe, was first with good Black Hamburgh; Mr. J. E. Axford, gardener to C. M. Shipley, Esq., Twyford, Winchester, second; and Mr. Allan third. In the corresponding class for white grapes Mr. J. Allan, gardener to J. Bailey, Esq., Elmfield Hill, first, and Mr. Sanders a good second with well-coloured muscats; Mr. A. Richards third; and Mr. J. Axford fourth. For a single bunch of black grapes Mr. W. Browning was a good first, showing a large and handsome bunch of Black Hamburgh; Mr. Axford a close second; Mr. Warden third; and Mr. Sanders fourth. In the class for a single bunch of any white variety, Mr. Budd was a good first with a handsome, large, and well-coloured cluster of Muscat of Alexandria; Mr. Sanders second; Mr. Hill, gardener to Viscount Gort, East Cowes Castle, and Mr. Richards taking the remaining prizes.

For six dishes of fruit, outdoor grown, Messrs. Budd, West, and Sanders took prizes in the order of their names. In the class for six peaches Mr. G.

Windbank, Bevis Mount, was first, followed by Mr. Evans; and in the class for a like number of nectarines Messrs. Budd and Evans were awarded the first and second prizes. In the class for a pair of scarlet flesh melons there was but one entry, that of Messrs. W. and G. Drover, for which first prize was awarded. And for a green flesh variety Mr. Molyneux was first with a good fruit of Hero of Lockinge, Mr. Sanders second, and Mr. Ward third.

Vegetables.—In competition for the prizes for a collection of twelve varieties Mr. J. Cox, gardener to R. K. Wyndham, Esq., Corhampton House, Bishop's Waltham, was first, staging fine examples of Autumn Giant cauliflower, White Elephant onion, Veitch's Matchless carrot, Gem celery, Stratagem peas, Trophy tomato, potatoes, beans, and cucumbers; Mr. Richards, gardener to the Earl of Normanton, Somerley, Ringwood, was a good second, having Early London cauliflower, Green Globe artichoke, Gem carrot, and Perfect tomato; the third prize was awarded to Mr. Sanders, who was followed by Mr. Amys. In the class for nine varieties Mr. Molyneux was first with a grand collection, comprising tomatoes, Daniel's White Elephant onion, Nantes carrots, Autumn Giant cauliflower, &c.; Mr. J. Bailey second; and Mr. J. E. Axford third. In the class for four dishes of round and four of kidney potatoes Mr. Sanders was first with Reading Russet, Ashtop Fluke, Prizetaker, and Reading Kidney; he had also a very brown and rough-skinned variety called Village Blacksmith, which was very conspicuous, being the only dish of the kind in the show; Mr. Ward second; Mr. West third. For twelve onions, spring sown, Mr. J. Bailey was first, and Messrs. West and Richards were second and third. In the class for a like number of autumn-sown onions Messrs. Cox, Richards, and West were the prizetakers, the White Elephant onion being largely shown, and in fine condition. For a brace of cucumbers Mr. J. Brown, nurseryman, Weston Grove, was first; Messrs. Drover, Sanders, and Evans taking the remaining prizes.

Amateurs were well represented. For a group of miscellaneous plants, arranged for effect, to occupy a space ten feet by six feet, Mr. F. E. Chamberlain, Fitzhigh House, was first with a very good group; Mr. C. Burch second; and Mr. E. Chamberlain third. For four fuchsias Mr. C. Burch, Rodwell Road, second, and first Mr. Betteridge, Old Bassett, with very good pyramidal well-flowered plants; and for a single specimen Mr. Betteridge first, followed by Mr. Burch; and for four ferns Mr. F. E. Chamberlain was first, and Mr. E. Chamberlain, Alma House, second. For four pelargoniums Mr. Betteridge, and Messrs. Burch and F. E. Chamberlain took the other prizes; and for a single specimen fuchsia Messrs. Betteridge, Burch, and Chamberlain took the prizes. For four begonias Messrs. Betteridge and Burch were the prizetakers in the order of their names.

WILTSHIRE HORTICULTURAL SOCIETY.

The Wiltshire Horticultural Society held its second annual exhibition in the Palace Grounds, Salisbury, kindly lent by the Lord Bishop of Salisbury, and of all sites in the neighbourhood none could be so favourable for such a show as the one the Society were fortunate in securing. With such an indefatigable secretary and energetic committee there is no reason to doubt that this recently resuscitated society will sustain the high position to which it has been brought.

In the principal class for twelve stove and greenhouse flowering plants there were two entries, and Mr. Cypher, Exotic, Cheltenham, was placed first. He had in his group grand specimens of Phænocoma prolifera, Ixora amabilis, Stephanotis floribunda, Erica æmula, E. Irbyana, E. retorta nursery, major, and E. Thompsoni, and Allamanda Hendersoni. Mr. Rann was second, his best plants being Erica Williamsi, Statice Gilberti, and Allamanda Hendersoni; and in the class for twelve variegated and fine foliage plants Mr. Locke, gardener to W. B. Cleve, Esq., Newcomb House, Crediton, Devon, was well to the front, staging a grand collection, in which the crotons were splendidly coloured. His best specimens were: Gleichenia speluncæ, Croton Warreni, C. Disraeli, C. Johannis, C. Chelsoni, and C. Williamsi, Cocos Weddellana, and Kentia Balmoreana. Mr. Cypher and Mr. Rann were placed equal second. Mr. Cypher's best plants were Thrinax elegans, Cycas circinalis, C. revoluta, Croton majesticus, C. Prince of Wales, and Kentia Fosteri. Mr. Rann had a magnificent specimen of Croton Warreniana.

In the class for gardeners, Mr. Locke again led, having Erica coccinea, Dipladenia amabilis, Erica ampullacea, and E. Thompsoni and Anthurium Scherzerianum; Mr. Mould, second, having Erica Austini and Clerodendron Balfouriana. In the gardeners' class for fine-foliage plants, Mr. Locke was again first, having Alocasia macrorhiza variegata, Thrinax elegans, and Kentia Fosteriana; Mr. Smith, gardener to the Lord Bishop of Salisbury, was second, staging Pandanus Veitchi, Croton Weismanni, and C. variegata. For nine exotic ferns or mosses Messrs. Locke and Smith took the prizes in the order of their names, Mr. Locke having fine specimens of Microlepia hirta cristata and Nephrolepis davallioides, and Mr. Smith had a good specimen of Adiantum farleyense. For six pots of lilies, any varieties, Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, was awarded the first prize, having good examples of Lilium speciosum. For six tuberous begonias, Dr. F. W. Cotes, Salisbury, was deservedly placed first with clean and well-flowered plants, and Mr. Thornton, gardener to Mrs. Greenwood, Harnham, second; and for six gloxinias Mr. Locke was first, and Mr. Wilkins, gardener to Lady Theodore Gust, Inwood House, Shaftesbury, second, and Dr. Cotes, third.

In the class for six stove and greenhouse plants, Mr. Currie, gardener to Colonel Pepper, Salisbury, first, followed by Mr. Lovebond, Salisbury. The class for six ferns brought out three competitors, and Mr. Currie was awarded first, having Gymnogramma chrysophylla and Adiantum gracillimum in capital condition, Mr. Gregory and Mr. Lovebond followed in the order given; and for three pots of lilies Dr. Cotes and Mr. Currie took the prizes in the order of their names, each showing Lilium Harrisi and L. auratum. In the class for six zonal pelargoniums, Mr. Currie had the best collection, Mr. Butcher and Mr. Lovebond were second and third; Mr. E. L. Brown, Portland Place, and Mr. T. S. Fitche showed well in the class for four variegated and tricolor pelargoniums. For six begonias, Dr. Cotes was again to the front, and Mr. Currie second.

The principal prizes in the fruit classes were for eight dishes of fruit which brought out three fair collections. The first place was occupied by Mr. Iggulden, gardener to the Earl of Cork, Marston House, Frome, who had Black Hamburgh and Foster's Seedling grapes, neat and well-finished Grosse Mignonne peach, and Violette Hâtive nectarine, Brown Turkey figs, and Blenheim Orange melon, cherries, and apricots; Mr. Ward was a very close second; and Mr. Evans, gardener to Lady Louisa Ashburton, Melchet Court, Romsey, third. In the class for three bunches of Muscats, of which seven lots were put up, Mr. Pratt, gardener to the Marquis of Bath, Longleat, Warminster, was first with large and handsome bunches, and fairly well-coloured for the time of year. Mr. Budd, gardener to F. G. Dalgaty, Esq., Lockerby Hall, Romsey, was a creditable second; and Mr. Northeast, Norton House, Warminster, third.

In the class for three bunches of Black Hamburgh, Mr. Pratt was to the front with similar bunches to his Muscats, doubtless any bunch in the two lots would have turned the scale at 4 lbs. Mr. C. Warden, gardener to Sir F. H. Bathurst, Bart., Clarendon Park, was second, and Mr. Iggulden, third. In the class for any white variety (not muscats) Mr. Ward was placed first with well-coloured Buckland Sweetwater, and Mr. Warden followed with the same variety, and Mr. Budd third with Mrs. Pearson. For three bunches of any variety of black, not Hamburghs, Mr. Budd led with large bunches of Madresfield Court, Mr. Warden followed with smaller bunches of the same variety, and Mr. Ward third with Black Prince. Mr. Pratt was first for a melon, showing a large fruit of Longleat Perfection, which, when cut and tried in company with several others, was awarded the first prize, and Mr. Iggulden second with the same variety. For a dish of six peaches Mr. Evans was first with Royal George, and Mr. Wilkins second; and for nectarines Mr. Budd was first and Mr. Iggulden second, showing Elruge and Victoria respectively.

The prizes offered for a collection of twelve dishes of vegetables brought three competitors. Mr. Thos. Wilkes was first with Autumn Giant cauliflowers, White Elephant onions, and small, but good, tomatoes, &c. Mr. Haines, gardener to the Earl of Radnor, Coleshill House, was second, and Mr. Pratt third.

In the class for thirty varieties of roses there were four competitors, and T. W. Girdlestone, Esq., Sunningdale, was awarded the first prize; Mr. Campbell, gardener to Dr. Budd, of Bath, second; and Mr. H. J. Gibbs, Stratford-sub-Castle, third. For twenty-four trebles the order of things was reversed, Mr. Campbell being first and Mr. Girdlestone second; Mr. Warden was third. For twenty-four varieties not open to exhibitors in the two former classes Mr. Marlow, gardener to Mrs. Paxton, Cholderton House, Salisbury, was a good first; Mr. T. W. Flight, Twyford, Winchester, second; and Mr. Smith third. For twelve spikes of gladioli, in six varieties, Mr. Evans, and Mr. West, gardener to J. R. Wigram, Esq., Northlands, Salisbury, were the prizetakers. Messrs. Budd, Evans, and Iggulden were the prizetakers for stove and greenhouse cut flowers, showing good stands, all of which were fresh and clean. Mr. Hatch, Salisbury, was first for carnations, in both classes showing some very creditable blooms.

In the ladies' classes there were several very effective arrangements, especially those of Mrs. Chard, Floral Depôt, Clapham Common, who had four first prizes. Miss Bessie and Miss Agnes Flight were amongst the next successful competitors.

To the miscellaneous class Messrs. Keynes, Williams and Co. contributed some very good arrangements, especially effective being the line of rose boxes filled with roses, pompon and other dahlias, the different coloured verbenas in bunches, and also pelargoniums. These were backed up by a splendid assortment of gladioli and a line of ornamental plants, making a very good display. Messrs. Brittain and Son, Waterloo Nursery, Salisbury, also had some very good boxes of roses, backed by an assortment of flowering and foliage plants, which assisted greatly to make the show full and attractive.

Markets.

COVENT GARDEN.

Fruit.	
Apricots ... per doz.	0s. 6d. to 0s. 8d.
Cherries ... per lb.	0s. 3d. ,, 0s. 6d.
Currants ... per ½ sieve	2s. 6d. ,, 3s. 0d.
Figs ... per doz.	1s. 6d. ,, 2s. 0d.
Gooseberries ... per quart	0s. 2d. ,, 0s. 4d.
Grapes ... per lb.	1s. 6d. ,, 3s. 0d.
Lemons ... per case	15s. 0d. ,, 25s. 0d.
Melons ... each	1s. 0d. ,, 2s. 0d.
Peaches ... per doz.	2s. 0d. ,, 7s. 6d.
Pine-apples, English, per lb.	2s. 0d. ,, 3s. 0d.
Plums ... per ½ sieve	3s. 0d. ,, 6s. 0d.
Vegetables.	
Artichokes, Globe, per dz.	2s. 0d. to 3s. 0d.
Beans, French ... per lb.	0s. 4d. ,, 0s. 6d.
Beet ... per doz.	1s. 0d. ,, 2s. 0d.
Beans, Runners, per sieve	5s. 0d. ,, 6s. 0d.
Cabbages ... per doz.	1s. 6d. ,, 2s. 0d.
Carrots ... per bun.	0s. 4d. ,, 0s. 6d.
Cauliflowers ... per doz.	2s. 0d. ,, 3s. 0d.
Celery ... per bun.	1s. 6d. ,, 2s. 6d.
Cucumbers ... each	0s. 4d. ,, 0s. 8d.
Endive ... per doz.	1s. 0d. ,, 1s. 6d.
Herbs ... per bunch	0s. 3d. ,, 0s. 4d.
Horse-radish ... per bun.	3s. 0d. ,, 4s. 0d.
Lettuces, Cabbage, per doz.	0s. 8d. ,, 1s. 0d.
Lettuce, Cos ... per doz.	0s. 9d. ,, 1s. 0d.
Mint, Green ... per bun.	0s. 2d. ,, 0s. 3d.
Mushrooms ... per basket	1s. 0d. ,, 1s. 6d.
Onions ... per bunch	0s. 4d. ,, 0s. 6d.
Parsley ... per bun.	0s. 3d. ,, 0s. 4d.
Peas ... per quart	1s. 6d. ,, 2s. 0d.
Radishes ... per doz. bunch	0s. 9d. ,, 1s. 0d.
Small Salading ... per pun.	0s. 3d. ,, 0s. 4d.
Spinach ... per bushel	3s. 0d. ,, 4s. 0d.
Tomatoes ... per lb.	0s. 6d. ,, 0s. 8d.
Vegetables.	
Turnips ... per bunch	0s. 4d. to 0s. 6d.
Vegetable Marrows, per doz.	3s. 0d. ,, 5s. 0d.
Cut Flowers.	
Asters ... per doz.	0s 3d. ,, 0s. 6d.
Bouvardias ... per bunch	0s. 6d. ,, 1s. 6d.
Carnations, per doz. blms.	1s. 0d. ,, 1s. 6d.
Eucharis, per doz. blooms	2s. 0d. ,, 3s. 0d.
Gardenias, per doz. blooms	2s. 0d. ,, 3s. 6d.
Gladioli ... per doz. bun.	5s. 0d. ,, 7s. 6d.
Heliotropes, per doz. sprays	0s. 6d. ,, 0s. 8d.
Lapageria, per doz. blooms	1s. 0d. ,, 2s. 0d.
Lilies ... per doz. blooms	2s. 0d. ,, 2s. 6d.
Marguerites, per doz. bun.	3s. 0d. ,, 5s. 0d.
Mignonette, per doz. bun.	3s. 0d. ,, 5s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d. ,, 0s. 8d.
Pelargoniums, per doz. trusses	0s. 8d. ,, 1s. 0d.
Roses ... per doz. blms.	1s. 0d. ,, 1s. 6d.
Roses, Tea ... per doz. blms.	0s. 8d. ,, 1s. 0d.
Roses, Moss, per doz. bun.	4s. 0d. ,, 4s. 6d.
Stephanotis per doz. sprays	1s. 0d. ,, 2s. 6d.
Stocks ... per doz. bun.	3s. 0d. ,, 4s. 0d.
Sweet Peas ... per doz. bun.	4s. 0d. ,, 5s. 0d.
Tropæolum ... per doz. bun.	0s. 8d. ,, 1s. 0d.
Tuberoses ... per doz.	0s. 6d. ,, 1s. 6d.

BOROUGH AND SPITALFIELDS.

Potatoes.	
Essex Kidney ... per cwt.	5s. ,, 7s.
Cherbourg Rounds ... per cwt.	3s. ,, 4s.
Jersey Kidneys ... per cwt.	6s. ,, 7s.
Jersey Rounds ... per cwt.	4s. ,, 5s.
St. Malo Kidneys ... per cwt.	5s. ,, 6s.
St. Malo Rounds ... per cwt	4s. ,, 5s.
Early Rose ... per ton	70s. ,, 80s.
Beauty of Hebron ... per ton	90s. ,, 100s.

Spring Bulbs for the London parks will be supplied by Mr. B. S. Williams, Victoria Nurseries, Upper Holloway, under the direction of H.M. Commissioner of Works.

Mr. J. J. Draper, of Covent Garden, a member of one of the oldest firms in the wholesale fruit trade, was entertained at dinner at the Criterion on the 29th ult., as a mark of respect by his friends, on his retirement from business. Mr. Alderman Isaacs presided, and there were present also Messrs. H. Page, A. C. S. Draper, H. J. Draper, J. Willson, J. R. Bourne, H. S. Molyneux, G. Bell, H. Levy, J. Rouse, A. Isaacs, J. M. Isaacs, H. W. Arnold, E. Brown and J. Blake (Messrs. Keeling and Hunt), G. Gray (Messrs. Gray, Barron, and Co.), M. Wolff, J. Webber, G. Butt, W. Morgan, I. Jacobs, E. Jacobs, T. Jay, F. Pankhurst, F. Pankhurst, jun., T. R. Dickson, P. H. Garcia, W. Draper, W. Robinson, and M. J. Garcia (honorary secretary and treasurer). In the course of the evening Mr. Draper was presented with a gold watch and a tea and coffee service.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled) Harmless to everything but insects. Tins, 6d. and 1s.—[Advt.]

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
15	S	**8th Sunday after Trinity.**	4 46	4 17	7 21	7 39	5 19	2 21	2 36	11 46	—	62·4	Burlingtonia Knowlesi	Brazil.	227
16	M	Gaslights first introduced, 1807.	4 47	4 5	7 19	8 4	6 22	2 54	3 10	0 1	0 19	62·3	Lælia autumnalis	Mexico.	228
17	Tu	Frederick the Great died, 17.6.	4 49	3 52	7 17	8 27	7 25	3 26	3 41	0 35	0 51	62·1	Lælia majalis	Mexico.	229
18	W	Beattie died, 1803.	4 51	3 39	7 15	8 48	8 28	3 56	4 14	1 6	1 21	62·0	Oncidium pulchellum	Jamaica.	230
19	Th	Earl Russell born, 1792.	4 52	3 26	7 13	9 13	9 31	4 30	4 45	1 39	1 55	61·8	Oncidium Batemanni	Brazil.	231
20	F	Battle of Saragossa, 1810.	4 53	3 12	7 11	9 38	10 35	5 1	5 16	2 10	2 26	61·6	Oncidium flexuosum	Brazil.	232
21	S	Blackcock-shooting begins.	4 55	2 57	7 9	10 6	11 41	5 35	5 52	2 41	3 0	61·5	Cattleya Dowiana	Mexico.	233

CRYSTAL PALACE ANNUAL FRUIT EXHIBITION and GRAND NATIONAL DAHLIA SHOW, SEPTEMBER 3 and 4. Schedules on application to Mr. W. G. HEAD, Garden Superintendent, Crystal Palace.

SANDY (BEDFORDSHIRE) HORTICULTURAL SOCIETY.—EIGHTEENTH ANNUAL EXHIBITION, open to all England, FRIDAY, AUGUST 27, 1886. 190*l.* in prizes, including—For Ten Stove and Greenhouse Plants in flower: first prize, 12*l.*; second, 8*l.*; third, 4*l.*; fourth, 3*l.* Show ground close to Great Northern and London and North-Western Railway Stations. Plant vans horsed to and from free of charge. For schedules, apply WILLIAM GREEN, Secretary, Sandy.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, AUGUST 17.—CALNE HORTICULTURAL SOCIETY—Annual Exhibition.
TUESDAY, AUGUST 17.—BILSTON HORTICULTURAL SOCIETY.—Annual Exhibition.
WEDNESDAY, AUGUST 18.—TROWBRIDGE HORTICULTURAL SOCIETY.—Annual Exhibition.
WEDNESDAY, AUGUST 18.—LUTON HORTICULTURAL SOCIETY—Annual Exhibition.
WEDNESDAY, AUGUST 18, AND THURSDAY, AUGUST 19.—SHROPSHIRE HORTICULTURAL SOCIETY.—Summer Exhibition.
THURSDAY, AUGUST 19.—MAIDENHEAD HORTICULTURAL SOCIETY.—Annual Exhibition.
FRIDAY, AUGUST 20.—DEVON AND EXETER HORTICULTURAL SOCIETY.—Summer Exhibition.

Auction Sales for the Ensuing Week.

MONDAY, AUGUST 16.—Messrs. Protheroe and Morris, at their Central Sale Rooms 67 and 68, Cheapside; Dutch Bulbs.
WEDNESDAY AND SATURDAY, AUGUST 18 AND 21.—Mr. J. C. Stevens, at 38, King Street, Covent Garden: Dutch Bulbs.
THURSDAY, AUGUST 19.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.
THURSDAY, AUGUST 19.—Messrs. Protheroe and Morris, at their Central Sale Room, 67 and 68, Cheapside; Dutch Bulbs.
FRIDAY, AUGUST 20.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

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The Gardeners' Magazine.

SATURDAY, AUGUST, 14 1886.

THE DISEASES OF PLANTS so directly, and ofttimes disastrously, affect the fortunes of mankind that it must be desirable to know something about them. As a matter of fact, we know very little, for large words do not necessarily convey large information, although philosophers who make pets of miscroscopic fungi cherish extravagant notions of the utility of their labours. There is much hard work required in the acquisition of a superficial knowledge of the fungus that is associated with potato disease, and this knowledge has never been usefully applied by anyone; indeed, those who profess to know most about it are the farthest removed from what is called practical wisdom. The most successful cultivators of the potato are men who know nothing whatever of the "life history" of any kind of fungus, but are of necessity observant of the ways of nature and diligent in adopting the teachings of experience. The scientists have had a clear forty years—say, from '45 to '85—for the study of this subject, and a logical deduction from the sum total of their teachings is that the potato has ceased to exist; the fatal fungus has destroyed it utterly. As a matter of fact, the potato is still with us, and has probably never been so healthy, so productive, or so useful as now. It is scarcely an exaggeration to say that at this time the world is full of potatoes. The peronospora that is forced on our notice when potato disease prevails diffuses generative spores in countless numbers, and the mycologists say that the land in which potatoes are grown soon becomes "poisoned" with them. They tell us the evil is augmented in a geometrical ratio, and therefore all diseased growth of top or bottom should be hastily destroyed by fire, for it must be dangerous even to feed pigs with diseased potatoes. Nature quietly gives the lie to the whole of such teaching. She has done so through a series of years, thereby justifying the shallow philosophy in which we have ourselves indulged when speaking of this subject. We have said that when certain unfavourable conditions occur disease will prevail, and when favourable conditions occur disease will not prevail, and it does not matter in the least how many spores are distributed or to what extent any particular piece of land may be "poisoned" with them. We are enjoying a run of good seasons; how long they may last no one knows, but it is evident that the potato, as a cultivated plant, is the better for the solar light that has been freely shed upon it in the past few years of plenty. We have also said, and we admit the shallowness of the doctrine, that good cultivation is the best antidote to disease; and we have sometimes ventured to add that the disease is somewhat in the nature of a punishment to men for cultivating the potato badly. But when all is said, whether in plain words or with the aid of a hailstorm of technicalities, it is a question of sunshine, and the practical lesson for the cultivator is that the plant needs a certain amount of light and air, which good cultivation will secure for it.

THE HOLLYHOCK shared the fate of the potato, and being less useful to mankind was more severely suppressed by a succession of unfavourable seasons. Now that we can take a general review of the subject, it appears that the run of bad seasons that commenced with the year 1845 had a parallel in another run of bad seasons commencing in 1860. When the present run of good seasons commenced cannot be precisely determined at present, but we may perhaps properly reckon that 1883 was the first of them, and we may amuse ourselves with the expectation that they will continue until the year 1889. By which time we should hope the hollyhock will be completely re-established, and have the prospect of another run of good seasons to make amends for the length of years during which it has been under a cloud. It is the "coming flower;" of that there can be no doubt, and it has some peculiar advantages as an adornment of the English garden, when the dreadful fungus is scared from it by the beneficent rays of "glorious Apollo."

The revival of this noble flower has been more rapid and general than we anticipated when we first directed attention to the facts. All that we have said about the injurious effects of the forcing system of propagation that was formerly adopted, and of the necessity for promoting healthy growth irrespective of all other considerations, whether of "improvement" or of haste in making stock, is justified by what we now see in the many places where the flower has obtained reasonable attention. Half a-yard of learned nonsense about the anatomy of the fungus that has endeavoured to strangle it is, we think, crushed down to nothing by our advice to lovers of the hollyhock "to make it grow." The advice has been acted on, and the hollyhock has been saved. It was formerly the rule to kill the plant by grafting in a temperature of 80 deg., and by raising seedlings and striking cuttings in a temperature of 70 deg. Those practices have been abandoned, and the revival compels us to say, as we have said above of the recovery of the potato, that the disease that assailed it was in the nature of a punishment to man for his unjust treatment of one of Nature's choicest gifts.

Having suggested the desirability of restoring to our gardens the grand old varieties that were conspicuous in the lists anterior to the disastrous year 1860, we were favoured with a letter conveying the agreeable intelligence that the best of them were still to be found in the best possible condition, and we might take comfort in the persuasion that the eclipse of the hollyhock has been of less extent and less duration than, in our despondency, we had supposed. Acting on the advice of our correspondent, on the 6th inst. we visited Mr. Blundell at his nursery ground in Martell Road, West Dulwich, and found in the grandest condition of growth and bloom thousands of hollyhocks, comprising the best of Chater's and Laing's varieties, and seedlings from them, this particular cultivation by Mr. Blundell dating from 1857, when he formed his collection by securing the cream from the current catalogues.

The rule with Mr. Blundell has been the same as the rule that Mr. House found successful, and that we have embodied in the words "make them grow." The growth here is of a kind to give deep joy to a lover of hollyhocks, such leaves, such spikes, such

blooms! A few of Mr. Blundell's flowers were staged at the meeting of R.H.S. on Tuesday last, and proved to be real "eye-openers" to the faculty. The flower is restored; the revival is complete; the hollyhock is a proper occupant of the English garden, and when it smilingly looks over the wall or delicately taps on the gate it should have cheerful admission, and a hearty invitation to make a long stay and enjoy good treatment. There is a dark side to every subject, and now, having in our minds the delightful remembrance of Mr. Blundell's flowers, we mourn that we cannot call from the grave the lamented Cecil Lawson, that he might see once more the flower that he painted with better feeling and effect than any other English painter that time and life have produced.

Maidenhead Horticultural Society will hold its annual exhibition in the grounds of Braywick Lodge, on Thursday next, August 19.

Ramsbottom Floral Society will hold an exhibition of chrysanthemums, primulas, and hyacinths November 20.

Sheffield and West Riding Chrysanthemum Show will be held in the Corn Exchange, Sheffield, November 19 and 20.

American Apple Crop is reported light this year. The report from Canada agrees with that from the States.

Basingstoke Horticultural Society.—The exhibition will be held at Goldings, on Thursday next, August 19.

Mr. B. S. Williams, of Upper Holloway, will supply the hyacinths, tulips, and other bulbs required in London parks and gardens that are under the control of the Metropolitan Board of Works.

Purification of Rain Water is reported to be completely effected on a simple plan invented by Mr. H. Tomkinson, 46, Gill Street, Liverpool.

Mr. James Swingler, late foreman at the Glebe, Champion Hill, is appointed head gardener to W. H. Halford, Esq., Old Down House, Almondsbury, Gloucestershire.

Patent Excelsior Corn Seed Drill has obtained special silver medals at Cirencester, July 27, and Birkenhead, July 28. This machine was reported on in these columns some time since as exhibited by Messrs. Chadborn and Coldwell, 223, Upper Thames Street.

Royal Botanic Society held its 47th anniversary meeting on Tuesday, Mr. J. P. Gassiot in the chair. The receipts from all sources in the past year amounted to £6,038, which is about £400 less than last year.

British Association will meet at Birmingham, September 1, under the presidency of Sir William Dawson, of McGill College, Montreal. This will be the fourth meeting in the centre of the Midlands, the previous meetings in Birmingham having occurred in 1839, 1849, and 1865.

York Floral Fete, 1886.—The amount of gate-money at the three days' exhibition was £1,370. The committee have given to the charities of York, out of this year's profits, £40, and a further sum of £25 added to their invested capital. The exhibition of 1887 will be held on June 15, 16, and 17.

Corresponding Members of the Massachusetts Horticultural Society include the following: Rev. H. H. D'Ombrain, Shirley Hibberd, Robert Hogg, LL.D., Rev. S. Reynolds Hole, Sir Joseph Hooker, M. C. Joly, Dr. Maxwell T. Masters, F.R.S., William Paul, William Robinson, Anthony Waterer, and Benjamin S. Williams.

The Californian Elder, *Sambucus Californica*, appeared on the table of the Floral Committee on Tuesday last, Mr. Thomas Moore, curator of the Botanic Garden, Chelsea, having sent up samples of leaves and flowers. It is a distinct and interesting hardy shrub of a peculiar greyish green colour. The stems and leaves are tomentose, the flowers are greenish white.

Potatoes are Going at Low Prices, and the growers of the noble tuber make the same complaint as the Kentish fruit farmers. We shall have to adopt a new doctrine in some such form as this: that the fruits of the earth are most to be desired in the least possible quantities. While the world waits for discussion and adoption of the doctrine, it will probably, both openly and secretly, praise the Lord of the Harvest for a season of plenty.

M. Chevreul will complete his one hundredth year on the 31st inst., when a medal will be presented to him by the National Agriculture Society of France. On the following day the new buildings at the Jardin des Plantes will be opened, as also an exhibition illustrating M. Chevreul's chemical discoveries, and in the evening a banquet will be given to the eminent centenarian by all the leading French scientists.

The Cottagers' Show of Garden Produce, fixed for August 24 at South Kensington, will be sustained by Co-operative Societies and the Agricultural and Horticultural Association, of which Mr. E. O. Greening is the manager. The Royal Horticultural Society place the conservatory and working staff at the disposal of the promoters, and provide free of charge two judges, whose names have been submitted to the promoters and have their approval. The R.H.S. also contribute medals for competition.

A new type of Single Dahlia has been secured by Mr. Cullingford, of Kensington, and we direct attention to it as affording a change that will probably be much appreciated. The florets are narrow, pointed, slightly twisted, and placed sufficiently far apart to make a "windmill." The ultra florists will perhaps groan in reading our poor description, but we shall be greatly mistaken if they do not jump for joy when they see the flower. Well, we advise them to look for it, and to be in no great haste to subject it to the old floral rules.

A Catalogue of Chrysanthemums has been within the past few days completed by the National Chrysanthemum Society, and is published by Mr. E. W. Allen, price 6d. The varieties are arranged in ten classes. At a rough guess the names number about 900, but we have not had time to count them, or to look into any particulars.

Reports on Garden Crops that we are now placing before our readers appear to us more than usually interesting, and we hope we may not be alone in that opinion. Correspondents who have not returned their forms are desired to do so without delay, as they are of little use when they arrive too late for proper classification.

Five miles of streets in the neighbourhood of Covent Garden Market are daily obstructed by conveyances on the way to or from the market. Such is the declaration of "Russell Street," who adds, "I have been twenty minutes getting through James Street to this street, a distance of a few yards." We cannot say if "Russell Street" goes beyond the truth in those statements, but we are very much of his opinion that on a wet day much of the district "resembles the most repulsive pigsty." We never, on our own account, went beyond calling it a "dog-hole." It is certainly very nasty.

Grand National Dahlia Show will be held in Crystal Palace, Sydenham, September 3 and 4. The Turner Memorial Prize will be open to further competition, and we hope to see that exhibitors appreciate the cup by contending for its possession. The class to which this memorial prize is attached is for twelve show and six fancy dahlias. All entries should be made before August 27. To this "National" movement we owe the revival of the dahlia in recent years, and it is a worthy addition to the number of useful voluntary agencies in aid of floriculture. Guineas are wanted to keep the work going. The honorary secretary is Mr. Thomas Moore, Botanic Garden, Chelsea.

An Improved Postal Service between this country and Australia is much to be desired, and on the face of things appears to be an easy matter. When Mr. Henniker Heaton brought the subject before the House of Commons on the 30th of March last, Mr. H. H. Fowler opposed it with the assertion that the loss to revenue on Colonial postage amounts already to £1,000 a-day. This appears, however, to be not exactly the truth, as certain charges in the interest of the Indian mail service are included in the alleged loss. Mr. H. Heaton has advanced the consideration of the subject by obtaining from shipowners an understanding that letters could be carried to Australia by a slow post at a penny rate, and with this for a substantial argument the subject will be again brought under the notice of Parliament.

Kentish Fruit Growers say the prices that prevail are too low to pay for picking. It is proper to make allowance for the extreme views that are commonly entertained on this and other subjects by persons whose interests are concerned to some depth below the service. But the complaints now heard should be taken note of by promoters of fruit farming, for this is not the first time we have heard of glutted markets. There is only one thing certain in the commercial aspects of fruit growing, and it is that the salesmen are always safe. The men who are concerned in buying and selling are not without their troubles, but the men who produce appear to be always up to their chins in a "sea of troubles." It may be that the language of content is silence, and the language of discontent is clamour.

Tuesday last was a good day at South Kensington. The general exhibition was in every respect, except one, satisfactory. The begonias were a great power, the gladioli were glorious, and of hollyhocks there were half a-dozen collections, and five new and noble varieties were certificated. Though vegetables and fruits occupied but a small space, the collections were fine in quality and tastefully put up. Hardy herbaceous plants were presented in profusion and delightful variety, and made a glow of colour that neither gladioli nor begonias could outshine. The exception to the rule of high quality was seen in the fuchsias, which were simply shocking in poverty of growth and meagreness of bloom. There are men in the world yet who can grow fuchsias, and they are much wanted to enlighten the dark metropolis.

Living Plants in the Colonial and Indian Exhibition should be carefully inspected by all who are concerned in the important question of securing healthy vegetation under adverse circumstances. We do not say that the circumstances are, or have been, adverse in this particular case, but we remember it was confidently predicted that the plants prepared for this particular purpose would be quickly killed by the dust, the impure air, &c., &c., &c., prevailing in the courts they were to be consigned to. We may now cast up accounts. The plants have had nearly four months' occupation, and during that time *they have all improved*, and now present a thoroughly healthy and beautiful appearance. It goes without saying that good treatment in some part accounts for the happy issue, and for a practical lesson that all the world may read and understand there is nothing like it.

Massachusetts Horticultural Society continues to supply its members with printed "Transactions," which are admirable as regards editing and printing, and contain much valuable information. The second part of the Transactions for the year 1885 has reached us, and we shall gather from it a few particulars for the benefit of our readers. In report of Committee on Fruits it is stated that Dorchester Blackberry took all the prizes awarded for this class of fruits. The winning Gooseberries were Downing, Smith's Improved, Whitesmith, and Bang-up. The Strawberries conspicuous as prizetakers were Sharpless, the Jewel, Belmont, the Dewey, and the Lincoln. The most important of the Raspberries was Cuthbert. The Committee on Vegetables state that the best Peas were Carter's Stratagem, Sharpe's Early Paragon, and Invincible. Stratagem is described as the handsomest and most productive of its class. Mr. Bresee has brought into notice a new and unnamed seedling Potato, which was considered the most handsome of all in a collection of fifty-two first-class varieties.

Notes of Observation.

FORTESCUE, OXFORD.

The heading to this note I find in my notebook, and for its meaning I must trust my memory. In the present case it is no difficult matter to remember that the note refers to a quite unique display of colouring, not in flower beds or elaborate designs, but on a plain wall clothed with two plants only. These plants are Veitch's ampelopsis and Jackman's purple clematis. The creeper makes an unbroken sheet of vegetation at this time of a bright, slightly mottled, but generally definable as golden green. Upon this dense and delicious surface appear two great blotches of the popular clematis, and the effect, though of the simplest, is one of the most impressive I have seen for many a long time past. It was on the way from the railway station to Stanley Road, Oxford, and a very short distance out of the city, that I saw this delightful bit of colouring in the nursery of Mr. Fortescue. As it faces the high road all may see it who pass that way.

S. H.

DOUBLE EUCHARIS FLOWERS.

Some time since, as you will probably recollect, I sent a note with reference to the flowers of a plant of Eucharis amazonica that we have here, which had twelve petals each. I now send you two flowers having a similar number of petals. Whether they have been produced or not by the same plant as the others I am unable to say, but the bulb from which they were gathered is growing in the same pot as that which produced the flowers referred to in my previous note. The pot contains about one hundred bulbs. E. Ryder.

Northumberland Nursery, Crpington, Kent.

IVY-LEAVED PELARGONIUMS.

It may perhaps be useful to those who require large supplies of flowers during the autumn and winter that many of the ivy-leaved pelargoniums are hardly less useful than the zonals. They do not, perhaps, bloom quite so freely as the best of those in the other section, but the flowers are very persistent, and they give us several very distinct shades of colours. As in the case of the zonals, it is necessary to have by the beginning of October plants that are full of vigour and well established, as neither young plants that have not long been in the pots nor old worn-out examples are of much value for the purpose of supplying during the dull season of the year. Probably the best of the numerous varieties for the supply of winter flowers is Madame Thibaut, which is now plentiful and cheap, and should certainly have the preference. G. H.

STRAWBERRY VICOMTESSE HERICART DE THURY.

Never have I known the strawberry crop so poor as it has been this year. Whether the above-named strawberry has stood the dry season better than a great many other varieties elsewhere I cannot say, but I have a good word to say for it here. It has stood the dry weather well; in fact, we have gathered seventy per cent. more fruit from this variety than from the several well-known varieties grown here. Of rain we have had plenty, but our strawberries were distressed before rain fell. John Aplin.

HARDY PLANTS AT EDGE HALL.

In my humble opinion there is no gardening like hardy plant gardening, and no hardy plant gardening like that on rockwork and mounds. I have just returned from a visit to a well-known garden in Cheshire, where rockwork gardening is admirably carried out.

Pressing home work keeps me from many pleasant and instructive visits; but being obliged to go to the neighbourhood of Liverpool, and having my son with me, I could not resist the pleasure of a few days at Edge Hall. Much had been done since my last visit. The rockwork, with its varieties of stone, is wonderfully successful, and shows what energy, perseverance, and study, assisted by an excellent library, will do in a climate colder and damper than that of the home counties. Many of the plants—some of them difficult ones—grow in such vigour that it shows that the climate suits them, but sheltering rock and judicious lightening of soil make others grow which prefer warmer and drier situations.

Campanulas have always been favourites of Mr. Wolley Dod, and some of the rarer species were simply masses of bloom. A favourite plant of my old friend Mr. Atkins, of Painswick, Onosma Taurica, had grown more luxuriantly than I ever before saw it. Arnebia echioides showed itself thoroughly at home, as did many of the rare saxifrages. I will not attempt to enumerate the different plants, which are in great numbers, and many of them rare. I was much interested to find that Mr. Dod by his broken granite had arrived at results which we have been attaining by different means, but on the same principle. In his garden beds Lilium pardalinum, in all its varieties, and L. testaceum were very fine and in great vigour; and in a rough, cold lily house, L. Parryi, L. Humboldti, L. Washingtonianum, and L. Dalmaticum were as fine as I have ever seen them under any treatment.

People often speak of gardening as a pleasant amusement or occupation, but carried out as it is at Edge Hall it is as much a study and a science as any of the more recognised sciences.

In conclusion, I would advise any one with plants, especially alpines, which they cannot master, to send some to the Rev. C. Wolley Dod, Edge Hall, Malpas, Cheshire, and I shall be surprised if he does not discover how to make them grow.

Heatherbank, Weybridge Heath. George F. Wilson.

KEATING'S POWDER.—Kills bugs, moths, fleas, and all insects (perfectly unrivalled) Harmless to everything but insects. Tins, 6d. and 1s.—[Advt.]

TRIAL OF PEAS AT CHISWICK, 1886.

The trial peas in Royal Horticultural Society's Garden this season have done well, the showery weather during their growth helping them considerably. A collection of fifty sorts, comprising old and well-known kinds, were received from Messrs. Veitch and Son. It is interesting to note the difference in the time they are ready for use: Thus William the First, sown at the same time, was seven days later than four other varieties, which were all ready at the same date, June 28. These were Emerald Gem, Earliest of All (Veitch). Selected Extra Early (Veitch), and Sharpe's First Early. These were followed on June 30 by Kentish Invicta, Dr. Hogg, and Unique. These were followed on July 1 by First Favourite, &c. Of later kinds, G. F. Wilson is one of the best. Sown at the same time, it was not ready until July 20, and at the present time it is supplying tender green peas. Among newer kinds, Fame, Juno, Minerva, and Vulcan (Eckford) are good late fine-flavoured peas. Autocrat (Veitch) is also a good late pea. New varieties raised by Mr. Wildsmith and Messrs. Sharpe give promise of special usefulness. The most prolific varieties this season were Veitch's Perfection, Fillbasket, Fame (new), Omega, G. F. Wilson, President Garfield, British Queen, and Champion of England.

List of Peas Grown at Chiswick, 1886. All, except one, Sown 4th of March.

1. *William the First.*—Blue round, small well-filled pods, moderate bearer, good flavour; height 4 ft. Ready July 5. Dark green foliage, moderate growth.

2. *William the Second.*—Slight improvement on William the First, pods more curved, taller and later; height 4 ft. 6 in. Ready July 7. Good cropper, foliage dark green.

3. *Earliest of All.*—Blue round, small, short, well-filled pods, light green foliage, moderate bearer; height 3 ft. 6 in. Flavour moderate. Ready June 28.

4. *Selected Extra Early* (Veitch).—Similar to No. 3, pods a little longer; height 3 ft. Ready June 28.

5. *Advancer.*—Blue wrinkled pea, second early, straight, well-filled pods, dark green foliage, moderate growth, good cropper, and good flavour; height 3 ft. Ready July 7.

6. *Emerald Gem.*—Early round, well-filled pods, bright green foliage, good cropper; height 2 ft. 6 in. Ready June 28. An excellent early pea.

7. *American Wonder.*—White wrinkled, well-filled pods, dark foliage, light pods; height 1 ft. Ready July 3.

8. *McLean's Little Gem.*—Dark foliage, light pods, small, well filled, blue wrinkled; height 1 ft. 6 in. Ready July 5.

9. *Surpass William the First* (Eckford).—Inferior to William the First, pods very small; height 5 ft. Ready July 2.

10. *Special Early* (Eckford).—Very small, round pea; height 5 ft. Ready July 3.

11. *Extra Early.*—Of this no note was made, as it has no character.

12. *First Favourite.*—The four sorts, numbered 9, 10, 11, 12, were considered by committee to be worthless.

13. *Day's Early Sunrise.*—White wrinkled early pea, dark foliage, pods slightly curved, good cropper and flavour; height 3 ft. 6 in. Ready July 3.

14. *Chelsea Gem* (Veitch).—White wrinkled, light green foliage, good cropper and flavour; height 1 ft. 6 in. Ready July 4.

15. *Dickson's Favourite.*—White round, light green foliage, pods slightly curved, good bearer, flavour moderate; height 4 ft. Ready July 7.

16. *G. F. Wilson.*—Blue wrinkled, dark green foliage, vigorous growth, large light straight pods, well filled, very heavy cropper, good flavour, fine late pea; height 3 ft. 6 in. Ready July 20.

17. *Essex Rival.*—Large white round, well filled, curved pods, light green foliage, good cropper, moderate flavour; height 4 ft. 6 in. Ready July 7.

18. *Dr. McLean.*—Blue wrinkled, dark green foliage, large well-filled pods (curved), moderate flavour; height 3 ft. Ready July 3.

19.—*Gladiator.*—Blue wrinkled, dark foliage, vigorous growth, large, curved, well-filled pods, very heavy cropper, flavour moderate; height 3 ft. Ready July 15.

20. *Harrison's Glory.*—Blue wrinkled, dark foliage, small straight pods, well filled, flavour moderate; height 4 ft. Ready July 14.

21. *Hundredfold*, same as *Prizetaker.*—Blue round, dark foliage, small curved pods, well filled, flavour moderate; height 4 ft. 6 in. Ready July 15.

22. *John Bull.*—Blue wrinkled marrow, dark foliage, vigorous growth, straight well-filled pods; height 2 ft. 6 in. Good flavour. Ready July 15. Very useful pea. Heavy cropper.

23. *President Garfield* (Veitch). Awarded first-class certificate, 1886.—White wrinkled marrow, dark foliage and pods, large, straight, well-filled pods, heavy cropper, excellent flavour; height 3 ft. Ready July 3.

24. *Veitch's Perfection.*—Blue wrinkled marrow, dark foliage, light pods, large, broad, straight, well filled, immense cropper, vigorous growth, good flavour; height 3 ft. 6 in. Ready July 17.

25. *Omega.*—Large blue wrinkled marrow, very dark foliage and pods, straight, well filled, good flavour, moderate growth; height 3 ft. Ready July 17.

26. *Dr. Hogg.*—Small blue wrinkled, light foliage and pods, curved, good bearer, useful early pea; height 4 ft. Ready June 30.

27. *Culverwell's Giant Marrow.*—Large blue marrow, light foliage and pods, immense long broad pods, curved, very badly filled, heavy cropper, moderate flavour; height 5 ft. Ready July 17.

28. *Sturdy.*—Small blue wrinkled, very dark foliage and pod, small, straight, well-filled pods, heavy cropper, good flavour, fine market pea; height 3 ft. Ready July 19.

29. *Kentish Invicta.*—Blue round, light foliage, small pods, well filled, moderate cropper and flavour; height 3 ft. 6 in. Ready June 30.

30. *Unique.*—Blue wrinkled, light foliage, small, straight, well-filled pods, flavour moderate; height 1 ft. Ready June 30.

31. *Marvel.*—White wrinkled marrow, dark foliage, long well-filled pods, heavy cropper, good flavour; height 3 ft. Ready July 15.

32. *Magnet.*—White round, dark foliage, vigorous growth, very full, curved pods, heavy cropper, good flavour; height 2 ft. Good market pea. Ready July 12.

33. *Huntingdonian*, same as *Champion of England.*—Large blue wrinkled marrow, dark foliage, light pods, short, slightly curved, well filled, heavy cropper, good flavour; height 5 ft. Ready July 17.

34. *Stratagem* (Carter).—Large blue wrinkled marrow, very dark foliage and pods, large, long straight pods, well filled, heavy cropper, excellent flavour; height 2 ft. 6 in. Ready July 15.

35. *Laxton's Alpha.*—Small blue wrinkled, light foliage and pods, small, well filled, good flavour; height 4 ft. Ready July 3. A very useful dwarf pea.

36. *Fillbasket.*—Blue round, dark foliage and pods, long, narrow, curved, well filled, immense cropper, good flavour; height 3 ft. 6 in. Ready July 10. Very fine market variety, bearing so freely.

37. *Blue Scimitar.*—Large blue round, dark foliage and pods, vigorous growth, large, curved, well-filled pods, heavy cropper, good flavour; height 3 ft. 6 in. Ready July 13.

38. *King of the Marrows*—Blue marrow, dark foliage, light pods, small, straight, well-filled pods, good flavour, heavy cropper; height 5 ft. 6 in. Ready July 15.

39. *Telephone.*—Large blue wrinkled marrow, light foliage and pods, very large, long, broad, well filled, vigorous growth, heavy cropper, of excellent flavour; height 5 ft. Ready July 7.

40. *Telegraph.*—Blue round, dark foliage and pods, straight, handsome, well filled, large pods, heavy cropper; height 5 ft. Ready July 5.

41. *Criterion.*—Blue wrinkled marrow, light foliage and pods, short, straight, well filled pods, heavy cropper, good flavour; height 5 ft. 6 in. Ready July 7.

42. *British Queen.*—Large white wrinkled marrow, dark foliage, light pods, short, well-filled pods, of good flavour; height 5 ft. 6 in. Ready July 3.

43. *Ne Plus Ultra.*—Large blue wrinkled marrow, dark foliage and pods, vigorous growth, pods broad, straight, well filled, good cropper, very good flavour; height 5 ft. 6 in. Ready July 16.

44. *Champion of England*, same as *Huntingdonian.*

45. *Sharpe's Triumph.*—Large blue wrinkled marrow, dark foliage, light pods, vigorous growth, heavy cropper, very large, long curved pods, well filled, good flavour; height 3 ft. Ready July 15. Ugly pods, very uneven, indented.

46. *Laxton's Supreme.*—Blue round, light foliage and pods, curved, broad, well filled, moderate flavour; height 5 ft. Ready July 14.

47. *Sharpe's First Early.*—Small white round, very small pods like Sangster's No. 1, considered not worth growing; height 3 ft. Ready June 28.

48. *Seedling* (Lye).—Small blue round, light foliage, dark pods, very narrow, short, but well-filled pods, heavy cropper, inferior flavour; height 5 ft. 6 in. Ready July 9.

49. *Prince of Wales.*—White wrinkled marrow, dark foliage, light pods, short pods, vigorous growth; height 3 ft. Ready July 7. Good flavour.

50. *Alliance.*—White wrinkled marrow, very much like Prince of Wales, little taller.

51. *Vulcan* (Eckford).—Large blue wrinkled marrow, very dark foliage and pods, straight, long, well-filled pods, vigorous growth, good flavour; height 3 ft. Ready July 19. A very fine late pea.

52. *Minerva* (Eckford).—Large blue marrow, very much like Vulcan, taller, but similar in every other respect; height 3 ft. 6 in. July 20.

53. *Juno* (Eckford).—Large blue wrinkled marrow, deep green foliage and pods, long, broad, well-filled pods, good flavour, heavy cropper; height 3 ft Ready July 17.

54. *Fame* (Eckford). Awarded first-class certificate, 1886.—A large blue wrinkled marrow, light foliage and pods, large, broad, straight, handsome, well-filled pods, heavy cropper; height 5 ft. Ready July 12. The best of the new peas.

55. *Empress* (Eckford).—Large blue wrinkled marrow, light foliage and pods, straight, slightly pointed, good flavour and cropper; height 5 ft. Ready July 11.

56. *Rival Queen* (Witney).—Small blue wrinkled marrow, dark foliage and pods, very small, narrow, curved pods, well filled, considered not worth growing; height 5 ft. 6 in. Ready July 12.

57. *Sharpe's Triumph*, same as No. 45.

58. *Sir F. A. Millbank* (Sharpe).—Blue wrinkled marrow, light foliage, dark pods, short, straight, well filled, much like Telegraph, but smaller pods; height 5 ft. Ready July 7. Good flavour.

59. *Sir F. A. Millbank*, as supplied by Messrs. Veitch in their collection of fifty sorts, the same as No. 58.

60. *Nelson's Vanguard.*—White wrinkled marrow, dark foliage, light pods, short, straight, moderate cropper and flavour; height 3 ft. 6 in. Ready July 10.

61. *Seedling* (Oakshott).—Large blue wrinkled marrow, dark foliage, light pods, straight, large, well-filled pods, good flavour and cropper, strong grower; height 4 ft. Ready July 17.

62. *Malshanger Marrow* (Kneller).—White wrinkled, light foliage, dark pods, very short well-filled pods, heavy cropper, inferior flavour; height 5 ft. 6 in. Ready July 6.

63. *Chancellor* (Webb).—Blue wrinkled marrow, dark foliage, light pods, long, narrow, slightly curved pods, well filled, heavy cropper, moderate flavour; height 3 ft. Ready July 17.

64. *Wordsley Wonder* (Webb).—Small blue wrinkled, dark foliage and pods, very narrow, short, curved, well-filled pods, very heavy cropper, moderate flavour; height 3 ft. 6 in. Ready July 17.

65. *No.* 9 (Wildsmith).—Large blue wrinkled marrow, very dark foliage, light pods, large, broad, long, straight pods, well filled, a vigorous grower, one of the largest of the new peas, flavour good, good cropper; height 4 ft. Ready July 19.

66. *No.* 16 (Wildsmith). Awarded first-class certificate, 1886.—Large blue wrinkled marrow, very dark foliage and pods, vigorous growth, pods immense size and length, straight, well filled, good flavour, good cropper; height 4 ft. Ready July 20. A fine exhibition pea.

67. *No.* 18 (Wildsmith).—Considered by committee to be same as 66, which is No. 16 of the raiser.

68. *No.* 26 (Wildsmith).—Blue wrinkled marrow, light foliage and pods, very large, broad, long pods, very badly filled, poor flavour, fair crop, very like Culverwell's G. Marrow; height 5 ft. Ready July 16.

69. *No.* 24 (Sharpe). Awarded first-class certificate, 1886.—Very large blue wrinkled marrow, dark foliage and pods, large, straight, handsome, well-filled pods, Omega type, but much larger, very fine cropper, good flavour; height 3 ft. Ready July 17.

70. *No.* 23 (Sharpe).—Blue wrinkled marrow, much like *No.* 24, stronger grower, flavour not so good; height 3 ft. 6 in. Ready July 15.

71. *Westbank Favourite* (Horsford).—Blue wrinkled marrow, a small type of Ne Plus Ultra, pods not so large, heavy cropper, good flavour; height 5 ft 6 in. Ready July 14.

72. *Autocrat* (Veitch). First-class certificate, 1885.—Large blue wrinkled marrow, very dark foliage and pod, large, straight, well filled, handsome pods, vigorous growth, excellent flavour; height 4 ft. Ready July 20.

73. *Duke of Albany* (Eckford).—Blue wrinkled marrow, light foliage and pods, medium sized, straight, well-filled pods, heavy cropper, good flavour; height 5 ft. to 6 ft. Ready July 7. This is quite distinct from Abbott's of the same name; that is a dark-podded variety.

74. *The Baroness* (Eckford).—Large blue wrinkled marrow, light foliage and pods, large, straight, well-filled pods, vigorous grower, good cropper; height 5 ft. Ready July 7.

75. *Prodigy* (Veitch).—Deep green wrinkled marrow, light foliage, dark pods, very large, broad, curved pods, peas very large but badly filled, heavy cropper; height 5 ft. Ready July 15. A fine-looking pea.

76. *Pride of the Market.*—Blue indented, hardly wrinkled, dark foliage and pods, large, straight, handsome, well-filled pods, heavy cropper, good flavour; height 3 ft. Ready July 17.

77. *Duke of Connaught.*—Large white wrinkled marrow, light foliage and pods, large, straight, well-filled pods, good flavour, heavy cropper, a very good garden pea; height 5 ft. Ready July 7.

78. *Sensation* (Laxton). First-class certificate, 1885.—Pale blue wrinkled marrow, light foliage and pods, large, curved, well-filled pods, good flavour; height 5 ft. 6 in. Ready July 7.

79. *Cowell's Marrow* (Dickson).—Blue wrinkled marrow, light foliage and pods, short well-filled pods, good flavour; height 5 ft. Ready July 7.

80. *Sir Garnet Wolseley* (Bunyard). Sown April 10.—White wrinkled marrow, dark foliage, light pods, short, well-filled, straight pods, good flavour, moderate crop; height 3 ft. Ready July 19.

81. *Goldfinder* (Bunyard).—White wrinkled marrow, dark foliage and pods, short, straight, well-filled pods, very heavy cropper, good flavour; height 6 ft. Ready July 22.

82. *Seedling* (May).—Like British Queen, nothing at all superior.

83. *Seedling* (Chapman).—A good selection of Ne Plus Ultra.

THE HONEY MARKET AND CONSTRUCTION OF BEE HIVES.

At the second meeting of the British Bee-keepers' Association, papers on the above-named subjects were read.

Mr. D. Stewart's paper on "The Honey Market" was read by Mr. Henderson. The paper stated that when the enormous fall in the price of sugar had occurred the last blow appeared to have been struck at the British honey industry; but compensation had been found in the newer methods of bee-keeping, whereby not only was the production immensely increased, but its marketable quality vastly improved. Honey fairs had been organised throughout the country and large sales effected through their agency; but there still remained considerable quantities unsold, and the poor cottagers, who could not incur the risk and expense of sending to the shows, were too often compelled to sell at very low prices. Capitalists and traders could generally protect themselves, but the cottagers required something more than being taught how to produce. The small producer left to find his own market by hawking his honey from house to house soon found that it did not pay. To escape from this position he easily fell into the hands of travellers and middlemen, and his looked-for profit rapidly dwindled away. To meet this difficulty the establishment of a commercial company had been suggested, and the outcome of the suggestion had been the British Honey Company and other similar enterprises. But how was the producer affected by the development of the honey industry, and what had he to do to get the benefit of it? He had to be jealous for the character of the British honey market by taking care that he sent no inferior article to spoil the growing trade. Unless he were a large producer, too, he would find that he might spare himself much cost and anxiety by leaving the work of bottling and labelling to the dealers. With comb honey it was different, sections of 1lb. or 2lb. being sought for provided they were in good condition, and condition was what the producer must always aim for. The more attractive the appearance of the article for sale the more rapid and enduring would be the demand and consumption.

Mr. C. N. Abbott then read the paper on "Hive Construction." He said that on the principles of hive construction there was a great diversity of opinion, and, unfortunately, there was no standard of excellence, nor had there ever been a steady seeking for hive improvement in any special direction or on any distinct line of principle. A review of the past dozen years of competitive exhibitions and awards would show that the best hive for the time being had more often been accounted that which had had the most in it for the least money rather than that which was the greatest improvement on the previous favourite. Year by year, and many times in each year, the order of merit had varied with the judges, the locality, the selling price, and too often with the latest craze. There was no question but that frames for the convenient handling of combs were highly desirable, but whether they should be kept apart by metal ends or otherwise, or not kept apart at all, whether the frames or the sections in use were of the right size or shape, whether the right-angled form of hive was the best, whether in doubling hives it were better to put them one above the other, or to put the combs of one to the front or rear of the other were questions about which there were known differences of opinion. In all cases, however, a hive should be weatherproof and easy of manipulation; it should afford spaces for breeding and storing, which, to be economised, should be expansive and contractive and easy controllable, and there should be a ready means of feeding the bees. These conditions included nearly all the requirements of a hive for bee existence, subject, of course, to the weather and to the care and watchfulness of the bee-keeper when the seasons were unfavourable. In hive building, however, there were matters of far greater importance than the requirements of the bees themselves, and the best hive would be that which afforded the greatest facilities for their profitable cultivation.

Orange cultivation has become an important industry in New South Wales, the area so occupied being about 7,733 acres, from which were obtained in 1885 upwards of 8,749,256 dozen oranges. As many as 10,000 oranges have been obtained from individual trees. Oranges are largely exported to the neighbouring colonies, and many proprietors of orangeries who began life in a very small way have realised a fortune. The olive, caper, fig, strawberry, raspberry, gooseberry, currant, custard-apple, guava, banana, arachis nuts, almonds, passion-fruit, loquat, quince, plum, nectarine, pear, apple, and peach, as a rule thrive luxuriantly, even in the smallest gardens.

THE CARNATION AND PICOTEE.

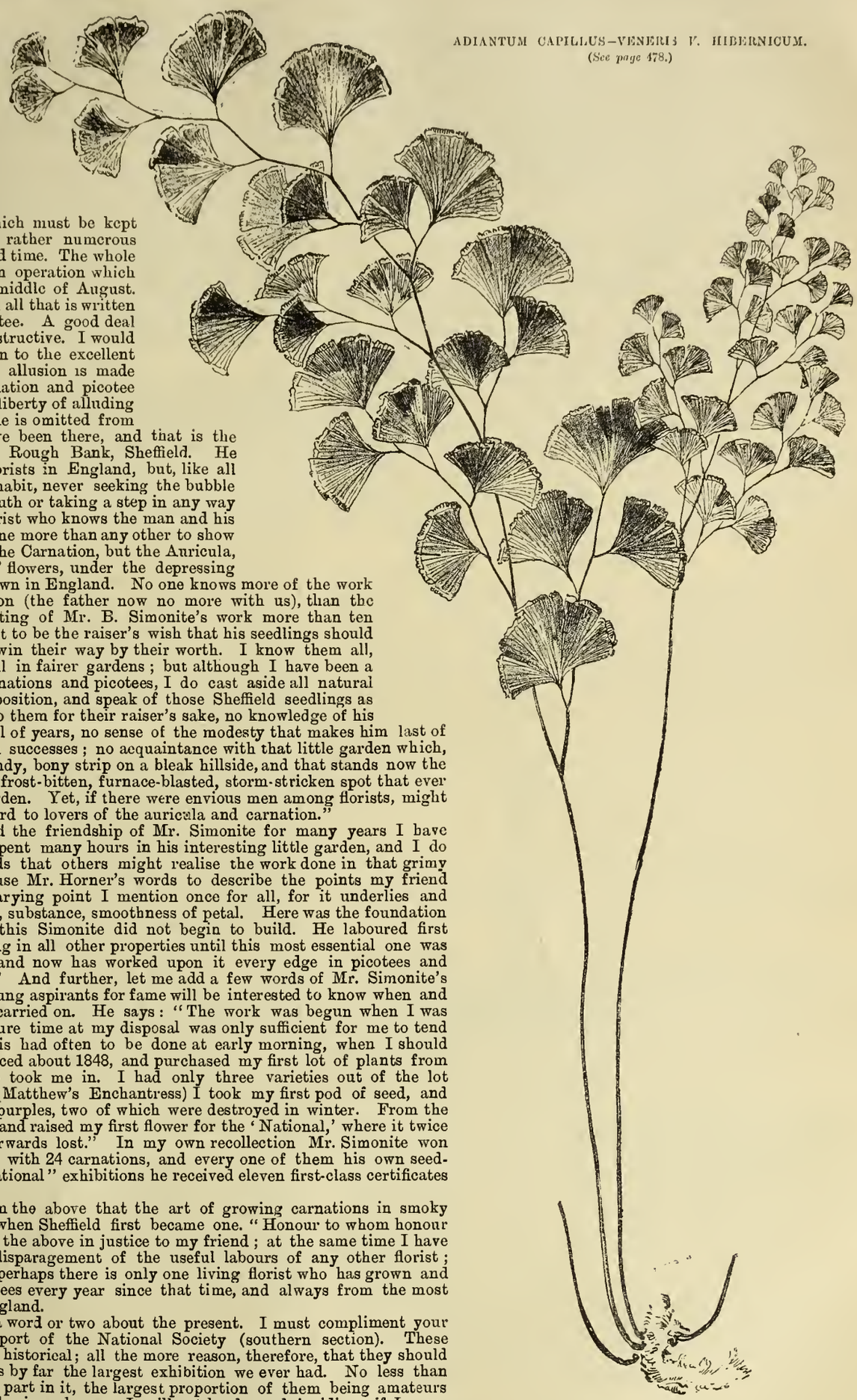
By James Douglas.

It seems difficult to discourse on any subject at this moment save and except the carnation and picotee, for these fill my mind and command continued admiration. We have not yet ceased to compare and criticise the blooms of seedlings opening for the first time, nor have we quite decided which must be kept and which destroyed of the rather numerous varieties flowered for the second time. The whole collection requires layering, an operation which must not be delayed after the middle of August. One must also find time to read all that is written about the carnation and picotee. A good deal of it is very interesting and instructive. I would like especially to draw attention to the excellent article at page 439, in which allusion is made to the great value of the carnation and picotee for town gardens. I take the liberty of alluding to this subject, because a name is omitted from that article which ought to have been there, and that is the name of Mr. B. Simonite, of Rough Bank, Sheffield. He is not only one of the best florists in England, but, like all truly great men, of retiring habit, never seeking the bubble reputation in the cannon's mouth or taking a step in any way to obtain applause. Every florist who knows the man and his work will admit that he has done more than any other to show the adaptability, not only of the Carnation, but the Auricula, Pink, Tulip, and other florists' flowers, under the depressing influence of the most smoky town in England. No one knows more of the work of the Simonites, father and son (the father now no more with us), than the Rev. F. D. Horner; and writing of Mr. B. Simonite's work more than ten years ago, he says: "I know it to be the raiser's wish that his seedlings should speak in his own silence, and win their way by their worth. I know them all, and they would be grander still in fairer gardens; but although I have been a pupil of the Simonites in carnations and picotees, I do cast aside all natural sympathies arising from that position, and speak of those Sheffield seedlings as if I had no warm attachment to them for their raiser's sake, no knowledge of his faith and patience and long toil of years, no sense of the modesty that makes him last of all florists to boast of his own successes; no acquaintance with that little garden which, forty years ago, was a wild, windy, bony strip on a bleak hillside, and that stands now the dingiest, most smoke-afflicted, frost-bitten, furnace-blasted, storm-stricken spot that ever went by the sweet name of garden. Yet, if there were envious men among florists, might this be a very Naboth's vineyard to lovers of the auricula and carnation."

Having known and valued the friendship of Mr. Simonite for many years I have visited him in his home, and spent many hours in his interesting little garden, and I do wish I could describe in words that others might realise the work done in that grimy neighbourhood. I will again use Mr. Horner's words to describe the points my friend strove to attain: "One unvarying point I mention once for all, for it underlies and runs through all, viz., breadth, substance, smoothness of petal. Here was the foundation of all. Till he had a model in this Simonite did not begin to build. He laboured first for a good form, quietly waiting in all other properties until this most essential one was secured. He obtained that, and now has worked upon it every edge in picotees and every striping in carnations." And further, let me add a few words of Mr. Simonite's own, for every one of the young aspirants for fame will be interested to know when and how the work was begun and carried on. He says: "The work was begun when I was very young, and the little leisure time at my disposal was only sufficient for me to tend and fertilise my flowers. This had often to be done at early morning, when I should have been at rest. I commenced about 1848, and purchased my first lot of plants from an unprincipled grower, who took me in. I had only three varieties out of the lot correct. From one of these (Matthew's Enchantress) I took my first pod of seed, and from this raised three light purples, two of which were destroyed in winter. From the one that survived I took seed, and raised my first flower for the 'National,' where it twice won 'Premier,' and was afterwards lost." In my own recollection Mr. Simonite won first prize at the "National" with 24 carnations, and every one of them his own seedlings. At another of the "National" exhibitions he received eleven first-class certificates for carnations and picotees.

Your readers will see from the above that the art of growing carnations in smoky towns dates back to the time when Sheffield first became one. "Honour to whom honour is due." I felt bound to pen the above in justice to my friend; at the same time I have no wish to say one word in disparagement of the useful labours of any other florist; but it is long since 1848, and perhaps there is only one living florist who has grown and exhibited carnations and picotees every year since that time, and always from the most smoke-begrimed garden in England.

Enough of the past; just a word or two about the present. I must compliment your reporter on the excellent report of the National Society (southern section). These reports are certain to become historical; all the more reason, therefore, that they should be correct and ample. It was by far the largest exhibition we ever had. No less than twenty-nine competitors took part in it, the largest proportion of them being amateurs cultivating their plants after business hours. It will not be deemed invidious if I mention the names of some of them: Mr. C. Phillips, of Earley, near Reading, who gained the first prize for six carnations; and his neighbour, Mr. T. E. Henwood, who was a good second both for carnations and picotees; Mr. T. Anstiss, who was first for picotees in the class for six; Mr. Lakin, of Oxford; Mr. Rowan, of Clapham; and Mr. Hines, of Ipswich, showed excellent blooms. I hope the subscriptions will be such this year as to admit of the prizes being extended in the small classes. I believe they are large enough as far as they go, but they ought to be extended. I have done as much as I can by precept and example to maintain the subscription list, and would now suggest to the twenty-nine competitors that besides exhibiting and subscribing themselves they would for next year obtain one more exhibitor and one more subscriber. The annual meeting will also be held in the autumn, of which due notice will be given to every subscriber. May I ask every one to attend, and if this in some cases should not be possible any suggestions forwarded to me will be placed before the meeting.



ADIANTUM CAPILLUS-VENERIS V. HIBERNICUM.
(See page 478.)

The committee have to think of two things when making up the schedule. The first is so to arrange the schedule that a good exhibition may be expected; and, second, to do the best possible for the growers who cultivate their flowers entirely with their own hands. The last issued balance-sheet shows, I think, economical management, and if the members will individually make an effort to do something the progress that has been made in the past will be more than maintained in the future. The burden ought not to be laid on the shoulders of a few willing workers while the main body stand idly looking on, not caring to help with one of their fingers, and in some cases adversely criticising the work. Those who have complaints to make I hope will try to be reasonable. Let them attend the meeting and say what they have to say at the right time and in the right place, that we may work together as with one spirit.

SHORT NOTES FOR SMALL GARDENS.

By the Vicar's Gardener.

Winter Spinach.

Where winter spinach is much in demand it is necessary to set apart a rather large space of ground for the crop. It must be remembered that it does not make much growth during the winter months, and that to make sure of a constant supply a sufficient space must be sown to meet the demand. I like to set apart a rather large bed for use after Christmas, and I do not allow a leaf to be picked from the bed during the autumn. To provide for an early winter supply I sow a few rows in some convenient spot. By adopting this plan I have the reserve bed well furnished with large, thick leaves at a time when spinach is most valuable. Spinach should be grown in deeply-stirred, well-manured ground; and for the winter supply the second or third week in August will be soon enough for making the sowing. But it must not be sown later than this if a strong plant capable of resisting the winter is to be had. In strong ground the drills should be sixteen inches apart, but in a poor soil four inches less will do. As soon as the plants are large enough they must be thinned out to a distance of six inches apart.

Winter Greens.

Now is the time to provide for a good supply of green vegetables during the winter and spring. The hardiest of all winter greens is the Green Curled Borecole, better known as Scotch Kale. I have known this to be very little injured when everything else has been killed by frost. I therefore make a point of planting it rather largely. The next hardiest subjects are the purple Sprouting broccoli and Cottagers' kale. Besides being hardy they are also very productive. To furnish greens through the late autumn months the Rosette colewort should now be planted on every available spot, as the plants do not require much room, and they quickly come into use. The kales and sprouting broccoli should be planted on fairly rich ground from eighteen inches to two feet apart each way, according to the strength of the land. The coleworts may be planted one foot apart each way. Those having good strong plants of Veitch's Autumn Giant cauliflower and some vacant ground to spare may still plant them with a fair prospect of their hearting by-and-bye, but I had better add that much depends on the weather during October and November. If we have open weather during these two months they will probably produce as large heads as the earlier planted crops. This cauliflower I have proved to be quite as hardy as Snow's Winter White broccoli, and ten times more trustworthy, for we have on several occasions had it in use until Christmas.

Parsley.

The present is the time to sow parsley seed to supply plants that will not run to seed next year. The plants will not be so large as those sown earlier for a winter supply, but they will be large enough to stand the winter, and early in the spring they will begin to grow and be in capital condition for use just as the plants from spring-sown seed are running into flower. There is no better plan to prevent any break in the supply of fine parsley than making an autumn sowing, for it is well known that old seedy plants do not furnish the large and well-curled leaves that are so highly appreciated in the kitchen. This is also the proper time to transfer parsley to frames or other structures, where it can be protected during the winter. Very good results can be obtained by planting some of the roots close to a south wall, as they are easily protected in severe weather, and the position being warmer than the open beds the plants begin to grow earlier in the spring than others more exposed. Before the demand was so great as it is now in the family I serve I used to manage very well with a few pots. Early in the month of August I used to prepare half a-dozen nine-inch pots, and put about five strong plants in each, using any ordinary soil. The pots were stood in a shady corner for a week, and then brought out in the full sun. To save watering I used to plunge the pots to their rims in the open, only examining them occasionally, and giving them water when it was wanted. I made a point of never picking a leaf from them until the middle or end of January; then I brought two pots at a time into the greenhouse, and let them remain there until the parsley grew again out of doors. By taking this course we were never without parsley in the severest of winters, because when hard frost was anticipated the pots were taken under cover.

Seed Sowing.

There are several subjects which require sowing at once. The most important, perhaps, is the cabbage, for furnishing a supply of plants that will come into use in the spring. The best sorts for small gardens are Ellam's Early and Stuart and Mein's No. 1, both of which are excellent early-hearting kinds. The seed should be sown in the first or second week in August. At the same time, a sowing of Early London and Veitch's Autumn Giant cauliflowers should be made. Seed of Brown Cos lettuce must also be sown between the beginning and the middle of August to furnish plants for spring use.

Young Carrots.

When the spinach is sown, a sowing of the Short Horn carrot may be made, for if the seed be sown about the second week in August the bed will furnish a supply of young carrots throughout the winter if the frost is not too severe. We have had them stand unharmed through 16 deg. of frost, so that they are worth a little attention, for a dish of freshly-pulled young carrots in December will always be appreciated. The man who can command a brick pit or stout frames for such subjects can of course place greater dependence on his crop; but those who have not such convenience must do the best they can without them, as I have to do in the case of supplying young carrots for the autumn and winter. Nevertheless, I sow regularly every year, and generally succeed in obtaining a supply. The seed should be sown in drills, on ground that has been well dug up, and all the hard, crude lumps broken to pieces. The seedlings will no doubt come up thicker than they ought to remain, and it will therefore be desirable to thin them out where crowded, to give those left a better chance of growing. On the approach of frost it is a good plan to throw some dry leaves over them, and a little long litter on the top, to keep the leaves from blowing away; removing the covering again in open weather. From a bed so treated we had a capital supply of carrots all through the months of April and May this year.

Watering Celery.

At the time of writing there has been just sufficient rain to keep the roots of celery moist, but we must hope, for the sake of the corn and potato crops, that we shall have dry weather soon, and then if celery is to be kept growing it will want watering. It is impossible to obtain sweet and crisp celery without it makes a quick growth. Yet the growth must not be forced by stimulating liquids. We can hardly give celery too much manure for the roots to feed upon, nor too much root moisture in dry weather; but if we would avoid having pithy celery it must not have very much liquid manure. A supply of sewage water or diluted drainage from a farmyard once a fortnight is quite often enough to secure a proper strength in the growth. Clear water may be given with advantage twice or three times a week in dry weather, and sufficient must be given to soak the soil down to the lowest roots. I find it is not a good plan to begin earthing celery too soon, as once you put earth to it there is a difficulty in giving the roots all the moisture they want. As a matter of course the earliest crops must be earthed, even if the weather is dry, but these should have a thorough soaking of water before the operation is commenced. I seriously advise the inexperienced not to use guano water for celery, for no other stimulant so soon causes pithy celery. Soapsuds may be used regularly with advantage for this as well as all other garden crops. It must be applied when quite cold.

Strawberry Beds.

No time must now be lost in having these cleared of all runners, old leaves, and weeds. Fresh runners made after this should be cut off. It is best to make a point of attending to the beds once a week for that purpose. I fancy that late-made runners must exhaust the plants more than the early ones, and for that reason I like to keep them cleared off. Young plantations will, if formed in August, continue to make runners quite late in the autumn, and it is plain that until they have formed crowns and roots the plants are not to have their energies devoted to the production of runners. Therefore the latter are better removed at frequent intervals. Those who are about to form new beds should do so without any further delay. The ground should be trenched up two feet deep, and have plenty of manure added to it. Do not fail to act on the advice given by a writer in a recent number of Gardeners' Magazine, and put some of the manure nine inches below the surface. I would like to give another word of advice, and that is, do not crowd the plants. All those which produce large fruit should be two feet apart each way; and if a few extra large fruit are required plant a portion of them thirty inches from each other. This distance gives only just enough room to attend to the plants properly. In regard to sorts, I may mention that James Veitch is the largest strawberry grown, but President and Sir Joseph Paxton are the most popular, as they thrive in a greater variety of soils than any other strawberry.

A VISION OF BEDDING VIOLAS.

The season is proving so favourable to the well-doing of the violas that wherever they can be seen growing they are fresh, bright, and singularly floriferous. One wonders—seeing how charmingly varied they are in colour, and what masses of flower they furnish—that they are not much more generally grown. Is it because the existence of suitable varieties is not known? or have they ceased to interest flower gardeners? More's the pity if the last statement is a correct one; for they have missed the use of some things that are easily managed, giving but little trouble, and which make an admirable return for the trouble their culture occasions.

A box of bunches of blooms of the leading violas recommended for bedding purposes have just come to hand from Mr. William Dean, 134, Sandwell Street, Walsall, who makes a speciality of them, and grows them largely. On opening the box one could not help being struck with the sweetness of perfume they exhale; and this, while not characteristic of all the violas grown in the present day, is undoubtedly so in the main of the varieties from Walsall. In all there were thirty varieties, and I thought that in attempting to describe them I could not do better than group them in their colours. As a matter of course, I am dealing simply with the blossoms as sent to London; but I am able to say, from personal knowledge, that the habit of growth generally is all that can be desired, a close, compact, free, and yet tufted growth, constantly being renewed and constantly throwing up fresh flowers.

Of maroon or plum-coloured shades there were the following: Cliveden Purple Compacta, maroon dashed with bright purple; good, stout, well-formed flowers, and very showy; extra fine. Queen of Violets, maroon flushed with bright violet; stout flowers of excellent shape. Cliveden Purple, purple maroon suffused with dark magenta. Queen of Purples, very bright glossy maroon, flushed with bright purple; charming in colour, and must be fine and effective. Bronze Queen, deep bronzy purple with slight margin of bright purple; stout, and of good form.

Next come the purple shaded flowers in which there is more purple and blue. They are: Archie Grant, rich bright dark purple, stout and of good form; an excellent variety. Lord Darnley, glossy black purple, very fine form and stout flowers; extra fine. And Paragon, bright purple, flowers small, but stout and very effective.

Of violet-blue shades the following: True Blue, clear bright violet-blue; good, stout, well-formed flowers; an excellent variety. Tory, bright violet-blue, a good old standard bedder. And Blue Bonnet, the truest blue viola I have yet seen; bright blue, rich dark blotches round the eye; medium-sized, stout, well-formed flowers. If the habit of this is all that can be desired then it will be difficult to beat this as a blue bedding viola.

Then comes a batch of pale mauve and lilac flowers. Foremost among these is Queen of Lilacs, bright blue-lilac lower petals, the top petals pale purple; finely formed and rather large flowers. Fairy Queen, bright pale lilac lower petals, darker top petals, yellow eye, pretty and distinct in colour, small in size, but very effective; extra good. Duchess of Albany, mauve lower petals flushed with purple, upper petals silvery or greyish lilac-blue; good form, quite distinct; extra fine. And Elegans, pale silvery lilac, slightly darker on the top petals; very pretty, distinct, and pleasing.

Then comes a group of what might be termed bicolor or magpie types, as follows: Pantaloon, maroon and purple lower petals, the upper petals margined and flaked with silvery violet; very pretty, distinct, and good. Unique, shaded purple, lower petals bright purple on the margins, top petals purple, margined with pale blue and white; distinct, and very pleasing. Mrs. Hornby, maroon purple lower petals with pale blue and white margins, the base of the upper petals deep purple with edge of silvery pale blue; very pretty. Countess of Kintore, centre of the flower shaded purple, circled with light violet and broad margin of white, especially to top and side petals; extra fine. Skylark, creamy white, with narrow margin of bright violet blue all round; very pretty and distinct. And Columbine, white lower petals, with stripes of violet and margins of pale rose purple, upper petals blush, with flakes of rosy purple. The two last-named are quite distinct in character, and make up a variety.

Of yellow-flowered violas there are the following, but it should be premised that the first three are of the type of flower of *Lutea grandiflora*, viz., Brilliant, deep golden yellow, with few dark lines round the eye, possessing great depth of colour; Bullion, deep yellow, stout, good sized flowers; and *Lutea perfecta*, a good bright yellow. The other yellows are: Queen of Spring, a most valuable bedder, bright yellow, the flowers quite free of any dark lines; extra fine. Golden Queen of Spring, one of the very best flowers, stout and of good shape, bright golden yellow; close habit and good constitution. And Ardwell Gem, primrose yellow, with slight dark lines, large flowers.

Of white varieties the collection sent includes four: the purest white, a paper instead of creamy white, is Mrs. Gray, which has at times slight flakes of paler blue on the margins, few dark lines; good form and very showy. Countess of Hopetoun, white, without a single dark line, large and good; an excellent bedder. Jeffreyanum, creamy white, slight dark lines, good form; a fine variety. And Pilrig Park, creamy white, but has rather too many dark lines to be really effective; it also comes occasionally with slight flakes of blue on the upper petals, flowers large.

There is no doubt that many failures with violas result from growing them in poor soil. I have lately seen them in the Botanic Garden at Hull, and in the Public Park, Wolverhampton, used as edgings to shrubbery borders, planted in the well-manured margins, and they were most effective. Plants that had been planted for one year had grown into large size and bloomed abundantly. It would be difficult to find anything else that could so well take the place of violas at Wolverhampton and be at the same time so showy, effective, and continuous.

Messrs. Collins Brothers and Gabriel have hit upon a capital plan of growing violas in their nursery at Hampton, Middlesex. Beds were formed for them by taking out the soil and placing at the bottom a good layer of cow dung; the soil was thrown back upon this and the violas planted. The cow dung operated to fertilise as well as to maintain a cool bottom, and aided by cooling showers the violas have done splendidly, and are masses of bloom. Heat and drought distress violas somewhat, and when they are in combination with poor soil the result is disappointing. But give them a rich cool bottom, and then they are able to rise superior to sun and drought, and amply repay the cultivator for any pains bestowed upon them. Semper Augustus.

BALLOON-TRAINED PEAR TREES.

By M. Dolivot, Mercey.

In the year 1876 you published the full text of my treatise on "The Training of Fruit Trees with Reversed Branches," the advantages of which method were set forth categorically in your issue for March 4 of that year. It will interest you to learn that I still practice the system then unfolded, and I send you drawings of a modification of the system which I have designated "balloon-training." With the drawings I enclose extract from the work of M. Fr. Philipar (Roussilon, Paris), to the effect that this method of training has special advantages, and should be known as "Taille en Ballon," to distinguish it.

Fig. 2. Fig. 1.

BALLOON-TRAINED PEAR: Fig. 1, first stage; Fig. 2, completed specimen.

The figures now sent may with propriety be added to the series you illustrated in your paper in the course of the year 1876; they differ entirely from other, and even approximate models, producing a beautiful and unique contour, and promoting early fruitfulness in an unusual degree.

The first requisite is a clear stem with two branches from the summit. A vigorous young standard pruned back may be made amenable to the treatment, but the variety must be one with flexible branches, the rigid upright growers are not suitable. By suitable training, as shown in the first figure, the two leading rods form the principal outline of the balloon.

The training of the future growth must be on the same plan, and gives much less trouble than appears, because fruit will appear early and bring the branches down almost to the lines required. When completed, the form of the tree will be as in the second figure, and if the tree is of great size, it will form a striking object, and will serve as a tent to give shelter from rain.

Trees of this kind should be formed in the places where they are to remain, and young vigorous individuals of a naturally pendent growth should be selected. All unruly growth should be suppressed early, for any irregularity will be fatal to the final completeness that is required.

For the amateur who delights in pruning and forming his trees to his own mind, the practice of reverse training may prove highly recreative, and in its results will proclaim the artist.

MAIDENHAIR FERNS.

Some time since we were favoured with fronds of a maidenhair fern from Mr. W. Cragg, of Hensingham, near Whitehaven, the characters of which came so near to those of Adiantum Farleyense, that it appeared there must have been some error in the report that they were grown in a cold house. Mr. Cragg generously forwarded further examples and particulars, the result being to establish his plant as the variety of *Adiantum capillus veneris*, known as *Magnificum*. We have not before seen so remarkable a development of this variety as in the specimen now placed at our service, and it suggests a peculiar combination of happy circumstances to ensure such a result. Mr. Cragg, in a letter on the subject, says: "The fernery in which it was grown was down to freezing point many times in the past winter, which I am quite sure none of the varieties of A. Farleyense would have survived. I sent a frond to Messrs. Stansfield, of Salé, in October, 1885, and they verified its name as Magnificum, and suggested that it came from Co. Clare, Ireland. I myself believe that it came amongst a hundred others from the Co. Clare many years ago, but has never shown such a wonderful development until last summer. I also enclose part of a plant of *A. c. v. Hibernicum*, which came from the same district; and I also enclose you fronds of A. Farleyense grown in stove temperature."

It will be seen that, as shown in black and white, the differences between this growth of Magnificum and Farleyense are few and slight. But as the actual fronds lay before us there is sufficient difference in colour and tone to suggest on the instant difference of origin. Some of the pinnules of the Irish adiantum measure an inch and a-half across, and they overlap sufficiently to give the effect of richness by augmentation of colour. Even now the pinnules of Farleyense are the largest, and they are also the lightest in colour. Messrs. Stansfield say: "Your cork pocket hits the conditions the plant likes. You will find that all the fronds with this magnificent development are sterile, or nearly so; while those in the pan are loaded with fruit."

The variety labelled *Hibernicum* is here figured from a portion of the specimen sent. It differs from *incisa* and *Footi*, which are both met with in Co. Clare, and comes near to one we have grown as *Romanus*, and was so named because obtained from the Colosseum at Rome.

ADIANTUM CAPILLUS—VENERIS *V.* MAGNIFICUM.

NOTES ON ROSES.

The rose shows of the past season have perhaps been more generally successful than for some years past, and neither the growers nor the managers of the exhibitions have had much of which they could reasonably complain, excepting perhaps those who have to grow their roses on a cold, heavy soil, and were unable to cut satisfactorily for the early gatherings. The weather during the spring and the early part of the summer was not particularly favourable to the production of blooms of exceptional size and quality, but it was not by any means so unfavourable to the growth of the trees and the development of the flowers for some time previous to the opening of the season, as some of the less sanguine of the rosarians supposed. If there were no extraordinary flowers there was a very high average throughout, and the weather in the early part of July was so favourable to the development of the blooms that at all the principal exhibitions they were staged without any trace of injury from the weather, excepting the teas at Birmingham, which were somewhat damaged by the storms experienced in the early part of the week in which the show was held. In no year during the past decade have the dark flowers been so thoroughly good, and it is a very long time since such magnificent stands of Reynolds Hole and Sultan of Zanzibar have been staged as at the exhibitions of the past season. This is all the more remarkable, as the weather was

such as is generally regarded by rosarians of experience as the most favourable to the light varieties; which also, it may be observed, were uniformly good throughout the season. The numerous stands, winning and otherwise, staged at the various exhibitions contained a considerable number of the hybrid perpetuals and teas introduced during the past two or three years, and it is satisfactory to know that of the novelties staged a considerable proportion are so promising as to well deserve the instant attention of cultivators of all classes.

In passing under review the newer roses as seen at the exhibitions I shall not burden your readers with my notes of all the novelties that came under my notice, but content myself with enumerating those which are of special excellence and likely to do good service on the exhibition stage. Referring to the hybrid perpetuals, I would first mention Mdlle. Suzanne Rodocanachi, a variety that has pleased me much on each occasion on which it was shown. It has, perhaps, been rather too long in commerce to be properly regarded as a new variety, but it is as yet very little known, and in the interest of the rosarian I shall make no excuse for now mentioning it. The flowers are large, full, and of superb form, delightfully fragrant, and of a bright rose-carmine hue. One of the best blooms staged during the season was that forming part of Messrs. Cranston's first prize seventy-two at Birmingham. Another good variety of recent introduction, which had a place in the same box, was President Senelar, which was sent out in 1883, and will probably prove one of the best of the varieties raised by Schwartz. The flowers are of average size, full, somewhat globular, and with good petal; the colour deep red, shaded fiery red, and purplish marone. Mons. Benoit Comte, which was selected from the seed bed of the raiser of the variety immediately preceding it, and sent out in the same year, is likely to prove a thoroughly useful flower, both in the garden and at a competitive gathering. It has the reputation of being sufficiently vigorous to justify its having a foremost position amongst garden roses, and the flowers when properly developed tell well in a close competition, as proved by the fine box staged at Bath, and the numerous blooms in other stands at the various exhibitions. The size of the flowers of this fine rose are rather above the average; they are very full and globular in form and with fine cupped petal, the colour is a bright poppy red, shaded with brilliant vermilion. Lord Bacon, distributed by Messrs. William Paul and Son, three years since, has been well represented at several of the leading exhibitions, and has found so much favour with rosarians that it will not fail to eventually occupy a prominent position amongst exhibition flowers. It has flowers that are large in size, globular in form, and of a rich crimson hue, shaded blackish marone. As Lord Bacon blooms freely until quite late in the season it will probably prove most useful to those who exhibit at local and other shows held in August and September. Longfellow and Madame Norman Neruda, which were introduced last year by Messrs. Paul and Son, have been well shown in the course of the season, and promise to take a foremost position amongst the other good varieties that have originated at Cheshunt. The first mentioned may be likened to that grand rose Charles Lefebvre, from which it differs in bearing flowers in which the violet hue is more decidedly developed. The second of the two has flowers very similar in build to Beauty of Waltham, and will probably attain to as high a degree of popularity as that justly famous variety. The colour is a very pleasing shade of reddish carmine. Dr. Dor, raised by Liabaud, and sent out in 1884, has been presented in very good condition on two or three occasions, and promises to prove a very useful red rose.

ADIANTUM FARLEYENSE.

Very little has yet been heard of Eclair, which was raised by Lacharme, but unless I am much mistaken it will prove one of the best of the roses of 1883. It is of the same type as Charles Lefebvre, and the flowers are of average size and good form, and the colour is brilliant vermilion-red. Grandeur of Cheshunt is perhaps most worthy

of attention as a garden rose, but well-developed flowers tell well in a box. The blooms are of average size and a brilliant crimson hue. Joseph Metral and Madame Massicault, respectively raised by Liabaud and Schwartz, although not very startling either as regards form or colour, have well-built flowers, and must not be overlooked, as they are likely to prove of considerable service. The first mentioned has flowers of a bright garnet-red, and the colour of the other is a pleasing shade of flesh-pink, reminding one by its colour of Baroness Rothschild. Very similar in colouring to Madame Massicault is Baronne Nathaniel de Rothschild—a very fine globular flower, which will not fail to enhance Pernet's reputation as a raiser. Alphonse Soupert, which was raised by Lacharme, and distributed in 1883, has already made considerable headway, and will, there can hardly be any doubt, eventually take a leading position amongst exhibition roses. The flowers are of superb quality, and are produced in advance of the majority of the hybrid perpetuals.

There are two other hybrid perpetuals which must be mentioned, and these are Grand Mogul, a superb dark rose, raised by Messrs. William Paul and Son, and recently described in these pages, and Clara Cochet, which bids fair to be the very best of the roses received from France last autumn. For this we are indebted to M. Lacharme, whose repute as a raiser will certainly be enhanced by it. The flowers are of grand form, and have a superb petal; the colour is brilliant rose.

The newer teas that have occupied a prominent position at the exhibitions are comparatively few in number. The finest of them are Hon. Edith Gifford, Etendard de Jeanne d'Arc, Grace Darling, and Sunset, all of which are distinct in character and colour, and of good form

Viator.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory Climbers should be thinned out where the growth has become so crowded as to deprive the plants in the beds and on the stages of the light necessary to their health. But any general cutting back must not take place for some time hence, for, if in a healthy state, the climbers will contribute very materially to the attractions of the structure until the autumn. Where plants that have comparatively little space for their roots are showing signs of exhaustion, top dress with some suitable fertiliser, or supply occasionally with liquid manure.

Pelargoniums that have been cut down and made new shoots an inch long must be repotted. Do not shake the earth off so as to destroy the ball entirely, but remove the outside, and trim in the roots slightly so as to get them into small pots. Those potted a month ago now want a shift. Take care to have a sound compost; the use of light sandy composts has much to do with the long joints and weak flower-stems we notice at the shows.

Plant Houses of all kinds should now undergo a thorough purification, and the necessary repairs should be completed that all may be dry and sweet before the fires are lighted and shelves are crowded with plants. The neglect of these matters until the drenching autumn rains occur is common enough and bad enough. At the present time any kind of plants may be set out of doors if needful, or room may be found for them in other houses while repairs proceed; but in a few weeks hence it will not be so safe to turn the things out, nor will there be so much room to spare in houses only partially occupied.

STOVE AND ORCHID HOUSE.

Orchids require peculiar care now to secure a perfect ripening of the growth of the season and to prepare them for their winter rest. A general reduction must be made in the supply of moisture, and a general increase must be allowed of solar light. The cultivator will of course guard against any extreme in drying up or exposing to sunshine; a certain amount of moisture will be required even when the plants are perfectly at rest, and some more than others. It is certain that at this time of year shading should be used quite sparingly, and a condition of repose should be encouraged by a reduction of the temperature and the amount of moisture.

Stove Plants requiring a shift should be repotted at once, as the season will soon be too far advanced for them to derive full advantage from the increase of root room.

FORCING AND ORCHARD HOUSES.

Peach Trees that were forced early should now be as fully exposed to the atmospheric influences as possible. This not only tends to a complete maturation of the wood, but prevents the trees becoming infested with red spider, the attacks of which pest cause an artificial and premature ripening of the wood, which is not to be desired. Now is a good time to whitewash back walls, and when the lights are off to repair and paint them.

Pines swelling their fruit to have frequent supplies of liquid manure and abundance of atmospheric moisture. Young plants to stand the winter, for fruiting early next year, had best be removed from those swelling fruit, so as to keep them drier and more freely ventilated.

Vines.—The leaves of vines that have been forced early too often become brown and shrivelled at this time of the year through increase of red spider. Some cultivators comfort themselves with the idea that the wood will be better ripened in consequence, but that is a great mistake. Insect pests do no good, direct or indirect, and the careful cultivator will do his best to get rid of them by means of sulphur and such other remedies as are constantly recommended. It is always a proof of bad management when the leaves of vines decay prematurely.

FLOWER GARDEN AND PLEASURE GROUNDS.

Beddders can only be kept in good trim by constant attention. Remove seed-trusses, yellow leaves, and rank growths. Put in cuttings of whatever is required, and pot off those already rooted. Shut them up for a week, and then expose them to all weathers till the time to house them.

Carnations and Picotees not yet layered must be attended to, or it will be impossible for them to be well rooted before winter.

Evergreen Shrubs may soon be moved with the best chance of success, whether they be large or small. As to evergreens, such as hollies, aucubas, laurels, Portugal laurels, laurestinus, arbor-vitæs, &c., they have all done growing, their wood is hard, and if lifted soon will make fresh roots while the surface soil is in the best condition of warmth and moisture of any period of the year. Where new gardens are being laid out the gain of three months upon the ordinary planting season is no small matter, as it enables the planter to complete the chief operations at a time when the men enjoy the work, and the proprietor is enabled also to enjoy the result, and all to the advantage of the plants. Layers and cuttings of hardy shrubs put down now, and left till April or May, may then be removed and planted in nursery rows with good roots.

Hollyhocks to be propagated from cuttings as soon as they can be obtained from the stool. Cuttings from the stems are of no use to amateurs, and should never be used by anybody except to increase kinds in great demand.

Propagation of Herbaceous Border Flowers is an important matter just now, as there is still time to obtain a good growth of many subjects before winter, but no time to spare. Seeds sown immediately of any and every kind of hardy perennial that can be grown from seed will have a fair chance, though for many subjects an early date of sowing is to be preferred, but as regards the safety of seedling plants during winter, the *late-sown* plants, generally speaking, are the most hardy; those that are fat and strong are the first to perish during very severe weather. Subjects that may be increased by cuttings may also be dealt with now, and frames may be filled with but little labour, and the certainty of a good return. Such things as the perennial species of Iberis, Arabis, Centranthus, Dianthus, &c., may be multiplied without frames by selecting a sunny spot, and there making a bed of sandy soil for them; and having put in the cuttings, shade them with mats or evergreen boughs for a few weeks, after which they will take care of themselves.

FRUIT GARDEN AND ORCHARD.

Strawberries.—Now is the best time in the whole year to make new beds, to ensure good crops next year. If rooted runners are plentiful, take the best only, and destroy all the weak ones; but with any varieties it is thought desirable to propagate to the utmost sort the runners as to sizes, planting the forwardest and strongest in beds to bear, and the late weaker ones in separate beds for stocks; these latter will not probably bear till the year after next, and then will be strong plants. Strawberries to fruit in pots next year ought by this time to be strong and in need of a shift. The soil should be strong loam, well chopped over with rotten dung, and the plants be potted firm.

Wall Trees.—The principal duty of the cultivator now is to assist the trees in any way that may be possible in the ripening of the wood. Where the walls are covered with glass the lights should be wholly removed where practicable; where the walls are overloaded with wood, some of it should be thinned out; where nailing has been neglected it should be completed at once.

KITCHEN GARDEN AND FRAME GROUND.

Cabbage.—If the ground is not already overstocked sow a few pinches of Rosette Colewort, Enfield Market, and Red Dutch.

Celery.—Where the plants are forming stools instead of distinct hearts it is advisable to remove with a knife the outside suckers, so as to reduce the growth, if possible, to one set of stems. This stooling is the result of free growth after the plant has received a check. Stooled roots are unfit for the table.

Cucumbers for winter fruiting must be reared at once, and cuttings are preferable to seed, as the plants have a shorter habit and are more fruitful. Take very small cuttings from the ends of newly-made shoots, pot them singly in small sixties, and shut up over a gentle bottom heat. A heap of grass-mowings mixed with dry litter will afford enough heat to start them and keep them going till new beds are made up. One half dry litter and the other half mowings shaken over will produce a steady, lasting heat, of great value at this time of year, when it is not generally convenient or desirable to have manure wheeled in.

Endive.—A last sowing may be made to stand the winter. All the sorts are good, but Picpus and Round-leaved Batavian are the best.

Lettuce may still be sown, and plantations may be made from seed-beds sown last month.

Onions ought now to be ripening off, and if the weather continues dry no doubt they will ripen well. Where they appear gross, and not inclined to ripen, sweep them over with a long stick or rake handle, so as to lay down the tops. Generally speaking, they fall over of themselves, and the bulbs ripen without assistance. Sow for winter and spring supplies.

Potatoes to be taken up as soon as ripe, or even before if there is a likelihood of their being injured by disease. Let them be well dried in the sun and stored away at once. Never pit them damp, but, on the other hand, never keep them lying about on the ground exposed to daylight beyond a reasonable time.

Spinach for winter may be sown. In some places spinach sown in the middle of September goes through the winter well; but on cold soils, and in all eastern and northern districts, the winter spinach should be sown before the 20th of August.

Tomatoes.—Let these ripen on the vines if possible, and if any fruits are shaded by leaves remove the leaves to admit the sun to them. In case of bad weather, and no chance of the fruit ripening out of doors, cut off the branches with the fruit attached, and lay them on a top shelf in a sunny greenhouse, and the fruit will ripen perfectly. If no sunny greenhouse, a window in a warm kitchen will do.

Winter Greens lately planted are now doing well. Breadths that were planted early and close now require every other plant to be removed, and there will be room for this now that summer crops are being cleared off. For every kind of green to be used between this time and Christmas manure liberally, but for those to stand till spring do not manure at all.

Vegetables in Season include Kidney Beans, Runner Beans, Peas, Cauliflowers, Cabbages, Globe Artichokes, Oracle, and the leaves of the Spinach Beet as a substitute for Spinach; Lettuces, Cucumbers, Marrows, Onions, Mushrooms, Turnips, and Tomatoes.

QUEEN OF BEVERAGES.—Refreshing the weary, stimulating the inactive, soothing the invalid, cheering the social.—Pure Tea alone, by its intrinsic and excellent qualities, "pales the fire" of all other drinks.—*A cup of good tea* is always welcome, as proved by the fact that 6,000,000 (six million) packets of Horniman's Pure Tea are sold every year by 4,000 duly appointed Agents, *Chemists and Confectioners*. The description, if Black, Green, or Mixed Tea, also the retail price, is plainly printed on each packet, with the Importers' warranty that their tea is free from all adulteration. Some unscrupulous persons copy the labels, wrappers, &c., used by Messrs. Horniman, purchasers are therefore cautioned to avoid *spurious imitations*. See advertisements in all papers, and at the railway stations.—[Advt.]

REPORTS OF FRUIT CROPS, 1886.

STRAWBERRIES.

Ayrshire.—Crops generally light, but of average quality.

Mr. William Priest, Eglinton Gardens, Irvine, writes: We have only an average crop, but the fruit is of good quality. Strawberries here require heavily manuring, soil being very light and sandy.

Mr. D. Murray, Culzean Castle, reports: In some gardens in this district the crops are good, in others almost a failure.

Banff.—Variable both in quantity and quality, and on the whole below the average.

Mr. G. Berry, Cullen House, describes the early varieties as very good, and late varieties as below the average.

Bedfordshire.—Crop generally light, but fruit of good quality.

Mr. C. Turner, Cranfield Court, Newport Pagnell, writes: The crop is light with us; the plants bloomed very well and the flowers set, but owing to the sudden heat and the drought the fruits did not swell freely as they would have done had rain come sooner.

Berkshire.—Considerably below the average in all parts of the county.

Mr. Thomas Jones, Royal Gardens, Frogmore, observes: Some sorts very good, of others only a medium crop; but there is nothing like such a crop as last year.

Mr. J. Tegg, Bearwood, Wokingham, reports: With us strawberries have been most disappointing this season. The plants produced strong trusses of flowers, but when they were in bloom we had several severe morning frosts, which were followed by hot, sunny weather. The result was a very unsatisfactory set. The sorts we cultivate are Keen's Seedling, Sir Charles Napier, President, and British Queen. The last-mentioned surpasses all others here, and I rely on it for our main supply; for flavour no sort can approach it.

Berwickshire.—Considerably below the average.

Mr. W. Fowler, Mertoun House, St. Boswell's, remarks: On high grounds strawberries are very good, but low down, near the river Tweed, they were much injured by frosts, and the crop very thin.

Buckinghamshire.—Light in all districts and below the average in size.

Mr. J. Smith, Mentmore, Leighton Buzzard, states: Only a moderate crop, as the weather was too dry when the fruit was swelling. Our favourite sorts are Crown Prince, Duke of Edinburgh, Bothwell Bank Seedling, Keen's Seedling, Elton Pine, and Oxonian.

Mr. G. T. Miles, Wycombe Abbey, describes the late kinds as very thin indeed.

Cambridgeshire.—Variable, but on the whole fairly good.

Mr. Frank Orchard, Abington Hall, reports: A heavy crop, of good size and flavour.

Cardiganshire.—Good in some places, but on the whole rather below the average.

Mr. F. Peppitt, Castle Malgwyn, Boncath, describes the crop as "over an average and very good;" and Mr. James Veasey, Gaggerddan Hall, as "under an average; early sorts fairly good, but late kinds dried up."

Carmarthenshire.—Below the average, both in the quantity and quality.

Mr. James Ticehurst, Dynowr Castle, observes: We have a very light crop, owing to dry weather at the end of June and the early part of July.

Cavan.—A good average crop.

Mr. David M. Burns remarks: Vicomtesse H. de Thury, McMahon, and Wonderful produced very fine fruit, but the season was short owing to the dry, parching weather.

Cheshire.—Rather variable, but on the whole below the average.

Mr. W. Whitaker, Crewe Hall, Crewe, writes: We have had an average crop, but the fruit was not so large or fine as usual, although the ground was well watered during dry weather. The sorts which produced the best crop are Sir Joseph Paxton, President, and Sir Harry.

Mr. G. Tandy, Norton Priory, Runcorn, observes: All under an average except James Veitch, which has done well.

Clackmannanshire.—A full average crop in most districts.

Mr. Thomas Ormiston, Alloa Park, reports: A very fine crop. Garibaldi, Duke of Edinburgh, President, James Veitch, and Sir Joseph Paxton are the best varieties here.

Cork.—A fairly good crop throughout the county.

Mr. W. H. Swanborough, Doneraile Court, states: We have had a very good crop of finely-flavoured and full-sized fruit. Marshal McMahon is our favourite sort for general crop.

Cumberland.—Generally light, and on the whole not equal to the crop of last year.

Mr. T. R. Cuckney, Eden Hall, Penrith, says: Vicomtesse H. de Thury, President, and Sir Joseph Paxton were the best this season. The first-mentioned is the best for general purposes. The season was very short owing to continuous heavy rains when the fruit was ripening.

Derbyshire.—Variable, both in quantity and quality.

Mr. O. Thomas, Chatsworth, describes the crop as under an average; and Mr. W. Sherwin, Osmaston Manor, Ashbourn, reports "a heavy crop with us."

Derry.—Below the average both in quantity and quality.

Mr. J. Adams, Cappagh, says: Very poor in this district.

Devonshire.—Rather variable, and on the whole below the average.

Mr. J. Garland, Killerton, writes: The bloom was very fine and the crops were good, but the latter suffered from the dry weather. Our earliest are Black Prince and Sabreur, which are followed by Sir Joseph Paxton, James Veitch, Bicton Pine, Crimson Queen, and Elton, the two last-mentioned being our latest.

Mr. D. C. Powell Powderham Castle, remarks: Strawberries commenced well, but suffered from drought. Late varieties are very bad indeed.

Dorsetshire.—A very poor crop throughout the county.

Mr. W. G. Pragnell, Sherborne Castle, states: Almost a failure, owing to drought.

Mr. D. Williams, Canford Manor, observes: Under average, the fruit small, as the plants suffered much from the drought. The following varieties do best with us in favourable seasons, namely, Keen's Seedling, President, Pioneer, Aromatic, Sir Joseph Paxton, and Sir Charles Napier.

Mr. P. Davidson, Iwerne Minster, Blandford, remarks: There was a promise of a good crop until the fruit was dried up by sun and drought about our second gathering. We grow a considerable number of varieties. Keen's Seedling, President, Sir Charles Napier, and Dr. Hogg are good established varieties. I have several varieties under trial, which I will report on when I have been able to determine their relative merits.

Down.—A moderately good crop in most districts.

Mr. J. Taylor, Mount Stowart, Newtownards, describes President, Comte de Paris, and Duke of Edinburgh as doing well with him.

Dublin.—Crop generally satisfactory.

Mr. R. McKenna, Chief Secretary's Lodge, Phœnix Park, writes: Crop heavier than for five years past. We grow President, Sir Joseph Paxton, Oxonian, Sir Harry, and Vicomtesse Hericart de Thury. Strange to say, the old Keen's Seedling will not fruit satisfactorily here, either forced or in the open beds, and consequently we have had to discard it.

Durham.—A full average, both in bulk and quality.

Mr. J. Hunter, Lambton Castle, reports: Strawberries have done well, and the varieties are all giving good crops of fair-sized fruit, quite equal to former years.

East Lothian.—Very variable; in some districts crop very poor, whilst in others highly satisfactory.

Mr. R. P. Brotherston, Tyninghame, writes: Here the crop is very large, but in some gardens it is a failure more or less complete. We grow Grove End Scarlet, Vicomtesse Hericart de Thury, President, and Elton Pine. In orchards, Keen's Seedling, Moffat's Duke of Edinburgh, and Elton Pine are the sorts mostly grown. The finer kinds, such as Dr. Hogg and Loxford Hall Seedling, do not ripen freely, and such kinds as James Veitch and Lucas are in many seasons too soft to be of any use.

Essex.—Crop light, but the quality fairly good.

Mr. Walter Dance, Gosfield Hall, Halstead, reports: Under average, but quality good. Sir Joseph Paxton, Duke of Edinburgh, Mr. Powell, Frogmore Pine, and British Queen are all good with us.

Mr. H. Eldridge, Chesterford Park, Saffron Walden, observes: Crop very poor, and there is a very general complaint of the fruit having been dried up.

Mr. John Green, Warlies Park, Waltham Abbey, describes the crop as very fair, and President as being the best.

Fifeshire.—Fairly good in some places, but light in others.

Mr. E. Tate, Balcarres, says: Plentiful; fruit small, but very good in quality.

Mr. Robert Gossip, Crawford Priory, remarks: Early varieties produced a poor crop, the weather being dry when they were swelling. Late sorts good, Elton especially so.

Forfarshire.—Generally light, and not particularly high in quality.

Mr. M. C. Dowall describes the crop as below the average.

Galway.—Crop rather heavy in most districts.

Mr. J. McKinnon, Kylemore Gardens, says: There is a heavy crop of strawberries, but the fruit is rather deficient in flavour, owing to the wet weather we have had in the West during the past three weeks.

Glamorganshire.—An average crop in most districts.

Mr. J. Muir, Margam Park, Port Talbot, writes: Black Prince, Keen's Seedling, and James Veitch are our favourite sorts, and they have all produced full crops; better, in fact, than we have had for a year or two.

Gloucestershire.—Somewhat partial, but generally light.

Mr. T. B. Wilson, Alscot Park, remarks: A fair crop, but fruit very small, owing to the hot and dry weather when it was swelling.

Mr. Thomas Shingles, Tortworth Court, observes: Strawberries not so satisfactory as one might have expected, owing to the very hot, dry weather we had in June.

Hampshire.—Variable, and on the whole light.

Mr. W. Wildsmith, Heckfield Place, reports: Strawberries very good, but the excessive heat and drought made the fruiting season a short one. Our best kinds are Vicomtesse H. de Thury and President.

Herefordshire.—In some districts remarkably good, in others decidedly poor.

Mr. W. Coleman, Eastnor Castle, Ledbury, writes: Our crops have been abundant, and late varieties, including Elton, Oxonian, and Dr. Hogg, are excellent. Vicomtesse H. de Thury, our best early, has done well, and is one of the best for standing dry or wet weather. It is heavy, a good cropper, parts easily from the plant, and its firm flesh and fine colour well fit it for preserving. I grow on the three years' system, on deeply trenched land, and give each plant half a cubic foot of fresh loam at the time of planting.

Hertfordshire.—Crop light, but fruit of fairly good quality.

Mr. R. F. Sawford, Danesbury, Welwyn, observes: A bad crop, as the plants suffered severely from drought.

Huntingdonshire.—Crop below the average, although good gatherings have been obtained in some places.

Mr. T. Cowburn, Kimbolton Castle, reports: Strawberries fairly good with me; but generally a failure owing to the great and sudden change to hot and dry weather immediately after June 31, and neglect in watering.

Kildare.—Generally an average crop both in quantity and quality.

Mr. E. Knowlden, Castle Maynooth, remarks: A two-year-old plot, containing James Veitch, Bothwell Bank, Prolific, President, Vicomtesse H. de Thury, and Black Prince, was very satisfactory; but older plantations were a mass of flowers, but gave very little fruit.

Kent.—Crop generally light, and of poor quality.

Kincardineshire.—Crop abundant, and the fruit of good qual

King's County.—A full average crop.

Mr. J. Roberts, Charleville Forest, writes: Strawberries have produced a fine and heavy crop. They do well here, although our soil is by no means heavy, nor very deep. It is on the limestone formation. British Queen is our best, and Keen's Seedling our earliest. We have it on south border, twelve years planted, as early as any strawberry we can put against it. We grow about a dozen sorts, and I do not mean to grow again some of the latest new sorts, as with us they have failed.

Lanarkshire.—Above the average in quantity, and generally good in quality.

Lancashire.—Crops good in most districts.

Mr. G. Middleton, Rainford Hall, St. Helen's, says: Heavy crops of all varieties, excepting British Queen.

Mr. A. Jamieson, Haigh Hall, Wigan, remarks: Fruit abundant, but rather under an average in size.

Leicestershire.—An average crop in most districts.

Mr. W. Ingram, Belvoir, writes: Fruit affected by drought, but a fair crop, and the season was prolonged by opportune showers. British Queen and Frogmore Late Pine still good at the end of July.

Lincolnshire.—Partial, and, as a whole, below the average.

Longford.—Goods crops in most districts.

Mr. J. Rafferty, Castle Forbes, reports: A fine crop; I gathered baskets full of fine berries, of which the average weight was 1 oz., but heavy, cold rains cut the season very short.

Mayo.—Rather below the average, the plants having, in many districts, suffered from the dry weather.

Middlesex.—Below the average in bulk, and not particularly good in flavour.

Mr. J. Woodbridge, Sion House, remarks: Strawberries have been rather scarce. Some kinds, notably Keen's Seedling and Sir Joseph Paxton, did not produce any trusses, although the plants were strong and healthy. President has produced the best crop. As a rule this year all plantations three years old and upwards have been a partial failure. Younger beds have been more satisfactory, but those made last year have borne the best.

R. D. Blackmore, Esq., Teddington, writes: Strawberries produced a fair crop, but ceased suddenly through drought.

Mr. John Gough, Harefield Court, Uxbridge, says: Very poor, the fruit refused to swell; seemed to scald worse after watering them than without. Fruit small, with no flavour.

Midlothian.—Rather under an average.

Monmouthshire.—An average crop in most districts.

Mr. Thomas Coomber, the Hendre, Monmouth, reports: Abundant and fine, but the season, owing to the hot weather, was of short duration. We are, however, still gathering Loxford Hall Seedling in fair condition.

Montgomeryshire.—Crop a full average in bulk and quality.

Mr. W. Lee, Powis Castle, Welshpool, says: Strawberries abundant, very fine, and good in flavour.

Moraysiire.—Somewhat below an average.

Mr. J. Clark, Brodie Castle, observes: The sorts grown here are Black Prince, Rivers's Eliza, President, Sir Joseph Paxton, Cambrian Prince, Elton Pine. The best croppers this season were President and Cambrian Prince.

Nottinghamshire.—Generally light, and poor in quality.

Mr. R. Carr, Welbeck Abbey, writes: Neither plentiful nor fine. Much of the fruit was deformed, owing, no doubt, to the cold, harsh weather experienced when they were in flower.

Norfolk.—Rather partial, but probably on the whole an average.

Mr. W. Allan, Gunton Park, says: Strawberries set the heaviest crop I ever remember. No flowers were injured by frost, mulched the beds early, as the dry weather had every appearance of continuing, and watered heavily before putting on the nets, the result being most satisfactory. After the recent heavy rains the best flavoured kinds (July 27) are Unser Fritz, Countess, British Queen. Other kinds still bearing are Sir Charles Napier, Amateur, and John Powell.

Northamptonshire.—Crops generally good, and fruit of fine quality.

Mr. E. Cole, Althorp Park, describes the fruit as being very fine.

Northumberland.—Rather variable, but on the whole below the average.

Mr. G. Harris, Alnwick Castle, reports: Strawberries are under an average, but where sheltered very fine. Amongst the varieties that have stood the test of time the best are Keen's Seedling, Garibaldi, Sir Joseph Paxton, President, and McMahon. The last-mentioned is the best late variety we have. We gather it until August 20. It is one of the best for market.

Perthshire.—Crop light in most districts, but in some the fruit is plentiful and good.

Mr. J. Robb, Drummond Castle, writes: Strawberries looked exceedingly well in the early part of the season, but the dry weather hurt them, and we have a poor crop.

Queen's County.—A fair average, both in quantity and quality.

Radnorshire.—Crop light, and the fruit generally below the average in size.

Renfrewshire.—Fruit fairly abundant, and of good quality.

Roxburghshire.—Considerably below the average, both in bulk and quality.

Mr. Henry Scott, The Gardens, Abbotsford, remarks; The crop is the poorest I have seen gathered in this district, and many gardeners say their experience is the same as mine. The Duke of Edinburgh has done best with us this year. As a rule it is the reverse of this.

Shropshire.—An average crop in most districts.

Mr. Louden, The Quinta, Chirk, observes: We have had a good crop, of fine quality, but this season has been shorter than in most seasons, owing to the dry weather. Elton Pine is coming in at present, and the rain will help to prolong the season.

Mr. N. Sherwood, Chetwynd Park, Newport, says: A good average crop, but fruit small, owing to the dry weather when it was swelling.

Sligo.—Crop generally poor.

Somerset.—Crops light in most districts, and the season short.

Mr. Iggulden, Marston House, Frome, writes: The plants bloomed abundantly, and the principal portion of the early flowers escaped injury from frost; but the long spell of dry and hot weather, however, quite spoilt the crop. Where plenty of water could be given to the beds fairly good pickings resulted, and early heavy mulchings of manure also saved some of the beds. Vicomtesse H. de Thury stood the drought remarkably well, and Sir Joseph Paxton, President, and British Queen have done good service.

Mr. J. C. Clarke, Cothelston House, Taunton, reports: A fair crop; but soon over owing to heat and drought; Black Prince, Vicomtesse Hericart de Thury, President, and Sir Joseph Paxton are our most trustworthy sorts.

Staffordshire.—Crops generally good.

Mr. Z. Stevens, Trentham Hall, describes the crop as very heavy; and Mr. Green, Enville Hall, writes: An average crop, but the fruit small.

Stirlingshire.—Variable, but on the whole nearly an average.

Mr. Maurice Fitzgerald, Dunmore House, Stirling, remarks: Very good crop. Keen's Seedling and James Veitch do very well here.

Suffolk.—Partial, but on the whole below the average.

Mr. D. T. Fish, Hardwicke House, Bury St. Edmund's, observes: Strawberries good, but the plants in some places suffered from drought, and the season was short.

Mr. J. Mill, Rendlesham Hall, writes: Much under average in many places. The plants have suffered severely from the dry season. Vicomtesse H. de Thury, President, Sir Charles Napier, James Veitch, and British Queen are good sorts, and succeed well.

Surrey.—Considerably below the average throughout the county.

Mr. O. Goldsmith, Polesden, Dorking, says: Crop failed owing to the very drying winds; the fruit dried up without ripening.

Mr. C. Orchard, The Leigh, Coombe Warren, reports: Under average; La Grosse Sucree, James Veitch, and Sir Joseph Paxton are the best varieties with us this season. The plants were much weakened by the excessive drought to which they were subjected last autumn, and the fruit produced in the spring was much crippled by the heat and drought. Runners are more plentiful and much stronger than they were last year.

Mr. J. Burden, Bagshot House, observes: Good crop, but fruit small.

Sussex.—Variable; in some districts very poor, in others fairly good.

Mr. E. Burbery, Arundel Castle, states that in one or two places in the neighbourhood the crop has been a total failure.

Mr. Sidney Ford, Leonardslee, Horsham, writes: With me the crop has been very large of Keen's Seedling, Princess Alice Maude, Vicomtesse H. de Thury, Sir C. Napier, President, and Alpha; very good indeed of Empress Eugenie, Kitley's Goliath, British Queen, Sir Joseph Paxton, and James Veitch.

Tyrone.—A fairly good crop, but fruit hardly so large as usual.

Warwickshire.—Rather partial, but on the whole rather poor.

Mr. J. Rodger, Charlcote Park, reports: A fair crop, but not so good as usual; Sir Joseph Paxton has been a complete failure, Vicomtesse H. de Thury, and President were the best with us.

Mr. T. Beddard, Stoneleigh Abbey, Kenilworth, observes Under an average generally, and in this district a moderate crop.

Westmoreland.—Crops generally light, and the fruit rather small.

Mr. F. Clarke, Lowther Castle, reports: Below the average, and the fruit not so fine as in previous years, owing to the hot, dry weather which prevailed for some time after the fruit was set. Our best sorts this season were Garibaldi, President, and Duke of Edinburgh. These have carried average crops of very fair fruit.

Mr. A. Lodge, Brougham Hall, Penrith, remarks: Strawberries just moderate on some soils; pretty good in deeply, well-cultivated land; Vicomtesse H. de Thury is the most certain cropper.

West Lothian.—Light generally, and not remarkable for high quality.

Mr. J. Moyes, Dalmeny Park, says: We have a good crop of Elton Pine, but early sorts were very poor.

Wigtonshire.—A very good crop in most districts.

Wiltshire.—A fair average, and the fruit of good quality.

Mr. H. W. Ward, Longford Castle, Salisbury, says: We have had an average crop, and the fruit has been good. The ground having been heavily mulched with rotten dung late in the autumn, the moisture was retained about the roots of the plants, which are growing in a light soil resting on a gravelly subsoil. The mulch also preserved the roots from the effects of severe frost as well as from the excessive drought.

Mr. C. Warden, Clarendon Park, reports: These, with us, have been a grand crop, and the fruit finer than that of last year, as our beds were caught last year by frost just as the plants were coming into bloom. This season the fruit has been all that could be desired, large and abundant. The varieties on which we chiefly rely are Vicomtesse H. de Thury and Sir Joseph Paxton.

Worcestershire.—Crop generally light, but fairly good in some places.

Mr. W. Crump, Madresfield Court, Malvern, states: An immense crop, but season of short duration. President and British Queen have proved the best. Oxonian, usually our best late sort, has proved a failure; I have seen it good in cooler situations this season.

Mr. Walter Child, Croome Court, Severn-Stoke, remarks: These promised a most abundant yield, but from the excessive heat and drought the fruit was speedily over; the fruit also was smaller than usual.

Yorkshire.—Rather light in a few places, but on the whole a full average.

Mr. J. Allsop, Dalton Hall, Hull, writes: Above the average, but owing to the want of rain at the proper time about one half the crop did not swell up, and those fruits that did were not so well finished as usual. This is not surprising, considering that the rainfall for June was ·56 in., and for the first fortnight of July ·34. Thus in six weeks only nine-tenths of an inch fell.

Mr. J. B. Riddell, Duncombe Park, Helmsley, states: Strawberries are fairly good, but the protracted drought between the time of setting and ripening did much to diminish the quantity; Vicomtesse H. de Thury is our best cropper.

Mr. George Morrison, Newburgh Priory, Easingwold, reports: Plentiful and good; fine fruit of James Veitch and Vicomtesse H. de Thury.

CHERRIES.

Ayrshire.—Moderately good crops in most districts.

Mr. W. Priest, Eglinton, Irvine, states: Cherries very good, particularly the Morello.

Mr. Murray, Culzean Castle, remarks: A very light crop; Morello about half a crop.

Banff.—Considerably below the average on all sides.

Mr. G. Berry, Cullen House, describes the crop as the worst he has known in the district for ten years.

Bedfordshire.—Crops good throughout the county.

Mr. C. Turner, Cranfield Court, reports: Early cherries have been plentiful, and there is a good show of Morellos on north wall.

Berkshire.—Fruit abundant and good on all sides.

Mr. T. Jones, Royal Gardens, Frogmore, writes: A most abundant crop, some trees overloaded. Morello very good. I never knew trees keep so clean as this year.

Berwickshire. Partial, but on the whole light.

Mr. W. Fowler, Mortoun House, St. Boswell's, remarks: On southern and western aspects on walls a fair crop, but on eastern aspects there was no fruit whatever, owing probably to the cold wet weather experienced when the trees were in bloom.

Buckinghamshire.—Good crops throughout the county.

Mr. G. T. Miles, Wycombe Abbey, writes: Cherries very abundant, and the fruit not much damaged this year by cracking. Growers will do well to note the fine late varieties exhibited by Messrs. T. Rivers and Son at the second of the two meetings of R.H.S.

Cambridgeshire.—An average crop in most districts.

Cardiganshire.—A heavy crop of excellent fruit.

Mr. J. Veaney, Gagerddan Hall, Aberystwith, observes: We have a good crop of May Duke and Morello, which do best in this district.

Carmarthenshire.—An average crop in most districts.

Cavan.—Crops generally good.

Mr. D. Burns, Farnham, Cavan, remarks: Very heavy crops of May Duke; Morello and Kentish plentiful, but fruit small.

Cheshire.—An average crop throughout the county.

Mr. W. Whitaker, Crewe Hall, reports: Good average crop, but many fruit fell off during the hot, dry weather; Morellos are very abundant.

Mr. George Tandy, Norton Priory, Runcorn, Cheshire, reports: Black and White Bigarreau very good; Morello a fair crop.

Clackmannanshire.—A full average crop on all sides.

Mr. T. Ormiston, Alloa Park, says: Cherries generally very good, and May Duke excellent.

Cork.—Very partial, and on the whole below the average.

Cumberland.—Crop very light in most districts.

Derbyshire.—Variable; in some places heavy, in others very light.

Derry.—Crop generally good.

Devonshire.—Rather light in a few places, but on the whole good.

Mr. D. C. Powell, Powderham Castle, writes: May Duke and other early varieties did well; Morello suffered during the stoning period, and not quite half a crop.

Mr. J. Garland, Killerton Hall, says: A good crop, and the trees clean and free from blight.

Dorsetshire.—An abundance of Morellos, but other varieties rather thin.

Mr. Pragnell, Sherborne Castle, remarks: There is an excellent crop of Morellos, but other sorts do not succeed here.

Mr. P. Davidson, Iwerne Minster, Blandford, says: Fair crop of most varieties, especially Morello; trees not so much infested with aphis as for several years past.

Down.—Somewhat below the average.

Dublin.—Crops of most kinds fairly good.

Mr. R. McKenna, Chief Secretary's Lodge, Phœnix Park, reports: Morello has produced a very fine crop, May Duke fairly good, as are Black Hearts, both on the walls and as standards.

Dumbartonshire.—Large in bulk and good in quality.

Durham.—Crop a full average in most districts.

Mr. J. Hunter, Lambton Castle, writes: We have a fairly good crop, and the trees on the walls are very clean. I find Morellos do best as pyramids, and produce heavier and finer crops of fruit than when trained to a north wall.

East Lothian.—Crops generally good.

Mr. R. P. Brotherstone, Tyningham, remarks: Morello is the only kind that always produces a good crop. In this district the crops are heavy.

Essex.—A moderate crop, and in no district particularly light.

Mr. Dance, Gosfield Hall, Halstead, says: Cherries very good, both on walls and standards.

Mr. H. Eldridge, Chesterford Park, remarks: Morellos fair, other sorts plentiful.

Fifeshire.—A fair average crop.

Forfarshire.—An average crop of excellent quality.

Glamorganshire.—Crop a full average, both in the quantity and the quality of the fruit.

Mr. J. Muir, Margam Park, Port Talbot, observes: Morellos always do well here, and have again produced a good crop. May Duke is another sure fruiting variety.

Galway.—An average crop of fairly good fruit.

Gloucestershire.—An excellent crop throughout the county.

Mr. T. B. Wilson, Alscot Park, describes the trees as being particularly healthy, and free from fly.

Hampshire.—Good crops of most kinds; Morellos very plentiful.

Herefordshire.—Generally speaking, an average crop.

Mr. W. Coleman, Eastnor Castle, Ledbury, writes: Cherries of all kinds on walls and in orchards set immense crops and promised well until the hot, dry weather which prevailed through June overtook them; the fruit then dropped freely, and, apparently through lack of moisture, that remaining was small and deficient in sugar and flavour. May Dukes on north wall improved after the rain came, and that fine cherry Bigarreau Napoleon is excellent. Morellos are small, and old trees are pale in the leaf, and have an unsatisfactory appearance.

Hertfordshire.—Over an average in quantity, and of good quality.

Huntingdonshire.—Crop abundant and good.

Kent.—Crop exceptionally large, and the fruit of high quality.

Mr. George Bunyard, Old Nurseries, Maidstone, writes: The cherry crop has been the largest for years, and owing to the dry, hot weather they have been put on the market in fine condition. The Kent Red or Tart cherries are bearing profusely; and Morellos, both in the open and on walls, are good.

Kildare.—Rather unequal, but generally an average crop.

Mr. E. Knowlden, Carton, Maynooth, remarks: Early cherries, a fair crop; Morellos abundant, but the fruit is not swelling very well.

Kincardineshire.—Crop a complete failure.

King's County.—Fruit abundant, and of good quality.

Mr. J. Roberts, Charlville Forest, writes: Cherries have produced an extra heavy crop. May Duke and Archduke do well here on west walls, and as standards and pyramids. The Bigarreaus, White Hearts, and some large-fruited kinds and gross growers, the fruit of which is extra fine when the trees do well, have done better this year than I have seen them for years. They have made fine wood, which is clean and free from that terrible enemy, the black-fly. We have some of the sorts on a north wall, and they are doing remarkably well.

Lanarkshire.—Generally below the average.

Lancashire.—Crops heavy and good in all the districts.

Mr. F. Harrison, Knowsley Hall, Prescot, writes: Cherries have done well on the whole. Morellos never miss. The damp soil and climate seem to suit them. If I wanted only three cherry trees I should plant one each of May Duke, Governor Wood, and Morello.

Leicestershire.—Crop fairly good throughout the county.

Mr. W. Ingram, Belvoir Castle, observes: Fair average crop. May Duke and Bigarreau are healthy and growing vigorously. Morellos much blighted in the early part of the season.

Lincolnshire.—A fairly good crop throughout the county.

Mr. J. Frisby, Hainton Hall, observes: May Duke and Morello have both produced excellent crops.

Longford.—Crop generally fairly good.

Mr. J. Rafferty, Castle Forbes, reports: Cherries are only grown on walls about here, but they have produced a good crop. Morellos are unsatisfactory this year.

Mayo.—A moderate crop of fairly good fruit.

Middlesex.—A heavy crop in all parts of the county.

R. D. Blackmore, Esq., Teddington, writes: Cherries plentiful, but small.

Mr. J. Woodbridge, Sion House, Brentford, reports: Dessert kinds have been abundant and very good. Morellos will be plentiful, although many of the fruits dropped at the time of stoning.

Mr. J. Gough, Harefield Grove, Uxbridge, remarks: Heavy crops of all kinds in this neighbourhood.

Monmouthshire.—Rather abundant, and generally of excellent quality.

Mr. T. Coomber, The Hendre, Monmouth, says: Early kinds are plentiful, and Morellos are good. The soil in this neighbourhood is rather too heavy and cold for these fruits.

Montgomery.—Somewhat partial, and on the whole rather below the average.

Mr. W. Lee, Powis Castle, Welshpool, remarks: Early sorts were plentiful, but Morellos are under an average.

Morayshire.—Fairly good in most districts.

Midlothian.—Fruit rather abundant and of excellent quality.

Mr. G. MacKinnon, Melville Castle, describes the crop as an average one, and the fruit of good quality.

Norfolk.—Rather plentiful, but on the whole below the average in size.

Mr. W. Allan, Gunton Park, writes: Dessert kinds on walls are very good where the crop has been saved from the long drought with the help of the watering pot. Bigarreau, Bigarreau Napoleon, Elton, Black Tartarian, and Black Heart are all first-rate.

Northamptonshire.—Generally an average crop; Morellos thin in a few places.

Northumberland.—A full crop, and the fruit of excellent quality.

Mr. G. Harris, Alnwick Castle, reports: May Duke has produced a good crop, as it generally does; Morello about half a crop; Black Tartarian is splendid here, but we seldom obtain more than half a crop, but, notwithstanding this, it is well worth cultivating where it is so highly esteemed as here.

Nottinghamshire.—Rather light in some places, particularly Morellos.

Mr. S. A. Woods, Osberton Hall, Worksop, remarks: Dessert cherries are a fair crop, but Morellos are very thin, as a large proportion of the fruit dropped during the stoning period.

Mr. R. Carr, Welbeck Abbey, says: Both Morellos and dessert varieties appeared to set a good crop, but only the Morellos will come to maturity.

Perthshire.—An excellent crop in all districts.

Mr. J. Robb, Drummond Castle, remarks: A good crop of May Duke and Morellos, but the trees were, during the earlier stages, much in want of rain to swell the fruit, which is later than usual.

Mr. J. Brown, Abercairney, Creiff, states: A good average of both sweet varieties and Morellos.

Queen's County.—An average crop of good fruit.

Renfrewshire.—Rather variable, but on the whole very good.

Mr. J. Bell, Erskine House, Bishopton, describes the dessert varieties as an average and Morellos as very good.

Roxburghshire.—Fairly plentiful, the best crops being on sheltered walls.

Shropshire.—A full average crop of excellent fruit.

Sligo.—Exceptionally thin.

Somerset.—Heavy crops, especially of Morellos.

Mr. Iggulden, Marston House, Frome, reports: We have had a capital lot of cherries, and the quality has been good in spite of the heavy crops. Elton, Governor Wood, Bigarreau, and Black Tartarian are our best dessert sorts; the last-mentioned, in addition to other good qualities, keeping well. Morellos are abundant, but hardly so fine as usual.

Staffordshire.—An abundance of excellent fruit in all districts.

Stirling.—Variable; light in some places, heavy in others; Morellos productive in most districts.

Suffolk.—Dessert varieties and Morellos plentiful in most districts, but the fruit rather below the average in size.

Surrey.—Excellent crops of the majority of the varieties in all parts of the county.

Sussex.—Rather variable; but, on the whole, a full average.

Mr. C. Burbery, Arundel Castle, reports: Cherries under average, excepting Morellos, which are very good.

Mr. S. Ford, Leonardslee, Horsham, says: A very heavy crop of all kinds in this district.

Tyrone.—Decidedly below the average.

Mr. A. Dickson, Barons Court, describes the crop as very thin, especially Morellos.

Warwickshire.—Crop a full average, and the fruit generally of high quality.

Westmoreland.—Somewhat below the average.

Mr. F. Clarke, Lowther Castle, says; May Duke and Morello have produced an average crop; but other varieties are very thin.

Mr. A. Lodge, Brougham Hall, Penrith, remarks: We had a good show of bloom, but the crop is light.

West Lothian.—Both dessert varieties and Morellos rather light.

Wigtonshire.—Fruit plentiful and good.

Mr. A. Fowler, Castle Kennedy, describes the crop as exceptionally good.

Wiltshire.—Crops heavy, and the fruit very fine.

Mr. C. Warden, Clarendon Park, Salisbury, remarks: An abundant crop, especially of Black Tartarian, May Duke, Elton, and Morello. The last-mentioned is now swelling up its fruit very fast, which promises to be of large size.

Mr. H. W. Ward, Longford Castle, writes: May Duke, Cleveland, and Black Tartarian have been plentiful and good. Morellos have produced an enormous crop, and the trees are perfectly free from the black fly consequent on their having been syringed with tobacco water, the strength being one quart of tobacco juice to two gallons of clear water. The trees were syringed immediately the fly made its appearance.

Worcestershire.—A heavy crop throughout the county of both dessert and culinary varieties, but in some places the fruit has been rather small.

Mr. Austen, Witley Court, Stourport, says: Enormous crops, but fruit small; no blight.

Mr. W. Crump, Madresfield Court, Malvern, observes: We have had good crops, but the fruit has been rather inferior in quality, being small, and with very little flesh. The Bigarreau section has been best. Morellos are plentiful, and of fair quality.

Mr. W. Child, Croom Court, Severn-Stoke, writes: A heavy crop, particularly Morellos. The Bigarreaus carried a heavier crop than we have had for several years past; the trees also have been quite free from the attacks of brown fly, which generally is such a troublesome pest.

Yorkshire.—Variable, but on the whole a fair average.

Mr. J. Allsop, Dalton Hall, Hull, reports: A heavy crop, and the trees healthy and free from aphis.

Mr. J. B. Riddell, Duncombe Park, says: Morello a heavy crop, May Duke fair.

Mr. F. Nicholas, Upleatham, describes the crop as a failure.

Mr. G. Morrison, Newburgh Priory, Easingwold, remarks: Crop light, but the fruit is very good.

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, August 10.

Exhibition of Begonias, Fuchsias, &c.

The first of the two August meetings of R.H.S., which was held on Tuesday, was not less satisfactory than the previous gatherings of the season, and the large display of plants, flowers, and vegetables formed an important addition to the many other attractions now provided for visitors to South Kensington. Prizes were on this occasion offered for begonias, fuchsias, gloxinias, asters, and vegetables, and in each of the classes the competition was very severe. The competitive collections were supplemented by numerous miscellaneous contributions of so great an importance as to very materially enhance the interest and attractiveness of the exhibition.

Begonias were exceptionally fine, and the group staged by Messrs. John Laing and Co., Forest Hill, in the class for a collection of unlimited extent was probably the finest that has yet been contributed to a public exhibition. It comprised upwards of one hundred and fifty splendidly-flowered specimens, representing the finest of the many good varieties raised and distributed by the firm, and a considerable number of seedlings now flowering for the first time. The first prize was awarded to the firm. There was a sharp contest for the prizes in the amateurs' class for nine, and the premier award was made in favour of Mr. A. Newell, gardener to Sir E. Saunders, Wimbledon, who had medium-sized specimens, remarkable alike for their splendid development and the large size and high quality of the flowers. Mr. W. Monk, gardener to W. N. Cheeseman, Esq., The Hall, Dulwich, was second with neat, well-flowered examples; and Mr. Hill, gardener to H. Little, Esq., The Barons, Twickenham, was third with a well-finished group. Mr. Buss, gardener to A. S. Price, Esq., Parkside House, Ewell, also exhibited well in the class, his plants being large and well finished.

Fuchsias were presented in better condition than they have been shown at South Kensington for some years past. Mr. Buss was first with dwarf, very fresh, and densely-flowered specimens. Mr. J. Lambert, gardener to H. W. Segelcke, Esq., Herne Hill, was second with large, well-furnished standards; and Mr. Cook, South Kensington, was third.

Asters were well represented for so early in the season. For twelve incurved or reflexed Mr. Buss was first with large and well-finished blooms of an excellent strain of chrysanthemum flowered. Mr. Morgan, gardener to Major Scott, Wray Park, Reigate, was second with good incurved flowers; and Mr. Clarke, Balham, was third with an excellent stand. In competition for the prizes for twelve quilled blooms, Mr. W. Archer, gardener to Mrs. Gibson, Saffron Walden, was first with a fine stand of flowers; and Mr. Morgan was a good second.

Gloxinias, although not of exceptional excellence, were creditable to the skill of the respective exhibitors, and produced a pleasing display. Mr. Lambert was first, Mr. Waite second, and Mr. Monk third.

Messrs. E. Webb and Sons' Prizes for vegetables were contested with much spirit, and the several collections formed a very interesting feature. Mr. C. J. Waite, Glenhurst, Esher, was first with a collection distinguished by the excellence of the produce and the taste evinced in the arrangement; Mr. T. A. Beckett, Coles Hatch Farm, Penn, was second, with an excellent collection; and Mr. Buss was third with produce representing cultural skill of a high order.

Hollyhocks were staged in such large numbers and superb condition as to cause considerable excitement amongst those present who take an interest in them. Mr. James Blundell, nurseryman, West Dulwich, exhibited several stands of grandly-developed blooms of new and old varieties. Amongst the several varieties, each of which was represented by three blooms, were Surprise, cream-tinted rose, a finely-formed flower of a very pleasing shade of colour; Rosalie, bright rose, a distinct and effective variety; Dr. Ray, blush, with rose-coloured centre, distinct and attractive; Mandarin, sulphur-tinted rose, very large, and exceedingly beautiful; Rubini, brilliant carmine, very effective; Mrs. Anstie, blush-tinted rose, an exquisitely-coloured flower; Monarch, deep crimson, large and fine; Virginie, pure white; Prince of Wales, rich rose-carmine, a well built and effectively-coloured flower; Contrast, a finely-formed flower of a light salmon-rose hue; Rubens, deep crimson, a large flower with high centre and remarkable for its finish; John Laing, bright crimson; and Sbirley Hibberd, Primrose Gem, and Princess of Wales, three superb varieties raised by the exhibitor, on which certificates of the first-class were conferred. Messrs. Webb and Brand, Saffron Walden, exhibited three stands of exceedingly well-developed blooms, which included Crimson Queen, a superb crimson flower, on which a first-class certificate was conferred; Sunrise, carmine-pink; Regalia, pink; Golden Drop, canary-yellow; Cygnet, white; and Alfred Salter, deep carmine. Mr. Alfred Chater, The Nurseries, Cambridge, exhibited a dozen fine flowers, from which one was selected as worthy of a name and first-class certificate.

Cut Roses were represented by two very large and exceptionally fine collections, one of which was shown by Messrs. William Paul and Son, Waltham Cross, and the other by Messrs. Paul and Son, Cheshunt. The blooms in both collections were remarkable for their freshness and high quality, and far in advance of the roses usually exhibited in August.

Hardy Flowers included extensive and exceedingly beautiful collections from Mr. T. S. Ware, Tottenham, Messrs. Paul and Son, and Messrs. Barr and Son, which produced a rich display of colour and proved highly attractive to the general body of visitors.

Gladioli were shown in grand style by Messrs. Kelway and Son, Langport, who surpassed themselves on this occasion. The collection consisted of about one hundred and fifty superbly-developed spikes, representing the best of the Langport varieties.

Floral Committee.

Present: G. F. Wilson, Esq. (in the chair), Dr. Masters, Major Lendy, and Messrs. J. Laing, Henry Cannell, H. Herbst, Shirley Hibberd, J. Douglas, H. Ballantine, C. Noble, J. Dominy, H. M. Pollett, J. O'Brien, E. Hill, H. Turner, J. Walker, and A. Perry.

Messrs. J. Carter and Co., High Holborn, exhibited flowers of their Emperor petunias and Challenger balsams, both of which are now so generally known for their great excellence. Messrs. Vilmorin-Andrieux and Co., Paris, submitted cut blooms of balsams, zinnias, gaillardias, and petunias, and plants of a very dwarf strain of asters. The New Plant Company, Colchester, exhibited a plant of Valotta magnifica, a distinct form, distinguished by the large size of the flowers. New begonias were submitted by Mr. Hodges, Chislehurst, H. Little, Esq., and Mr. Owen, Maidenhead, the last mentioned staging a very beautiful variety, which had a certificate conferred upon it.

From Messrs. H. Low and Co., Upper Clapton, came a nicely-flowered example of the brilliantly coloured Beaufortia splendens, and a vote of thanks was accorded the firm. R. J. Measures, Esq., Cambridge Lodge, Camberwell, exhibited an attractive group of orchids, in which a very fine specimen of Aerides odorata was conspicuous. Mr. Barlow, Stamford Hill, submitted a yellow ground picotee under the designation of Franklin Barlow, which is remarkable for its freedom of flowering and attractive colouring. Mr. W. Ball sent Cattleya Schofieldiana, Impatiens Hawkeri, and Cienkowskia Kirki, a very attractive stove plant with pleasing rose-coloured flowers. Messrs. E. H. Krelage and Son, Haarlem, exhibited seven new hardy gladioli which have not as yet been named, and the only reference we can therefore make to them is to say that they all possess much beauty, and will probably be regarded with much favour by cultivators.

Verbenas were represented by an exceptionally fine stand of flowers from Messrs. H. Cannell and Sons. The collection comprised about forty of the best varieties in cultivation, and as the trusses were in each case in a high state of development the effect produced was very striking. The firm exhibited also several good stands of cut flowers of single and double begonias.

Fruit Committee.

Present: Dr. Hogg in the chair, and Messrs. Harrison Weir, John Woodbridge, W. Warren, C. Ross, G. T. Miles, J. Ellam, G. Norman, P. Crowley, C. Silverlock, R. D. Blackmore, G. Bunyard, J. Smith, and G. Goldsmith.

Messrs. G. Bunyard and Co., Old Nurseries, Maidstone, exhibited good fruit of Mr. Gladstone, Red Joaneting, and Tetofsky apples. The last-mentioned is an early American variety of good quality. Messrs. J. Carter and Co. exhibited fruit of Blenheim Orange tomato, an orange-coloured variety, evidently possessing considerable merit. The South Australian Commission exhibited samples of several preserved fruits, but with the exception of the Quince marmalade, which was of high quality, they were all decidedly indifferent. Messrs. Vilmorin-Andrieux and Co. contributed a collection of endives, comprising eight kinds. Mr. T. S. Ware sent fruiting specimens of Elæagnus edulis. Mr. Barlow, Stamford Hill, submitted excellent fruit of Hathaway's Excelsior tomato, and Mr. Condle, Springfield, Ulverston, sent good dishes of Royal George and Noblesse peaches.

Novelties.

The new plants and flowers submitted were more than usually numerous, and the following first-class certificates were granted:—

To Mr. James Blundell, Martell Road, West Dulwich, for the undermentioned Hollyhocks:—

Primrose Gem.—A large, well built, and highly-finished flower of a bright primrose-yellow.

Shirley Hibberd.—Rich carmine-red; a large flower, of splendid form.

Princess of Wales.—A full-sized flower, perfect in form and finish; colour bright salmon-pink.

Mr. Alfred Chater, The Nurseries, Cambridge, for

Hollyhock Revival.—A large flower, remarkable for its fulness and high finish; colour cream yellow, suffused rose.

To Messrs. Webb and Brand, Saffron Walden, for

Hollyhock Crimson Queen.—A remarkably fine flower, of large size and high finish; colour rich crimson.

Messrs. Vilmorin-Andrieux and Co., Paris, for

Dianthus (Chinensis) Black Prince.—A dwarf-growing form, producing in great profusion comparatively large flowers of a rich blackish crimson.

Zinnia Dwarf Striped.—An excellent though coarse strain, dwarf in growth, and producing remarkably double and finely-formed flowers, attractively striped crimson and purple.

To Mr. R. Owen, Nurseries, Maidenhead, for

Begonia Imperial.—A magnificent variety, with very large and finely-formed semi-double flowers of a rich rose-magenta hue; the flowers have two distinct whorls of petals, one within the other, the inner petals being about two-thirds the size of those forming the outer whorl. The habit is very neat, and the flowers have perfectly erect stalks.

To Mr. George Miles, Victoria Nursery, Dyke Road, Brighton, for

Chrysanthemum Mrs. Burrell.—An extremely useful variety for the embellishment of the conservatory and flower garden during the current and following months; the flowers large, reflexed, and of a soft yellow colour shading to primrose-yellow; probably a sport from Madame C. Desgranges.

To Mr. C. Turner, Slough, for

Picotee Duchess.—A very beautiful fancy variety; the flowers very large and full, the ground pure white, and the petals heavily edged and striped bright rose-red.

To Mr. W. Bull, King's Road, Chelsea, for

Miltonia spectabilis bicolor.—A very distinct and beautiful variety of this well-known species; the flowers of average size; the sepals greenish white, the labellum pure white with large purple blotch at the base.

To Mr. E. Benary, Erfurt, Germany, for

Aster Dark Scarlet.—An excellent type belonging to the pæony-flowered section, dwarf in growth, and producing a profusion of medium-sized flowers of a rich sanguineous crimson hue.

To Mr. J. Douglas, Great Gearies, Ilford, for the undermentioned yellow ground picotees.

Annie Douglas.—A superb variety, the flowers large and of fine form, the ground rich cream colour, the petals edged bright red.

Almira.—A beautiful flower of a bright citron-yellow colour, the petals occasionally marked with red.

To the Royal Horticultural Society for

Fuchsia triphylla.—An old and very distinct species, neat in growth and producing a profusion of brilliant orange-scarlet flowers.

To Mr. J. W. Phillips, Lumton Road Nursery, Coventry, for

Adiantum cuneatum Phillipsi.—A variety of this useful old species apparently identical with the form certificated by the committee at the September meeting, 1881, as Adiantum cuneatum Oweni. It has the general character of A. cuneatum, but the fronds are taller and lighter in appearance, and is likely to prove more valuable both for decorative purposes and specimen culture.

To Messrs. Kelway and Son, Langport, for the following Gladioli:—

Clarence.—A very distinct variety, of high quality; the flowers are of large size and fine form; the colour brownish red, flaked with purplish crimson.

Lord Salisbury.—Spike long and massive; flowers of fine form; colour orange-scarlet, flaked red at the edges of the petal.

Sir Michael Hicks Beach.—A remarkably beautiful variety, of high quality, the spike large, the flowers of superb form; the colour bright pink.

Sir P. Cunliffe Owen.—A remarkably distinct variety, the flowers of average size and fine shape; the colour pale salmon, with bright yellow centre.

To Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for

Dahlia Squire Gammie.—A handsome single variety, the flowers of medium size and circular in form, the colour bright purple with marone blotch at the base of each floret.

BECKTON HORTICULTURAL SOCIETY.

The horticultural exhibition held at Beckton the other day was especially interesting, and greatly surprised those who have some knowledge of the district, but are not acquainted with what has been done of late years in the development of a taste for the cultivation of flowers and vegetables, more especially amongst the employés at the Beckton Gas Works, who alone were allowed to compete for the prizes on this occasion. These works, it may be useful to state, are situate at the most easterly point of East London, and are within a short distance of the outfall of the London sewage. The neighbourhood is supposed to be a most unsavoury one, and a notion is prevalent that vegetation has been driven away from it by the flaming retorts, huge gasometers, large fleets of coal-laden ships, and the enormous accumulations of vitrified material. But these are mistakes which may well be corrected. We are apt to form conclusions on hearsay evidence, and to be the victims of delusions that ocular demonstration alone will dispel. As a matter of fact, the atmosphere of the district is surprisingly pure, considering that the gasworks are so large as to provide employment for 4,000 men now and 5,000 in winter, and manufacture 17,000,000 cubic feet in every twenty-four hours. The announcement of an exhibition of fruits, flowers, and vegetables being held at the gasworks, and the competitions being confined to the employés at the works, was one likely to provoke a smile, as to the uninitiated it was the last place in which one would expect such an exhibition to be held.

The manager of the works, Mr. Frederick Beale, is a man of indomitable resolution and an ardent horticulturist, cultivating flowers and vegetables with great success in his own garden, and encouraging their culture by the men employed under him. In this also he has been very successful. A large number of excellent cottages have been erected by the Gas Light and Coke Company, attached to which are well-kept gardens, redolent with the perfume of beautiful flowers in rude health. There is really no smell of gas in the place, nor the faintest suspicion of sewage from the outfall. The second exhibition was promoted by Mr. Beale and an energetic committee, their combined efforts being crowned with success. The vegetables were very fine indeed, no less than nine exhibitors taking part in the competition for the prizes for collections which filled a table nearly the length of the hall. Charles Mitchell gained the first prize in this class with an excellent collection; J. Savage, E. Dredge, and S. Bow, all of Beckton, closely followed behind. Mitchell's potatoes, for which he gained a first prize, would have done credit to a London exhibition. S. Bow had very fine French beans; and the scarlet runner beans from W. Elliot, Beckton, were equally good. J. Pearce stood first for broad beans with capital Windsors. That excellent exhibition variety, the Seville Long-pod, was not represented. B. Tomlinson had the highest position for excellent Horn carrots, and he would easily have beaten S. Bow with parsnips if he had not bruised them considerably in the process of digging them out of the ground. It would take up too much space to write of the excellent onions, cabbages, cucumbers, vegetable marrows, cauliflowers, celery, beet, &c., besides a large miscellaneous collection, of decided merit, from Mr. Beale's own garden.

There were plenty of beautiful wild flowers, and R. Forsey put up a better collection than one sometimes sees at exhibitions in the rural districts of Surrey. Here were also some beautiful pot plants, comprising tuberous and ornamental-leaved begonias, liliums, fuchsias, and a beautiful example of the variegated Lady Plymouth geranium. The best pot plant in the exhibition, besides the large collection sent by Mr. Beale, was a lovely plant of Lilium auratum, with four perfect flowers. It gained the first prize for John Green. S. Bow was easily first for a foliage plant with a well-grown specimen of Begonia rex. John Luxford was first for three plants, with nice, healthy, tuberous begonias in flower. Fruit was not plentiful, but John Wadham had a dish of excellent gooseberries, which showed what might be done in the way of fruit growing. Pears succeed, but apples do not.

An interval of seven years has intervened between this and the last exhibition. It certainly ought not to be so; there is ample material to make a good annual display. A wealthy company like this would find it to their interest to provide ample funds to start the society on a prosperous career. With a small annual contribution it might be in time self-supporting. Funds contributed for such a purpose would do far more material and permanent good than giving very much larger sums for annual "ontings."

WOODSIDE HORTICULTURAL SOCIETY'S SHOW.

The annual exhibition of this society was held in the Town Hall, Woodside (near Aberdeen), on Saturday, 7th inst. The exhibition, which was open to the parishes of Oldmachar and Newhills, was in every way as successful as in former years. True, the number of entries was less than those of last year, the entries this year being 627, while last year they numbered 756, but the quality of the exhibits fully made up for the deficiency in the numbers. There was only one division this year for professionals and amateurs, instead of forming two divisions as they did last year, and the second division was for the working classes. In the first division the amateurs held their own with the professionals, and to one not acquainted with the points which go to form a good flower not much difference could be noticed, the strength of stem and abundance of blossom in this class being admirable. There were some beautiful tree ferns, pelargoniums, geraniums, fuchsias, petunias, lycopods, begonias, myrtles, &c., exhibited. For pot plants Mr. S. Maitland carried off the principal prizes, having premier position for greenhouse and Cape heath ferns, pelargoniums, tricolor geraniums, and various other flowers. Among the other prizewinners in this section were Messrs. J. Menzie, D. Fraser, and John Ajnle. The division also comprised cut flowers, fruit, and vegetables. The section for cut flowers was a capital display, and comprised some beautiful rose blooms, single cut trusses of zonal geraniums, double geraniums, stocks, pansies, dahlias, asters, &c. In cut flowers Mr. Maitland again distinguished himself, taking a number of first prizes. The vegetables in both divisions were a highly creditable display. In fruit the raspberries, blackberries, strawberries, gooseberries were in point of size and extent of maturity exceedingly fine. The division for the working classes was highly interesting, and reflected much credit on the exhibitors. The arrangements for the show, which was quite a success, were carried out by a large and enthusiastic committee, who are to be congratulated for the success of the efforts made.

WITNEY HORTICULTURAL SOCIETY, August 10.

The eighteenth annual exhibition of the West Oxon Society took place on the above date, the weather in the forenoon being sufficiently moist to damp the spirits of the executive, who have been manfully struggling for two or three seasons past against a steadily diminishing annual income. The show was located in the pleasure grounds of W. Worley, Esq., of the High Street, Witney, who also, as "a fine old English gentleman," generously entertained the judges and other helpers to a bountiful luncheon.

The exhibits filled three large marquees one hundred feet each in length, the entries for plants, blooms, and vegetables being the largest the society had ever received, the quality throughout being A1.

Groups arranged for effect, on spaces eight feet by four feet, were particularly attractive, the premier card going to Mr. George Jacob, Mill Lane Nursery, Witney; the second prize to P. Southby, Esq., Bampton; C. D. Batt, Esq., M.D., the Limes, Witney, third.

In the class for six stove and greenhouse plants the first card for six went to C. Early, Esq. (of blanket fame), whose group included three-quarter specimens of Adiantum cuneatum, A. gracillimum, Begonia Weltoniensis, Lantana berbonica, Dracæna indivisa, and Begonia Rex; Mr. G. Jacob a close second, with very fresh specimens of Pandanus Veitchi, Allamanda Chelsoni, Bougainvillea glabra, Dracæna amabilis, D. Baptisti, and Pimelia decussata. For half a-dozen foliage plants the above exhibitors changed places, Mr. Jacob being strong with examples of Caladium Chantini, Pandanus Veitchi, Adiantum formosum, Variegated Pine Apple, Areca lutescens, and Dracæna Baptisti; C. Early, Esq., second, with fine developments of Adiantums gracillimum and cuneatum, Dracæna Cooperi, Seaforthia elegans, Maranta Veitchi, and Agave Americana variegata.

Exotic ferns were well represented, and soft-wooded subjects, as zonal geraniums, were a fair average, the tricolor section being excellent. Fuchsias were an improvement on some past seasons; still the tapering growth is not equal to the dense bushes often met with at surrounding exhibitions. For six the Rev. W. F. Norris, Witney Rectory (gardener, Moses Fowler), was first; C. Early, Esq., second. Coleus made a very telling display (these were dwarf-grown and in fine health), Mr. G. Jacob first, very striking being The Queen, Countess of Dudley, and Colonel-Major Kitchener; P. Southby, Esq., second.

Tuberous begonias were above the average, the single and double forms so numerous as to suggest classes being specially provided for each section; Dr. Batt, Witney, first for six; Mr. R. Price, Headington, Oxford, second, in the open division. Balsams, as exhibited by W. H. Wall, Esq., Bampton, were the best we have seen this season, the plants sturdy and densely flowered with camellia-like blooms. The cockscombs of P. Southby, Esq., and C. Early, Esq., were large and well finished. One group in this class, from R. Porter, Esq., Stanton Harcourt, had immense combs, but very imperfectly developed, otherwise they were of grand colour. Double petunias were staged in plenty, Messrs. G. and C. Jacob taking the cards. The verbenas in pots staged by P. Southby, Esq., and Mr. John Calcutt, Witney, though well bloomed, appeared a trifle wiry in habit.

Single specimen plants were in profusion, the premier card going to a majestic form of Begonia Weltoniensis, staged by Rev. W. F. Norris; Mr. R. Price being awarded second for a blazing scarlet semi-double begonia.

Reverting to the open division, there was a large display of cut blooms, including phloxes (annual), stocks, dahlias (single and show), verbenas, asters (German and French), and bouquets in collections of twelve. These latter were much admired, being very excellently put up. Mr. R. Price first, and Mr. G. Jacob second. Specially fine were the roses, Mr. R. Price being placed first for nine, including blooms of Emilie Hausberg, Charles Lefebvre, La France, Duke of Edinburgh, Belle Lyonnaise, Camille Bernardin, Niphetos, Francois Michelon, and Comtesse de Nadaillac; P. Southby, Esq., second with Grace Darling, Belle Lyonnaise, Etoile de Lyon, Baroness Rothschild, Prince Arthur, La France, Richard Wallace, and Fisher Holmes. There were several other lots of roses in the show, but in every case the blooms had been cut close up and just squatted in moss, a practice not calculated to display the character of the flower or the knowledge of the exhibitor in relation to exhibiting roses. The best stand of cut zonals was put up by Mr. G. Jacob, who had four trusses each of J. S. Stahl, Constance, Althea, Hettie, Harry Clifton, Queen of the Belgians, Pallas, Bruant, Madame Chaté, Guillion Mangelli, La Dame Blanche, and Aurore Boreale. Pansies were fair as staged by P. Southby, Esq., and W. H. Wall, Esq. The ladies' class contained a bride's bouquet of merit by Mrs. L. Shuffery, Witney, and a few knick-knacks in the way of table adornments. The wild flower class was most interesting, the children presenting a number of well-made bouquets, in addition to two or three collections (arranged and named) in from twenty to thirty varieties.

The show of fruit included finely-finished apricots, plums, melons, white and black grapes. P. Southby, Esq., first in both classes, his clusters of black being model of perfect form and finish; the second prize for black going to Dr. Batt, for immense clusters rather wanting in colour, though ripe, due, perhaps, to the immense crop the vine had to sustain. Mr. G. Jacob exhibited prime Palmerston peaches, and Violette Hative nectarines. The gooseberries and currants were truly wonderful for size, cottagers and amateurs being on a par with the professional exhibitors. There were many dishes of large examples of culinary apples on view, the chief dessert kind staged being Quarrenden, far from toothsome at present.

The vegetable show was immense, the schedule containing several distinct classes for collections; these were well contested. The following list will give an idea of the varieties arranged in competition: Premier award to Mr. George Neal, gardener to Philip Southby, Esq., Bampton, for perfectly-finished dishes of International, Sutton's Abundance, Sutton's Reading Russet, Trophy, Vicar of Laleham potatoes, Veitch's Giant Autumn cauliflower, Long White marrows, Pen-y-Byd marrows, Reading Perfection tomato, Nonpareil cabbage, Greengage tomato, King Humbert tomato, Large Red tomato, Telephone pea, Black Spine cucumbers, Student parsnips, mushrooms, Snowball turnips, White Tripoli onions, Anglo-Spanish onions (Neal's), White Cos lettuce, Tom Thumb lettuce, Sulham Pink celery, white celery, Intermediate carrot, Champion Scarlet long carrot, runner beans (Neal's Ne Plus Ultra), Canadian Wonder French bean, Ayton Castle leeks, shallots, Covent Garden pickling onion, Dark Red beet, garlick, salsify, scorzonera, and Giant capsicum. As there were several competitors we repeat the varieties in the third prize group (which ran close for the second place) staged by Mr. W. H. Smith, gardener to W. H. Wall, Esq., Bampton, who had very effectively-arranged dishes of parsnips, beet, potatoes (four kinds), carrots (three kinds), turnips, peas, Kohl Rabi, German wax pod runners, French and broad beans, cauliflowers, celery (white and red), rhubarb, spinach, cabbage, endive, scorzonera, salsify, savoys, parsley, horseradish, radishes, mustard, cress, fennel

sage, thyme, marrows, onions (spring and autumn sown), water cress, marjorum, and nasturtiums. Keen as were the competitions in these classes, there was an equally exciting interest manifested in the many classes for

Potatoes.—Of these some 2,106 specimens were on view, the premier class being for "not less than twelve, and not exceeding sixteen dishes, nine tubers each." For the prizes offered seven competed with a grand lot of tubers of excellent size and clean, the bulk drawn from within six miles of the show, and a goodly portion hailing from the parish of Stanton Harcourt, of historic fame. The premier card was taken by Mr. John Baker, Bampton, who put up very level samples of Early Rose, Sutton's Seedling, Cardinal, Willard, Prizetaker, Pride of America, Reading Russet, Webb's Improved Ashleaf, Vicar of Laleham, Trophy, Lilywhite, White Elephant, Schoolmaster, Beauty of Hebron, Red Emperor, and Cosmopolitan; Mr. John Akers, Stanton Harcourt, second, with Reading Russet, Seedling White Round, Norfolk Russet, Royal Albert, Edgecote Purple, Great Eastern, Prizetaker, Lye's Favourite, Vicar of Laleham, Tremount, Lapstone, Woodstock Kidney, Snowdrop, Beauty of Norfolk, International, and Early Rose; Mr. John Calcutt, jun., seedsman, Witney, third, with Rector of Woodstock, Clark's Maincrop, Vicar of Laleham, Adirondack, Queen of the Valley, Chicago Market, Holborn Favourite, Porter's Excelsior, Edgecote Purple, Triumph, Rubicund, Beauty of Handsworth, Reading Russet, Schoolmaster, Manhattan, and Cole's Favourite; Mr. Thomas Burden, Stanton Harcourt, fourth, with International, Great Eastern, Reading Russet, Recorder, Queen of the Valley, Vicar of Laleham, Snowdrop, Sutton's Prizetaker, Wall's Orange, Edgecote Purple, Charter Oak, American Purple, White Elephant, Lye's Favourite, Porter's Excelsior, and Radstock Beauty. The next best lots were staged by W. H. Wall, Esq., The Grange, Bampton, who had fair average examples of Standard, Prime Minister, Radstock Beauty, Woodstock Kidney, Adirondack, Schoolmaster, Sutton's Prizetaker, Abundance, Vicar of Laleham, Midsummer Kidney, American Purple, Sutton's Seedling, Trophy, Pride of America, International, and Reading Russet; Mr. J. D. Bliss, Witney, had White Elephant, Rector of Woodstock, Schoolmaster, Myatt's Ashleaf, Sharp's Victor (small), Manhattan, Vicar of Laleham, Queen of the Valley, Beauty of Hebron, Pride of America, Red Lion, Adirondack, and Edgecote Purple; the only other collection possessing special merit was staged by Frederick Burden (cottager), Stanton Harcourt, who put up Porter's Excelsior, Radstock Beauty, American Purple, Great Eastern, Dwarf-top Ashleaf, Prizetaker, Lord Mayor, Bedfont Prolific, Lapstone, Snowdrop, Reading Russet, Snowflake, and Norfolk Russet. In the single dishes were many splendid tubers. Perhaps the two best dishes in the open classes were the premier dishes of Great Eastern and Reading Russet, staged by Mr. John Akers, Stanton Harcourt; and without repeating the exhibitors' names, we will give the varieties taking the prizes, viz.: *Coloured Kidney*—First, Trophy; second and third, Prizetaker. *White Kidney*—First, International; second, Lapstone Kidney; third, Webb's Improved Ashleaf. *White Round*—First, second, and third, Great Eastern. *Coloured Round*—First and second, Reading Russet; third, Triumph. Cottagers' class: *White Round*—First and third, Schoolmaster; second, Bresee's Prolific. *White Kidney*—First and third, International; second, Cole's Favourite. *Coloured Kidney*—First, Queen of the Valley; second, Trophy; third, Beauty of Hebron. *Coloured Round*—First, Adirondack; second, Vicar of Laleham; third, Reading Russet. Collection of six dishes (prize, a set of gardening tools given by Mr. Long, ironmonger, Witney), William Widdows, who had a level lot, including Cole's Favourite, Holborn Favourite, Queen of the Valley, Vicar of Laleham, Norfolk Russet, and Schoolmaster; the non-successful competitors staging (a) Triumph, Edgecote Purple, Vicar of Laleham, Schoolmaster, Porter's Excelsior, and Trophy; (b) Vicar of Laleham, Beauty of Hebron, Queen of the Valley, Porter's Excelsior, Schoolmaster, and Edgecote Purple; and (c) Edgecote Purple, International, Vicar of Laleham, Trophy, Norfolk Russet, and Reading Hero.

The exhibits of carrots, turnips, marrows, celery, broad, long pod, French, and runner beans were extensive, the runner beans in the show being chiefly Neal's Ne Plus Ultra, the pods nine inches long, three-quarters wide, and level as a foot rule, of a beautiful dark green. Of peas the winning dishes were largely composed of Ne Plus Ultra, Duchess of Albany, Telephone, and Walker's Perpetual Bearer.

The judging of the principal classes was entrusted to Mr. Charles Hill, Rewley Nursery, Oxford, the cottagers' classes being adjudicated on by Messrs. G. Jacob, J. Calcutt, and other members of the committee. The arrangements of the show were carried out by Mr. R. B. Hobbs, hon. secretary.

Law.

A TRAVELLER'S VALUABLES.

At Liverpool, in the Northern Circuit, the case of "Fatman v. The Adelphi Hotel Company (Limited)" was tried before Mr. Justice Cave and a special jury. This was a case of considerable importance both to hotel keepers and to the public who are in the habit of stopping at hotels. The action was brought to recover the sum of £525, being the amount of certain bank notes and the value of some jewellery which the plaintiff alleged was stolen out of his bag which he had left in his bedroom when he was stopping at the defendant company's hotel in Liverpool. The plaintiff, who arrived in Liverpool from America at the beginning of the month of August last year, stayed at the Adelphi Hotel for one night and then left for London. He returned to Liverpool on August 12, having got a draft for £500 cashed in London. On the morning of August 13 the plaintiff left £375 in bank notes in a pocket-book in a Gladstone bag, and he also placed in the same bag a case which contained jewellery of the value of £150. After locking the door of his bedroom, in which room he left the bag, he took the key with him downstairs and left it at the office. On going to his room about seven o'clock in the evening he found the bag had been unlocked, the money and jewellery taken out, and the bag locked up again. He immediately rang the bell and sent the chambermaid for the manager, to whom he told what had happened. From the evidence of the servants it appeared that the chambermaid, by means of a pass-key, went into the room about ten o'clock to make the bed, and while she was there the porter brought some parcels up for the plaintiff. After she had made the bed the chambermaid went out and looked the door after her. About three o'clock she again went into the room, and after dusting the room with the assistance of another servant she again locked the door of the room. On behalf of the defendant company it was contended that the money and jewellery were not stolen or lost by the wilful act or by the negligence or default of the defendants' servants. In accordance with the provisions of the Innkeepers Act the defendants had a notice in the hall of the hotel that they were not liable for the loss of goods to an amount exceeding £30 unless through the neglect of their servants. In the bedroom occupied by the plaintiff there was also a notice asking visitors to deposit any money, jewellery, or other valuables in the manager's office, where they would be placed in safe keeping. In the course of summing-up the case his Lordship said he should leave two questions to the jury—first, was the plaintiff guilty of negligence; secondly, were the defendants' servants guilty of negligence. If the plaintiff was guilty of negligence he was not entitled to recover. If the defendants' servants were not guilty of negligence the plaintiff was only entitled to recover £30 under the provisions of the Innkeepers Act. The jury found a verdict for the plaintiff for £30.

Replies to Queries.

B. C.—Let the pod ripen, and then sow the seeds in a pan in a frame. It will not do to keep the seeds any length of time.

C. T.—Yours is a case of rust, neither more nor less. You do not scrutinise sufficiently at thinning time, and possibly you use sulphur rashly.

Somersal.—Your salsify is covered with scale of a species closely allied to Coccus bromeliæ. It will be advisable to dig it up and burn it quickly. To remove it or save the crop is impossible.

Poppies.—R. H.—You have allowed too many inferior plants to ripen seed. You will do no good until you have the courage to root out every inferior plant instantly upon seeing its first flower.

J. S.—There are several cheap books on window plants. We can recommend one by Mr. Mollison, published by Groombridge, price about 3s. 6d.

Ignorant.—Sow at once in a frame all the seeds except that of the passion flower, which requires more warmth. As you do not say what kind of passion flower you wish to raise we can only reply generally that a warm corner of stove or greenhouse will be best place for starting the seed.

M. M.—The window will suit them, but they will soon need more room than the bell glass will afford. Salt will kill the fern, therefore we advise you not to use it. Give water enough to keep always moist, and take off the bell glass daily for half an-hour or so.

W. B.—Cold Ash.—We have not found time to look up the reports on heavy crops of potatoes to which you refer, and we fear the hour of "leisure" required for the task will never come. As regards the merry cottagers you mention, it will be well to keep in mind that they who win have the best of the laughing.

Pruning Trees and Shrubs.—An Old Subscriber.—It will be in every way better to remove the large branches of the evergreen oak in October next, than at the present time. The proper time for cutting back laurel hedges is in the spring, just as new growth is commencing. If you cut the laurels hard back at the present time, as you propose, they will either present a bare appearance throughout the autumn and winter, or produce a crop of soft sappy shoots, which in all probability will be killed by frost in the course of the winter.

Names of Plants.—D. P.—Chilian lilies. 1, Alstromeria pelegrina; 2, A. rosea.—Park Howes.—1, Aristolochia sipho; 2, Aralia Sieboldi; 3, Buddlea globosa; 4, Leycesteria formosa. Ch. Ascot.—Yours is sometimes called the "stinkingmeat" plant. Its botanical name is Stapelia bufonis. Walton.—Your fern is a beautiful example of Athyrium filix-fœmina plumosum. The chrysanthemum is St. Marie. Barstow.—1, Phillyrea obliqua; 2, Salix australis; 3, Quercus ilex, narrow-leaved variety; 4, Cupressus thyoides.—F. K. Henfield.—Your plant is so shrivelled we cannot make it out, but it appears to be the crimson groundsell, Senecio Jacobea.

Sea Water for Aquarium.—Aquarius may prepare artificial sea water at little expense, and if properly done it will prove as useful as the real article. In Hibberd's Book of the Aquarium (published by Groombridge), the formula given is as follows: Common salt 81 parts, Epsom Salts 7 parts, Chloride of Magnesium 10 parts, Chloride of Potassium 2 parts. Add water a little at a time, and test with specific gravity bulb or hydrometer, the proper specific gravity being 1·026 to 1·028. The only way to obtain the bromides and iodides, of which there are minute traces in sea water is to put fresh seaweed into the water for a few days and then filter it, without disturbing the gritty deposit. It is easy to convey a bunch of sea weed home for seasoning artificial sea water, but even that is not necessary. If any trouble to obtain the necessary salts apply to Mr. Bolton, operative chemist, Holborn Bars.

TRADE CATALOGUES.

W. B. Hartland, 24, Patrick Street, Cork.—*Little Book of Daffodils, Primroses, &c.*

John Fraser, Lea Bridge Road, Leyton.—*Select List of Strawberry Plants.*

W. and J. Birkenhead, Sale, Manchester.—*Special offer of Ferns and Selaginellas.*

W. Cutbush and Son, Highgate, N.—*Hyacinths, Tulips, &c.*

James Blundell, Martell Road, West Dulwich.—*Choice Hollyhocks and Grape Vines.*

James Dickson and Sons, 108, Eastgate Street, Chester.—*Bulbous Flower Roots.*

Little and Ballantyne, Carlisle.—*Hyacinths and other Dutch Roots.*

Waite, Nash, and Co., 79, Southwark Street.—*Wholesale Catalogue of Flower Roots.*

Obituary.

The death is announced of Mr. Thomas Bush, of the Cotham Nurseries, near Bristol, the result of an accident. His age was 45 years.

Recently, at his house on Wandsworth Common, Dr. R. J. Mann, F.R.C.S., aged 69 years. He was for three years president of the Meteorological Society, and was for many years head of the Educational Department of Natal. He was a frequent contributor to scientific periodicals, and gave particular attention to the phenomena of storms and the protection of buildings from lightning.

On June 22nd, at Amoy, Dr. Hance, her Majesty's Consul. As a student of the flora of China, and a contributor of plants and seeds to the botanic gardens of this and other countries, Dr. Hance has rendered considerable service to science.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886		[Quarter, 7h. 42m. after.	H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
22	S	9th Sunday after Trinity. (Last	4 57	2 42	7 7	10 40	—	6 11	6 33	3 17	3 36	61·4	Aerides odorata	East Indies.	234
23	M	Sir W. Herschel died, 1822.	4 59	2 27	7 5	11 19	1 54	6 58	7 24	3 58	4 23	61·3	Cattleya Harrisoniæ	Brazil.	235
24	Tu	St. Bartholomew.	5 1	2 11	7 3	Morn.	2 57	7 56	8 29	4 49	5 21	61·2	Cattleya labiata	Brazil.	236
25	W	David Hume died, 1776.	5 2	1 55	7 1	0 8	3 58	9 6	9 51	5 54	6 31	61·0	Cattleya Schofieldiana	Brazil.	237
26	Th	Sir R. Walpole born, 1676.	5 3	1 39	6 59	1 5	4 51	10 32	11 10	7 16	7 57	60·9	Odontoglossum grande	Guatemala.	238
27	F	Thomson (poet) died, 1748.	5 5	1 22	6 57	2 13	5 38	11 47	—	8 35	9 12	60·8	Odontoglossum phalænopsis	South America.	239
28	S	St. Augustine.	5 7	1 5	6 55	3 30	6 18	0 18	0 46	9 43	10 11	60·7	Saccolabium Blumei	Java.	240

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE.—COMMITTEE MEETINGS, Fruit and Floral, at Eleven a.m., in the Conservatory, on TUESDAY next, August 24.

COTTAGERS AND ARTISANS' SHOW OF FRUIT AND VEGETABLES.

N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

CRYSTAL PALACE ANNUAL FRUIT EXHIBITION and GRAND NATIONAL DAHLIA SHOW, September 3 and 4. Schedules on application to Mr. W. G. Head, Garden Superintendent, Crystal Palace.

NATIONAL CHRYSANTHEMUM SOCIETY, Royal Aquarium, Westminster.—GRAND EXHIBITION of DAHLIAS, GLADIOLI, EARLY CHRYSANTHEMUMS, &c., &c., THURSDAY and FRIDAY, September 9 and 10.

Schedules on application (free) to William Holmes, Hon. Secretary, Frampton Park Nurseries, Hackney.

Revised official Chrysanthemum Catalogue now ready, 6d. per copy.

Exhibitions and Meetings for the Ensuing Week.

Tuesday, August 24.—Royal Horticultural Society.—Floral and Fruit Committees, 11 a.m.; Exhibition of Cottage Garden Produce.

Wednesday, August 25.—Reading Horticultural Society.—Summer Exhibition.

Wednesday, August 25.—Ludlow Horticultural Society.—Annual Exhibition.

Thursday, August 26.—Stoke on-Trent Horticultural Society.—Addual Exhibition.

Friday, August 27.—Hinckley Horticultural Society.—Addual Exhibition.

Auction Sales for the Ensuing Week.

Monday, Wednesday, and Saturday, August 23, 25, and 28.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Dutch Bulbs.

Monday, Thursday, and Saturday, August 23, 26, and 28.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.

Wednesday, August 25.—Messrs. Protheroe and Morris, at Clarence House, Clapham Park; Clearance Sale of Stove and Greenhouse Plants.

Friday, August 27.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London, E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, AUGUST 21, 1886.

Floriculture has made Substantial Progress within the past few years, but it might be difficult to fix the date of the commencement of the vigorous life in which it now appears. The revival is due to many causes, and beyond all doubt the course of nature, if we but knew enough, would explain many points that are involved in mystery. The present generation has seen the eclipse of the anemone, ranunculus, auricula, pansy, pelargonium, dahlia, hollyhock, carnation, tulip, and a few other less-important subjects. It has not seen an eclipse of the chrysanthemum, for the career of that fortunate flower has been joyous throughout, and its sphere of influence has been always widening. The same may be said of the ever-living rose; it is a flower of our time; we have seen its beginning, and do not fear that we shall see its end. In the way of revival we see reinstated, and in some degree exalted, the auricula, dahlia, hollyhock, and carnation, but half a-dozen of the most famous florists' flowers remain under the cloud; the shade of neglect is still upon them. Nature, we say, might explain many things were we but wise enough to read the explanation. Dry seasons are deadly to the anemone, ranunculus, and hollyhock; wet seasons are unfavourable to the carnation and the dahlia. In the whole category the only florists' flowers that have seriously suffered by assaults of the elements are the hollyhock and the gladiolus, and of these it may now be said they are in good health and at our command for honourable service in the garden and on the show table.

It is, perhaps, because we know more of the weaknesses of humanity than of the powers of nature that we hastily attribute the varying fortunes of flowers to the vagaries of fashion. Why should the tulip lose its hold on the affections of mankind? why, but as yesterday, did the pelargonium fall from its high estate? why were the pretty pansies put out in the cold? No one, we suspect, can answer these questions. So far as we can at this time form an opinion, nature had nothing to do with it. Take the tulip as an example, and how shall we explain its eclipse except by deriving the shadow from the shoulders of the men who turned their faces from it, forgetting the reverence that was due to a flower that might properly serve as an emblem of the full cycle of the refining arts. The tulip of the present day, though known to but few, and those few entitled to be regarded as the most eclectic spirits in the world, is better every way as a florists' flower than ever it has been in all the years of its cultivation in Europe. What it has been in Asia we will not conjecture; but we can safely say that a first-class show flower of the present day surpasses in vigour, beauty, purity, and every other desirable quality, the best flowers of all former times, and we can carry the comparison some distance back by the aid of drawings and descriptions. Thus the cloud has not so much darkened the flower, which in intrinsic merit may be said to be brighter than ever; it has darkened the vision of many who would be the happier could they but see with the aid of love and knowledge the present splendour of this once famous beauty. Other flowers may be considered in precisely the same way: none have deteriorated, whatever the pessimists may say, and if such differences in the estimate of merits as have often divided "north and south" are to be reckoned with, we shall soon discover that they are wholly superficial, and affect final judging only apart from the standards collectively considered. A northern florist will require sharper lines in the colouring of an auricula than a southerner would be satisfied with, but both will agree that a good collection of auriculas comprises finer varieties than were in cultivation a hundred years ago, or fifty years ago, or even five-and-twenty years ago. The same truth prevails all round, and if it is not forced upon our attention that is only because we are not looking for it, our eyes are turned away from the subjects that might suggest it; we may be looking for the flowers of the future, and the heavy shadows of our indifference may make a semblance of eclipse on the flowers of the past. There is much comfort in the conviction thus brought home to us that the friends of our youth are as full of strength and glory as in the days gone by, and are ready to assert themselves as the bright stars of our destiny whenever the fire of enthusiasm shall be rekindled.

Two important influences, one flowing from the other, are to be taken note of in connection with the revival of a neglected or forgotten flower. The first, undoubtedly, is the personal influence. There is wanted a man always to lay the foundations of a school or lead the way in an enterprise. It is beyond belief what a man can do until the thing is done, and then "seeing is believing." During the past five-and-twenty years we have seen men come and go in the world of floriculture, and the flowers came and went with them. In this, as in other regions of art, example is more than precept, and enthusiasm is contagious. The mention of a famous flower brings before us the name of a man, famous also perhaps, but as regards the flower that he made or that made him a very necessary figure in the history of floriculture. When the poet spoke of the flowers as stars wherein we read our history, he probably did not dream of the absolute literalness of the illustration derivable from the flower garden, for the names of raisers and cultivators are integral elements of that particular department of botany: even the gods are nothing without worshippers, and flowers are less than nothing without admirers: they can but "waste their sweetness on the desert air."

The second influence, growing out of the first, is the stimulus to public curiosity that results from or accompanies the raising of new

varieties. It is in the continual production of novelties that floriculture has its fullest life; when, from any cause whatever, there occurs a pause in the presentation of new varieties public interest declines. A searching history of florists' flowers would display a striking correspondence between the relative popularity of any particular flower and the enthusiasm and practical diligence of its foremost representatives. Even religion, which claims the highest place in the range of our sentiments, depends much for active vitality on the preachers and teachers whose especial mission it must ever be to stir up the minds of men and urge attention to things of pre-eminent importance. The florists, perhaps, do not so often keep this matter before them; they live, perhaps, too much within themselves. Reserve and reticence may be proper here or there, but systematic silence and the hiding of a candle under a bushel are not good for those who practice it or those who are in need of speech and light. The faithful ones who lament the "faithless coldness of the times" should ever remember that it is not the subjective but the objective that keeps the world alive. "Faith without works is dead," said the apostle, and it is true in the world of art as in that of morals and religion. The men of this day are like those of old times in the classic city, they want "to tell or to hear some new thing," and it is the high privilege of the florist—a privilege in which the botanist has but an infinitesimal share—to illustrate by visible and tangible productions the sometimes playful changeableness, the sometimes riotous sportiveness, the exceeding pliability within exceeding rigid boundaries, the infinite variety, and the inexhaustibleness of great nature, which for us is the visible emblem of the unseen and beneficent Power that creates, controls, and blesses for ever and ever.

Mr. William Ingram, of Belvoir Castle, has been presented by his friends with a piece of plate and a purse of £90.

Mr. J. McCullum has been engaged as gardener at Knotley Hall, Leigh, Tunbridge, the residence of Lady H. Warde.

Mr. J. Bailey has received charge of the gardens of Lypiatt Park, Stroud, the residence of Sir E. Dorington, Bart., M.P.

Blackpool Flower Show will be held at the Winter Gardens, September 9 and two following days.

Leicester Flower Show, held in the Abbey Park on the 4th inst., was attended with a full measure of success, the receipts at the gates amounting to £640.

A Monograph on the Crocus, by Mr. G. Maw, of Benthall, is reported as ready for publication. It will contain 81 quarto plates, and an exhaustive text on species and varieties.

Mr. N. Molyneux, for some years past foreman at Swanmore Park, has been appointed head gardener to C. Willock-Dawes, Esq., Burton Hill, Petworth.

Mr. James Swingler, formerly of The Glebe, Champion Hill, has been appointed head gardener to W. H. Halford, Esq., Old Down House, Almondsbury.

M. Ch. Joly has published, through Rougier and Co., Paris, a report on the Colonial Exhibition in London and the R.H.S. Horticultural Exhibition at Liverpool. As a keen observer and an experienced critic, M. Joly forces home upon us truths that are worth keeping.

Orchid Album of Mr. B. S. Williams proceeds at a merry pace, for the fifth volume has reached us, and is equal to any of its predecessors both in respect of subjects selected and the style in which they are presented in the coloured plates. The subjects figured are forty-eight in number, and include such fine things as Cypripedium Schröderæ, Trichopilia lepida, Schomburgkia tibicinus, Lælia flammea, Cattleya Mendeli Bella, and Lælia callistoglossa.

The Volcanic Outburst in the Northern Island, New Zealand, gives new interest to the essay on the "Internal Heat of the Earth," in G.M. of December 22, 1877. In the diagram at page 642 of that number is suggested an immediate relation of the recent eruption to the one in Java, to which it was believed we owed a series of red sunsets. It is not unreasonable to anticipate a repetition of those beautiful phenomena as the "heavenly record" of the latest terrestrial convulsion.

Royal Gardens, Kew, are in full summer dress, and the Victoria lily has been flowering for some time past. A plant of the Zanzibar blue lily in the water lily house has surprised observers by producing a prodigious mass of flowers, and the pretty Statice Sowowori has been well done on the new rockery. The autumnal crocuses are now coming into flower, the yellow-flowered crocus Scharojani leading the way, with a quite gay crown of golden orange. Can anybody tell us if the old rockery is for sale, or to be reconstructed?

National Agricultural Hall, now showing its glass roof at Addison Road, is to have a garden called Olympia, for the special delight of Londoners addicted to fireworks and late hours. Olympia in Elis was neither a garden nor a town, but a plain dotted with temples, and devoted chiefly to the Olympic games, which women were forbidden to behold under penalty of death. Common sense would be satisfied were the promoters of the new Olympia to call it, in plain English, a Music Garden, for that is exactly what is intended.

Bristol Chrysanthemum Society will hold a show of chrysanthemums, zonal pelargoniums, orchids, primulas, &c., in the Drill Hall, Clifton, November 17 and 18.

Acme Labels, as made by Mr. J. Pinches, 27, Oxenden Street, London, are admirably illustrated by diagrams of sizes in a circular the manufacturer has forwarded for our information, and for which we have to thank him. These are the very best of labels for plants, and a source of comfort to the lover of a garden, for they are imperishable, very legible, and give no trouble whatever.

Garden Hose.—Any principle which will tend to render canvas piping, garden netting, and such like materials of extended durability is essentially a matter of importance to the gardener. Messrs. Merryweather and Sons, a firm well known in London, some three years since took out a patent for rendering the above articles proof against rot, and they ask us to state that they are willing to advise anyone desiring information as to its application. It seems that the process is similar to that employed in dressing of leather, viz., "oak bark tanning."

Tobaccos Planted out in R.H.S. garden, Chiswick, are now in a condition to suit the chiels that take notes. They present a fine appearance, they comprise a number of very distinct varieties, and a large proportion of them are flowering freely. A bed of Zinnias near the old dividing wall is worth at least one note of admiration, for it is the best lot of these flowers we have seen this season, or perhaps in any season! The potato trials are likely to prove especially useful, and the hollyhocks now present a quite lively appearance. But the horrid old pear trees, with their stumps and spray, play the part of skeletons in the feast that should be altogether joyous.

Tobacco cultivation by Messrs. James Carter and Co. is in course of operation at Bromley, and the firm inform us that "seventeen kinds are ready for inspection, and cards to view can be obtained without charge from us, with particulars of the locality in which it is being grown." Very many of our readers are interested in this matter, and we are in a considerable degree responsible for having stirred up curiosity in respect to tobacco growing. Whether success or failure attend the enterprise, it is certainly well that agriculturists should insist upon the enjoyment of freedom in their operations. It is absurd, it is destructive, it is disgraceful, that the law should say to a man you may grow this and you may not grow that.

Manchester Exhibition, 1887.—The accepted plans of Messrs. Maxwell and Tuke, architects, for the Manchester Jubilee Exhibition next year show that the estimated cost of the exhibition building will be £32,653. This is exclusive of an intended reproduction, similar to the "Old London" at South Kensington, of "Old Manchester and Salford," as suggested by Mr. Ellis Lever, Mr. Ben Brierley, and other warm promoters of the exhibition. The other sections of the exhibition will include fine arts, machinery in motion, and a music room. The site selected is between Talbot Road and Chester Road, Old Trafford, and is in connection with the Botanical Gardens. It is therefore very near the ground on which the Art Treasures Exhibition of 1857 was carried out. A guarantee fund of £100,000 has been quickly subscribed, and it is proposed to extend the amount to £200,000.

Smoke and Vegetation.—The report of the Inspector of Alkali Works for 1885 has just been issued as a Parliamentary paper. Among the subjects treated in the report are the efforts which have been made to prevent the escape of noxious chlorine gas during the manufacture of bleaching powder, and the more general question of the emission of black coal smoke from factory chimneys. With regard to this latter subject the words of the Chief Inspector are worthy of attention. He says that "it is a curable evil, and therefore ought to be cured. In order to purge the air of our manufacturing districts of its black soot, to remove the pall of smoke which shuts out the sunlight and enfeebles both animal and vegetable life, pressure is needed from outside, a determination on the part of the public that the evil shall cease." Mr. Fletcher then refers to the use of the bituminous coal of the Hartley district, Northumberland, in steam boilers of the navy. Smoke is not a necessity, but simply the result either of a bad boiler or a bad stoker. The report also treats of the recovery of tar and ammonia from blast furnace gases.

Hop Growing is known to be a precarious business, but the risks are aggravated by conditions that appear to be to a great extent within our control. At a conference of hop farmers held at Tunbridge, August 17, it was stated that there was at the present time the amount of three millions sterling and more actually expended upon the cultivation of hops, which would be almost entirely lost if the hop land were to go out of cultivation. Half of the above-named sum was expended in manual labour. If the depression continued it would be impossible for the planters to continue growing hops, and therefore the hop land would go out of cultivation, and there would follow loss of rent to the owner, loss of capital to the planter, and loss of labour to the working classes. In regard to the pickers, their earnings, which had hitherto gone a long way to keep them from starving during the winter and from becoming a burden on the ratepayers, would be lost. The cause of the depression might be summed up as follows: Undue preference shown to the foreign importers, and undue preference by the railway companies in conveying foreign hops at cheaper rates than English produce. Mr. W. H. Le May moved that a reasonable import duty should be levied upon foreign hops. Mr. Alfred Alexander seconded, and the motion was carried. Mr. Le May next moved: "That legislation is necessary prohibiting the landing of every bale of foreign hops which is not sealed by the authorities of the district in which they are grown and without a certificate accompanying it from such authorities guaranteeing that they are grown in the particular district stated, and that the date of growth is correct."

HARDY PLANTS IN FLOWER.

The most noble of the herbaceous plants in flower of late is undoubtedly Iris lævigata, better known as Iris Kæmpferi, a subject requiring a rich deep soil, full exposure to sun, and abundance of root moisture. But we see also a full tide of phloxes, pentstemons, lilies, and dahlias; and the promise of a tide of hollyhocks, for there are certainly more of such to be seen in the present season than for many years past.

Fleabanes make a few useful patches of starry flowers, and we have noted as useful *Erigeron salsuginosum*, a very leafy plant, the leaves long spathulate, crowned with a spreading head of flowers with lilac rays and yellow disk. Here may be placed *Stenactis speciosum*, a good useful thing; and *Erigeron macranthum*, with large flowers, the rays purple, the disk bright yellow.

Campanulas are waning, but there are fresh flowers still on *Campanula punctata*, a coarse dwarf plant of creeping habit, with rough leaves and white flowers which are lightly spotted inside. *C. turbinata* in variety is still fresh and fine, one of the most useful of the family. *C. nobilis* gives two good characters in noble flowers, and a shade of rose in the colour; when well done it is a striking plant. It requires the same treatment as C. punctata, and when established is apt to make itself too much at home. *C. lactiflora* is a fine rustic plant, adapted better for the wild garden than the trim border. The two most interesting of campanulas are *C. macrostyla* and *C. grandiflora*, the last better known as Platycodon.

Marvel of Peru is now in full glory and one of the very best of border flowers, although little known beyond the cottager's garden. The common Marvel of Peru is *Mirabilis Jalapa*, which gives a great range of colour, and forms bushy tufts that are dazzling when enjoying full sunshine. We are much pleased with *M. multiflora*, which is of dwarf spreading growth, the leaves cordate, the flowers lively rose or rich purple, produced in large clusters; a capital plant, but requiring plenty of room to show its character.

Salvias of many kinds are flowering freely, but are not often seen in gardens. An old, cheap, "common," but truly magnificent plant is *Salvia sylvestris*, forming a stout dense bush crowned with flower-spikes which show fresh flowers of a full deep blue, and calyces from which the flowers have fallen of a rich purple brown or chocolate colour. This is a sort of surprise plant, and much to be desired. *Salvia pratensis* is a handsome plant. *S. Pitcheri* is fine in its bright blue colour.

Veronicas give useful features to borders and rockeries, and one of the most useful is *Veronica longifolia* in its several colours, white, blue, rose, and purple. The variety *V. longifolia subsessilis* (B.M. 6 407) is a grand plant of its class, and may be regarded as the finest of the *V. spicata* section, all of which are useful. In *V. teucrium* we have a vigorous spreading plant with flowers of a brilliant blue colour, now just passing out of flower.

Pentstemons rise to their finest character in *Pentstemon gentianoides*, otherwise known as *P. Hartwegi*. In this we see the parent of a thousand florists' varieties, and as "unimproved" it is a splendid thing, and might be spoken of as the Mexican foxglove. The typical colour is rosy carmine. *P. barbatus* is a beauty known also as *Chelone barbata*, the flowers rosy scarlet or vermilion. *P. Richardsoni* is a wiry plant with purple flowers.

Verbenas are not classed as hardy plants, but we may so regard the autumn-flowering *Verbena venosa*, which is now showing its flowers of a lively purple colour. *V. Aubletia* is certainly not hardy, but it needs only frame shelter or to be treated as an annual to make a brave show in the late summer of its rosy flowers.

Linarias make a most beautiful feature when planted out in variety and allowed to spread into large tufts. One of the best is *Nemesia floribunda*, which may be grown as an annual; the flowers are white with yellow centres, fragrant, the plant forming a lovely dwarf tuft. *Linaria aperinoides* is a grassy tuft with flowers deep crimson and orange or rosy purple and orange, the range of variety being limited; but all are splendid for colour. *L. amethystia* forms a glaucous low tuft overspread with myriads of small orange or deep yellow flowers. *L. moroccana* is of grassy growth, the flowers purple and blush, quite lovely. *L. Broussonettia* forms a small grey tuft, flowers yellow and orange, a good rock plant. Here we may place a near relative, *Calceolaria crenatifolia*, with the habit of a bedding calceolaria, the flowers extra long and almost square, in the form of a slipper, the colour bright yellow. *L. saxatilis*, a green mat, flowers yellow; *L. tristis*, a grey tuft, flowers pale yellow; *L. spartica*, a neat grassy plant, flowers bright yellow; *L. triphylla*, broad grey leaves, flowers in neat spikes, yellow and white; *L. bipartita*, a spreading untidy plant, flowers purple and white.

Mulleins continue gay, although the top flowers only remain. *Verbascum thapsus* will never tire by its commonness; it is so decidedly noble in aspect. *V. Chaixi* is one of the best, its full spikes of yellow flowers being very effective. *V. phœniceum* and *V. olympicum* are as desirable as any.

Levantine Bellflower is *Michauxia campanuloides*, a good plant, peculiarly distinct. The leafage is rough, the flowers are in candelabra clusters, white, the petals recurved, the stamens prominent. It may be likened to a lily, or even to a pancratium.

Hawkweeds are so much alike that when we have *Hieracium aurantiacum* and the one with black-spotted leaves we seem not to hunger for more. But we must note as good *H. lævigatum*, a compact plant, three to four feet high, with smallish orange yellow flowers; and *H. corymbosum*, like it, but larger and brighter.

Senecios of the larger sort are grandly effective, though decidedly rustic. *Senecio Fuchsi* is a very fine compact bush with dark lanceolate leaves, and a fine head of bright yellow flowers. *S. sarracenicus* is like it, but taller and deeper in colour. It is a scarce Britisher, and the former is a continental form of it. *S. quinguiculata* is in the same series, but less showy than the foregoing. *S. Japonicus* is one of the grandest, and very much to be desired for a large place, and happiest near water. *S. pulcher* must be named, but it is out of flower, having made a brilliant show of its rosy purple stars.

Yarrows do not offer many good plants, but we are bound to say of an old friend, *Achillea filipendula*, is one of the finest hardy plants we possess. Often it is crowded up and made to look poor because it is cheap, but when standing clear of injurious shadows, it makes a head of brilliant yellow flowers wondrous to behold. *A. decoloram* three feet high, flowers creamy yellow, good. *A. millefolium rubra* or *rosea*, common, but good. *A. rupestris*, dwarf and compact, flowers white, good for rock garden.

Sunflowers, conspicuous now, include, as a matter of course, *Helianthus multiflorus*, *H. angustifolius*, *H. giganteus*, and *H. orgyalis*, all noble plants of their class. *H. strumosus* is worthy of mention; it grows four to five feet, leaves ovate lanceolate, flowers two inches over, full deep yellow. Here we will place the showy *Harpalium rigidum* and *Silphium terebinthaceum*, with grand halbert-shaped leaves and yellow flowers on stems five feet high.

BEDDING ARRANGEMENTS IN FINSBURY PARK.

Although the weather during the past three months has not been particularly favourable to the growth of tender plants, the bedding arrangements in this increasingly popular park are now in full splendour, and present such an effective appearance as to compare very favourably with the most successful of Mr. Cochrane's efforts of previous years. The arrangements have been carried out on much the same scale as for several years past, and include due proportions of flowering and ornamental-leaved plants, the latter ranging from the dwarf-growing and highly coloured alternantheras to the more sombre and stately palms and cannas. As in former years, the most effective display is to be found in the great geometric scheme on the southern side of the lake; but the beds alongside the walks which radiate from the entrance opposite the Manor House Tavern are admirably filled, and contribute their full share to the attractions of the park.

Immediately on entering the park by the Manor House gate, there is in the enclosure on the right hand a highly-effective carpet bed, which ought not to be missed, affording, as it does, a useful lesson in the colouring of narrow serpentine beds with dwarf leaf plants. It contains numerous scrolls of alternantheras, echeverias, and golden feather set in a groundwork of the dark green Herniaria glabra, one of the best of the green carpeting plants. Outside the carpet are lines of Mesembryanthemum cordifolium variegatum and Echeveria secunda glauca, the last-mentioned forming the outer line. Immediately opposite the serpentine bed are three remarkably attractive beds, one of which is filled with tall-growing plants with handsome foliage, and the others contain designs worked out with alternantheras and other plants dwarf in growth and having coloured leafage. The designs are rather simple, but singularly effective, in the latter respect being far superior to beds in which the designs are of a more or less intricate character. The dark-leaved alternantheras employed are A. magnifica and A. latifolia, which, as yet, are unsurpassed in their respective shades of colour, for with effective colouring are combined a comparatively hardy constitution and a free growth. In both beds are squares of the comparatively new golden alternanthera, A. aurea nana, which is dwarf and very dense in growth, and has leaves of a rich golden hue.

There are large numbers of highly-effective beds by the side of the walks which radiate from the drinking fountain, and should, in an inspection of the arrangements, have the attention they so well merit. Advantage has been taken of the sheltered position occupied by the beds that skirt the walk which branches off to the right for subtropicals, and on the walk are fine masses of cannas, palms, dracænas, castor-oil plants, gums, indiarubbers, and other subjects remarkable for nobility of aspect. In the belt of shrubs near these beds is a good specimen of the blue gum, Eucalyptus globulus, which has occupied its present position four years, and has now attained goodly dimensions, although it was severely punished by the cold weather experienced during the last winter. The beds by the walk leading from the fountain to the lake are all filled with plants grown for their flowers, zonal pelargoniums being the most largely employed. To speak of these in detail is not necessary, as a considerable proportion of the zonals with which the beds are filled are now well known and highly appreciated. The varieties that are especially good include Captain Holden, a very effective variety, with flowers of a rich magental crimson hue; Charles Schwind, deep crimson-scarlet, very bright and telling; Lady Bailey, bright pink, one of the best of its colour; John Gibbons, rich scarlet, exceptionally valuable in its line of colour; and Mrs. Turner, a bright pink variety, of considerable value for large beds and broad borders. On the left is a pleasing border formed with lines of Santolina incana, one of the most useful of the hardy plants, with silvery leafage, Golden Harry Hieover pelargonium, and Lizard pelargonium, a salmon-coloured variety, which originated as a sport from Vesuvius, and is very free blooming and effective.

The palm dell on the left of the walk and near to the entrance to the flower garden is not less attractive than usual, for it contains several magnificent masses of palms, and is surrounded by a broad belt of bedding plants. The border contains crescents of Coleus Verschaffelti, enclosed with bands of Flower of Spring pelargonium. At the back are bands of Crystal Palace Gem pelargoniums, one of the best of the gold-leaved varieties, Cineraria maritima, and John Gibbons and Mrs. Turner pelargoniums.

The geometric scheme on the southern side of the lake is divided into two nearly equal portions by a broad walk extending the whole length of the garden. The northern portion is the widest, and contains an additional row of beds. The line of beds next the walk consists of circles and oblongs placed alternately. The circles contain very pleasing designs worked out with dwarf leaf plants, and the oblongs have blocks of pelargoniums with silvery and golden variegated leafage. The blocks in the two middle oblongs are formed with Cleopatra, an old but richly-coloured bronze zonal, which does well on the breezy heights of Finsbury Park, and takes on its decisive colouring at an early stage, and continues in capital condition until quite late in the season. The whole of the beds in the front line have a marginal line of Echeveria secunda glauca, and enclosing bands of Mesembryanthemum cordifolium variegatum and Iresine Lindeni. In the second line there are four circles and six lozenge-shaped beds, the first-mentioned containing fine blocks of Coleus Verschaffelti, whilst the others are filled with Charles Smith, a dark scarlet variety of the most effective character. These all have a margin of Finsbury Park lobelia, a neat-growing variety, producing flowers of the most brilliant blue, and an inner band of either Robert Fish or Flower of Spring pelargoniums. At the back of these are three splendid masses of cannas, and several beds containing Cineraria maritima and Verbena venosa, which in association form a very pleasing combination. Still farther back are four good blocks of Captain Holden pelargonium. The beds on the southern side are planted in much the same manner as those on the north, with the exception that Henry Jacoby is substituted in the second row for Charles Smith. There are, in addition, numerous beds near the entrance adjoining Finsbury Park Station, which also are eminently attractive.

The chrysanthemums, which have been grown with much success in Finsbury Park for several years past, are this season exceptionally good, and the exhibition will certainly equal, if it does not surpass, those of previous years. The plants, of which there are eighteen hundred, are all in the best possible condition, and reflect the highest possible credit on the cultural skill of Mr. Cochrane's able lieutenant, Mr. J. Mardlin, whose practical papers on the cultivation of these flowers have, we are glad to learn, proved of immense service to many of our readers.

NATIONAL GOOSEBERRY SHOW.

The annual show was held in the Royal Botanical Gardens, Old Trafford, Manchester, August 2.

Dishes of Twelve Berries.

Exhibitor.	Colour.	Name of Variety.
John Knowles	Red	Lord Derby
James Threlfall	,,	Bobby
James Harvey	,,	Speedwell
James Salsbury	,,	Dr. Wooley
John Boot	,,	Seedling Collies Lane
E. Salsbury	Yellow	Ringer
James Harvey	,,	Lady Haughton
James Salsbury	,,	Leveller
James Bower	,,	Garibaldi
Daniel Bower	,,	High Sheriff
F. Cliff	Green	Surprise
James Salsbury	,,	Stockwell
George Beckett	,,	British Oak
James Threlfall	,,	Telegraph
John Boot	,,	Shiner
E. Salsbury	White	Careless
James Salsbury	,,	Antagonist
George Beckett	,,	Princess Royal
James Bower	,,	Hero of the Nile
James Threlfall	,,	Transparent

Twins—Two on One Stem.

			dwts.	grs.
John Knowles	Red	Lord Derby	39	19
James Salsbury	Yellow	Thatcher	41	10
John Fisher	Green	Surprise	35	12
William Riley	White	Antagonist	31	0

Premier Prize.

John Knowles	Red	Lord Derby	26	15
E. Salsbury	Yellow	Ringer	27	22
G. Beckett	Green	Shiner	22	12
F. Cliff	White	Antagonist	23	20

Stewards' Prize.

J. Salsbury	Red	Dr. Wooley	25	9
J. Harvey	Yellow	Garibaldi	23	14
R. Downs	Green	British Oak	22	12
J. Turkington	White	Princess Royal	23	10
A. Tomkinson	Red	London	24	9
J. Threlfall	Yellow	Mount Pleasant	22	9
J. Fisher	Green	Surprise	21	19
R. Parker	White	Postman	22	21
B. Cheadle	Red	Bobby	22	19
C. Leicester	Yellow	Lady Haughton	20	20
J. Warburton	Green	Seedling Bendigo	21	2
W. Riley	White	Overseer	21	15
J. Boot	Red	Collies Lane	22	0
S. Birchenall	Green	Plunder	20	14

Class Prizes.

Red.

E. Salsbury	Blucher	25	15
J. Salsbury	Lord Derby	25	6
E. Salsbury	London	24	16
A. Tomkinson	Rover	24	6
J. Salsbury	Bobby	23	15
G. Beckett	Macaroni	22	16
J. Boot	Seedling Collies Lane	22	3
J. Knowles	Dr. Wooley	22	2
J. Knowles	Rough One	22	1
W. Riley	Eskender Bey	21	9
J. Fisher	Rough Red	21	6
C. Leicester	Falstaff	21	0

Yellow.

E. Salsbury	Thatcher	26	4
R. Whitehurst	Ringer	26	2
J. Salsbury	Leveller	24	6
J. Knowles	Lady Haughton	22	18
E. Salsbury	Garibaldi	22	17
J. Threlfall	High Sheriff	22	4
J. Threlfall	Hit or Miss	22	3
J. Harvey	Wakeful	22	2
J. Bower	Mount Picasant	22	0
A. Tomkinson	Drill	19	12
J. Fisher	Favonius	19	10
J. Harvey	Catherina	19	2

Green.

J. Threlfall	Stockwell	22	0
W. Riley	Shiner	21	12
E. Salsbury	British Oak	21	6
E. Salsbury	Hospool	21	22
F. Cliff	Surprise	21	5
J. Boot	Italy	20	15
F. Cliff	Sir G. Brown	19	9
B. Bradley	Green London	19	8
J. Threlfall	Telegraph	19	1
B. Bradley	Seedling	19	0
J. Harvey	South Johnny	17	17

White.

J. Salsbury	Hero of the Nile	22	0
J. Threlfall	Transparent	20	13
G. Beckett	Fascination	20	8
J. Salsbury	Faithful	20	0
W. Riley	King of Trumps	19	1
J. Harvey	Postman	18	21
J. Threlfall	Succeed	18	20
J. Bower	Peto	17	8
S. Birchenall	Miss Chesters	17	6

Crompton Road Nurseries, Macclesfield. James Leicester, *Secretary.*

Law.

CLAIM BY A GARDENER.

On Saturday, at the Clerkenwell County Court, before Judge Eddis, Thomas Wood, of 1, The Broadway, Crouch End, florist, sued W. Paynton, of Tregothnan, Coolhurst Road, Crouch End, for £3 11s., for work done and flowers. There was a set-off of £10 claimed for damages.

Mr. Mann, barrister, appeared for the plaintiff, and Mr. F. E. Poynter, solicitor, for the defendant.

The plaintiff deposed that he submitted to the defendant plans for the laying out of a lawn tennis court and garden, his estimate being £19 13s. Ultimately he agreed to do the work for £17. He had the ground laid out, and planted a number of rose trees. The ground was levelled and turf laid down. The job was completed about the beginning of May, and paid for about a month afterwards. When defendant paid him, he complained that there were large cracks in the lawn. The weather had been very dry. Witness obtained two loads of mould and filled up the cracks, and sowed grass on the surface at his own expense. He kept the ground properly watered while he was engaged in the work. He believed that if the ground had been properly watered afterwards there would have been no more cracks. Some of the rose trees which had been planted died, and he supplied others. For these, and for extra work, &c., he sent in a bill to defendant amounting to £3 11s., which defendant refused to pay. The man whom witness employed was a gardener of experience.

The plaintiff was cross-examined at some length as to the way in which he carried out the work.

Henry Palmer, a gardener, who said he had had 40 years' experience, deposed to being employed by the plaintiff to level the ground, put down turf, &c. The work was properly carried out.

John Burton, a gardener, gave corroborative evidence.

The defendant deposed that he employed the plaintiff to lay out a tennis lawn, and paid him £17 when the job was completed. In dry weather the turf was in a rotten condition, and when it rained the lawn became a swamp containing about three or four inches of water. This was owing to the want of proper drainage. There were also cracks in the lawn four inches wide and about two feet in depth. The ground was not level, and when he took some of the turf up he found there was no mould underneath, and the turf was laid on a clay soil. He himself watered the turf every evening with a 60 ft. length of hose. He had never been able to play tennis on the lawn. The plaintiff promised to replace, without extra charge, all the rose trees that died. In many places the grass did not grow at all.

Mrs. Paynton deposed that the lawn had been constantly watered both by her husband and herself. The ground was now in a wretched condition. There was no mould under the turf. She had heard her husband make complaints to the plaintiff and tell him that the ground had been shamefully laid out. The lawn was not level, but sloped towards the house.

Isabella Osman corroborated, and stated that on Easter Monday she heard the defendant complain to plaintiff of the way in which the work had been done.

John Ward, a gardener, said it would be necessary to take the turf up and level the ground properly. This would probably cost from £15 to £20. It would also have to be properly drained. There was no mould under the turf, and some of the cracks were four inches in width. The job had not been carried out in a workmanlike manner.

George Cragg, another gardener, gave corroborative evidence.

The Judge said he considered that the plaintiff was only entitled to £1 8s., and he gave a verdict for that amount.

Literature.

Serials forwarded by Messrs. Ward and Lock include *Quentin Durward*, part 4 in the "Selected Waverley" series; *Plutarch's Lives*, part 9; *Whiston's Josephus*, part 10; *Universal Instructor*, part 21; *Popular Histories*, part 10; *Amateur Work*, part 57; and *Sylvia's Home Journal*.

Ladies' Gazette of Fashion (7, Paternoster Buildings) and *Ladies' Treasury* (Bemrose) are admirable monthlies primarily devoted to feminine interests, but containing much for general readers.

Serials forwarded by Cassell and Company include *Library of English Literature*, part 43; *Doré Gallery*, part 41; Hibberd's *Garden Flowers*, part 90. The last named is to be completed in 100 parts.

Risks of Orchid Culture.—A great many of our orchids are very easy to cultivate. Moreover, they will endure more hardships than most people are aware of, but, like other plants, they require ordinary attention, and this attention must be given at the proper time. There is no difficulty whatever in the case of many species. Occasionally, however, failures occur through circumstances over which we have no control. Sometimes the plant may get exhausted through disease which might have been checked if operated upon in time; sometimes the pseudo-bulbs rot away, but this may often be remedied by cutting off all the decayed parts, and, when this is done, applying some sulphur or charcoal, which should be rubbed over the cut surface, in order to dry it and prevent the rotting from going further. There are other things that cause the roots to decay—among them are the errors of keeping them too wet or too dry. In the latter case the plants often shrivel, and thus get into a bad state of health; the evil may, indeed, go so far as to quite destroy their vitality; but even if they are not killed outright it will take a long time for them to recover their vigour. This is especially the case with such subjects as those species of Cattleya and Lælia which have tall, thin, wiry stems. Sometimes the blooming of a plant will be detrimental to it, especially if in a weakly state; if such is the case the buds should be removed before they attain any great size; or should this not be done the flower-spike itself should be cut off, by which severe treatment the plant will be greatly benefited for another year. The result in such instances is worth the sacrifice, as the plant will become much more vigorous and be enabled to endure any ordinary strain that may be placed upon it. Secure strong pseudo-bulbs, good roots, and healthy foliage, and then flowers with some substance in them—a most important point—may be expected to follow.—B. S. W., in "Orchid Album."

HAWKER'S RUBY BALSAM.

Impatiens Hawkeri.

This brilliant novelty is conspicuous amongst the many good things that have been introduced to cultivation by Mr. William Bull, of King's Road, Chelsea. It surpasses in beauty, being more massive in habit and more showy in flower, the beautiful and popular Impatiens Sultani, and will certainly take an important place amongst fast-growing and easily-grown plants adapted for exhibition. It is a native of the South Sea Islands, and takes its specific name in honour of Lieutenant Hawker, who discovered it. The growth is that of a freely branching bush, well furnished with serrate elliptic leaves of a full green colour, amidst which appear in sufficient abundance to produce a rich effect, the large, fully-expanded flowers, of a rich ruby colour as seen from a distance, but when closely inspected they are seen to be of a deep carmine, tinged with violet, round a small white eye. The spur is two inches long, the colour red.

Like the plant it is compared to above, which it certainly surpasses, it may be had in flower at all seasons of the year, but its season is from April to October. Properly speaking, it is a fast-growing stove plant, but it may be turned to account as a warm greenhouse plant for summer flowering, and may rank with the useful subjects that may be depended on for a fine display with but a reasonable amount of good management.

HAWKER'S RUBY BALSAM, *Impatiens Hawkeri* (Flowers deep carmine).

CULTIVATION OF THE HOLLYHOCK.

To attain complete success in the cultivation of this noble flower requires the exercise of common sense much more than of technical skill. The flower has been well-nigh destroyed by doing too much for it, and making a complicated business of what should be as simple as anything in the whole range of practical floriculture. It may be said that glass is not required in any way in aid of hollyhock culture, but seeing how useful is the cold frame, and how very beautiful are some of the varieties that are likely to suffer in a severe winter, a general declaration against glass must not be hazarded. But this may be said by way of warning at the first start, that glass has been an important agent in promoting the eclipse of the hollyhock, and the revival in which we are now rejoicing has been accomplished in great part by repudiating the employment of glass and compelling the plant to adapt itself to the climate as one of ourselves. The lovers of first-class hardy flowers may be invited to consider this point first of all in making a venture in hollyhocks, for the very first step to success is to be found in simplifying the practical business, for artificial heat is deadly to the hollyhock, and glass is useful only so far as the cold frame or pit; and as regards the very tender varieties, that *must* have coaxing and encouraging with the aid of warmth and "coddling," the best advice that can be given is *let them go*, for hardy kinds, equally beautiful, may be secured by the aid of time, patience, and common sense. All grafting, all forcing of seeds or cuttings, all artificial treatment at any stage, must be condemned as not only making trouble to no good purpose, but as actually mischievous to floriculture generally, and murderous to the hollyhock in particular.

Now let it be known that superb hollyhocks may be raised from seed, the cost being next to nothing. It is best for everyone to begin with a selection of named varieties, for thereby you secure the highest quality at the first start, and having a perfect standard you may proceed in raising and selecting seedlings with greater advantage than by making a beginning that way. The best time for sowing any and every kind of seed is as soon as it is ripe, and although hollyhock seed is late in ripening there is still time for sowing even seed of the same year. When seed is kept over, May, June, and July is the best time to sow, but new seed must be waited for, and it may be sown with the certainty of doing well if well managed up to the end of September. Seed sown on an open border and kept moderately moist and a little shaded will do well, but it is bad practice to sow seeds of any florists' flowers on an open border, because it enlarges the chapter of accidents. Sow on a bed or in large pans in a frame, keeping the glass over for protection only, but allowing a free circulation of air, so as to avoid the forcing heat that may arise through keeping the glass close down. Good loam and about a fourth of sand added is all that is wanted in the way of soil, and the careful cultivator will, of course, keep the soil constantly moist and shaded until the plants appear. An advantage of the mode of procedure recommended is that in the event of bad weather protection is secured on the instant, but it should be understood that at all times the lights should be off unless there is a reason for putting them on. This rule is life, the converse rule is death. To keep the lights on except when there is a special reason for taking them off is to put the plant in a false position as a tender thing, when in truth *the hollyhock is a hardy border flower*, and is actually more hardy than the chrysanthemum, because it flowers at a time when frost need not be thought of.

Raising hollyhocks from cuttings is a trifle more troublesome than from seeds, but it must be done to keep up the high standard of the

named varieties. As regards striking the cuttings, it is easy enough, for being firmly potted so as to touch the sides of the pots in sandy loam, well drained, and kept moist and shaded without any aid from artificial heat, they will surely root, even if they are five or six months about it, and sometimes they are so slow as to perplex one with the problem, How do they live without roots? I have potted cuttings in September, and found them looking quite fresh, but still without roots, in the following March, but then they soon put out roots, grew vigorously, and being planted out in May flowered in the grandest style.

In the foregoing paragraph the cart has been put before the horse intentionally, with a view to dispose of a matter that many amateurs appear afraid of. Yes, to strike cuttings is easy enough, even if, as will sometimes happen, it is but a slow business. But to obtain the cuttings? "there's the rub." The fact is we often want to eat our cake and have it too: we want a lot of seed from the best plants, and a lot of cuttings also. I will not say that you cannot have both, but I will say that the more you have of one, the less you must have of the other. Let us begin with a variety of such wondrous beauty that we must propagate to the utmost possible extent to ensure its repetition true to name as a florists' flower. Then, my friends, there is but one way. The plants must not be allowed to flower. Plant in good soil, feed liberally, more especially in respect of moisture, and when the flower spike is about two feet high cut it away and give no more water for at least ten days, and then renew the irrigation. The result will be a free growth from the bottom of subsidiary flower spikes. Pinch them out as soon as they are advanced enough to be removed without removing with them any leaves from the axils of which growth may be expected. You know now what the result of this treatment will be—a very free growth of shoots that may be turned to account for cuttings, and every one of these cuttings should be planted firmly in beds of sandy loam in frames or brickpits from which the lights have been removed, the resort to such structures being simply for protection against the many accidents to which choice plants are exposed in open borders. Even in summer, when every plant can in a great degree take care of itself, the open border is a dangerous place, for the precious pets therein located may be assailed by cats, dogs, human feet, hailstorms, rainstorms, rampant weeds, and the evil eye, the last-named enemy being of the indescribable class that will be understood of the elect in floriculture, but which cannot be here described or explained.

To obtain cuttings of hollyhocks is somewhat of a difficulty at first, but is easy enough when you know how to do it. Pinch back the little flower spikes that rise from the base, and there will follow axillary shoots that will make the best of cuttings. Or you may cut up all the side shoots you can get into as many pieces as there are leaves, but the leaves must be removed and a portion of each leaf-stalk must be left, and then the several pieces must be potted firmly in sandy loam, with the portion of leaf-stalk upwards, and with good management each will make a plant. All this propagating should be commenced early, both to allow time for growth and to avoid the temptation of artificial heat, which, it must be repeated, is ruinous to the hollyhock, and has been one of the principal causes of its eclipse.

Division of the roots is an operation closely allied to the striking of cuttings. It should be resorted to only in extreme cases, for it is a clumsy method, and does not often make good plants. The stools should be lifted as soon as the seed is ripe, and be cut through so as to secure roots to each portion, and the divisions should be planted or potted in frame or pit, potting being preferable because the cut side of the roots can be pressed close to the pot, which is a preventive of rotting, for when planted in a bed the healing process is less sure. Large old stools may be roughly cut through with a spade, and the lumps may be planted at once where wanted. If this is done at the end of April or early in May there will be no further trouble, and the success of the proceeding will show what a hardy plant this is. But we really cannot think of such a rough-and-ready way with named varieties; it is too much like sending lovely children into the street to munch coarse food and learn the ways of savages.

The hollyhock will grow in any good soil, but a deep, moist, rich loam is the stuff it likes best and will be most healthy in. When grown in sandy soil it should have abundant help from manure and water, for starvation is as deadly to it when planted out as the employment of artificial heat in propagating. It was in the dry weather of 1873-4 that the *Puccinia malvaraceum* made its fiercest onslaught, and brought the hollyhock low, and the fact illustrates in a striking manner the doctrine of the G.M. that to keep the hollyhock we must "make it grow." How strange it is that we now see in a few gardens a perfectly healthy, a wonderfully vigorous, and a delightfully beautiful growth and bloom, where through a run of twenty years there has been no disease at all—no losses, no mishaps, no disappointments. In these gardens the plant has been grown naturally, and therein is the beginning and end of the story. The less you do for the hollyhock the better for the beauty of your garden and your own peace of mind. All you need be anxious about is to do a little—very little—in the right way, and leave the rest to Nature, who is always kindest to those who interfere with her the least.

H.

Paul's Fish Culture is the title of a limited company established for the carrying over and enlarging of the business of Mr. F. W. Paul, 177, Euston Road, who has been long established as an importer of gold fish and a dealer in zoological specimens. The company will not only continue the business on the old lines, but will, as the prospectus explains, "promote the cultivation of sea, river, pond, and all kinds of fish for sale, for the stocking of ponds and other waters, and for consumption as food." For the first step in the enlargement of the operations, some twenty acres of land and twenty lakes, equal to 500 acres, have been secured. The capital is £20,000, in shares of £1 each.

SHORT NOTES FOR SMALL GARDENS.

By the Vicar's Gardener.

The present month should be a busy one with those who wish to have their flower beds gay with flowers in the months of April and May next. There are several subjects which can be raised from seed, and if they are sown now the plants will be large enough to be put in the beds as soon as the summer occupants are over. The first class to be dealt with should be the

Pansies.

A mixed bed of seedling pansies is very attractive, and they last a long time in flower. To raise the plants with as little trouble as possible select a nice piece of ground on a warm border where the soil is both fine and rich. After the surface is well raked down draw drills a quarter of an inch deep and six inches apart. Sow the seed thinly, so that when the plants come up they will not be crowded, and then they may be allowed to grow on without being transplanted before they are put into the beds. Should the weather be dry the seed bed had better be shaded for a few days with a few green branches, which will keep the surface moist, and thus assist the seed to vegetate more quickly than when the soil is alternately wet and dry, as is the case in bright weather, when watering is resorted to to keep the surface moist. Except to give the young plants an occasional watering in dry weather, and to keep them free from weeds, they will not want any further attention.

Saponaria Calabrica.

This is a hardy annual, with bright pink flowers, that will pass through an ordinary winter unharmed, if the soil is not of too retentive a nature. The seed should be sown about the middle of August, and as it is not desirable to have large plants, because of their being more likely to be injured by frost than those of moderate size, the seed may be sown in any open spot, providing the soil is fairly dry and fine. It should be sown in drills nine inches apart, and allowed to remain undisturbed until the time arrives for filling the beds. All subjects that are expected to flower well in the spring must be planted in the beds not later than the last week in October, and the Saponaria should be one of the first to be bedded out. It is essential the young plants should have time to make some new roots before frost sets in. When planting out put three or four plants in a clump, and the clumps six inches apart; so that when the plants begin to grow in the spring they quickly fill up the spaces between. There is not a subject of neater growth, or one that flowers more freely than this; but probably it is not so suitable for cold districts as it is for the south. I may mention that a moderate sized bed is more effective than a small one. There is a variety with white flowers, but the colour is washy, and it is not worth growing.

Silene Pendula Compacta.

There are white and pink varieties of this Silene which are of about the same habit of growth and flower; at the same time the seed may be sown at once and treated in the same way as advised for the Saponaria. In bedding it out select the largest plants and arrange them singly, about four inches apart each way. It is best to plant them out when the soil is rather dry, because they should have the earth pressed rather firm about the roots to prevent the frost from drawing them out of the ground. They all are more or less drawn out of the ground during the winter, so that it is always necessary to examine the beds in mild weather at the end of February, and press them in again with the fingers, and at the same time loosen up the surface soil between them.

Limnanthes Douglasi.

This is not a very showy subject, but some like it for the sake of variety; the colour being white and yellow, and the height of the plant about six inches. In a rich soil it is inclined to grow unruly, and therefore the plants must be put a foot apart. In a poor soil four inches less will do. It may be raised from seed and treated in the same way as the silenes.

Myosotis, or Forget-me-not.

Those who have raised a stock of seedling plants should lose no time in transplanting them so that they may have more room to gain strength before planting time. They should have fairly rich soil in an open position. If there is likely to be a scarcity, and there are a few old plants, they may be taken up and pulled to pieces. Each young piece that has a few roots will soon make a plant if dibbled in a bed of nice fine soil and kept watered for a time if the weather should be dry. They should be put out far enough apart at once to allow them room to grow to a good size. Pieces that have no roots will quickly make some if they are dibbled in some sandy soil and a handlight put over them. I need hardly say that M. dissitiflora has the largest flowers, and is the earliest to bloom, but is not so hardy as M. sylvatica. The white variety of M. dissitiflora must be raised from side pieces or cuttings, as seedlings vary much in growth.

Daisies.

These are admirably adapted for spring gardening, as they commence to flower early and continue to do so for some time, as young and vigorous plants produce the greatest number and the largest flowers. The stock should now be taken up and divided. Every small portion which has a root will make a plant. A bed of ground must be prepared in the open, and be made rich and broken up fine. The portions may then be planted four inches apart each way, and the soil be pressed firmly about the roots. Should the weather be very bright it will be advisable to give them a little shade. These plants are shaded by laying a few green branches over them. The Crimson variety is the most showy, and when planted in lines, with the white

variety and Cliveden yellow Pansy on each side, the effect is very pretty.

VIOLA SOUVENIR.

Violas, as a rule, do not come into flower early enough to make a display for a sufficient length of time to be worth the trouble, but the variety at the head of this note is an exception, for it is the earliest to flower of all the varieties. It is also vigorous growing, with ample foliage and large flowers of a clear mauve colour. Any one having old plants should cut down the old flowering shoots at once, and in two or three weeks the stools will be bristling with young growth. They may then be taken up and divided. The young pieces must be selected for transplanting, and if they are put out in good soil they will be fit to be planted wherever wanted by the end of October.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

CINERARIAS ought now to be strong from rooted offsets, and some will want a shift. Use good compost, moderately sandy, and plenty of drainage.

GREENHOUSE.—It is most important to have the growth of all hard-wooded plants well ripened while there is plenty of sun-heat. If any subjects requiring to be repotted have been neglected, there must be no time lost in giving them a shift, to enable them to make new roots before winter sets in. Wherever worm-casts are seen in pots turn out the balls, and the worms can then be picked out with a stick. Sometimes a dose of liquid manure will cause the worms to struggle up to the surface. Plants in conservatory borders which are now past their best to be taken up, and if worth keeping pot them, and place on bottom-heat for eight or ten days, as they will winter better if the pots are full of roots. Winter-flowering Begonias to have a good shift in a compost of turfy loam and leaf mould. Pot up a lot of bulbs at once for early bloom, and plunge them in coal-ashes, and give very little water. Keep all houses open as much as will be safe; house tender subjects that are likely to suffer from wind and rain. Pot a few bulbs for early bloom. Ornithogalum, Ixia, and Sparaxis force well, and Narcissus bulbocodium will be useful if kept in ordinary greenhouse temperature for early bloom.

PELARGONIUMS.—If the weather is cold or wet house the plants a little earlier than usual, but give plenty of air night and day for the first week.

MILDEW will show itself in all close, damp places now, and do incalculable mischief if not checked. Sulphur dustings are the best remedy, but fresh air and cleanliness will do much to prevent it.

TUBEROUS-ROOTED TROPÆOLUMS are of great value for the decoration of the conservatory during the spring and early part of the summer, and as they will soon commence to make new growth they must be repotted at once. Put the tubers in the pots in which they are to bloom, the number to be determined by the size of the pot, and use a light rich loam, containing a large proportion of sand. Though they are usually trained on wires they may be allowed to fall down from a pot or basket with excellent effect, to form a most elegant tracery of lively leafage dotted with dazzling flowers. The sunniest part of the greenhouse should be devoted to them, and special care be taken in potting to secure ample drainage.

STOVE AND ORCHID HOUSE.

ORCHIDS that have quite finished their growth for the season will require plenty of air during warm weather, to assist in ripening their pseudo-bulbs, and at the same time less water must be given. Young plants generally are reluctant to cease their growing, and these must have plenty of moisture, and continued but light shading. But those that are unmistakably settling down to rest should no longer be shaded, and there must be a decrease of temperature and of water supply. Stanhopeas must be looked to that they do not go too dry, which is very likely to happen if they have not been put into new baskets this season.

STOVE PLANTS in full growth must enjoy a free circulation of air, so as to induce a stocky habit, and prevent the formation of soft sappy wood, which will probably not ripen well. Remove shading as much as will be safe, and place subjects that are going to rest in the coolest part of the house. See that all the winter-flowering plants are sufficiently potted, and any that are pot-bound, and must not be checked by a shift, mulch with sheep's dung or assist by means of liquid manure. Plants with ornamental foliage will be useful now that flowers are scarce. In giving water take care to avoid a chill, and in every case see that the drainage is perfect, and there is time now to repair any small mischief before winter. As the month advances let the heat of the house decline, and generally use as little fire heat as possible, especially where the stock consists chiefly of plants that will be at rest all winter. Great care, however, must be taken that soft-leaved plants do not get affected with mildew. A few tropæolums struck now will be useful in the stove for winter blooms, and many ordinary garden subjects may be turned to account for decoration by getting young plants forward and giving them a liberal shift before taking them into the house.

FLOWER GARDEN AND PLEASURE GROUNDS.

ANNUALS, to bloom early next season, should be sown at once on hard ground, in a dry position; if raised above the general level all the better.

AURICULAS not yet repotted must be attended to without delay, to ensure new roots before the temperature declines.

CARNATIONS AND PICOTEES to be layered without delay, and potted off as soon as well rooted, and cuttings taken at once of all good seedling Dianthus in the borders.

INTERMEDIATE STOCKS to be potted in thumbs singly, and kept shaded till they make fresh roots. Sow Queens, Intermediates, and Bromptons; the soil to be sound turfy loam, without manure, as that would make them too sappy to stand the winter well; but a poor soil will be likely to cause a large proportion of single flowers.

PANSIES to be propagated now in quantity for planting out in October, and to pot for early blooming in pits in spring. Those lately struck to be planted out in beds of turfy loam, with a liberal admixture of sand and charred rubbish, but very little animal manure.

ROSES may be budded on briers till the middle of October, but the earlier the better. Those entered in July have made good shoots, and should be looked over occasionally for the removal of wild buds below the work. Roses layered now, and left undisturbed till April next, will then be found well rooted, and may be taken up and potted for bloom the following autumn. Roses lately budded to have the ties loosened. Where buds have failed others may be inserted, either on the stems of young stocks or on suitable shoots lower down than those previously worked. Prune pillar roses, so as to remove a moderate amount of both old and young wood; that left to be its full length, and at such regular distances that there will be good symmetrical heads next season. Short cuttings of Chinas and Perpetuals may be struck now in the open ground under glasses.

VIOLETS may be taken up from the borders and potted in a mixture of rotten turf, rotten dung, charred rubbish, and road sand, equal parts, for early bloom. In taking them up do not break the root more than can be helped, and have good balls to each patch. Shallow pans of seven inches wide suit them better than pots. Put them in a frame, sprinkle and shade, and give very little air for a fortnight; then let them be exposed to all weathers till the end of October; after which give them frame culture.

KITCHEN GARDEN AND FRAME GROUND.

CABBAGES for spring use should be planted where onions have been cleared off, because the ground having been well manured for the onions is in good heart, and yet so far relieved of manure by the onions that there will be no fear of a rank growth, such as will cause the plants to suffer from frost. Plant out as spaces become vacant, first digging deep, and leaving the surface rough. The planting, however, must be firm, and damp weather should be chosen for it.

CELERY to be earthed up only when it has grown to its full size. During the progress of the crop a dressing of fine earth may be occasionally thrown into the trenches to encourage the free spread of the roots, but systematic earthing up should not be commenced until the plant is pretty well full grown, for the process checks growth very materially. The earthing up should be done in dry weather, and great care must be taken to keep the mould out of the hearts of the plants. The late crops must, whether full grown or not, be well earthed up in time to protect them from frost.

ENDIVE raised from late sowings should be in part planted out on a raised bed in a sheltered spot, and in part planted in frames or in any other situation where they will be comparatively dry and sheltered. Ground vineries and orchard houses afford ready means of protecting endive and lettuce during winter. Do not in any case blanch too many at a time, or begin to blanch until the plants have grown sufficiently to be worth it.

TOMATOES when fully grown may be ripened on a shelf in the greenhouse if cut with some portion of stem attached.

New Plants, Flowers, and Fruits.

CARAGUATA ANDREANA (*Rev. Hort*, June 16, 1866).—A fine bromeliad with yellow flowers.

CATTLEYA LAWRENCIANA (*Rev. Hort. Belg.*, July, 1866, *Lindenia* 44).—A good figure of this fine orchid.

FAGUS SYLVATICA ATROPURPUREA TRICOLOR (*Rev. Hort. Belg.*, July, 1886)—A variegated beech of the "copper" series.

ODONTOGLOSSUM RUCKERIANUM (*Lind.* 41).—A good figure.

ANDROSACE LANUGINOSA (G. 555).—A beautiful old plant that will grow anywhere on sandy soil if safe from winter damp.

CYPRIPEDIUM ORPHANUM (*G.C.*, 1886, II., 166).—Probably a hybrid from *C. Druryi*, and *C. Argus*.

CENTAUREA MACROCEPHALA (*G.C.*, 1886, II., 168).—A curious and noble herbaceous perennial, producing globose head of yellow flowers.

RANUNCULUS LYALLI (*Bot. Mag.*, 6,888).—A beautiful plant from the southern island of New Zealand. The leaves attain a foot in diameter, and the white flowers four inches.

IRIS MILESI (*B.M.*, 6,889).—A beautiful iris, received in seed by Mr. Frank Miles from North-West Himalaya. The flowers are of the size and general character of those of *I. tectorum*.

CERINTHE MINOR (*B.M.*, 6,890).—A hardy herbaceous plant of the borage family; flowers yellow.

DISA ATROPURPUREA (*B.M.*, 6,891).—A pretty little terrestrial orchid, with flowers of a deep purplish red colour.

RIBES OXYACANTHOIDES (*B.M.*, 6,892).—An American gooseberry, the fruit small, round, deep purple. It has long been known, but appears to be of no special value.

ADIANTUM CAPILLUS VENERIS GRANDE (*G.C.*, 1886, II., 103).—A remarkably handsome maidenhair fern, with pinnules an inch across, much cut down, but when growing appear solid.

LASTREA DILATATA DENTIGERA (*G.C.*, 1886, II., 103).—A curious variety with forked pinnæ, and placed irregularly.

MASDEVALLIA STRIATELLA (*G.C.*, 1886, II., 103).—A small flowering species of some interest.

CHONDRORRHYNCHA LENDYANA (*G.C.*, 1886, II., 103).—Flower as nearly as large as that of *Warscewiczella discolor*, whitish yellow, lip much darker.

NEW GLADIOLI (*G.*, 554).—Three handsome varieties raised by M. Victor Lemoine, of Nancy. *La France* is light purplish red, with smallish blotches of yellow. *L'Alsace* is bright yellow, with large spots of marone crimson. *Masque de Fer*, rich deep vinous crimson, with shades of mauve and chocolate.

PORTULACA SOMALICA (*G.C.*, 1886, II., 134).—A succulent plant, growing eight to ten inches; flowers in clusters of three, inside yellow, outside pale pink.

PINUS MONOPHYLLA (*G.C.*, 1886, II., 136).—In size and habit resembling *P. edulis*, easily distinguished from all North American pines by its solitary glaucous terete leaves.

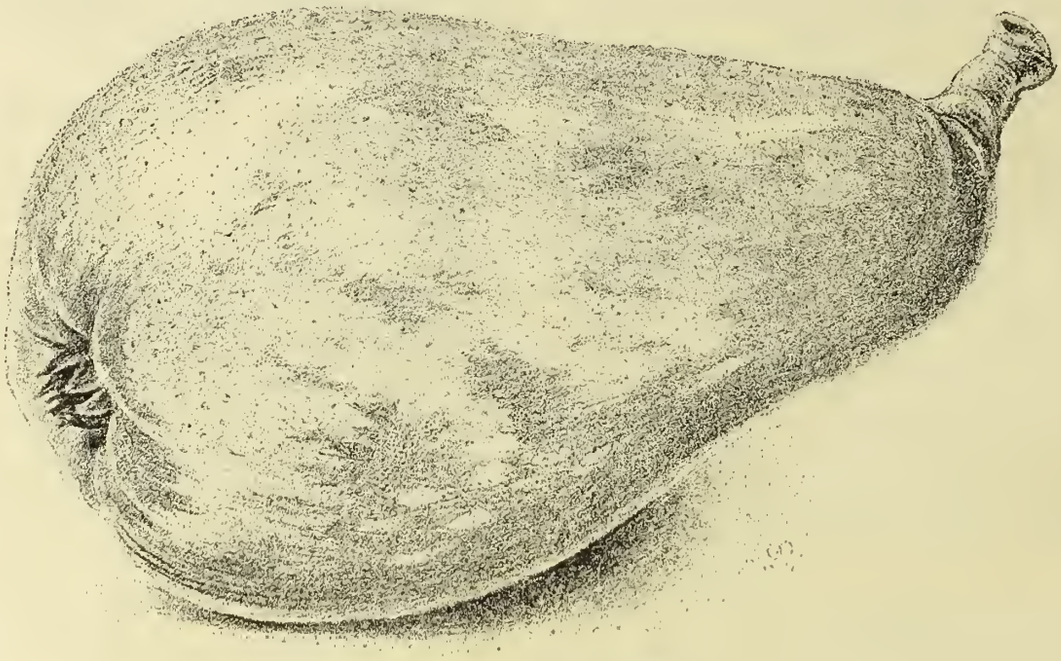
QUEEN OF BEVERAGES.—Refreshing the weary, stimulating the inactive, soothing the invalid, cheering the social.—PURE TEA alone, by its intrinsic and excellent qualities, "pales the fire" of all other drinks.—*A cup of good tea* is always welcome, as proved by the fact that 6,000,000 (six million) packets of Horniman's Pure Tea are sold every year by 4,000 duly appointed Agents, *Chemists and Confectioners*. The description, if Black, Green, or Mixed Tea, also the retail price, is plainly printed on each packet, with the Importers' warranty that their tea is free from all adulteration. Some unscrupulous persons copy the labels, wrappers, &c., used by Messrs. Horniman, purchasers are therefore cautioned to *avoid spurious imitations*. See advertisements in all papers, and at the railway stations.—[ADVT.]

CONGRESS PEARS.

Winter Williams, or Bon Chrêtien d'Hiver.

The appearance of this pear in the congress collection gave the salutary lesson that statistics, like other evidences, must be carefully sifted ere we can appraise them at their proper value. It is scarcely at all known in this country, and yet it has some special merits, one of which is that it ripens late, and is useful at a time when pears are scarce. It should be understood that it is in no way related to the well-known Williams's Bon Chrêtien, but has obtained the name of "Williams," because, when at its best, it is a pleasant reminder of that useful and popular early pear. The origin of the name is discussed at length in Hogg's Fruit Manual, 5th edition, page 666; but the only point in the history that need be noticed here is the important fact that it is not the same as the Bon Chrêtien d'Auch, as it is sometimes represented in the catalogues, for that pear is not greatly different to the Summer Williams, and possibly is the same. The variety before us has had a leading place as a dessert pear for centuries in France, where it is also in repute when grown as an orchard standard for culinary purposes. In this country it does not usually attain to perfection without the aid of a wall, except in places particularly favourable to pears, but when well grown as a wall pear it proves to be one of the best for winter use, its season being from December to April.

Bon Chrêtien d'Hiver is of large size, pyramidal or pyriform, irregular, and often obliquely rounded at the stalk end, as in the figure, which represents a typical sample. The eye is one of its most constant characters, being large, open, with long segments, and set in a wrinkled cavity. The skin is dull yellow, strewed with dots and patches of russet. The flesh is white, sweet, juicy, and perfumed.



DESSERT PEAR, *Winter Bon Chrêtien.*

Marie Louise d'Uccle.

This superb pear is generally known as "Louise d'Uccle," and it is by no means scarce, although hitherto cultivated only in gardens where first-class fruits have special attention. The value of this variety will be understood when we say that it surpasses the famous Marie Louise in every way, and more especially in the way that will suit most amateur pomologists, for it is better adapted for the quince stock, as it need not be double worked, as in the other case is required, while the fruit is larger, more abundantly produced, and in quality of the very first order.

Marie Louise d'Uccle is large, bluntly pyriform or oblong, evenly rounded at both ends, the stalk rather slender and often obliquely inserted, and occasionally accompanied by a fleshy lip. The eye is conspicuous by reason of its sharp regular segments and the neat basin in which it is set. The colour is much the same as Marie Louise, yellow, with strewings of pale russet. The flesh is fine-grained, juicy, fragrant, rich, and buttery. The season is October and November.

Mr. J. Martin, of Barcot, near Faringdon, has been presented by his employer, R. West, Esq., with a gold watch in recognition of his services.

RENOVATING OLD VINES.

By J. C. Clarke.

Whether it is good policy to destroy old vines and plant young ones in their place after making a new border it is difficult to say, unless one is on the spot and able to see something of their present condition. Where the vines have been well managed it is, as a general rule, quite safe to lift the roots and plant them in a newly-made border if they are not more than twenty years old. It is desirable sometimes, even when they have been planted longer than twenty years, to renovate instead of destroying them; but all must depend on their present condition. If they have become weak owing to insufficient nourishment in the border for the roots, I should say by all means preserve the old vines, but give the roots a new border.

The next question is, When is the best time to lift the roots of vines which require a new border? This must depend entirely on circumstances. Practically there are only two seasons in the year when it can be done under ordinary management, and these are early autumn and early spring. Vines from which all the fruit has been cut by the middle of September, and carrying plenty of healthy green leaves, may be lifted at that time and up to the end of the first week in October with perfect safety. When it is not practicable to do the work in the autumn it should be deferred until the middle of February, or as soon after as the weather will permit. This kind of work should not be done when frost is severe and the snow is on the ground. At whatever time of year the work may be done it must be completed as expeditiously as possible. Everything must be in readiness, including soil and all the necessary appliances, and if the border should be of considerable length half or a third of it should be done at a time. I find ten feet length of border is as much as can be safely undertaken at one time.

With regard to soil for vine borders, I would say that good fibrous loam and a fair quantity of old mortar and brick rubble are sufficient. I am no advocate for expending large sums of money on crushed bones and other ingredients. With reference to manure, I would not use it if I had an unlimited supply, as it so quickly decomposes and becomes sour and pasty that it does more harm than good to the roots after the first few months. It is very essential that the loam be dug from a pasture and stacked in a heap for a few months before it is used. How thick the sods should be cut will depend on the composition of the soil. Generally speaking, the turves should not exceed four inches in thickness, as the soil below that is either too poor or does not contain sufficient fibrous matter. To the use of bones, charcoal, and other substances that are sometimes recommended for vine borders there is no great objection. If expense is no object they may be employed in proper proportions. If the loam used should be of a retentive nature these materials will help to keep it open, but otherwise they are not necessary, as I am quite satisfied that grapes, quite as good, can be grown without them as with them.

Respecting the depth of vine borders, that point must be settled by the area covered. If the roots have a run of thirty or forty feet in a fairly good soil it is not necessary to make the border more than two

feet deep for the first six feet from the house, and beyond that the depth may gradually diminish to one foot at sixteen feet from the wall. But where the roots are confined to a space ten feet or twelve feet wide the depth of soil ought not to be less than thirty inches or three feet.

If it is decided to do the work in September, the first thing the operator must do is to shut up the house close, and then to effectually shade the roof, and the ends too if the sun can reach the vines that way. They must have neither sun nor air for at least a fortnight after the lifting of the roots is completed. All the leaves and branches, as well as the old stems, will require syringing twice a day. The floor of the house and also the walls will require damping, as the air of the house must be kept constantly saturated with moisture to prevent, as far as possible, the leaves from flagging. It will also be necessary to attend to the temperature inside the house. This must be kept up to 75 deg. or 80 deg., so that it may be necessary sometimes to light a fire to maintain such a temperature, as the object is to induce the branches to start into growth again from the extreme points, and not until such growth is visible must the shading be removed or air admitted. The shading should be removed at first on dull days, and at other times shade the roof for a few hours during the middle of the day when the sun is very bright. At the end of a month the shading may be discontinued altogether, and a little air may be admitted by means of the top ventilators, and the temperature should be gradually lowered until fire heat is dispensed with altogether. The operator must not be surprised to see some of the oldest leaves turn yellow and drop off. That is almost an inevitable consequence, but if the instructions which I have given are fully acted upon the majority of them will remain green, although all will flag for a time. If the border is outside it will be necessary to effectually cover it up during the winter to keep off heavy rain, as well as frost, and there is nothing better as a covering than fresh gathered leaves, placed nine inches thick, and a layer of straw to throw off the rain. Vines moved in the autumn must be allowed to start into growth in the spring at their own time in a cool temperature, as any attempt to force them would probably produce a very weak growth. Such vines ought not to be pruned until the middle of February, and to reap a full measure of success from the operations they ought not to be allowed to bear any fruit the first year after being moved.

When the lifting of the roots is done in February the trouble of shading the roof and the covering of the border is dispensed with, but this is not all gain, because vines dealt with in the autumn regain in some degree their strength before winter, as by taking care of the branches the roots begin to obtain a hold of the soil at once. As a consequence of this, when the spring arrives they are ready to start into active growth. It is not so in the case of those lifted in the spring. They have the shock of removal to overcome and wounded roots to heal, which retard their growth for a time. But it is only for a time, and it is astonishing how vigorous they will start into growth and maintain it with only the stored-up sap to sustain them. I have proved this in my own experience, having lifted vines in February and taken a fair crop of fruit the same season; but then these were not exhausted vines such as would be dealt with in an ordinary way. It was a case that some alterations made necessary. If asked to advise which is the best season to lift vines, spring or autumn, I should, without hesitation, say the latter, and the earlier it is done after September 1 the better.

In lifting the roots, care must be taken to have as large a number of them as possible uninjured. To do this a commencement must be made at least eight feet from the stem. If very large vines, it is as well to start ten feet from the stem so as to secure a sufficient number of roots in proportion to the branches. The roots, as a matter of course, must be diligently searched for. A light fork and a trowel are two useful tools for the purpose of working out the soil between the roots. Some old mats or long litter should be close at hand to cover up the roots as they are exposed while others are being searched for. Before planting, those which have been unavoidably injured should have the injured portion cut away.

It now remains to be said that in putting back the roots in the new soil they should be placed in at least two layers. The first layer should be fully nine inches under the surface, and none should be nearer than three inches. Some fine-sifted soil should be placed on all the roots, and in filling in the other ingredients one quarter of brick rubble should be added to the loam and be equally distributed all over the border. The roots of vines lifted either in autumn or spring must be well looked after as regards moisture during the summer. The soil should be examined, and when found to be dry it should be watered, and a mulch of half-rotten manure laid on the surface to prevent the evaporation of the moisture.

DESSERT PEAR, *Marie Louise d'Uccle.*

Mr. Franz Maly, curator of Arboretum Hosti at the Schloss Belvedere, has been appointed Hofburg Garten Inspector at the Vienna Hofburg Garden.

REPORTS OF FRUIT CROPS, 1886.

APPLES.

ABERDEENSHIRE.—Crop considerably below the average.

Mr. G. H. Smythe, Aboyne Castle, writes: The trees bloomed well, but the late frosts seriously injured the flowers, many of which were imperfect.

AYRSHIRE.—Very poor crops on all sides.

Mr. D. Murray, Culzean Castle, says: Lord Suffield, Ecklinville Seedling, and Keswick Codlin, are the only varieties that are bearing a crop.

BANFF.—Fruit so thin that the crop may be regarded as a failure.

Mr. G. Berry, Cullen House, writes: Almost a complete failure, which was to be expected after the heavy crop of last year, and the unfavourable conditions for ripening the wood. Last year we had 7 deg. of frost on August 31, and 4 deg. on September 1, which destroyed everything that was at all tender, and during the remainder of the autumn the weather was bleak, cold, and sunless.

BEDFORDSHIRE.—Crop very light throughout the county.

Mr. George Dale, Sandy Place, says: Many trees have not an apple on them, and some have a very sickly appearance.

Mr. C. Turner, Cranfield Court, states: Crop all but a failure; the most fruit is on espaliers, dwarf bushes, and pyramids.

BERKSHIRE.—Variable, and on the whole decidedly below the average.

Mr. Tegg, Bearwood, Wokingham, reports: The crop of apples here and in the neighbourhood is an average one. Our best dessert sorts are Cockle Pippin, Cox's Orange Pippin, Court Pendu Plat, Stirling Castle, Quarrenden, Fearn's Pippin, Golden Pippin, Summer Pippin, Pineapple Russet, Scarlet Pearmain, and Worcester Pearmain. The best of our kitchen sorts are Keswick Codlin, Lord Suffield, Gloria Mundi, Blenheim Pippin, Alfriston, Cellini, Cox's Pomona, Hoary Morning, Bedfordshire Foundling, Hawthornden, and Yorkshire Greening.

BERWICKSHIRE.—Crop considerably below the average.

Mr. W. Fowler, Mertoun House, St. Boswell, writes: Owing to the cold spring and continued frosts at night, the ground crops were seriously injured. Apples, except Lord Suffield, Ecklinville Seedling, Keswick Codlin, and Warner's King, which are producing a fair crop, are very scarce.

BUCKINGHAMSHIRE.—Much below the average in all parts of the country.

Mr. G. T. Miles, Wycombe Abbey, remarks: Below an average crop, but early kinds are more plentiful than late ones.

Mr. J. Smith, Mentmore, writes: Very poor crop. The trees bloomed well, but owing to low temperature and damp they failed to set a crop. The following varieties are bearing a moderate crop: Lady Apple, Irish Peach, Duchess of Oldenburgh, Cox's Orange Pippin, Worcester Pearmain, Kerry Pippin, Cellini, Early Harvest, Washington, Yellow Ingestre, and Lemon Pippin. This is the first season for eleven years that Lane's Prince Albert has failed to set well.

CAMBRIDGESHIRE.—Crop much under average in all districts.

CARDIGANSHIRE.—All our correspondents in the county agree in describing the crop as decidedly below the average.

Mr. J. Vearey, Gagerddan Hall, Aberystwith: The crop is under average, but Warner's King is bearing a good crop, as it does every year, and the fruit is very fine.

CARMARTHENSHIRE.—Very light crop throughout the county.

Mr. J. Ticehurst, Dyncover Castle, says: About half a crop, and as a rule dwarf trees are bearing better than standards. Some standards of Herefordshire Pearmain are bearing better than they have done for years.

CAVAN.—Fruit thin on all sides.

Mr. D. Burns, Farnham House, says: Blenheim Orange, Quarrenden, and Lady Henniker seem to be the best for this locality.

CHESHIRE.—Partial, but on the whole much under the average.

Mr. Robert Mackellar, Abney Hall, Cheadle, reports: Apples are irregular or partial, some kinds are bearing good crops, but many have but little or no fruit. Cellini, King of Pippins, Grenadier, and Cox's Orange Pippin are carrying full crops; but Hawthornden, Prince Albert, and Lord Suffield, that have usually borne well, have but few fruits.

Mr. W. Whitaker, Crewe Hall, writes: There was an excellent prospect of an abundant crop in this district, but the inclement weather at the end of April and the beginning of May destroyed a great part of the blossom and embryo fruit. In consequence of the damage done the crops of most kinds will be much under the average. The sorts bearing best are Irish Peach, Rymer, Lewis's Incomparable, Red Reinette, Ribston Pippin, Gravenstein, and a local sort called the Cottager.

Mr. George Tandy, Norton Priory, remarks: With the exception of Lord Suffield and Devonshire Quarrenden, apples are almost a failure in this district.

CLACKMANNANSHIRE.—Below the average in all districts.

Mr. T. Ormiston, Alloa Park, says: Lord Suffield is the only apple bearing a good crop.

CORNWALL.—Generally below the average.

Mr. G. D. Vallance, Tresco Abbey, reports: Below the average in quantity, but good in quality.

CORK.—Crop light throughout the county.

Mr. W. H. Swanborough, Doveraile Court, remarks: All kinds are scarce this year.

Mr. R. Brennan, Bantry House, writes: We had a very severe storm about the second week of May, which blackened most of the bloom; and a very large proportion of the flowers dropped off. Nearly every May we have high winds, which injure the apple blossoms.

CUMBERLAND.—Fruit very light on all sides.

Mr. T. R. Cuckney, Eden Hall, Penrith, says: Lord Suffield, Irish Peach, and Ribston Pippin are the only kinds that promise a good crop.

DERBYSHIRE.—Much below the average throughout the county.

Mr. W. Sherwin, Osmaston Manor, remarks: Orchard crops almost a failure, and in gardens the fruit is very thin. Lord Suffield, Warner's King, Queen of the Kitchen, Betty Geeson, and Cox's Pomona are the best with us; of these we have a fair crop.

Mr. O. Thomas, Chatsworth, observes: Codlins and other early apples are plentiful, but late varieties are scarce.

DERRY.—Very thin in most places.

Mr. J. Adam, Coppagh, Port Steward, says: Some trees are producing about half a crop, whilst others have no fruit.

DEVONSHIRE.—Below the average in all districts.

Mr. D. C. Powell, Powderham Castle, writes: Considerably under average, but the individual fruits are very fine, and swelling away nicely since the rain. The most prolific this season as pyramids are Old and New Hawthornden, Keswick Codlin, Lord Suffield, Warner's King, Ecklinville Seedling, Bedfordshire Foundling, Gravenstein, Cox's Orange Pippin, Cox's Pomona, Small's Admirable, Lane's Prince Albert. These, as small pyramids, ranging from six to eight feet high, are bearing full crops. All our trees are lifted or root pruned as they require it.

Mr. J. Garland, Killerton, says: Although the trees bloomed late very few set their flowers. The best this season are Dumelow's Seedling, King of the Pippins, Lord Suffield, Ross's Nonpareil, Monk's Codlin, Blenheim Pippin, and Cox's Pomona.

DORSET.—Partial, but on the whole below the average.

Mr. D. Williams, Canford Manor, Wimborne, observes: We have a good average crop of both kitchen and table kinds. Keswick Codlin, Lord Suffield, Gravenstein, Warner's King, and Dumelow's Seedling, of the kitchen varieties, and Court Pendu Plat, Irish Peach, Margil, King of the Pippins, Mannington Pearmain, and Kerry Pippin of dessert varieties, are all bearing good crops.

Mr. Pragnell, Sherborne Castle, remarks: Excellent crops in gardens, but thin in orchards.

Mr. P. Davidson, Iwerne Minster, reports: Vigorous trees of free-bearing varieties, such as Annie Elizabeth, Ecklinville Seedling, Hawthornden, Quarrenden, Stirling Castle, Lord Suffield, Fearn's Pippin, and Dumelow's Seedling are producing fair crops. On the other hand, old moss-grown orchard trees on poor soil had but few flowers, which suffered much from the late spring frosts and cutting east winds, the result being less than a third of a crop.

DOWN.—Fruit thin throughout the county.

Mr. J. Taylor, Mount Stewart, says: Quite a failure in this locality. Warner's King and Lord Suffield are the only varieties that have a crop.

DUBLIN.—A very light crop throughout the county.

Mr. G. Smith, Vice-Regal Lodge, Dublin, states: Free-bearing sorts have a moderate crop, whilst others have no fruit.

DUMBARTON.—Fruit so thin that it is computed to be not more than half a crop.

DURHAM.—Considerably below the average.

Mr. J. Hunter, Lambton Castle, says: Apples are very thin, as the late varieties only set their fruit, which is late and small. Even Lord Suffield and other free-bearing sorts are this season very poor.

EAST LOTHIAN.—Variable, but generally below the average.

Mr. R. P. Brotherston, Tyninghame, writes: Some sorts are fairly well cropped, others are carrying good crops on some trees, whilst other trees are quite bare. Of some kinds there is a complete failure. Those bearing fairly well comprise Mére de Ménâge, Tower of Glamis, Stewart's Seedling, Cellini, Stirling Castle, Ecklinville Seedling, Northern Greening, Duchess of Oldenburgh, Warner's King, Lord Suffield, Reinette du Canada, Rymer, English Codlin, Lady Wemyss, Hoary Morning, Irish Peach, Yellow Ingestre, Ribston Pippin, Margil, Red Astrachan, Camhusnethan Pippin, Cockle Pippin, East Lothian Seedling, Kerry Pippin, Claygate Pearmain, Adams's Pearmain, Stone Pippin, and Golden Drop. The sorts which are very variable include Keswick Codlin, Blenheim Pippin, and Cox's Orange Pippin; whilst such generally free kinds as Early Julian, Dumelow's Seedling, and Downton Pippin are quite bare. The above are all good kinds for this locality.

ESSEX.—A very light crop in all parts of the county.

Mr. W. Dance, Gosfield Hall, remarks: We have fifty-six varieties here, and of the number Lord Suffield, Lord Derby, Keswick Codlin, Beauty of Kent, Norfolk Beefing, Old Hawthornden, New Hawthornden, Cellini, Tower of Glamis, Ribston Pippin, Worcester Pearmain, and Normanton Wonder are very good.

Mr. H. Eldridge, Chesterford Park, Saffron Walden, observes: Here and there I have seen a tree fairly laden with fruit, but, generally speaking, the fruit is very thin.

FIFESHIRE.—Considerably below the average, and in some places a complete failure.

Mr. R. Gossip, Crawford Priory, Cupar, says: Very scarce in this district, but Lord Suffield and Ecklinville Seedling are bearing good crops.

FORFARSHIRE.—Under average on all sides.

Mr. S. Laird, Kinnaird Castle, Brechin, states: Lord Suffield is very good, both on standards and walls.

GALWAY.—Fairly good crop in some districts.

Mr. J. McKinnon, Kylemore Castle, reports: There is a good crop in this district, and well-known free-bearing varieties such as Lord Suffield, Keswick Codlin, Blenheim Pippin, Ecklinville Seedling, Hawthornden, Alfriston, Duchess of Oldenburgh, Peasgood's Nonsuch, King of the Pippins, and Irish Peach are bearing well, and the fruit is clean and well shaped.

GLAMORGANSHIRE.—Rather variable, but on the whole rather below an average.

Mr. J. Muir, Margam Park, writes: The early varieties are more plentiful than late sorts. Lord Suffield, Keswick Codlin, Hawthornden, and King of the Pippins are bearing very heavily. The fruit is, however, below the average in size, as the trees were unusually late in coming into bloom.

GLOUCESTERSHIRE.—An average crop in all but a few districts.

Mr. H. Bannister, Cote House, Westbury-on-Trym, observes: The crop is very poor indeed, the trees bloomed freely, and the fruit set fairly well, but the trees were sadly blighted, and the fruit nearly all fell off. We have an old apple tree here called "The Old English Codlin," which is an exception to the rule. It never fails to carry a crop, and it is now carrying not less than half a dozen bushels of good fruit.

HAMPSHIRE.—Crop light in all parts of the county.

Mr. C. Trinder, Dogmersfield Park, observes: The varieties bearing the best are Blenheim Pippin, Cox's Pomona, and Lord Suffield. Frogmore Prolific we find a most abundant bearer, and an excellent culinary variety, but this year it has failed to bear its usual crop.

Mr. W. Wildsmith, Heckfield Place, Winchfield, reports: Apples are bearing the poorest crop that has been in these gardens and districts for six years. Half the trees are quite fruitless. The extraordinarily heavy crop of last year is mainly the cause of this year's deficiency, but sharp frosts when the trees were in flower did some harm. The kinds that are bearing the best are Lord Suffield, Wadhurst Pippin, King of the Pippins, Kentish Fillbasket, and Cellini.

HEREFORDSHIRE.—Rather partial, but on the whole somewhat below the average.

Mr. C. J. Denning, Holme Lacy, describes the crop as an average, and the fruit as of good quality.

Mr. W. Coleman, Eastnor Castle, Ledbury, writes: Our great staple in this and the adjoining counties of Gloucester and Worcester is partial; many

trees which bore well last year being thin of fruit, while others which were cropped or received good culture in the way of pruning and top dressing are already bending under their load. At one time many orchards looked starved and unhealthy, but the fine rains we have recently had produced a marked improvement, and pessimists who a short time ago cried "more lichen and mistletoe than fruit" will have to look elsewhere for a hobby horse to carry them through the autumn. Apples generally do well on our old red sandstone and marls, and it is gratifying to be able to say the better sorts, including Blenheim Pippin and Cox's Orange Pippin, are carrying good crops. The Pearmains, a host in themselves, also do well.

HERTFORDSHIRE.—Very light crop in all parts of the county.

Mr. R. Sawford, Daneshury, says: Apples are very much under the average, and trees are much blighted, especially standards.

HUNTINGDONSHIRE.—Below an average on all sides.

Mr. T. Cowburn, Kimholton Castle, remarks: On this cold clay soil apples are miserably poor, and the leaves now, from crippled root action, consequent on the incessant rains previous to June 27, are falling off as if scalded, and the fruit is blighted.

KENT.—Partial, but a fairly good crop in many districts.

Mr. George Bunyard, Old Nurseries, Maidstone, says: All the later kinds are a short crop. The early codlins are carrying a fine crop, and King of the Pippins is plentiful in some places; garden trees on Paradise stock are better fruited than standards; Cox's Orange Pippin is perhaps producing the best crop amongst dessert kinds.

KILDARE.—Crop generally light.

Mr. E. Knowldin, Carton Park, mentions Keswick and Ecklinville Seedling as being very good, and states that other sorts have very light crops.

KILKENNY.—A very poor crop throughout the county.

Mr. W. Gray, Woodstock Park, writes: Apple crop much under the average, although there was an abundance of bloom. The flowers set badly owing to the cold, sunless weather we experienced during April and May. Lord Suffield, Stirling Castle, Ecklinville Seedling, Small's Admirable, and Scarlet Pearmain are the only sorts bearing a fair crop.

KINCARDINESHIRE.—Below the average in all parts of the county.

Mr. A. Cruickshank, Glenbervie House, says: We have not over one-third of a crop, owing to the severe storm we had when the trees were in bloom.

KING'S COUNTY.—Partial, but generally light.

Mr. J. Roberts, Charleville Forest, reports: Nearly a failure on old trees in orchards; young pyramidal and bush trees in gardens are mostly fairly cropped. Some trees of Ribston Pippin, on a south wall, trained with a single stem up to coping of wall and around apricot trees, bear every year, and have fine fruit, although several canker. A few trees of Blenheim Pippin are bearing a good crop, and Ecklinville Seedling is very good. All apples bloomed freely, but failed to set well.

KIRCUDBRIGHTSHIRE.—Much below the average.

Mr. W. Melville, Glenlee, New Galloway, attributes the failure to the injury done to the flowers by the spring frosts.

LANARKSHIRE.—Considerably below the average.

LANCASHIRE.—Variable, but generally below the average.

Mr. A. Jamieson, Haigh Hall, Wigan, says: Cellini, Lord Suffield, Ecklinville Seedling, and Cox's Pomona are the best this season.

Mr. G. Middleton, Rainford Hall, St. Helen's, observes: Lord Suffield is the most reliable variety about here.

Mr. F. Harrison, Knowsley Hall, Prescot, writes: Apples are hereabouts below the average, both in numbers and size. Lord Suffield, Hawthornden, New England Pippin, and Lewis's Incomparable seldom fail entirely. The Nonpareils, Reinettes, and Russets on the Paradise bear freely in most seasons.

LEICESTERSHIRE.—A very thin crop throughout the county.

Mr. W. Ingram, Belvoir Castle, remarks: This is the very worst crop I have known for many years; Stirling Castle, Warner's King, and Lord Suffield are showing fair crops, but the trees are in rich kitchen garden soil and sheltered. Many orchard trees appear as if so far injured as to be unlikely to recover.

Mr. G. E. Maynard, Cole Orton Hall, Ashby-de-la-Zouch, says: Apples promised well, but the greater part of the bloom dropped off. The kinds that do well here are Caroline, Annie Elizabeth, a good late kind, with vigorous constitution, Normanton Wonder, Warner's King, King of the Pippins, Lord Suffield, Bess Pool, and several local varieties.

LINCOLNSHIRE.—An indifferent crop in most parts of the county.

Mr. George Johnson, Appleby Hall, Doncaster, observes: We have a poor crop here, but in some of the cottagers' gardens there is a good crop; the most fruitful trees being in the open.

Mr. John Frishy, Hainton Hall, states: In an orchard of large apple trees, extending over two and a-half acres, we cannot find a dozen apples. In gardens, Cox's Orange Pippin, Worcester Pearmain, Garrat's Golden Pippin, and Sturmer Pippin are bearing a fair crop.

LONGFORD.—Crop considerably below the average throughout the county.

MAYO.—Fruit very thin on all sides.

MIDDLESEX.—Rather variable, and on the whole decidedly below the average.

Mr. J. Hudson, Gunnersbury House, Acton, writes: Below an average. The following kinds are cropping well, namely: Golden Noble, an apple deserving far more extended cultivation, Cox's Pomona, Cornish Aromatic, Gravenstein, and Winter Queening. Dumelow's Seedling, King of the Pippins, Waltham Abbey Seedling, and Blenheim Pippin are almost a total failure with us this season.

Mr. J. Woodbridge, Syon House, Brentford, says: We have an average crop here. The early kinds, such as Keswick Codlin, Lord Suffield, Monk's Codlin, and King of the Pippins are bearing best. The late kinds are rather thin.

Mr. John Gough, Harefield Grove, Uxbridge, says: The only sort bearing a full crop on standards, bushes, and pyramids is Worcester Pearmain. About half the trees of Lane's Prince Albert are carrying full crop. A few trees of Cellini, planted for cordons two years ago, are carrying a full crop. We have a thousand trees of Ecklinville Seedling with scarcely a fruit, although they bloomed splendidly. Lord Suffield about half a crop.

MONTGOMERYSHIRE.—Crop considerably below the average in all districts.

Mr. W. Alexander, Vaynor Park, remarks: King of the Pippins and Lord Suffield are bearing a good crop; nearly all other sorts are a failure.

MONMOUTHSHIRE.—A very poor crop, the cider kinds being the least satisfactory.

MORAYSHIRE.—A light crop in all districts.

Mr. J. Clarke, Brodie Castle, observes: None, with the exception of Lord Suffield and Downton Pippin.

MIDLOTHIAN.—Partial, but fruit is generally thin.

Mr. MacKinnon, Melville Castle, describes the crop with him as rather under average.

NORFOLK.—Below the average on all sides.

Mr. W. Allan, Gunton Park, remarks: Crop very light on orchard trees. Trees bloomed well, but the flowers were small, and not well developed, consequently did not set. On bush trees and espaliers the crop is a good one, especially Lord Suffield, Lane's Prince Albert, Warner's King, and Potts's Seedling.

Mr. H. Jones, Carrow House, Norwich, says: Crop under average, but the trees are making strong growth, and remarkably free from blight. The most fruitful this year are Mannington's Pearmain, Lodgemore Nonpareil, White Nonpariel, Sturmer Pippin, Keddleston Pippin, Blenheim Pippin, Warner's King, and Normanton Wonder. Amongst newer varieties Lady Henniker and Lord Burleigh deserve mention, as the fruit is of good quality and fine appearance, and keeps well.

NORTHAMPTONSHIRE.—Much under the average on all sides.

Mr. J. Hughes, Eydon Hall, Byfield, writes: The light crop is a great disappointment, as the trees flowered splendidly; but owing to the continued wet weather at the time they were in bloom the fruit did not set. The only variety carrying a crop is Devonshire Quarrenden, which bloomed at the beginning of May, when we had a week of fine weather.

Mr. E. Cole, Althorp Park, observes: The varieties cropping best are Hanwell Souring, Dumelow's Seedling, Cockle Pippin (on young trees), Peasgood's Nonsuch, Lord Grosvenor, Grenadier, Court Pendu Plat, King of the Pippins, Mr. Gladstone, Ringer, and Schoolmaster.

NORTHUMBERLAND.—A very light crop on all sides.

Mr. G. Harris, Alnwick Castle, says: Lord Suffield is bearing a good crop

NOTTINGHAMSHIRE.—Considerably below the average.

PERTHSHIRE.—Crop very light in all districts.

Mr. J. Brown, Abercairney, observes: In not a few districts the crop is so light as to practically amount to a failure.

Mr. J. Robb, Drummond Castle, states: With the exception of a sprinkling of Stirling Castle and Lord Suffield we have no apples.

QUEEN'S COUNTY.—An average crop in most places.

RADNORSHIRE.—Considerably under the average.

RENFREWSHIRE.—Crop very poor on all sides.

ROXBURGHSHIRE.—Fruit very thin in most places.

Mr. H. Scott, The Gardens, Abbotsford, says: A great many trees did not flower, and others were much damaged by rough winds.

SHROPSHIRE.—A very poor crop in all districts.

Mr. J. Loudon, The Quinta, Chirk, writes: A very severe hailstorm, May 27, literally cut the flowers to pieces, and those in bloom are fruitless. King of the Pippin, Stirling Castle, Lord Suffield, Cox's Pomona, and Cellini are bearing a full crop, while other varieties have few or no fruits.

Mr. W. Sherwin, Chetwynd Park, says: Lord Suffield and Keswick Codlin are always sure bearers here.

SLIGO.—A good average crop.

SOMERSETSHIRE.—Crop generally thin, especially in orchards.

Mr. W. Iggulden, Marston House, Frome, reports: Only the sheltered garden trees of a few well-tried sorts are bearing a good quantity of fruit. Even the free-bearing cider kinds have failed. The heaviest crops are of Lord Suffield, Lord Derby, Hawthornden, Cellini, Tower of Glamis, Duchess of Oldenburgh, Beauty of Kent, Lemon Pippin, Cox's Orange Pippin, King of the Pippins, and Adams's Pearmain.

STAFFORDSHIRE.—Better than in most parts of the country, but hardly an average crop.

Mr. Z. Stevens, Trentham Hall, remarks: Fair crop, King of the Pippins and Keswick Codlin heavy.

Mr. G. H. Green, Enville Hall, says: There was a good display of bloom, but the fruit did not set well, and a considerable proportion has dropped since.

STIRLING.—Decidedly below the average.

Mr. McLeod, Brentham Park, mentions Lord Suffield and Stirling Castle as bearing good crops.

SUFFOLK.—Partial, and on the whole below the average.

Mr. J. Mill, Rendlesham Hall, writes: Apples suffered much from late frosts and strong winds when in bloom. There is in this district a highly-prized kitchen apple, which is known locally as Cobbett's Seedling, but I believe its proper name is Cobbett's Fall. It is a very fine sort, and a most constant bearer. Lord Suffield, Warner's King, Lane's Prince Albert, New Hawthornden, King of the Pippins, Cox's Orange Pippin, Margil, Dutch Mignonne, and Court Pendu Plat are also good kinds, and succeed well.

Mr. J. Best, Easton Park, Wickham Market, remarks: Apples are very scarce in this neighbourhood. The only varieties bearing a crop worth speaking of are King of the Pippins, Dumelow's Seedling, and Northern Greening.

Mr. D. T. Fish, Hardwicke House, remarks: Fruit dropped much through the latter half of July. Lord Suffield has the best crop.

SURREY.—Partial; but on the whole rather below the average.

SUSSEX.—Very light in all parts of the county.

Mr. E. Burbery, Arundel Castle, remarks: The following are bearing best here as standards: Keswick Codlin, Devonshire Quarrenden, Irish Peach, Cox's Orange Pippin, Lord Suffield, and New Hawthornden.

Mr. S. Ford, Leonardslee, Horsham, reports: There is a fair crop of Lord Suffield, Lady Henniker, Worcester Pearmain, Keswick Codlin, Melon Apple, Warner's King, Cox's Orange Pippin, and Tower of Glamis.

TYRONE.—Fruit thin, and very late.

WARWICKSHIRE.—Fairly good throughout the county, the garden crops being more satisfactory than those in the orchards.

Mr. J. Rodger, Charlcote Park, observes: Keswick Codlin and Blenheim Pippin are bearing good crops in orchards.

WESTMORELAND.—Very thin in all districts.

Mr. F. Clarke, Lowther Castle, states that with the exception of Keswick Codlin, Tower of Glamis, Stirling Castle, and Ecklinville Seedling apples are a failure.

Mr. A. Lodge, Brougham Hall, writes: Lord Suffield, Golden Pippin, and Ecklinville Seedling are bearing a heavy crop, while many sorts have not a fruit on them. The last-mentioned variety never fails to bear most satisfactorily here, and merits extensive cultivation.

WEST LOTHIAN.—Fairly good crops of some kinds in several districts.

Mr. J. Moyes, Dalmeny Park, remarks: We have good crops of Lord Suffield, Irish Peach, Irish Codlin, and Stirling Castle.

WIGTONSHIRE.—A very light crop on all sides.

Mr. J. Day, Galloway House, Garleston, reports: The varieties carrying a full crop are Cellini, Warner's King, Blenheim Pippin, Hawthornden, Lord Suffield, Galloway Pippin, Irish Peach, and Early Harvest.

WILTSHIRE.—Variable, but on the whole decidedly light.

WORCESTER.—Rather partial, but in most districts there is a fairly good crop.

Mr. J. Austen, Witley Court, reports: Amongst culinary varieties the best croppers this year are Yorkshire Beauty, Ecklinville Seedling, Hawthornden, Keswick Codlin, Dumelow's Seedling, Quarrenden, Cox's Pomona, and Cellini; and of dessert varieties, King of the Pippins, Irish Peach, Pine Apple, and Rosemary Russet are the most productive.

YORKSHIRE.—Considerably below an average throughout the county.

Mr. J. Allsop, Dalton Hall, states: The following are carrying fair crops on espalier and bush trees, King of the Pippins, Warner's King, Stamford Pippin, Herefordshire Pearmain, Lord Burleigh, Lord Suffield, and Keswick Codlin.

PEARS.

ABERDEENSHIRE.—A very poor crop of all kinds.

AYRSHIRE.—Crop very light throughout the whole of the districts.

BANFF.—Considerably below the average.

Mr. G. Berry, Cullen House, says: There was very little bloom, and the greater proportion was very weak.

BEDFORDSHIRE.—Partial, but on the whole light.

Mr. George Dale, Sandy Place, remarks: Some trees in sheltered situations have a good crop, and the others are nearly, if not quite, fruitless.

Mr. C. Turner, Cranfield Court, reports: Those bearing an average crop are Williams's Bon Chretien, Jargonelle, Catillac, Swan's Egg, Doyenne d'Eté, and Marie Louise.

BERKSHIRE.—Very light throughout the county.

Mr. Tegg, Bearwood, writes: Our best crops are on the pyramids, as on the wall trees there is very little fruit. The best sorts are Beurre d'Amanlis, Beurre de Capiaumont, Beurre Clairgeau, Beurre Hardy, Beurre Superfin, Chaumontel, Crassane, Duchesse d'Angoulême, Glou Morcean, Gratioli of Jersey, Louise Bonne of Jersey, Marie Louise, Passe Colmar, Hacon's Incomparable, Thompsons, Pitmaston Duchess, Vicar of Winkfield, Gansel's Bergamot, and Catillac.

BERWICKSHIRE.—Much below the average in all districts.

Mr. W. Fowler, Mertoun House, says: Williams's Bon Chretien, Passe Colmar, and Beurre d'Aremberg are bearing a fair crop on western aspect. The others, which include many fine varieties, have a fruit here and there.

BUCKINGHAMSHIRE.—A good average crop throughout the county.

Mr. J. Smith, Mentmore, writes: We have a good average crop on walls and a moderate crop in the open garden. The following are bearing freely this season: Williams's Bon Chretien, Beurre de l'Assomption, Louise Bonne of Jersey, Fondante d'Automne, Jargonelle, Beurre Giffard, Madame Tryve, Beurre Bachelier, Passe Colmar, Zephirin Gregoire, Josephine de Malines, Winter Nelis, Colmar d'Aremberg, Triomphe d'Jodoigne, Beurre Diel, Doyenne du Comice, Easter Beurre, Beurre Durondeau, Glou Morceau, Beurre Rance, Thompsons, Benrre Sterckmans, Clapp's Favourite, and Beurre d'Amanlis.

CAMBRIDGESHIRE.—Fairly plentiful in many districts.

Mr. F. Orchard, Abington Hall, observes: Williams's Bon Chretien, Beurre Diel, Glou Morceau, and Conseiller de la Cour are amongst the best varieties we have.

CARDIGANSHIRE.—Partial, but crop generally below the average.

Mr. J. Veasey, Gagerddan Hall, reports: A plentiful crop on pyramids and espaliers, and an average one on wall trees which bore well last year. Chaumontel, Brockworth Park, Beurre de Capiaumont, Beurre d'Esperen, and Williams's Bon Chretien are the best croppers here.

CARMARTHENSHIRE.—Abundant in most districts.

CAVAN.—A moderate crop in most places, and fruit generally small.

CHESHIRE.—Average crop in some places; in others considerably below.

Mr. R. Mackellar, Abney Hall, Cheadle, writes: Hardly perhaps an average crop, but better than apples. Jargonelle, few or none; Marie Louise on walls, plentiful and of good quality; Louise Bonne of Jersey, as standards, is fairly good, so also is Williams's Bon Chretien; Beurre d'Aremberg is producing a full crop on pyramids. Our soil and climate are not favourable for growing first-rate pears.

Mr. W. Whitaker, Crewe Hall, states that those bearing best with him are Jargonelle, Louise Bonne of Jersey, Empereur des Francais, Winter Nelis, Benrre d'Amanlis, and some of the stewing kinds.

Mr. G. Tandy, Norton Priory, Runcorn, reports: Good crops of Beurre de Capiaumont, Beurre Diel, Beurre d'Amanlis, Marie Louise, Winter Nelis, Prince of Wales, and Louise Bonne of Jersey.

CLACKMANNANSHIRE.—Under an average.

CORNWALL.—Rather below the average in most cases.

CORK.—Much below the average.

CUMBERLAND.—An exceedingly poor crop, in many cases a complete failure.

Mr. T. R. Cucking, Eden Hall, says: There was plenty of bloom, but the cold winds of May utterly destroyed the flowers, and in many cases denuded the trees of the tender foliage.

DERBYSHIRE.—Partial, but on the whole hardly an average.

Mr. O. Thomas, Chatsworth, writes: An average crop, but quite a fortnight late.

DERRY.—About half a crop in most districts.

DEVONSHIRE.—Generally speaking an average crop, and the fruit of good quality.

Mr. D. C. Powell, Powderham Castle, remarks: An average crop here and in the district; the varieties that are bearing full crops are Beurre d'Amanlis, Williams's Bon Chretien, Muir Fowl's Egg, Marie Louise, Louise Bonne of Jersey, Glou Morceau, Beurre Diel, Beurre d'Aremberg, Beurre Rance, Napoleon, and Beurre Bachelier.

Mr. John Garland, Killerton, says: The trees bloomed remarkably well, and I never saw the fruit set more thickly. We have a heavy crop, both on wall and pyramidal trees. Amongst our best are Doyenne du Comice, Winter Nelis, Beurre Giffard, Jargonelle, Williams's Bon Chretien, Gansel's Bergamot, Bergamotte d'Esperen, Louise Bonne of Jersey, and Comte de Lamy.

DORSETSHIRE.—Partial, and on the whole below the average.

Mr. D. Williams, Canford Manor, remarks: The following varieties are bearing a good crop. Williams's Bon Chretien, Souvenir du Congrés, Swan's Egg, Marie Louise, Seckle, Duchesse d'Angoulême, and Catillac.

Mr. P. Davidson, Iwerne Minster, writes: We have a good crop of most varieties, but the fruit of Beurre Superfin, Bergamotte d'Esperen, Marie Louise, and some other varieties present a stunted appearance, owing probably to the hot dry weather experienced some time since.

DOWN.—A rather poor crop in most districts.

Mr. J. Taylor, Mount Stewart, observes: Of the varieties grown here Jargonelle, Williams's Bon Chretien, Marechal de la Cour, Marie Louise, and Louise Bonne of Jersey do the best, and can be the most depended on. Flemish Beauty is a good cropper, but of poor quality.

DUBLIN.—A good average crop throughout the county.

Mr. G. Smith, Vice-Regal Gardens, Dublin, writes: On walls pears are producing an average crop; but on pyramids and cordons the crop is under an average. Free-bearing varieties, such as Louise Bonne of Jersey, Marie Louise, Napoleon, and Beurre d'Amanlis have a fair crop, whilst others are a complete failure.

Mr. R. McKenna, Chief Secretary's Lodge, Phœnix Park, Dublin, states: The following varieties are particularly fruitful on walls, namely, Jargonelle, Marie Louise, Williams's Bon Chretien, Louise Bonne of Jersey, and Urbaniste. These varieties are also carrying good crops as standards in company with Duchesse d'Angoulême, Forelle, Josephine de Malines, Beurre d'Amanlis, Brown Benrre, Beurre Bosc, and Passe Colmar.

DUMBARTONSHIRE.—Much below the average.

DURHAM.—Partial, but, on the whole, under an average.

Mr. J. Hunter, Lambton Castle, reports; Only a very few trees are carrying a moderate quantity of fruit, as the flowers were cut to pieces by a frosty wind from the east, and only the late flowers set. The leaves also were much pinched, and appeared to stand quite still until quite recently.

EAST LOTHIAN.—Unequal, but generally fairly good.

Mr. R. P. Brotherston, Tyninghame, writes: There are good crops of Beurre Bachelier, Nec Plus Meuris, and Williams's Bon Chretien. The crops of Souvenir du Congrés, Louise Bonne of Jersey, Easter Benrre, Hacon's Incomparable, and Winter Nelis are partial. Our best all-round kinds are Marie Louise, Thompson's, Seckle, Williams's Bon Chretien, Benrre d'Amanlis, Louise Bonne of Jersey, Hacon's Incomparable, Nec Plus Meuris, Easter Beurre, Winter Nelis, and Beurre Rance. Beurre Diel, Beurre Bachelier, and a few other good sorts do not ripen satisfactorily.

ESSEX.—Fairly good in some places, light in others.

Mr. W. Dance, Gosfield Hall, Halstead, states: The best on walls are Souvenir de Leopold, Louise Bonne of Jersey, Glou Morceau, Fondante d'Automne, Doyenne du Comice, Comte de Lamy, Fertility, Williams's Bon Chretien, Marie Louise d'Uccle, Beurre d'Ansoli, Beurre Diel, Beurre Rance, Beurre Bachelier, and Beurre Giffard; the most productive as standards and pyramids are Glou Morceau, Williams's Bon Chretien, Marie Louise, Vicar of Winkfield, Louise Bonne of Jersey, and Beurre Clairgeau.

FIFESHIRE.—Very thin throughout the county.

FORFARSHIRE.—Considerably below the average.

Mr. W. McDowall, Brechin Castle, remarks: We have a few on walls and espaliers.

GALWAY.—Light crop in most districts.

GLAMORGANSHIRE.—A moderately good crop in many places.

Mr. J. Muir, Margam Park, says: Pears are hardly equal to last year, but many kinds are bearing an average crop of fruit, which is slightly below the size it attains at this time when we have had a genial spring. We have had the Jargonelle ripe by the first week of August, but this year it will not be ripe until the first week in September.

GLOUCESTERSHIRE.—Abundant and good throughout the county.

Mr. T. B. Wilson, Alscot Park, states that trees which have not borne for several years are fruitful this season.

Mr. T. Shingles, Tortworth Court, observes: Should we have some warm weather during August the pear crop of 1886 will be by far the best for many years past.

Mr. W. H. Bannister, Cote House, Westbury-on-Trym, writes: The best of the varieties grown here are Conseiller de la Cour, Easter Beurre, Beurre de l'Assomption, Alexandre Lambre, Doyenne Boussouch, Thompson's, Glou Morceau, Marie Louise, Beurre Ranco, Josephine de Malines, and Williams's Bon Chretien.

HAMPSHIRE.—Generally under the average.

Mr. G. Trinder, Dogmersfield Park, says: We have good crops of Pitmaston Duchess, Chaumontel, Beurre Clairgeau, and Dorondeau. Our best flavoured sorts are Beurre Superfin, Marie Louise, and Winter Nelis.

Mr. W. Wildsmith, Heckfield Place, writes: The crop is thin but evenly distributed. Wall cordons are best, and next come the bush and tall cylindrically trained trees; Williams's Bon Chretien, Marie Louise, Beurre Clairgeau, Winter Nelis, Beurre Diel, and Knight's Monarch are fruiting most freely.

HEREFORDSHIRE.—Below the average in most districts.

Mr. W. Coleman, Eastnor Castle, Ledbury, says: Many at one time thought the pears were much better than the apples, but the heavy rains we had when the trees were in flower injured the delicate organs and chilled the roots. Consequently we have had much dropping or natural thinning, and a black fungus threatened at one time to be very troublesome. The best crops are in home orchards and gardens, where annual manurings and good cultivation prevented the trees from feeling the full effects of last year's drought. Choice kinds on walls, and trained as pyramids and bushes, are carrying very nice crops, and many have required much thinning. All we now want is a brilliant autumn to finish off the fruit. Marie Louise, Pitmaston Duchess, Belle de Noel, Josephine de Malines, Old Crassane, Knight's Monarch, Louise Bonne of Jersey, Winter Nelis, Beurre Ranco, Beurre d'Amanlis, Beurre d'Aremberg, Bergamotte d'Esperen, and Van Mons. Leon le Clerc are carrying good crops. Ordinary standard trees which did not suffer last year are alone good; Marie Louise, Williams's Bon Chretien, the Old Swan's Egg, Beurre de Capiaumont, Louise Bonne of Jersey, and Catillac are loaded with fruit. Like apples, the pears are late, and now want bright weather.

HERTFORDSHIRE.—A light crop throughout the county.

Mr. R. Sawford, Danesbury, reports: Under average; the best are Beurre Giffard, Brockworth Park, Marie Louise, Alexandre Lambre, Josephine de Malines, Forelle, and Beurre Diel.

HUNTINGDONSHIRE.—An abundance of good fruit.

KENT.—Rather partial, but on the whole probably an average.

Mr. Waterman, Preston Hall, Aylesford, says: We have not a heavy crop, but the fruit is now swelling well. The varieties most fruitful are Pitmaston Duchess, Duchesse d'Angoulême, Williams's Bon Chretien, Louise Bonne of

Jersey, Citron des Carmes, Madame Tryve, Marie Louise, Bezi d'Esperen, Windsor, Jersey Gratioll, Thompson's, Brockworth Park, Glou Morceau, and Beurre Clairgeau.

Mr. G. Bunyard, Maidstone, remarks: Market kinds will be plentiful. Doyenne d'Eté, Hessel, Williams's Bon Chretien, and Marie Louise (after fifteen years' rest), are heavily cropped. The choicer pears will be scarce in this district, Beurre Diel being an exception.

KILDARE.—An average crop in most places.

Mr. D. Knowldin, Carton Park, says: Jargonelle is more plentiful than usual. All our trees are on walls, and from them we have not failed to obtain a fair supply every season during my nine years' experience here.

KILKENNY.—Partial, and on the whole rather light.

Mr. W. Gray, Woodstock Park, states: Louise Bonne of Jersey, Marie Louise, Williams's Bon Chretien, and Jargonelle are the only sorts bearing with us on walls; all standards nearly a failure.

KINCARDINESHIRE.—Below the average; in many places not more than half a crop.

KING'S COUNTY.—An average in most districts.

Mr. J. Roberts, Charleville Forest, reports: Marie Louise, Louise Bonne of Jersey, Williams's Bon Chretien, and Jargonelle are clean and healthy, and bearing good crops on walls. In the garden quarters pyramidal trees of Brown Beurre, Urbaniste, Chaumontel, Williams's Bon Chretien, Knight's Monarch, and other good sorts have fairly good crops. The stems of pears as well as apples soon become infested with moss, owing to the atmosphere being so heavily charged with moisture.

KIRKCUDBRIGHTSHIRE.—Much below the average.

LANARKSHIRE.—Very thin, in some places a complete failure.

LANCASHIRE.—Very light throughout the county.

Mr. F. Harrison, Knowsley Hall, Prescot, writes: Jargonelle is one of our most certain croppers, and is doing well this season, but Beurre d'Amanlis, equally certain, is disappointing us; Louise Bonne of Jersey is good as usual. Taken altogether, pears are not a success with us this year. We have few fruits of Marie Louise, Winter Nelis, Beurre Superfin, Doyenne du Comice, Glou Morceau, Pitmaston Duchess, Williams's Bon Chretien, Fondante d'Automne, and others of first-class quality.

LEICESTERSHIRE.—Thin in some places, fairly good in others.

Mr. W. Ingram, Belvoir Castle, says: With some few exceptions the crop is very thin, the exceptions generally being the trees that failed to bear last year and possessing the vitality which heavily-cropped trees seemed to have lost. One tree of Beurre d'Esperen has a full crop; the same tree hardly bore a fruit last season. Knight's Monarch, an English pear, has a fair crop; being raised in this country it probably possesses a constitution adapted to bear the trials of our climate. Standards of Swan's Egg are also bearing.

Mr. G. E. Maynard, Cole Orton Hall, Ashby-de-la-Zouch, states: We have, generally speaking, a fair crop, and the trees are healthy. Louise Bonne of Jersey on walls is bearing a heavy crop; and of Jargonelle, Beurre Diel, Easter Beurre, Beurre Bosc, and Trout Pear there is a fair crop.

LINCOLNSHIRE.—Unequal; the most fruitful trees being those trained to walls.

LONGFORD.—A moderately good crop in all parts of the county.

Mr. J. Rafferty, Castle Forbes, remarks: The crop is better than last year, and that was very good. Standards are particularly good.

MAYO.—Generally under the average.

Mr. A. Campbell, Ashford Cong, says: With few exceptions the trees are not bearing half a crop. Williams's Bon Chretien, Marie Louise, and Beurre d'Amanlis are the most productive.

MIDDLESEX.—Very partial, and on the whole below the average.

R. D. Blackmore, Esq., Teddington, writes: About half a crop, but the fruit is likely to be fine.

Mr. J. Hudson, Gunnersbury House, Acton, reports: Our pear trees are carrying an extra heavy crop, and the trees are looking extremely well. The following comprise some of our best kinds: Jargonelle, Williams's Bon Chretien, Beurre d'Amanlis, Thompson's, Marie Louise, Louise Bonne of Jersey, Pitmaston Duchess, Josephine de Malines, and Beurre Rance.

Mr. J. Woodbridge, Syon House, says: Pears are barely an average crop. The common kinds are not bearing so well this year. This may perhaps be attributed to their having borne heavy crops last year. The better sorts are more plentiful. Marie Louise and Williams's Bon Chretien are particularly good.

Mr. J. Gough, Harefield Grove, Uxbridge, says: We have some sixty varieties here, but Louise Bonne of Jersey is the only one carrying a crop worth mentioning.

MONTGOMERYSHIRE.—Variable, but on the whole below the average.

MONMOUTHSHIRE.—Rather under an average.

Mr. Thomas Coomber, The Hendre, Monmouth, states: With us Jargonelle, Brockworth Park, Flemish Beauty, Beurre Diel, Beurre d'Amanlis, Marie Louise, and Beurre d'Aremberg are fairly laden with clean, healthy-looking fruit.

MORAYSHIRE.—Considerably below the average on all sides.

Mr. John Webster, Gordon Castle, Fochaber, says: Pears are much better than apples, having produced a light crop last year, but on the whole they are decidedly thin; Jargonelle and some of the early sorts are bearing the most satisfactory.

MIDLOTHIAN.—Crop very light.

Mr. MacKinnon, Melville Castle, describes the crop as under average, and the fruit as very good.

NORFOLK.—Variable, but on the whole the crop is nearly an average.

Mr. W. Allan, Gunton Park, writes: An average crop on both wall and bush trees, but in no case has the fruit required much thinning. Marie Louise d'Uccle, Glou Morceau, Fondante d'Automne, Pitmaston Duchess, and Winter Nelis are bearing very well.

Mr. H. Jones, Carrow House, Norwich, says: The crop is under the average, but the trees are healthy and making good growth. The most productive varieties this year are Jargonelle, Marie Louise, Doyenne du Comice, Zepherin Gregoire, Nec Plus Meuris, Bergamotte d'Esperen, and Olivier de Serres.

NORTHAMPTONSHIRE.—An average crop in most places.

Mr. J. Hughes, Eydon Hall, Byfield, says: The following varieties are bearing full crops, namely, Beurre Bachelier, Beurre Diel, Beurre d'Amanlis, Easter Beurre, Clapp's Favourite, and White Doyenne.

Mr. E. Cole, Althorp Park, observes: Fruit rather thin on wall trees, but nearly all the varieties grown as pyramids have a good crop, fruit very fine.

NORTHUMBERLAND.—Fruit very thin in most parts of the county.

Mr. G. Harris, Alnwick Castle, remarks: Pear trees were heavily cropped last year, and as the season was cold, with little sun, the wood did not ripen. We have half a crop of some varieties, but generally the crop is much under average.

NOTTINGHAMSHIRE.—Very thin in all parts of the county.

Mr. R. Carr, Welbeck Abbey, Worksop, reports: Williams's Bon Chretien, Marie Louise, Louise Bonne of Jersey, Bezi Mai, and a few others planted on the south side of an arcade running east and west are bearing a good crop.

PERTHSHIRE.—In some places very thin, in others a complete failure.

QUEEN'S COUNTY.—A very light crop on all sides.

Mr. E. Ennis, Emo Park, Portarlington, says: Pears are much under the average, and very poor.

RADNORSHIRE.—Fruit thin in most districts.

RENFREWSHIRE.—Under the average in all parts of the county.

ROXBURGHSHIRE.—Partial, but on the whole below the average.

SHROPSHIRE.—Very poor crop on all sides.

Mr. J. Louden, The Quinta, Chirk, says: With the exception of Beurre Diel, Beurre d'Amanlis, Winter Nelis, and Williams's Bon Chretien, pears are either very thin or a complete blank.

Mr. W. Sherwin, Chetwynd Park, remarks: A very poor crop; with the exception of Williams's Bon Chretien, which is bearing very well.

SLIGO.—A moderately good crop, trees on walls being the most fruitful.

SOMERSET.—Excellent crops in most parts of the county.

Mr. W. Iggulden, Marston House, Frome, reports: Of pears there is an extra heavy crop, pyramidal, standard, and wall trees being alike well furnished with fruit. Jargonelle is very fine, and Williams's Bon Chretien promises to be better than usual. Marie Louise, Fondante d'Automne, Louise Bonne of Jersey, Beurre d'Amanlis, Beurre Diel, Doyenne du Comice, Doyenne Boussoch, Beurre Superfin, Duchesse d'Orleans, Passe Colmar, Beurre Clairgeau, Beurre d'Aremberg, Nec Plus Meuris, Glou Morceau, and Easter Beurre are all bearing good crops, and the fruit has a very promising appearance.

Mr. J. C. Clarke, Cothelstone House, Taunton, says: Our best sorts are Williams's Bon Chretien, Brockworth Park, Doyenne du Comice, Josephine de Malines, Marie Louise, Winter Nelis, Louise Bonne of Jersey, Beurre Diel, Beurre Superfin, Comte de Paris, Althorp Crassane, General Todtleben, and Beurre Rance.

STAFFORDSHIRE.—Partial, but on the whole below the average.

Mr. Z. Stevens, Trentham, writes: Pears are scarce here. Those cropping best are Knight's Monarch, Pitmaston Duchess, and Glou Morceau.

Mr. G. H. Green, Enville Hall, says: Very good crop on wall, espalier, and pyramidal trees.

STIRLINGSHIRE.—Very light throughout the country.

SUFFOLK.—Considerably below the average on all sides.

Mr. J. Mill, Rendlesham Hall, writes: There is a poor crop of pears in many places, as the trees suffered much from frosts and cold winds when they were in bloom. There is a stewing pear much grown in this neighbourhood, and known as the Orange Pear. I have not seen it elsewhere than in the eastern counties. It is a most desirable kind, for it is a heavy cropper, and is highly approved for culinary purposes. The most trustworthy of the dessert varieties in this district are Williams's Bon Chretien, Louise Bonne of Jersey, Marie Louise, Doyenne du Comice, Josephine de Malines, Winter Nelis, Beurre Superfin, Beurre Hardy, Glou Morceau, and Thompson's, all of which are of excellent quality.

Mr. J. Best, Easton Park, observes: The trees flowered tolerably well, but the late frosts destroyed the greater portion of the bloom.

SURREY.—Partial, but on the whole decidedly below the average.

Mr. C. Orchard, The Leigh, Coombe Warren, says: We have heavy crops of Easter Beurre and Beurre Diel, but there is very little fruit on Williams's Bon Chretien, and Beurre Clairgeau.

Mr. O. Goldsmith, Polesden, Dorking, observes: The crop is thin, except of Marie Louise, Williams's Bon Chretien, and Pitmaston Duchess, which are all bearing well.

SUSSEX.—A good average crop in most districts.

Mr. E. Burbery, Arundel Castle, writes: We have an average crop, both on standard and wall trees. The following are carrying heavy crops: Williams's Bon Chretien, Marie Louise, Beurre Clairgeau, Beurre Rance, Easter Beurre, and Eyewood.

Mr. S. Ford, Leonardslee, reports: We have a good crop on the bush and pyramidal trees of the free bearing kinds; the fruit is bright and clean, and likely to finish well.

TYRONE.—A moderately good crop in most districts.

Mr. A. Dickson, Baron's Court, observes: Pears are an improvement on former years; in this locality the crop is never good.

WARWICKSHIRE.—Partial, and in most places very light.

Mr. J. Rodger, Charlecote Park, describes Marie Louise, Beurre Superfin, Louise Bonne of Jersey, and Doyenne du Comice as bearing good crops.

WESTMORELAND.—More or less a failure throughout the county.

WEST LOTHIAN.—Generally speaking below the average.

Mr. J. Moyes, Dalmeny Park, remarks: We have good crops of Jargonelle, Williams's Bon Chretien, and Beurre Magnifique.

WIGTONSHIRE.—Very poor crop in most of the districts.

Mr. J. Day, Galloway House, mentions Marie Louise, Dunmore, Beurre Diel, and Muir Fowl's Egg as producing about half a crop.

Mr. A. Fowler, Castle Kennedy, describes the crop as very indifferent.

WILTSHIRE.—Rather unequal, but on the whole the crop is a good one.

Mr. C. Warden, Clarendon Park, reports: Pears are above the average on walls, and on espaliers they are better than I have seen them for the past five years. We have really fine crops of Marie Louise and Williams's Bon Chretien on espalier-trained trees. On the walls of different aspects we have good crops of the two varieties mentioned, and of Marie Louise d'Uccle, Beurre Rance, Glou Morceau, Winter Nelis, Brockworth Park, Louise Bonne of Jersey, and Jersey Gratioli.

Mr. H. W. Ward, Longford Castle, writes: The following varieties are bearing good crops of clean fruit: Marie Louise, Jargonelle, Glou Morceau, Passe Colmar, Beurre de Capiaumont, Beurre Diel, Duchesse d'Angoulême, Dunmore, Jean de Witte, Beurre Gris (standards heavily cropped), Catillac, and Uvedale's St. Germains.

WORCESTERSHIRE.—An average crop throughout the county.

Mr. John Austen, Witley Court, writes: A fair average crop of fruit, which promises to be clean and fine; trees healthy, with splendid foliage. The best varieties are Jargonelle, Williams's Bon Chretien, Louise Bonne of Jersey, Comte de Lamy, Beurre Superfin, Pitmaston Duchess, Huyshe's Victoria, Eyewood, Glou Morceau, and Alexandre Bivort.

Mr. W. Crump, Madresfield Court, says: Above an average both on pyra-

mids and walls. Williams's Bon Chretien, Louise Bonne of Jersey, Doyenne Boussoch, Pitmaston Duchess, Knight's Monarch, Beurre Bachelier, Bergamotte d'Esperen, and Nec Plus Meuris are particularly well laden.

Mr. W. Child, Croome Court, remarks: On the walls we have a good crop, which, like the apples, will be well coloured. Easter Beurre is carrying a very heavy crop, and Bishop's Thumb, Williams's Bon Chretien, Beurre Superfin, Glou Morceau, Beurre Rance, and Passe Colmar are well fruited. Catillac, as a standard, has a heavy crop, but most of the varieties grown as standards have a light crop, with the exception of Marie Louise.

YORKSHIRE.—Decidedly thin throughout the county.

Mr. John Allsop, Dalton Hall, writes: The pears led us to expect, when in bloom, a full crop, but owing to the cold weather we have experienced since nearly all the fruit dropped off, and many of our favourite kinds are all but fruitless. Clapp's Favourite, De Tongres, Doyenne du Comice, Beurre Diel, Beurre d'Amanlis, and Easter Beurre are carrying fairly good crops.

Mr. J. B. Riddell, Duncombe Park, says: We have a very thin crop; Beurre de Capiaumont never fails to yield a good crop, as it flowers late, and consequently escapes the frosts which we usually have late in the season.

Exhibitions and Meetings.

NATIONAL CARNATION AND PICOTEE SOCIETY—NORTHERN DIVISION.

This exhibition took place in the Botanical Gardens, Old Trafford, on Saturday, August 14, and while for some of the Lancashire growers the date was almost too early, for some of those residing in the Chesterfield district it was a little too late. Still there was a capital exhibition; it was a full one, and very bright also. The scarlet and crimson bizarres were rich and striking in colour. On the whole, the carnation and picotee have had a generous time of it this season in the north, and a very attractive show resulted. The Rev. F. D. Horner, one of the hon. secretaries, reported that five or six new growers had come forward on this occasion, and some old ones who had not exhibited for a few years past had put in appearance again. The flowers were, as usual, arranged on stages in the large plant-house, where they could be inspected with comfort. The day was beautifully fine. There was a good attendance, also a band, and the gardens looked charming, though the flowers were temporarily disfigured by a heavy thunderstorm which fell on the day previous.

Mr. Robert Lord, Hole Bottom, Todmorden, was in great force, showing flowers characterised by the highest quality. He was first in the class for twelve carnations dissimilar, staging a very fine lot indeed, the names being given as the florists read them, from left to right, commencing with the back row, viz.: Master Fred, C.B., a truly magnificent bloom, Mercury, S.B., John Hasland, C.B., Admiral Curzon, S.B., Sybil, R.F., a real beauty, J. D. Hextall, C.B., Squire Meynell, P.F., William Skirving, P.P.B., Edward Adams, C.B., Sportsman, S.F., E. S. Dodwell, P.P.B., and Rob Roy, R.F. Second, Mr. B. Simonite, Rough Bank, Sheffield, who had good blooms of the following: James Douglas, P.F., Tom Power, S.B., Seedling, R.F., Seedling, P.P.B., Master Fred, C.B., Mayor of Nottingham, P.F., Mrs. Gorton, P.P.B., Sportsman, S.F., Sarah Payne, P.P.B., Seedling, C.B., Seedling, R.F., and Robert Lord, S.B. Third, Mr. George Geggie, Waterloo Nursery, Bury; fourth, Mr. T. Law, Carnation Gardens, Rochdale. Four collections competed in this class, as also in the following one for twelve picotees dissimilar, Mr. R. Lord being again placed first with superb blooms of the following: Heavy Red Edge Master Norman, L. Rose Favourite, L. Red Thomas William, Heavy Scarlet Mrs. Sharp, a charming new variety, H.P. Zerlina, H. Rose Fanny Helen, L.P. Mary, H. Red John Smith, H. Rose Mrs. Payne, L.P. Ann Lord, L. Rose Mrs. Aldcroft, and H.P. Muriel; second, Mr. B. Simonite, with L. Rose Favourite, H. Red Clara, H. Rose Lady Holmesdale, H. Red Princess of Wales, L. P. Clara Penson, H. Scarlet Mrs. Sharp, L. Red Mrs. Gorton, L.P. Ann Lord, H. Rose Seedling, L.P. Mary, H.P. Zerlina, and H. Red Seedling; third, Mr. George Geggie; fourth, Mr. F. Law.

Then followed two classes, one for twelve carnations and one for twelve picotees, nine at least to be dissimilar, the competition open to growers of five hundred pairs or less; and here Mr. John Whitham, florist, Hebden Bridge, was first with twelve carnations, having Master Fred, C.B., Henry Cannell, S.F., George Melville, P.F., Sir Garnet Wolseley, P.P.B., Master Fred, C.B., Janie Douglas, P.F., Edward Adams, S.B., Thomas Anstiss, C.B., E. S. Dodwell, P.P.B., Edward Adams, S.B., J. D. Hextall, C.B., and Admiral Curzon, S.B.; second, Richard Gorton, Esq., Eccles, near Manchester, with George Melville, P.F., William Skirving, P.P.B., John Ball, S.F., Sarah Payne, P.P.B., Harrison Weir, P.P.B., Sybil, R.F., Squire Whitbourn, P.F., Harrison Weir, P.P.B., Robert Marris, S.F., William Skirving, P.P.B., and two unnamed; third, Mr. E. Shaw, Moston, near Manchester; fourth, Mr. William Taylor, Middleton and Manchester. Eight collections competed in this class, but one less in that for twelve picotees, and here Mr. J. Whitham was first with H.P. Zerlina, L.P. Clara Penson, H. Rose Lady Holmesdale, H. Red John Smith, L. Rose Miss Wood, H Rose Edith Dombrain, L.P. Ann Lord, L. Rod Thomas William, H.P. Mrs. A. Chancellor, L.P. Ann Lord, H. Red J. B. Bryant, H.P. Zerlina; second, Mr. E. Shaw, who had H.P. Muriel, H. Scarlet Mrs. Rudd, L. Rose Miss Wood, H. Red John Smith, H. Red Lord Valentia, L.P. Clara Penson, H.P. Muriel, L. Rose Daisy, H. Rose Miss Homer, H. Red Mrs. Dodwell, L. Red Thomas William, H. Rose Elise; third, R. Gorton, Esq.; fourth, Mr. W. Taylor.

Then followed two classes for six carnations and six picotees, open to growers of 250 pairs or less. Eight stands competed for the six prizes offered for carnations, S. Barlow, Esq., J.P., Stakehill House, Castleton, Manchester, being first with S.B. Robert Houlgrave, S.F. Dan Godfrey, R.F. John Koet, S.B. Admiral Curzon, P.F. Squire Meynell, and P.P.B. Sir Garnet Wolseley; second, Mr. Thomas Maddock, The Gardens, Lofthouse Hall, Wakefield, with S.B. Seedling, R.F. Sybil, C.B. J. D. Hextall, P.P.B. Falconbridge, S.B. Admiral Curzon, and S.F. Sportsman; third, Mr. S. Lord, Healing Hall, Rochdale; fifth, Mr. William Bacon, Derby; sixth Mr. W. Kitching. Eight stands competed in this class, and ten in that for six picotees, and here Mr. Thompson Hilliwell, The Hollies, Todmorden, was first with H. Red Brunette, H. Rose Mr. Lord, L.P. Clara Penson, H. P. Alice, H. Rose Fanny Helen, and L. Red Miss Wood; second, Mr. J. P. Sharp, Lozells, Birmingham, with H.P. Muriel, H. Scarlet Mrs. Sharp, L. Red Thomas William, L. Rose Mrs. Payne, H. Scarlet Seedling, and H.P. Zerlina; third, Mr. J. Bleackley; fourth, S. Barlow, Esq.; fifth, Mr. J. Edwards; sixth, Mr. J. Ramshill, Wakefield.

Then followed a class for twelve selfs or fancies, or both mixed, and here R. Gorton, Esq., was first with an excellent stand of selfs, unnamed, Mr. F. Law being second. One other stand competed, but two prizes only were offered.

A large number of flowers, about 240 in all, competed in the six classes for single blooms. The scarlet and crimson bizarres, the latter especially, were very striking, from their rich colours. The best S.B. was Admiral Curzon, shown by Mr. R. Lord, and he was second also with Fred, and fourth with Master Stanley; Mr. S. Barlow was third and fifth with Robert Houlgrave. Master Fred, C.B., won all five prizes in this class, the first three and fifth being taken by Mr. R. Lord, and the fourth by Mr. Geggie. The best P.P.B. was William Skirving, shown by Mr. R. Lord; Mr. B. Simonite being second with Mrs. Gorton, and third with William Skirving; Mr. J. P. Sharp was fourth with Sarah Payne; and Mr. R. Lord fifth with E. S. Dodwell.

The best S.F. was Clipper, from Mr. R. Lord; Mr. Geggie being second and third with Annihilator, and fourth with Mr. Carter; Mr. R. Lord coming in fifth with Ivanhoe. James Douglas was the best P.F., the first prize going to Mr. B. Simonite, and the second to Mr. B. Whitham with the same; Mr. T. Hilliwell was third with Dr. Foster, Mr. R. Lord fourth with Mayor of Nottingham, and Mr. Geggie fifth with James Douglas. Mr. S. Lord had the best R.F., showing Sybil, and he was second with the same; Mr. R. Lord also third and fifth with Sybil, and Mr. T. Hilliwell fourth with the same.

Single blooms of picotees were even more largely shown than those of carnations, light purples being especially numerous. Mr. R. Lord was first, second, and third with John Smith, H. Red; Mr. Geggie being fourth and fifth with Henry. The best L.P. was Thomas William, and it took all the prizes; Mr. B. Simonite was first, and Mr. R. Lord second, third, fourth, and fifth. The best H.P. was Zerlina, Mr. F. Law being first, second, and third with it, and fifth with Mrs. Niven; Mr. Geggie being fourth with Muriel. Clara Penson was the best L.P.; Mr. T. Hilliwell was first, Mr. J. Whitham second, and Mr. E. Shaw third with it; R. Gorton, Esq., being fourth and fifth with Ann Lord. Mr. R. Lord had the best H. Rose in Fanny Helen, Mr. J. P. Sharp being second with Mrs. Sharp, Mr. R. Lord third with Lady Louisa, fourth with Mrs. Sharp, and fifth with Edith Dombrain. The best L. Rose was Liddington's Favourite, Mr. R. Lord being first and second with it, and Mr. B. Simonite third and fourth; Mr. R. Lord being fifth also with Mrs. Aldcroft.

The premier carnation was C.B. Master Fred (Hewitt), shown by Mr. R. Lord, a superb bloom; and the premier picotee favourite (Liddington), also shown by Mr. R. Lord.

First-class certificates of merit were awarded to S.B. Carnation Robert Houlgrave (Barlow), a brilliant variety in the way of Admiral Curzon, but regarded as superior to it; and to H. Rose E. Picotee Mrs. Sharp (Sharp), mauve petal, pure ground, and heavy edge of bright scarlet. The stock of this fine variety will pass into the hands of Mr. R. Lord for distribution.

An excellent stand of carnations and picotees in bunches was shown by Messrs. James Dickson and Sons, of Chester, not for competition, and with them cut specimens of various hardy perennials of a very showy character.

TAUNTON DEANE HORTICULTURAL SOCIETY, August 12.

This society, having been established in 1866, held its nineteenth annual exhibition on the above date in Vivary Park, which is at the end of one of the principal streets of the town. It is one of the most popular shows in the West of England, and it is also on an extensive scale; five tents were required to contain the various exhibits, and it was said that the entries were fully up to the average. The society has a large but energetic working committee, and the hon. secretaries are Messrs. Howard Maynard and Alex. Hammett, two young gentlemen acting for the first time on this occasion, and who devoted themselves earnestly to the efficient discharge of the duties devolving upon them. All the sections composing a horticultural show—plants, flowers, fruits, and vegetables—were well represented, and judging by contrast with other exhibitions held about the country it was in every respect one of superior excellence. There were a large number of exhibits to stage ready for the judges, and this was done with commendable dispatch, the censors being able to get to their labours soon after eleven o'clock. The leading awards made by them were as follows:—

Plants, Stove and Greenhouse.—The leading class was for twelve stove and greenhouse plants in flower, and here Mr. James Cypher, nurseryman, Cheltenham, was first with remarkably fine specimens of Phœnoooma prolifera Barnesi, Statice profusa, Ixora Pilgrimi, I. Duffi, with some gigantic trusses of bloom, I. Fraseri, Allamanda Hendersoni, A. nobilis, Dipladenia hybrida, D. amabilis, Erica Marnockiana, E. Irbyana, and E. ampullacea Barnesi; second, Mr. Lock, gardener to B. W. Cleave, Esq., Newcome House, Crediton, whose leading plants were Eucharis amazonica, Clerodendron Balfourianum, Allamanda nobilis, A. Hendersoni, Dipladenia amabilis, &c.; third, Mr. E. Wills, gardener to Mrs. Pearce, Bassett, Southampton. The prizes in this class are remarkably good, viz., £20, £12 10s., £7 10s. The next class was for six plants, and here Mr. J. Cypher was the only exhibitor with small, but nicely grown and flowered specimens of Rhododendron Duchess of Connaught, very showy, Hemanthus magnificus, Statice profusa, Erica Farrieana, and Ixora coccinea. In the amateurs' division there is a class for twelve stove and greenhouse plants, but a note is appended to the effect that in this and the following class for six plants foliage plants may be exhibited, but preference will be given to plants in bloom. This is just one of those unfortunate provisos that is certain to lead to some heated discussion. In this particular case Mr. E. Wills staged Stephanotis floribunda, and Bougainvillea glabra, both good, but not first-class specimens, a fine piece of Eucharis amazonica, and a remarkable specimen of Statice profusa, with well-developed and fine examples of Croton Queen Victoria, Phyllotænium Lindeni, Areca lutescens, Cycas revoluta, Verschaffeltia splendida, Alocasia metallica, and Dasylirion acrotrichum, and one other croton. Mr. Lock put up a collection of twelve flowering plants, not one of which scarcely could be termed a first-class plant, while three or four were of a decidedly inferior character. It would appear that in previous years it has been the custom for the judges to give the preference to flowering over foliaged plants, however good the latter might be. On this occasion the judges, evidently interpreting the note to mean that, all things else being equal, preference was to be given to flowering over foliaged plants, very wisely gave Mr. Wills's fine collection the preference, and placed the decidedly inferior one in the second position. This act led to some discussion, but the judges took a common-sense view of the matter, and in doing so did full justice to both exhibitors. The only exhibitor in the class for six plants was W. G. Marshall, Esq., The Elms, Staple Grove, Taunton, who was awarded the first prize for all flowering specimens. Mr. Wills had the best

four plants in flower, staging Clerodendron Balfourianum, Phœnocoma prolifera Barnesi, Erica Aitoniana Turnbulli, and E. obbata purpurea; Mr. W. G. Marshall was second.

Plants, Foliaged.—These were finely shown, especially by Mr. Lock, who was awarded the first prize for eight very fine specimens, consisting of Croton Warrenl, C. Williamsi, and C. Johannis, Encephalartos villosus ampliatus, Latania Borbonica, Cycas revoluta, Kentia Balmoreana, and a very fine Gleichenia Speluncæ; second, Mr. J. Cypher, with Croton Sunset, C. Prince of Wales, C. Johannis, Cordyline indivisa, Cycas revoluta, Kentia Canterburyana, K. Fostoriana, and Cycas circinalis. In the amatours' division Mr. Lock had the best six, staging Croton Disraeli, Dasylirion acrotrichum, Latania Borbonica, Alocasia Thibantiana, Kentia Fostoriana, and Cycas Intermedia; second, Mr. Wills, with much smaller specimens. The best six Coleus came from Mr. W. G. Marshall; second, with smaller, but nicely grown and coloured specimens, Mr. E. Broadbent, gardener to W. B. Hellard, Esq., The Chestnuts, Taunton.

Ferns.—Some fine plants of these were shown, the best eight coming from Mr. Lock, who had Cyathea dealbata, Davallia polyantha, Gleichenia rupestris glaucescens, Davallia Mooreana, D. Fijiensis, Gleichenia Mendeli, Microlepia hirta cristata, and Marattia Cooperi; second, Mr. Wills, with a very fair lot; third, Mr. W. Lowls, gardener to J. E. Cole, Esq., Chandos Lodge, Weston-super-Mare. Mr. Lock had the best six varieties, Mr. Lewis taking second honours. Mr. Lock also had the best six hardy ferns, Mr. Wills being second. Mr. Lock also had the best six exotic mosses; Mr. C. Huxtable, gardener to F. W. Newton, Esq., Barton Grange, Taunton, being second.

Miscellaneous Flowering Plants.—Prominent among these were the zonal pelargoniums, which are grown in somewhat large pots, and tied down rigidly close, making the plants into somewhat formal specimens, and we noticed that the leading varieties are old ones, the flowers generally lacking in size and quality. The best eight plants came from Mr. H. Godding, nurseryman, New Taunton, who had Lord Gifford, White Vesuvius, Henrl Jacoby, Pioneer, Mrs. Headly, Princess of Wales, &c. Mr. Godding also had the best eight nosegay varieties, having Bonfire, Lizzie, Triumph, Mr. Blizzard, Emily, Wellington, Apple Blossom, and Indian Yellow; second, Mr. S. Tottle, superintendent St. James's Cemetery, Taunton, with a good lot also. Mr. T. Tidbury, Northdean, Taunton, had the best eight variegated pelargoniums, four silver and four golden edged, staging good old varieties, well grown and coloured; second, Mr. H. Godding, with good specimens. Mr. G. Henbury, gardener to T. Woodland, Esq., Taunton, was first with four double zonal pelargoniums, having capital plants of Guillon Lauzier, F. V. Raspail, Wonderful, and Madame Rendatler. In the amateurs' division there were six classes for zonal pelargoniums, double nosegay, single, and variegated, and there was a good competition in each.

Begonias were a fine feature, and in the open class Mr. H. Godding was placed first with a very fine lot, consisting of Mammoth, Golden Gem, Vesuvius, Sensation, Wonderful (double), Mont Blanc (very fine), Le Grand, and Tony Laing; second, Mr. S. Tottle. In the amateurs' class for six varieties there was a very keen competition, and the plants being much crowded together made it very difficult for the judges to make the awards. Eventually Mr. T. Woodland and Mr. W. B. Hellard were placed equal firsts. Fuchsias were fairly well shown, but some of the plants were very rigidly trained; in points of quality the plants were far behind those seen in the Bath and Trowbridge districts. Cockscombs were fairly well shown. Mr. W. G. Marshall had the best four Japanese lilies, staging varieties of L. speciosum; Mr. T. W. Newton being a good second. Mr. W. G. Marshall had the best four achimenes, having two very fine specimens among them; Mr. John Parrish, gardener to Mrs. Eden, Taunton, being second, with smaller but nicely grown and flowered plants.

Cut Flowers.—Phloxes were shown in spikes of twelve varieties, the best coming from Mr. John Mattock, nurseryman, Oxford; Mr. H. Godding being second. The best forty-eight roses, single blooms, came from Mr. Mattock, who had good blooms of Ulrich Brunner, Innocenta Pirola, Charles Lefebvre, Dr. Hogg, Alfred Colomb, Princess of Wales, Madame Victor Verdier, Dupuy Jamain, Rubens, Devienne Lamy, Marie Rady, Perle des Jardins, Comtesse Nadaillac, Dr. Andry, Duchess of Bedford, A. K. Williams, Annie Wood, Charles Darwin, Jean Ducher, &c.; second, Mr. G. Campbell, gardener to S. P. Budd, Esq., 8, Gay Street, Bath. In the class for twenty-four varieties, three blooms of each, Mr. Mattock unfortunately disqualified himself by setting up duplicates; Mr. S. P. Budd was placed first, and Messrs. G. Cooling and Sons, Bath, second, Mr. Mattock being awarded an extra second prize. In the amateurs' classes roses were fairly well shown for the season of the year. An excellent lot of twenty-four dahlias were shown by Messrs. Keynes, Williams, and Co., nurserymen, Salisbury, who had finely-developed blooms of W. Rawlings, Joseph Ashby, Colonist, Royal Queen, Henry Walton, Illuminator, Constancy, Harry Keith (very fine), Miss Cannell, Crimson King, Mrs. W. Slack, J. T. Saltmarsh, Henry Bond, Mrs. Gladstone, James Vick, Thomas Hobbs, W. P. Laird, Chorister, Mrs. Foreman, Lord Chesterfield, Mrs. Harris, Spitfire, and Defiance, a new seedling, bright red, of great promise. There was no other competitor. In the class for twelve blooms Mr. J. Nature, nurseryman, Staple Grove, Taunton, was first. In that for twelve fancies Messrs. Keynes and Co. were again first, with fine blooms of the Rev. J. B. M. Camm, Rebecca, Pelican, James O'Brien, Duke of Albany, Gaiety, John Forbes, Madame Soubeyre, James McIntosh, Chorister, Miss A. Milsome, and Miss Letty Large; second, Mr. J. Nature. Mr. John Mattock had the best twelve single dahlias, Messrs. Keynes and Co. being second. In the amateurs' classes some fairly good flowers were also shown. Mr. William Smith, Kingswood Hill, Bristol, had the best twenty-four hollyhocks. He also had the best twelve blooms, all being good; Mr. J. Jones, gardener to J. S. Pope, Esq., Laurel Lodge, Bath, being a good second in the latter class.

The quilled asters were very good indeed, Mr. Jones being first with a very fine lot of twelve blooms, Messrs. Geo. Cooling and Son being second. In the class for French varieties these two exhibitors occupied similar positions. Mr. H. Godding had a fine lot of twenty-four spikes of hollyhocks; Mr. S. Tottle being second. Verbenas, in bunches of twenty-four and eighteen varieties, were also shown; the two leading exhibitors were Mr. T. W. Davis, Bear Hotel, Bath, and Mr. G. Huxtable. Asters, gladioli, verbenas, &c., were also largely shown by amateurs, and in their division one very interesting exhibit was the collections of annuals in not less than twelve sorts. Here Mr. Thomas Paull, the Brewery, Ilminster, was first with a very fine lot indeed, Mr. G. Hopkins, gardener to Mrs. W. C. Kinglake, Shovel Hill, Bridgwater, being second.

In the way of miscellaneous cut flowers Messrs. Kelway and Son, of Langport, set up a very fine lot of gladioli in sixty-four spikes, and first-class certificates of merit were awarded to the following: Lady Salisbury, pale silvery grey ground, delicately feathered on the edges with scarlet and purple; and Dr. Farrant, bright rose shaded with carmine, and having a narrow edging of the same. Other fine new varieties were Mr. Blizzard, bright carmine flaked with marone; Colonel W. Adair, scarlet, with white throat; and Vincent Stuckey, delicate pink, flaked with rosy scarlet, extra fine. There were also boxes of gaillardias and hollyhocks. Mr. E. J. Jarman, seedsman, Chard, had cut blooms of roses, carnations, and gaillardias; and Mr. T. F. Barlett, florist, Crewkerne, had blooms of double and single begonias.

Messrs. R. T. Veitch and Son, 54, High Street, Exeter, had a collection of plants of an interesting miscellaneous character, and also of various kinds of cut flowers.

Table Decorations and Bouquets.—There was but one exhibitor of a dinner table laid for ten persons, viz., Mr. J. Cypher, Cheltenham, who was awarded the first prize for one of these arrangements, excellent in every way, for which he is so famous. He also had the best vase of cut flowers, an excellent piece of work. Mr. Cypher also had the best hand bouquet; Miss Mary Poynter, of Taunton, being second. But Miss Poynter had the best ornamental device in wild flowers; Miss Grace Farrand being second. Miss H. Tidbury had the best bouquet of wild flowers; Mrs. Healey being second.

Fruit.—There was a very fine show of fruit, it was said one of the best seen at Taunton for some time, and there appeared to be a good competition in all the classes. The best collection of ten varieties came from Mr. W. Iggulden, gardener to the Earl of Cork, Marston House, Frome, who had Foster's Seedling and Black Hamburgh grapes, Smooth Cayenne pine, Barrington peaches, Lord Napier nectarines, Moor Park apricots, Brown Turkey figs, Black Tartarian cherries, melon, and Jargonelle pears; second Mr. H. W. Ward, gardener to Lord Radnor, Longford Castle, Salisbury, who had Madresfield Court and Muscat of Alexandria grapes, Barrington peaches, Balgowan nectarines, Moor Park apricots, Queen pines, &c.; third, Mr. A. Crossman, gardener to Joseph Brutton, Esq., Yeovil. With eight dishes, Mr J. Lloyd, gardener to Vincent Stuckey, Esq., Hill House, Langport, with Foster's Seedling and Madresfield Court grapes, Violette Hative peaches, Oldenburg nectarine, Moor Park apricot, pears, melon, and cherries; second, Mr. A. Crossman, with a good collection, showing Madresfield Court and Muscat of Alexandria grapes, Waterloo peaches, Pitmaston Orange nectarines, plums, melon, cherries, and pears. In the class for four dishes Mrs. Walker, Sea View, Weston-super-Mare, was first with Madresfield Court grapes, Grosse Mignonne peaches, Elruge nectarines, and melon; Mr. J. C. Clarke, gardener to C. E. J. Esdaile, Esq., Cothelstone House, Taunton, was second with Muscat of Alexandria grapes, Grosse Mignonne peaches, Pineapple nectarine, and melon; third, Mr. T. W. Sanson, Woodworthy Court, Honiton. Mr. G. Birch, gardener to A. Vaughan Lee, Esq., Dillington Park, Ilminster, with two Providence pineapples; Mr. Iggulden being second with Smooth Coyenne. Mr. Iggulden had the best three bunches of black grapes, staging finely-finished Black Hamburgh; the gardener to W. K. Wait, Esq., Gloucester, being second with the same; and Mr. Brutton third. The best bunches of any other black grape were Madresfield Court from Mrs. Walker; Mr. Brutton being second with Alicante; and V. Stuckey, Esq., third with Madresfield Court. Mr. H. W. Ward had the three best bunches of white grapes, staging Muscat of Alexandria; Mr. W. R. Wait being second, and Mr. V. Stuckey third with the same. Mr. John Westacott, Barnstaple, had the best three bunches of any other white, staging Duke of Buccleuch; Mr. V. Stuckey being second with Fosters, and Mr. J. C. Clarke third with Buckland Sweetwater. Plenty of melons were shown, and the judges must have had some difficulty in deciding upon the rival claims of so many competitors. Mr. Walker had the best dish of six peaches, staging Grosse Mignonne; Mr. Iggulden being second with the same. Mr. F. W. Newton had the best dish of apricots; Mr, J. Newcombe, gardener to H. P. Gore Langton, Esq., being second, both with Moor Parks. The best dish of nectarines was Elruge, from Mr. Walker; Mr. V. Stuckey being second with Oldenburgh. Pears were mainly represented by Jargonelle, culinary plums by Comte de Bravy and Magnum Bonum, and dessert plums by Orleans. The best dessert apples were Red Astrachan and Strawberry Pearmain; Lord Suffield was the best culinary variety; while red, white, and black currants, and gooseberries in variety, were numerous, and very fine indeed.

Vegetables were very numerously shown, and it need scarcely be said they were of very fine quality throughout. There were plenty of potatoes, but coarseness was too apparent, and the judges appeared to favour mere size by their awards. Mr. C. Kite was placed first with six dishes, consisting of Woodstock Kidney (so-called), Prizetaker, Queen of the Valley, Model, Reading Russet. This collection deserved no higher award than third, and one of the best collections was not acknowledged. Mr. William Greece was second with Sutton's Seedling, Cosmopolitan, American Purple, Charter Oak, Vicar of Laleham, and Reading Russet. In the classes for single dishes the same tendency to coarseness was noticeable, but the judges are greatly to blame. Reading Russet and Schoolmaster were the best rounds; the Dean, Vicar of Laleham, and Harvester being well represented. International and Sutton's Seedling were the best kidneys. Parsnips, carrots, onions, &c., were truly wonderful.

The judges were afterwards entertained at luncheon by the committee, the Mayor of Taunton presiding.

LEDBURY HORTICULTURAL SHOW, August 12.

The annual exhibition of this society was held on the above date in the extensive and beautiful grounds of Eastnor Castle. The whole of the charming grounds were thrown open to visitors to this show, a concession which was much appreciated. Besides other attractions, there was boating on the beautiful lake in front of the castle. The kitchen garden and fruit and plant departments were barred from the general public, but by the kind invitation of Mr. Coleman, myself and a few other friends were kindly shown through the various departments. Mr. Coleman is so well known as a first-class fruit grower that I need not refer at length to what I saw, but I would like to remark that the whole of the occupants in the different houses, pits, and frames are in the best possible condition, and that I could not help having a second look at the beautiful and well-finished bunches of Madresfield Court grape and the promising crops of Gros Colman and other late varieties. The crops of melons were extra fine.

Turning to the exhibition, it may be well to state that the open classes are not numerous. The competition was very keen in the class for a group of miscellaneous plants staged for effect and to occupy a space not exceeding seventy-two feet. The first prize was awarded to Mr. Ramshaw, gardener, Perristone Court, South Wales; the second to Mr. Corbett, gardener to Captain Palairet; and the third to Mr. Spencer, gardener, Goodrich Court, Hereford.

A fourth prize was awarded to Mr. Knight, gardener to Captain Archdale, Ledbury. For six ferns the first prize was awarded to Mr. Bailey, Upper Hall, Ledbury; Mr. Spencer was second.

A grand stand of twenty-four roses was staged by Mr. J. W. Grant, Ledbury, which gained for him the first prize. The second award was made in favour of Mr. J. Davis, Bodenham. Asters and zinnias were remarkably good. The prizetakers in the classes for these flowers were Mr. Benskin, Mr. J. Davis, Mr. Bailey, and the Rev. R. P. Hill.

Fruit was well shown. For three bunches of black grapes Mr. Spencer was first and Mr. Corbett second. An extra prize was awarded to Mr. Ramshaw. These exhibitors occupied the same relative positions in the class for three bunches of white grapes. Mr. Corbett was first for a melon with a fine fruit of Hero of Lockinge; Mr. Ramshaw was second. For six peaches Mr. Knight and Mr. Ramshaw were first and second respectively. For six nectarines Mr. Bailey was first and Mr. Ramshaw second. In the class for a dish of apricots Mr. Knight and Mr. Ramshaw were first and second. In competition for the prizes for the best brace of cucumbers Mr. Bailey occupied the first place and Mr. Davis the second. Mr. Spencer gained the first prize for a dish of twelve tomatoes, and Mr. Ramshaw the second.

Fifty classes were set apart for amateurs, and the entries in them were so numerous that the judges had no light task in awarding the prizes. The same remarks may be applied to the cottagers' section, which comprised about sixty classes. The whole of the productions did great credit to them. The potatoes shown both by the amateurs and cottagers were of excellent quality. The most conspicuous varieties in the two sections were Cosmopolitan, Sutton's Seedling, International, Royal Ashleaf, and Myatt's Prolific Ashleaf, Sutton's Prizetaker, Reading Ruby, Beauty of Hebron, and Salmon Kidney, Schoolmaster, Rector of Woodstock, Porter's Excelsior, Reading Russet, Carter's Main Crop, and Vicar of Laleham.

A beautiful bank of plant was staged in the amateurs' tent, not for competition, by Mr. McRobie, gardener to F. Ricard, Esq., Bromesberrow Place.

John Aplin.

ABINGDON HORTICULTURAL SOCIETY, August 12.

The second annual exhibition of the Abingdon Horticultural Society was held on the above date in the grounds of the Abbey House. The productions were arranged in three large marquees, and the contributions were in sufficient numbers to more than fill all available space, groups of coleus and ferns being arranged in front of one of the central stages for want of better accommodation.

The plant classes were of good quality, the specimens ranging from half to three quarter size, comprising fuchsias, coleus, ferns, &c., some very excellent fuchsias being staged by a cottager named Charles Leach, who evidently is acquainted with the use of glasshouses or deep frames. The cut flower section included a few fairly good roses, but the knowledge of properly staging such subjects is at present infantile with the bulk of the amateur and cottage exhibitors. Asters were nearly fully developed, the cushions of the quilled section being a shade out of the perfect convex, while the guard petals appear too short in most of the stands. There were a few good double zinnias, while the show and single forms of dahlias were well represented. A grand addition to this section of the show was made by Mr. G. Prince, Oxford, with about 150 rose blooms of high merit; he also staging bunches of tea-scented in twenty-four varieties, and a prime box of twenty-four tea or noisette, distinct varieties. One very attractive box was arranged with pairs of blooms of Marie Van Houtte, alternating with pairs of the new rose Eclair, one of the finest of the dark crimsons; another box being filled with blooms of three of the dark crimson velvet section, alternating with yellow roses, in contrast very effective. Messrs. Sutton and Sons, Reading, staged about forty bunches of annuals and perennials, including the new forms and developments of hollyhock, phlox, dianthus, picotee, carnation, petunia (single and double), red and yellow mignonette, chrysanthemum (white and tricolor), godetia, lupinus, salpiglossis, antirrhinum, delphinium, helichrysum, calendula, gaillardia, and jacobea. Mr. John Walker, Thame, contributed a box of fine roses, and some forty varieties of dahlias. Amongst these occurred well-developed blooms of Mrs. Harris, white ground, lilac edge; John Standish, bright red; Champion Rollo, orange, paler edges; Royal Queen, pale yellow; Mrs. S. Foreman, lilac; Alexander Cramond, marone, shaded; Lady Gladys Herbert, white, tinged crimson; Hon. Mrs. Percy Wyndham, yellow, edged rosy purple; Prince of Denmark, dark marone; John Bennett, yellow; Sunbeam, buff; James Vick, purple marone; Mandarin, yellow mottled and striped purplish crimson; Condor, buff, orange shaded; William Rawlings, crimson purple; Flora Wyatt, orange, striped crimson; Julia Wyatt, cream white; George Barnes, lilac, striped crimson; Henry Walton, yellow, edged vermilion; Goldfinder, yellow, tipped red; H. W. Ward, yellow, deep edge and shaded crimson; Mrs. Gladstone, soft pink (fine); General Gordon, yellow, striped scarlet; Romeo, crimson and marone; Perfection of Primroses, pale yellow; Rev. J. B. M. Camm, yellow, flaked red; Hope, rosy lilac; Ovid, puce; Fanny Sturt, orange, striped crimson; Professor Fawcett, lilac.

In the fruit classes were handsome clusters of Black and Golden Hamburg grapes, melons, peaches, and a general run of bush fruits, the pears being Windsor and Jargonelle. Of apples, the finest examples were Peasgood's Nonsuch, a large form of Blenheim Orange; the only dish of toothsome dessert apples were Red Margaret, shown by a cottager. Considerable interest was manifested in regard to the special classes for collections of vegetables, prizes being offered by Messrs. Sutton and Sons, Reading, for eight distinct dishes; by Messrs. Webb and Sons, Wordsley, Stourbridge, for six kinds; and by Mr. A. T. Pritchard, seedsman, Abingdon, for nine and six kinds respectively. Keen competition resulted in each of the several classes.

Potatoes.—Of the "noble tuber" over 1,800 specimens were staged in competition, the bulk large, handsome, and bright, and among newer introductions were Royal Norfolk Russet and Great Eastern, the first-named a most attractive exhibition white round, save that its dusky skin is a shade too dark for the class. In the first division, for six dishes, Mr. W. Middleton, gardener to J. H. Clarke, Esq., Fitzharris House, Abingdon, was awarded the premier for a truly handsome level lot, including Great Eastern, International, Ruby, Vicar of Laleham, Queen of the Valley, and Reading Russet; Mr. J. H. Trendell, Bath Street, Abingdon, second with a nice even collection consisting of Matchless, International, Edgecote Purple, Beauty of Hebron, Peach Blow, and a good type of the old Ashleaf; Mr. Geo. Saxby, Northcourt, Abingdon, gardener to W. N. Buxton, Esq., a good third with Webb's Surprise, Early Border, Early Rose, White Elephant, Webb's Improved Ashleaf, and an unnamed Seedling; Rev. G. Marshal, Milton, Berks, also ran hard for a place with Lye's Favourite, Early Rose, Vicar of Laleham, International, and Schoolmaster. For one dish of kidneys Mr. Middleton again led with a splendid dozen of Queen of the Valley; Mr. W. H. Trendell second with Beauty of Hebron; and Rev. C. Dent, Caldecot House, Abingdon, third with Sutton's Prizetaker.

In the amateurs' division one dish of potatoes only appeared, but in the cottagers' section there was a superabundance of exhibits. For six dishes, distinct, the competition was exciting. Thomas Middleton, Clifton Hampden, was placed first with prime examples of International, Trophy, Vicar of Laleham, Peerless Rose, Great Eastern, and Reading Russet; Joseph Grimes, Abingdon, second, with Queen of the Valley, Red Emperor, Vicar of Laleham, White Elephant, Reading Russet, and Early Rose; and Samuel Abel, Bury Street, Abingdon (shoemaker), with Reading Russet, International, Adirondack, Vermont Champion, Vicar of Laleham, and Queen of the Valley. For three dishes, *White Rounds*, Thomas Middleton again first, with Royal Norfolk Russet, Sutton's Abundance, and Great Eastern; Samuel Abel, second, with Schoolmaster, Great Eastern, and Vermont Champion; and Joseph Grimes putting up for third prize three dishes of Schoolmaster. *White Kidney:* First, Thomas Middleton, with Cosmopolitan, Sutton's Seedling, and International; Samuel Abel second, with Reading Giant, Sutton's Seedling, and International; and third, Frank Palmer (miller), Caldecot, Abingdon, with International, Lapstone Kidney, and Sutton's Seedling. For a single dish of *White Round:* First, Thomas Middleton, with Royal Norfolk Russet; second, George Wise, Milton Hill, with Great Eastern; third, Frank Palmer, with Great Eastern. *Coloured Round:* First, Henry Painter, Ock Street, Abingdon; second. Thomas Middleton; and third, Samuel Abel, each with Reading Russet. *White Kidney:* First, Joseph James, Burcot, and Frank Palmer second, each with International; and Samuel Abel third with Reading Giant. *Coloured Kidney*, William Prior was first and Henry Painter second for Queen of the Valley; and Samuel Abel third with Trophy.

Replies to Queries.

I. H. F.—The seeding of the arum is not a common event. Sow the seeds at once in a pan of light soil, and keep it moist in a warm greenhouse.

T. R., Whittlesea.—A very showy lot of fancy flowers, a few of them extra good. They were much crushed by shaking in transit, and to report upon them in detail is impossible.

Lettuce Seed.—Philiheg has grown a collection of lettuces for seed, and enquires if it is likely the sorts will keep their character. It is quite unlikely. But the seed may produce good lettuces, even if not according to the original patterns.

Names of Plants.—Mr. Jenkins.—The red flowering weed is Polygonum lapathifolium. The other is like Impatiens parviflora, but was so shrivelled when it reached us we could not with certainty determine it. R. H. W.—There is nothing new or peculiar in your chrysanthemum. Painter.—1, Euphorbia ambigua; 2, Mesembryanthemum aguinum; 3, Sempervivum tortuosum; 4, Portulaca oleracea. G. B., Beverley.—The white flower is the double Achillea ptarmica. The grey-leaved plant is Agrostemma flos jovis. The fern is Adiantum affine.

Mildew on Roses.—A. V., R. H. B., and others complain of mildew on roses, and it appears in every case that the plants affected are standards in light soil. It is very difficult to prescribe for such cases, especially when the correspondents assure us that the usual means have been employed, but without effect, to get rid of the mildew. We are fully satisfied that the want of a free circulation of air is the most frequent of all causes of mildew, but standards in light soils rarely prosper, and we really marvel that lovers of roses are so slow to take our advice to have the plants on their own roots. Since the year 1858 we have advocated own-root roses, and as yet only a few of the foremost exhibitors have adopted them. Roses in this natural form are rarely touched with any plague whatever.

Spinach.—H. Stains enquires about the time for sowing spinach, and the risk of it running to seed. The proper spinach to sow at this time of year is that called "prickly seeded," the other well-known kind called "round seeded" is suitable for sowing in spring only. As regards the time for sowing prickly spinach, there is a range of full three months, say the whole of July, August, and September. We have sown as late as the middle of October, and had a fine plant for use in spring. There is, therefore, plenty of time yet for sowing spinach, but as our correspondent dates from Tottenham, a rather cold locality, we advise him to sow as soon as possible. As to the risk of the plant running to seed, that would certainly not happen until June or July next, by which time, we hope, the spinach would all be eaten, and some other useful crop will occupy the ground.

TRADE CATALOGUES.

G. Bunyard and Co., Old Nurseries, Maidstone.—*Fruit Trees.*
Laing and Co., Forest Hill, S.E.—*Dutch Bulbs.*

Obituary.

On the 9th inst., at the Ottershaw Nursery, Mr. W. Fletcher, nurseryman, at a ripe age.

Recently, at Leicester, Mr. Tom Chapman, a successful cultivator of the carnation, in his 27th year.

How Lightning Works.—On July 27 a party of engineers and workmen had an excellent opportunity of observing the way in which a thunder cloud discharges its electricity. They had just completed the fitting of a lightning conductor at the shelter hut on the Mythen, in Schwyz. A heavy storm was seen approaching from three different points, and they took refuge in the hut. Through a hole in the wall they could see the conductor. From time to time small bluish flames appeared hovering on it; then the lightning flash would be seen descending along the conductor into the earth, followed almost instantaneously by the thunder crash. More than twenty times they watched the phenomena regularly succeeding each other; then there was an electrical discharge of such violence that there seemed to be a recoil, and two of the party felt the shock from below up to their hips, and one fancied that both his legs were shot off. The party was so terrified that they quitted the hut and descended the mountain amid blinding snow, as thick as if it were the middle of winter, varied by thunder and lightning.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886		[Moon, 0h. 54m. after.	H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
29	S	**10th Sunday after Trinity.** ● New	5 8	0 47	6 53	4 51	6 52	1 12	1 39	10 37	11 4	60·5	Dendrobium chrysanthum ...	Nepal.	241
30	M	Length of Day, 13h. 41m.	5 10	0 29	6 51	6 13	7 24	2 2	2 25	11 27	11 50	60·4	Oncidium crispum grandiflorum	Brazil.	242
31	Tu	John Bunyan died, 1688.	5 12	Morn.	6 49	7 33	7 52	2 48	3 12	—	0 13	60·2	Oncidium Weltoni	Colombia.	243
		September.													
1	W	*St. Giles.*	5 13	0 8	6 46	8 54	8 22	3 34	3 57	0 37	0 59	60·0	Stanhopea aurea	South America.	244
2	Th	Great Fire of London, 1666.	5 15	0 27	6 44	10 11	8 52	4 19	4 41	1 22	1 44	59·8	Stanhopea graveolens	South America.	245
3	F	Oliver Cromwell died, 1658.	5 16	0 46	6 42	11 27	9 25	5 3	5 23	2 6	2 28	59·6	Stanhopea Shuttleworthi.....	Colombia.	246
4	S	Battle of Worcester, 1651.	5 18	1 6	6 40	After.	10 0	5 45	6 7	2 43	3 10	59·5	Vanda cærulea.....	Khasya.	247

CRYSTAL PALACE ANNUAL FRUIT EXHIBITION and GRAND NATIONAL DAHLIA SHOW, September 3 and 4. Schedules on application to Mr. W. G. Head, Garden Superintendent, Crystal Palace.

NATIONAL CHRYSANTHEMUM SOCIETY, Royal Aquarium, Westminster.—GRAND EXHIBITION of DAHLIAS, GLADIOLI, EARLY CHRYSANTHEMUMS, &c., &c., THURSDAY and FRIDAY, September 9 and 10.
Schedules on application (free) to William Holmes, Hon. Secretary, Frampton Park Nurseries, Hackney.
Revised official Chrysanthemum Catalogue now ready, 6d. per copy.

Exhibitions and Meetings for the Ensuing Week.

Wednesday, September 1.—Oxford Horticultural Society.—Summer Exhibition.
Wednesday, September 1.—British Association.—First Day of Meeting at Birmingham.
Friday, September 3, and Saturday, September 4.—Crystal Palace.—Exhibition of Fruit and Dahlias.

Auction Sales for the Ensuing Week.

Monday, August 30, and Thursday and Saturday, September 2 and 4.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.
Monday, August 30, and Wednesday and Saturday, September 1 and 4.—Mr. J. C. Stevens, at 38 King Street, Covent Garden; Dutch Bulbs.
Tuesday, August 31.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.
Wednesday, September 1.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Stove and Greenhouse Plants, &c.
Thursday, September 2.—Messrs. Protheroe and Morris, at the Floral Nurseries, Maidenhead; Greenhouse Plants.
Thursday, September 2.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.
Friday, September 3.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.
Advertisements for the Current Number must be sent out later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.
ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.
ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, AUGUST 28, 1886.

The Fruit Crops of 1886, as reported on by our correspondents in all parts of the United Kingdom, are satisfactory in one sense that there is no striking failure recorded, and, generally speaking, the supplies amount to a fair average, or are not much below it. This is clearly not a great fruit year, but if we call the crop a "sprinkling" it must be owned that the sprinkling is of a generous nature, and is likely to prove better than appears, for the healthy and abundant foliage prevents that full display of the treasure that makes an early and lasting impression. He who goes to gather a peck will probably secure a bushel, and where tons have been arranged for there will probably be found a few hundredweights beyond the reckoning. The foliage, we say, conceals the crop, so that we cannot conveniently count all the apples in an orchard, but as those apples will be above the average in size the total will exceed in relative weight, as well as in number, the measure of our expectations. We are not quite in the mood to condole with our readers on the subject of this year's fruit crops. There are disappointments to be acknowledged, but they do not run to the verge of disaster, for the aggregate of production is considerable, and plenty in one direction makes amends, in part at least, for deficiency in another.

It cannot be said that the conditions determining the production of a fruit crop, or even of any particular fruit, are fully understood. We watch the thermometer with nervous anxiety when the trees are pushing into flower, but our observations often fail to establish the desired relation between the invisible cause and the visible effect. That temperature does in a great measure govern the case cannot be doubted, but other circumstances and conditions, of which we know but little, concur in defining the measure of the produce, and the problem presented to us is to name or describe them. There can be no doubt the garden culture of fruits has advanced within the past few years in a very material degree, to the great advantage of the practitioners of horticulture; while the statistics that are common items of public intelligence tell of advance in commercial fruit culture, and the consequent increase of the national wealth thereby. The subject obtains more intelligent attention, many injurious fallacies have been dissipated, and the appeal to nature for practical teaching has been productive of beneficial results. We hope to live to see the complete suppression of starving stocks and the pinching and pruning that through long years of delusion made a barren wilderness of the fruit garden. Nature is generous, and asks to be allowed her own way a little, that she may show us what is possible in the way of fruit production.

Apples are below an average throughout the United Kingdom. From one county alone, that of Sligo, has a full average crop been reported; but Staffordshire proves to be strong in apples, and is probably the equal of Sligo in the sister island. The crop, as at present reckoned, will amount to about three-quarters of an average, but the weight will prove greater than the average for any given number of fruits, the growth having been greatly favoured by seasonable rains. Some of our friends attribute the thinness of the crop to the abundant production last year; others say the autumn was unfavourable to the ripening of the wood; while others, again, find a sufficient explanation in the long-drawn winter and chilly spring. Probably all these explanations touch the case in one way or another, and they all suggest that we cannot help nature much, however great may be our talent and power to limit her beneficence. We will conclude this paragraph by reporting that throughout the length and breadth of the land the trees are in the best of health, and all they appear to need now is kindly weather to enable them to finish the season in a way to be ready for next year's labours.

The varieties that are most frequently mentioned in the reports as giving good crops this year are Lord Suffield, Stirling Castle, Ecklinville, Warner's King, Lane's Prince Albert, King of the Pippins, Keswick Codlin, Herefordshire Pearmain, Dumelow's Seedling (syn. Wellington), Cellini, Grenadier, New Hawthornden, Lewis's Incomparable, and Cox's Orange Pippin. The first two names in the list tell of the most popular of all known apples at the present time. We do not say they are the best, for there are some remarkable novelties in the market that will acquire popularity as their merits become known, but no one can question the right of Lord Suffield and Stirling Castle to head the list for the present.

Pears have strangely belied their spring promise, for the trees made so little show when in flower that the prediction went forth, "there will be no pears." Behold, there are pears in plenty; the crop is considerably below that of the congress year, but it far exceeds in bulk the crop of apples, and the fruit will not be wanting in quality. In about twenty counties there is an average crop; in all the rest the aggregate is below an average. It is noticeable that the best crops are reported from localities that are advantaged by shelter; more particularly from east winds, which no doubt are in a great degree answerable for our frequent disappointments in fruit culture. Districts characterised by atmospheric humidity, in which often good crops of pears appear, are this season short of a crop, a fact suggestive of imperfect ripening of the wood in the autumn. The counties of Dorset and Cumberland make a poor figure in the returns, although not unseldom they can shine in the pear market.

The varieties that appear conspicuously in the reports as popular for usefulness are Williams's Bon Chrêtien, Louise Bonne of Jersey, Marie Louise, Glou Morceau, Beurré d'Amanlis, Jargonelle, Pitmaston Duchess, Thompson's, Winter Nelis, Beurré Diel, and Doyenné du Comice. The first three are mentioned by the largest number of correspondents.

Plums and Cherries are, on the whole, abundant; in a few places the crops are light, in Kent and the Midlands they are heavy. The leading sorts of plums, as indicated by the reports, are Victoria

Coe's Golden Drop, Kirke's, and Rivers's Early Prolific. The plum of the future is The Czar—so our reports say, and so our eyes assure us as we make our observations. The cherry crop is more equally distributed than the plum crop, for it seems that wherever there is a cherry tree it has done something to justify its name; but this is not the case with the larger cherry that is called a plum. The useful "bird proof" morellos are particularly abundant, but the sweet cherries have been plentiful also, and London has been better supplied than for many years past—a matter of some importance seeing that imported cherries are nearly tasteless, however fine may be their looks.

Peaches and Nectarines in open quarters are fairly good in most places, and the peaches have fared the best of the two. Those grown under glass do not now claim our attention, for they illustrate but partially the productiveness of the season, for with reasonably good management the glass-covered peaches and nectarines should never fail. Amongst the varieties of peaches reported to have made good returns on open walls are Royal George, Noblesse, Grosse Mignonne, Walburton Admirable, Bellegarde, and Barrington. The newer early kinds such as Early Beatrice and Alexandra are finding favour in many quarters because of their free cropping and earliness, but they are certainly not in universal favour, and scarcely compete with the older sorts named above. The favourite nectarines are Elruge, Lord Napier, Violette Hative, Pitmaston Orange, and Stanwick. It is interesting to note the frequent mention of the last name, for, like the Madresfield Court grape, there was a time when nobody could grow it; but its good quality kept it in cultivation long enough for a study of its peculiarities, and now, in common with the grape, it can be well grown by anyone who has got beyond the range of a beginner's practice.

Bush Fruits are entitled to special mention for several reasons. One is that they never fail, and are as generally useful as any fruits grown; for what should we do without our customary jams and jellies, to say nothing of the piquant summer tarts. But, from the commercial point of view, bush fruits are to be regarded as the pump and plank that saved the sinking ship. The elders amongst us can remember when orcharding was rapidly declining in this country, and many of the Kentish gardens were being converted into arable. The prospect at that time was of the extinction of commercial fruit culture in this country. But the industry revived, and the bush fruits played a most important part in the revival, for they indicated the way of securing immediate returns from grounds planted with large fruits that required time to gather force. The general planting of small fruits in the spaces between apples, pears, and plums is a modern practice that not only augments the total of the returns, but ensures immediate return of at least something to pay interest on capital; and, moreover, has in it such an element of certainty that when there is no great prize forthcoming there is at least a safeguard against an utter blank. The bush fruits have lessened the uncertainty and augmented the reality of fruit farming, while they have acquired increased importance in gardens by reason of their usefulness and ready adaptation to the most diverse conditions.

Strawberries make a poor figure in our reports. Not for many years past has the crop so generally failed. The drought of last year prevented the production of good runners, and the rainy autumn prevented perfect ripening of the crowns, and the long winter and cold spring lessened the capabilities of plants that were in a suitable condition for productiveness. The leading varieties appear to be Vicomtesse Hericart de Thury, President, Keen's Seedling, Sir Joseph Paxton, and Sir Charles Napier. The good old British Queen is as good as ever, but appears to have suffered much from the drought of 1885, and hence we have not heard much of it this season. The samples we have met with have been mostly smallish, deficient of colour, but perfect in flavour, and compelling the customary exclamations.

The general lesson of the fruit crops is that those who are interested in fruits, whether for business or pleasure, would do well not to put all the eggs in one basket. There is much fruit in the land, but not overmuch of any one fruit in particular.

Paris Exhibition, 1889, is to be disfigured with a tower 1,000 feet high, which, we imagine, must be exactly the "height of the ridiculous."

American Aloe (*Agave Americana*), now flowering in conservatory of R.H.S., was sent up from Chatsworth to adorn the exhibition on the occasion of the last Indian reception.

A New Periodical devoted to Forestry is proposed in connection with the Scottish Arboricultural Society, and a committee has been appointed to consider plans and prospects.

Federation of Belgian Horticultural Societies has appointed Count Kerchove Vice-President, and M. Lubbers, of Brussels, Secretary, in the room of Professor Morren and M. A. Verschaffelt, lately deceased.

Yorkshire Naturalists' Union Fungus Foray will take place September 30.

Shrewsbury Horticultural Exhibition had some strong features. In the fruit tent there was a run of 70 yards of grapes. On the first day of the show the visitors numbered 10,000; on the second day there were 37,000 visitors before four p.m.; how many after that hour we do not know, as we could not stay to count them.

Dodder on Potatoes!!! Is this to be endured? It is somewhat of a shock that it must be believed, but we are resolved to treat it with the same contempt as we treated the potato beetle. It is now well known that our resolute behaviour kept that beast away, and dodder must be averted by similar aversion.

The Great Oak that was fashioned into a ship, and lay embedded in the soil at Brigg for some three thousand years, has its match in one discovered in the bed of the Rhone at La Balme, which is now being prepared for public exhibition in the principal cities of Europe. The length of the trunk is 101 feet, circumference at the level of the soil 20 feet. The age is estimated at 400 to 450 years.

The Weather has taken the course anticipated in our notes of July 31 (p. 440) and August 7 (p. 456), and the crops of all kinds have been much benefited, while, as regards the harvest, the recent brilliant weather has aided it materially. There are signs of changes at hand, but they at present promise to be of a somewhat trivial character, and likely to help rather than hinder the work of the season.

Annual Trade Sales of heaths, greenhouse plants, &c., are announced by Messrs. Protheroe and Morris, to be held as follows: September 14, Burnt Ash Nurseries, Lee; September 15, Lea Bridge Nurseries, Leyton; September 16, Brunswick Nursery, Tottenham; September 17, Longlands Nursery, Sidcup; September 18, Dyson's Lane Nursery, Edmonton.

Potatoes as a farm crop have varied but little in respect of the acreage devoted to them in the last few years. In Great Britain, in the year 1884, there were 565,048 acres occupied with potatoes; in 1885, 543,731: in 1886, 553,990. Between 1884 and 1886 the difference is 2 per cent. In the same run of years the difference in wheat is over 14 per cent., the acreage having decreased from 2,677,038 in 1884 to 2,286,064 in 1886.

The Origin of the Trowbridge Flower Show is a matter of some interest. The Mechanics' Institute was in debt to the amount of £40, and a flower show was held to raise the wind. The result was payment of the debt and a balance of about £100 to the good. The show has been continued annually for 37 years, and at the one held on the 18th inst. the visitors numbered 14,000. During the past 23 years Mr. James Huntley, corn merchant, Trowbridge, has acted as honorary secretary, and his friends are of opinion that his good work should have substantial recognition. Trowbridge will know what to do, and will do it well.

Ebriate Bees are not recognised in any statutes against drunkenness, but here is a case suggestive of new points for the study of local optionists, and illustrative of Hood's notion of an "unfortunate bee-ing." At Lambeth Police Court a man employed in a wine and cordial warehouse applied to Mr. Chance, the magistrate, for defence against the assaults of bees that came from a place near by, where hives are kept. These bees, it appears, are attracted by the cordials and spirits, and the complainant cannot get on with his work without being stung and otherwise interrupted. Mr. Chance remarked with regret that bees are not regarded by the law as ferocious animals, therefore he could not make an order to have them muzzled, tied up, or in any way put under restraint. The applicant became eloquent on the sharpness of their sting, and said the only satisfaction he could obtain was by killing them, and that was a troublesome business. Mr. Chance delicately proposed that the sufferer should wear a bee dress, a wire mask, and suitable gloves, and he appeared about to recommend a complete diver's costume, with helmet and cyclopean eye, when the applicant began to perceive that the magistrate was not master of the subject, and so he returned thanks for the excellent advice given him, and went back to the spirits and cordials and tormenting bees. Possibly, if he would take no notice of the bees they would take no notice of him, and, being soon fuddled, they would be reduced to a condition of maundering amiability.

Ceylon Tea is the subject of various inquiries and speculations, and the question of the introduction of the tea plant to the island is one of special interest. In the *Times* of August 23 appear two letters that may be regarded as of historical importance. In one of them, by George de Worms, of Milton Park, Egham, occurs the following statement: "My late uncle, Mr. Maurice B. Worms, brought the first tea plants from China to Ceylon in September, 1841, and formed a nursery of them on his estates at Puselawa (*vide* Sir J. Emerson Tennent's 'Ceylon,' vol. 2, chap. vii.). Samples of the tea grown there were often sent by Mr. M. B. Worms to friends in England and found to be excellent." The other letter, signed E. F. Gepp, High Easter Vicarage, says: "I was residing in Ceylon during the years 1842-45, and it was in the early part of the year 1843, when I was living at Newera Ellia with my pupils (one of whom was Mr. Laurence Oliphant) that I cleared about half an acre of jungle land at the back of Sir A. Oliphant's house for the reception of a score or so of tea plants which had been forwarded from China to the Botanical Gardens at Peradeniya, by way of experiment. The director, fearing that the temperature of Kandy would prove to be too hot for the plants, sent them up to me, and I think that I may fairly claim to be the first tea planter in Ceylon. The site which I selected was at an elevation of about 6,300 feet. The trees were flourishing when I left the island in 1845, and I heard of their welfare some few years afterwards, but whether or not they are in existence at the present time I cannot tell."

TROWBRIDGE HORTICULTURAL SOCIETY,

August 18.

The thirty-seventh annual exhibition of this society took place, as usual, in a large field, immediately contiguous to the railway station, on the above date. It was, in all respects, a very fine show. Mr. Iggulden, of Merston House Gardens, Frome, who was present as an exhibitor, stated that it was a finer show than the one at Tannton Deane the week before, an opinion we are prepared to endorse. Flower shows are very numerous in the Trowbridge district, but if fine weather favours them they appear to pay. On this occasion the gate money amounted to over £300, and all that is furnished as attractive forces are a good show, good music, and a few fireworks, and these serve to draw a very large company. It may be mentioned that Mr. James Huntley, the esteemed hon. secretary, has held this office for the space of 23 years. In common with other West of England towns, that of Trowbridge makes itself look very gay on the occasion of the annual show. Triumphal arches are erected at various points by subscriptions among the townspeople, and many shopkeepers decorate the fronts of their places of business in a very tasteful manner, and flags are abundantly displayed. A thorough holiday is observed, and the duty of attending the flower show appears to be felt and acted upon by all classes. There is an excellent working committee, and the whole proceedings pass off in a harmonious and satisfactory manner.

Several large tents are required to accommodate the exhibits. The principal one accommodated the main of the classes in the division open to all. The exhibits were both numerous and good. The fuchsias, for which Trowbridge is famous, were truly wonderful; and the flowering plants throughout were both good and very bright. One important particular is lacking—a more effective arrangement; it is the practice at Trowbridge to put the splendid specimen fuchsias at one end of the tent, instead of in the middle, and where there should be tall plants dwarf ones are found. A kind of traditional method of arrangement is followed year after year, and this appears to be as unalterable as the laws of the Medes and Persians. Some day it will be broken through, and a real commencement at effective arrangement attempted; the sooner the better, for it is a pity to see fine plants, worthy of a place on the grassy slopes of the Regent's Park tent, reduced in importance by incongruous grouping.

Stove and Greenhouse Plants.

The leading class for these required nine flowering, in distinct varieties, and here Mr. J. F. Mould, nurseryman, Pewsey, Wilts, was first with a good lot, consisting of Allamanda Hendersoni, A. nobilis, Dipladenias amabilis and Brearleyana, Clerodendron Balfourianum, Erica Aitonia turgida, E. Marnockiana, E. Austiniana, and Ixora Pilgrimi; second, Mr. J. Matthews, gardener to W. R. Brown, Esq., Trowbridge, whose best plants were Bougainvillea glabra, Clerodendron Balfourianum, Erica Aitonia turgida, E. Marnockiana, and Allamanda nobilis; third, Mr. Geo. Tucker, gardener to Major W. P. Clark, Trowbridge. In the amateurs' division Mr. G. Tucker had the best six, putting up good specimens of Stephanotis floribunda, Anthurium Scherzerianum Veitchi, Rondeletia speciosa major, Statice profusa, Ixora Fraseri, and Bougainvillea glabra; second, Mr. H. Pocock, gardener to J. P. Haden, Esq., Trowbridge, with good specimens of Ixora coccinea, Stephanotis floribunda, Ixora Williamsi, and Dipladenia amabilis; third, Mr. Matthews. The latter had the best three, staging Allamanda Hendersoni, Ixora Pilgrimi, and Erica McNabiana; second, Mr. Geo. Pym, gardener to Mrs. Goulds worth, Trowbridge, with Stephanotis floribunda, Cattleya Loddigesi, and Miltonia Clowesi; third, Mr. H. Pocock. The best specimen plant displaying superior cultivation was a nice piece of Cattleya Loddigesi, shown by Mr. G. Pym; Mr. Fred Parry, Shirehampton, Bristol, coming second with a good piece of Pilumna nobilis. The best new or rare plant was a capital piece of Croton Bergmanni, shown by Mr. J. F. Mould; Mr. C. Richman, gardener to G. L. Palmer, Esq., Trowbridge, being second with Cattleya Dominiana. The best six heaths came from Mr. J. Matthews, small, but fairly grown and flowered, Mr. J. F. Mould being second, but the prizes are not good enough to ensure large specimens.

Gloxinias were good for the late season of the year. Mr. G. Richman had the best six; Mr. J. Hiscox, gardener to H. B. Rodway, Esq., Trowbridge, being second. Achimenes were small, but nicely grown and flowered. Mr. G. Tucker was first, and Mr. H. Pocock second.

Tuberous-rooted begonias were a feature of considerable importance, the plants small, but nicely grown and flowered; another season we shall hope to see larger specimens. The six best single varieties led to equal first prizes being awarded to Mr. J. Durbin, gardener to J. Treadwell, Esq., Bath, and Mr. A. A. Walters, florist, Bath; Dr. F. W. Coats, Salisbury, being awarded a third prize. Messrs. Tredwell and Walters were also equal first with six double varieties; Mr. W. Jordan, Steeple Ashton, being third. Petunias in pots are always a very fine feature, and the plants are trained to oval wire trellises, and present to view a large mass of flowers facing one way. The plants are always well-grown and flowered, and the varieties distinguished by excellent quality. The best came from Mr. W. Mattock, gardener to J. G. Foley, Esq., Limpley, Stoke; the Rev. C. C. Layard being second. Cockscombs were also nicely shown, the best coming from Mr. W. Tylee, Bath. Messrs. Mattock and Layard were first and second with six verbenas in pots, and these, like the petunias, are trained to wire trellises, and are always well grown and bloomed.

Mr. Tucker had the best eight plants of zonal pelargoniums, staging admirably grown and flowered specimens of the Rev. Atkinson, Eva, President, Matilda, Mrs. J. Gibson, Sophia Birkin, Mrs. Strutt, and Lizzie Birch; second, Mr. H. Pocock. The best six variegated came from Mr. Pocock; Mr. P. R. Butler, Devizes, having the best four specimens. Balsams were good also.

Foliaged plants were shown in groups of nine, and here Mr. J. F. Mould was again first, having good specimens of Croton Johannis, C. Andreanus, C. Queen Victoria, C. Sunset, and C. majesticum, Dracæna Shepherdi, Cycas revoluta, Cocos Weddelliana, and Kentia Fosteriana; second, Mr. W. C. Drummond, nurseryman, Bath, whose leading plants were Latania borbonica, Cycas revoluta, Thrinax elegans, &c. Coleus were decidedly good. Mr. J. Matthews had the best six, finely grown and bloomed; Mr. G. Pym being second. The leading varieties were Mrs. Sherriff, Lady Dacre, Pantorium, Lovely, Princess of Teck, and Mrs. Simpson. The second lot was good also, and two equal third prizes were awarded.

Ferns and mosses were shown in groups of fifteen, but owing to lack of space they were very inconveniently crowded together. Mr. George Tucker had the best lot, medium-sized, well-grown, and bright, the leading specimens being Asplenium nidus avis, Dicksonia Antarctica, two fine plants of Gymnogramma Sulphurea, G. chrysophylla, and a beautiful silvery form of G. cristata, Davallia Mooreana, D. Canariensis, &c.; second, Mr. J. Coke, gardener to A. P. Stancomb, Esq., Trowbridge, and a very good second too; equal third prizes being awarded to Mr. H. Clack, gardener to E. C. E. Colston, Esq., Roundway Park, Devizes, and Mr. H. Pocock. Caladiums were fairly well shown.

But such fuchsias! Where else can such plants be seen? Mr. James Lye, of Market Lavington, was not exhibiting on the occasion; but Mr. J. Matthews staged six plants of such prodigious size and splendid finish that it is difficult to think better were ever before seen at Trowbridge. The plants were fully eight feet in height, five feet through, and feathered with flowering branches quite down over the pots. The varieties were: dark, Charming, the Hon. Mrs. Hay, and Doel's Favourite; light, Beauty of Trowbridge, Seedling, and Marchioness of Bath, with white corolla and red tube and sepals. Second, Mr. H. Pocock with Bountiful, Doel's Favourite, and the Hon. Mrs. Hay, dark varieties; and Beauty of Wilts, Rose of Castille, and Beauty of Trowbridge, light. Mr. Matthews had the best four, also consisting of: dark, Doel's Favourite and the Hon. Mrs. Hay; light, Rose of Castille and Arabella. second, Mr. G. Tucker; third, Mr. H. Pocock. It is impossible to do ample justice by any description to the superb quality of the plants shown by Mr. Matthews.

Amateurs and cottagers also contributed fuchsias. In the amateurs' department Mr. H. Perkins had the best four plants; in the cottagers' division, Mr. F. Slade, Hilperton Marsh, was first with the same number of plants. Cottagers' pelargoniums were very good also.

Cut Flowers.—Dahlias are always a good feature at Trowbridge. In the open class for twenty-four varieties Messrs. Keynes, Williams, and Co., nurserymen, Salisbury, were first with finely-developed blooms of Henry Walton, Burgundy, Muriel, Victor, Illuminator, Harry Keith, Colonist, Imperial, Rosy Morn, James Cocker, Royal Queen, William Rawling, Henry Bond, Joseph Ashby, Thomas Hobbs, Harry Turner, John Wyatt, Mrs. P. Wyndham, Sir C. Mills, Mrs. Geo. Paul, C. G. Wyatt, Primrose Perfection, Mrs. Gladstone, and a Seedling; second, Mr. Thomas Hobbs, Lower Easton, Bristol. Mr. G. Humphries, Chippenham, had the best twelve; Mr. H. Bush, Bath, being second. Messrs. Keynes and Co. had the best twelve fancy varieties, staging capital blooms of Gaiety, Pelican, Sport from Gaiety, Seedling, Henry Eckford, Mrs. Saunders, Rebecca, Hercules, John Forbes, Rev. J. B. W. Camm, Salamander, and Miss Letty Large; second, Mr. G. Humphries. First-class certificates of merit were awarded to Messrs. Keynes and Co. for Victor, a very fine marone self; Defiance, pale scarlet self, very fine petal and outline; and Colonist, a novel and distinct reflexed flower of the show class, fawn flushed with magenta, each petal having a distinct wire edge of magenta-purple. The best twelve roses, three blooms of each, came from Mr. John Mattock, New Headington Nursery, Oxford, who had excellent blooms of Maurice Bernardin, Niphetos, Horace Vernet, Merveille de Lyon, Duchess of Bedford, La France, Emile Hausberg, Catherine Mermet, Madame Victor Verdier, Perle des Jardins, and Marie Van Houtte; second, S. P. Budd, Esq., Bath. Mr. Mattock also had the best twenty-four varieties single blooms, his leading flowers being Horace Vernet, Souvenir d'un Ami, Alfred Colomb, Innocenta Pirola, Dupuy Jamain, Le Havre, Marie Verdier, Duchess of Bedford, Charles Darwin, Duchess of Teck, Catherine Mermet, Jeanne Ducher, &c.; second, Messrs. Geo. Cooling and Son, Bath. Asters were wonderfully fine and very numerous. In the amateurs' class the best twenty-four blooms of quilled asters came from Mr. G. S. Walters, Calne, and Mrs. Jones, Bath, both being so good that it was difficult indeed to separate them. Mr. J. Morgan, gardener to Major Scott, Reigate, was first with twenty-four French asters, showing a very fine lot indeed, Mr. Jones being second, and Mr. H. Pocock was awarded an extra prize. In the open class Mr. A. A. Walters was first with a splendid lot of twenty-four quilled asters; Mr. W. J. Jones, gardener to J. S. Pope, Esq., Bath, being second. Mr. Jones had the best twenty-four French asters: Mr. T. Salter, Lark Hall, Bath, being second. Verbenas, pompon and single dahlias, blooms of clematis, &c., were all good. Messrs. Keynes and Co.'s first prize lot of twelve bunches of pompon dahlias were admirable examples of good varieties.

Mr. Iggulden, The Gardens, Marston House, Frome, had the best twenty-four bunches of cut flowers, mainly orchids and stove and greenhouse subjects, a very good lot indeed; Mr. F. Perry, Shirehampton, being a good second. Hollyhocks in cut blooms, gladioli, pansies, carnations and picotees, &c., were all in creditable form.

The best centrepiece for table decoration came from Mr. T. E. Hill, Westbury. Mr. C. Young had the best centrepiece of wild flowers; Mr. E. T. Hill being second. Mr. M. Hockings, Clifton, had the best hand bouquet; Mr. G. Garraway, Bristol, being second. Mr. Durbin had the best memorial wreath; Mr. G. Garraway being second.

Special prizes were offered for twenty-four species of wild flowers collected within twelve miles of Trowbridge, and a good competition ensued. Mr. J. Shellard, Coombe Hay, was first; and Miss Mann, Trowbridge, second. Mr. G. Garraway had the best collection of twelve hardy annuals, Mr. F. Perry being second.

Fruit.—In the class for ten varieties, pines excluded, Mr. A. Miller, gardener to W. H. Long, Esq., M.P., Rood Ashton, Trowbridge, was first with very good Black Hamburgh and Foster's Seedling grapes, Violette Hative and Hale's Early peaches, Brown Turkey figs, Moor Park apricots, plums, melon, &c.; second, Mr. H. Prosser, gardener to W. H. Laverton, Esq., Westbury, with a somewhat poor collection. The first prize for a pineapple fell to Mr. W. Iggulden. The best two bunches of black grapes, any variety not Muscat, came from Mr. C. Warden, gardener to Sir F. H. Bathurst, Bart., Clarendon Park, Salisbury, with very good Black Hamburgh; Messrs. D. Evry and Sons, Bath, being second with Alicante. The best two bunches of white grapes, not Muscat, were Buckland Sweetwater, well coloured, from Mr. A. Young, gardener to B. Thomas, Esq., Bristol; Mr. Iggulden was second with Foster's Seedling, rather small in the berry. In the Black Muscat class Mr. H. Clack, Roundway Park, was first with fairly good Madresfield Court; Mr. Iggulden being second with the same variety, rather small in the bunch. Mr. Iggulden had the best two bunches of White Muscats, very good in all respects; Mr. J. Loosemore, gardener to W. Cowper, Esq., Clifton, being second.

Peaches were well shown. The best six came from Mr. T. King, The Gardens, Devizes Castle, who had a very good lot of Dr. Hogg; Mr. F. Kevil, Bockington, being second with unnamed fruit. Mr. Iggulden had the best six nectarines, staging a very fine dish of Lord Napier; Mr. T. King coming second with a good dish of Balgowan.

Melons, cherries, apples, and pears were shown in large numbers and generally good. The leading sorts of culinary apples were Lord Suffield, New Hawthornden, Emperor Alexander, Warner's King, and Tower of

Glamis. The best dessert apples, Beauty of Bath, Red Astrachan, Juneating, Quarrenden, and Worcester Pearmain. The best dessert pears were Bon Chrétien, Jargonelle, Windsor, and Mumford Egg. Some very handsome fruits of Apple Beauty of Bath were shown by Messrs. George Cooling and Sons, of Bath; a very pretty fruit indeed, good in flavour, and as early as Juneating.

The vegetables and roots shown by cottagers, gardeners, amateurs, and market gardeners were fine throughout, and the task of judging must have been a very onerous one. In the cottagers' division there was a class for a basket of potatoes of various kinds, and these were shown in large shallow boxes, not in baskets, and in one of these we counted as many as thirty-eight varieties—something for a cottager to grow, but many of them would really be of worthless character. It is a pity the matter is not simplified by confining the exhibits to six varieties only.

After the judging was over the censors, about thirty in number, were entertained at luncheon by the committee, under the presidency of A. P. Stancomb, Esq., one of the vice-presidents, and some loyal and complimentary toasts were duly drank and honoured.

READING HORTICULTURAL SOCIETY,

August 25.

This old-established society held its annual autumn show on the above date within the picturesque ruins of Reading Abbey, which may be utilised to advantage for exhibitions of this character. There were several good features, the most important being the fruit and vegetables, which were staged in plenty and of unusually fine quality. There was, however, a decided falling off in the plant classes, this being, in our opinion, due to the prizes not being sufficiently valuable to bring together strong competition. Cut flowers were exhibited largely and in excellent condition, especially the asters, which were noticeable for superb form, large size, and bright colouring.

Fruit, as mentioned above, formed a conspicuous feature, and in almost all the classes there was keen competition. In the class for eight dishes, distinct kinds, Mr. Goodman, gardener to C. Hammersley, Bourne End, came first with an excellent collection, comprising Black Hamburgh and Muscat of Alexandria grapes, Old Windsor pear (well coloured), Dr. Hogg peach, Victory of Bristol melon, Humboldt nectarine, Brown Turkey fig, and Shipley apricot; the second prize went to Mr. Ashby, gardener to W. Fanning, Esq., Whitchurch, who also staged a fine collection, in which Muscat of Alexandria and Black Hamburgh grapes made a good figure; Mr. Howe, gardener to Sir R. Sutton, Bart., Benham Park, came third, exhibiting a splendid Queen pineapple. For six dishes Mr. Richards occupied first position, and exhibited in first-rate condition Black Hamburgh grape, Hero of Lockinge melon, Moor Park apricot, Brunswick fig, A'Bec peach, and Pitmaston Orange nectarine; the second award was made in favour of Mr. Lockie, gardener to the Hon. G. O. Fitzgerald, Windsor; and the third prize went to Mr. Jennings, Farnborough, who had good fruits of Crawford's Early peach.

Grapes were presented in unusually fine condition, few inferior clusters being noticed. For three bunches of Black Hamburgh Mr. Bowerman, gardener to C. Hoare, Esq., Hackwood Park, was a good first, his bunches being heavy, well-coloured, and the berries large; Mr. Turton, gardener to J. Hargreaves, Esq., Maiden Erleigh, and Mr. Ashby were second and third respectively. There was sharp competition for three bunches of Muscats, Mr. Cakebread taking the lead with fine well-coloured clusters; Mr. Maher, gardener to A. Waterhouse, Esq., Tattendon, was second, and Mr. Robinson third. In the class for bunches of any other white variety, Mr. Kneller, gardener to W. Portal, Esq., headed the prize list with Buckland Sweetwater; Mr. Wells, gardener to R. Ravenhill, Esq., Winkfield, came second with the same variety; and Mr. H. Cakebread, who showed Foster's Seedling, was placed third. The last-mentioned exhibitor occupied the post of honour for three bunches of any black grape except Black Hamburgh, exhibiting in splendid condition Madresfield Court; Mr. Wells was second with Cooper's Black, a large-berried variety; and Mr. Ashby third.

Peaches, nectarines, apricots, and plums were exhibited in plenty, and the quality was of a high order. For six peaches, any variety, Mr. Ashby showed superb fruits of Grosse Mignonne, and was placed first; Mr. Best, gardener to C. Chute, Esq., was second with Red Magdalene; and Mr. Jennings third with Crawford's Early. In the class for six nectarines the premier place was occupied by Mr. Cox, gardener to Mrs. Alexander, Calcot Park, who had Victoria; Mr. Howe showed the Pineapple nectarine, and was adjudged the second prize; Mr. Goodman third with Dryden. Mr. Howe, Mr. Robinson, and Mr. Goodman were the prizetakers, in the order of their names, in the class for six apricots, all exhibiting Moor Park. For nine figs Mr. Lockie was first and Mr. Best was second. For three dishes of plums, distinct varieties, Mr. Goodman showed Kirke's, Washington, and Jefferson, and was placed first; Mr. Palmer and Mr. Howe were second and third respectively. Apples were shown to advantage, Mr. Turton coming first in the class for six dishes of dessert kinds, Mr. Paxton second, and Mr. R. Webb third. In the corresponding class for culinary kinds the prizetakers were Mr. Turton, Mr. Howe, and Mr. Hinton, in the order of their names. For three dishes of pears the first place was occupied by Mr. Richards, the second prize going to Mr. Paxton, and the third to Mr. Hermon, gardener to F. Skurray, Esq., Reading. In the corresponding class for stewing pears Mr. Turton was first, Mr. Paxton second, and Mr. Read, gardener to F. Wilder, Esq., Purley, third. In the class for miscellaneous Mr. Mortimer, Farnham, came first, showing a large basket of Sutton's Imperial green flesh melon; Mr. Goodman second with a varied assortment of fruits; and Mr. Read third.

Vegetables.—Special prizes were offered by Messrs. Sutton and Sons, for nine dishes of potatoes, distinct, dish of Sutton's Seedling potato, brace of melons, and collection of six kinds of vegetables. In the class for nine dishes of potatoes Mr. Allen, gardener to Sir Francis Burdett, Bart., was first, Mr. Pope second, and Mr. Ellott third. There was strong competition, as also in the class for vegetables, Mr. Waite, gardener to Hon. W. P. Talbot, Esher, heading the prize list; Mr. Kneller, Mr. Richards, and Mr. Lockie being second, third, and fourth respectively. For the best brace of melons Mr. Lockie came first, Mr. Howe second, and Mr. Booker third. Messrs. Webb and Sons, Stourbridge, offered prizes for a collection of vegetables, six distinct kinds, and the first prize was secured by Mr. Lye, the second award being made in favour of Mr. Kneller; Mr. Richards and Mr. Lockie were third and fourth. Messrs. J. Carter and Co., Holborn, offered prizes for the best brace of Carter's Model cucumber and also for a brace of Blenheim Orange melon. Mr. Lockie was the most successful in both classes. Mr. C. Fidler, Reading, offered prizes for a collection of potatoes, six distinct kinds, and the prizetakers were Mr. Allen, Mr. Ilott, and Mr. Paxton, in the order of their names.

Plants were not well shown, and in several instances there was no competition. For nine stove and greenhouse plants Mr. Mould, Pewsey, was first, and also in the class for six fine-foliage specimens. Mr. Mould was again the most successful in the class for a specimen stove plant; Mr. Goodman and Mr. Jennings being placed equal seconds; and an extra was awarded to Mr. Bright, gardener to P. Karslake, Esq. For a new or rare specimen plant Mr. Mould showed Croton Bergmanni, which has broad leaves, distinct, variegated with yellow on a deep sea-green ground; Mr. Armitage, gardener to N. Clarke, Esq., Reading, second. Fuchsias were well shown by Mr. Bright, who was first in the class for four; Mr. Booker second. For three palms Mr. Mould was first, and Mr. G. Phippen, Reading, second. The last-named exhibitor was deservedly placed first in the class for a group twelve feet by ten, showing a tasteful arrangement, in which Hyacinthus candicans was shown to advantage; Mr. Sumner, gardener to J. H. Millard, Esq., and Mr. Pound, gardener to G. May, Esq., were second and third respectively. There were also classes devoted to lycopodiums, balsams, cockscombs, lilies, coleus, and begonias, and the most successful prizetakers were Mr. Hatch, Reading, Mr. Jones, Mr. Dockerill, Mr. Sumner, and Mr. Mayne.

Cut Flowers constituted the brightest feature of the show. Dahlias figured prominently, Mr. Walker, Thame, coming first in the class for eighteen; Mr. Tranter, Upper Assenden, was second; and a collection was shown by Mr. Charles Turner, Royal Nurseries, Slough. For twelve fancy varieties, distinct, Mr. Tranter occupied first place and Mr. Walker second. Messrs. J. Cheal and Sons, Crawley, came first in the class for twelve bunches of single varieties, and Mr. Jackson second. For nine phloxes Mr. Phippen, Mr. Mayne, and Mr. Tranter were the most successful; and for eighteen bunches of cut flowers the prizetakers were Mr. Jennings and Mr. Phippen, who were first and second respectively. There was good competition in the classes devoted to asters, and the prizetakers were Mr. Maskell, Mr. Walker, and Mr. Tranter. Double zinnias were well shown by Mr. Benham and Mr. Walker; and gladioli were staged in fine condition by Mr. Owen, Maidenhead, who was first in the class for twelve spikes. For eighteen roses T. W. Girdlestone, Esq., Sunningdale, came first, his flowers being very fine for so late in the season. For six blooms of any variety Mr. Walker showed Marechal Niel, and was placed first; T. W. Girdlestone, Esq., and Messrs. J. Cheal and Sons, Crawley, second and third respectively. Messrs. Perkins and Sons were the principal prizetakers in the classes for one bridal bouquet and three buttonhole bouquets.

Table decorations made a pleasing feature, and there was good competition in the classes devoted to them.

TRAINING TOMATOES.

Cultivators of tomatoes for trade and other purposes differ somewhat in their opinion as to the way in which the plants should be trained to ensure the largest supply of fruit from a given space. Some believe that the heaviest crops are obtained from plants that are placed rather close together and kept to a single stem. Others hold the opinion that the best crops are produced by allowing the plants more space and a greater freedom. It is possible to say much both for and against each system. But from my own experience and observation, extending over a rather wide area, I have no doubt that those who believe a rather liberal extension of growth desirable are able to bring forward the strongest arguments in favour of their system of training. Amongst those who believe in the extension system of training is Mr. William Cole, of The Grove Vineyard, Feltham, who has of late years engaged somewhat extensively in the production of tomatoes for commercial purposes in conjunction with grape growing. In the vineyard there are three or four span-roof houses each between fifty and sixty feet in length, and a lean-to house several hundred feet long, wholly occupied by tomatoes, and a walk through either of the structures is sufficient to show that substantial results may be obtained from plants of which the growth is allowed to spread rather freely. The whole of the plants are grown in large pots, and some are trained to a wire trellis under the roof; whilst others are supported by stakes fixed in the pots. They are all in the most luxuriant condition, and bear such a profusion of the large clusters of fruit that it is computed the crop will average at least 25 lbs. each. The plants have been allowed to produce three or four secondary shoots from near the base of the main stem, and the laterals from these as they produce clusters of fruit are stopped, the point of the shoot being nipped out immediately beyond the cluster. By this very simple practice a constant succession of new growth bearing flowers is obtained, and the plants continue in full bearing for a much longer period than it is possible for plants with a single stem to do. From the plants at The Grove Vineyard, which have been in full bearing for some time past, liberal supplies of fruit will be obtained until nearly Christmas. George Gordon.

Potato Disease is reported from various quarters, but it is at present neither general nor virulent. But the fact compels us to renew the warning given in our issue for August 7. Wherever growth is completed the crop should be lifted, however green the tops may be. Waiting for the tops to die down simply gives the disease time to spread, with no countervailing advantage to the crop whatever. In late districts Champions are as yet but half grown, and it would of course be unwise to lift them. But wherever there is a crop it should be secured.

Bedding Begonias in the nurseries of Messrs. Laing and Co., near Catford Bridge Station, Forest Hill, present at the present time a remarkable appearance. There are about 100,000 plants in the open ground, assorted as to colours and habits, and the colours range from pale yellow through all shades of red to the richest violet-tinted crimson. The changes that have been wrought by hybridising and cross-breeding of the tuberous begonias from the original types would be quite past belief were not the demonstration before us, and at the command of all who will take the trouble to see them at home. As bedding plants they appear perfect, not only as regards flowering, but in their endurance of diverse and adverse conditions.

DUTCH SYRINGAS.

In many gardens the Deutzias are called "Dutch Syringas," and the appropriateness of the name amuses one. The plants are wholly of Eastern origin, being natives of Japan and the Himalaya, and therefore in no proper sense of the term "Dutch." But J. Deutz, in honour of whom the generic name was bestowed, was a Dutchman who assisted Thunberg in Japan, and the genus, though in many instances not obviously of the syringa type, is nevertheless properly classed with the syringas, and, indeed, might with some degree of propriety be lumped in with Philadelphus, which is a typical group of syringas.

It is a decided disadvantage when a genus is of great extent, as in the case of chrysanthemum, ficus, and erica, for example, but as nature determines the matter much more decisively than man we may turn from that subject to find comfort in the fact that Deutzia is a small genus of deciduous shrubs, with opposite leaves and petals alternate with the segments of the calyx, and equal to them in number. They are all hardy, although often regarded as tender, a belief encouraged by the practice of growing Deutzia gracilis in pots for flowering in early spring. But this plant is as hardy as the rest, and may be grown in all except the coldest places as a border or wall shrub.

Deutzia gracilis is the best known and the most generally useful when planted, but a sunny position and a somewhat stony soil are conditions favourable to success. Its weak point is the tendency to make long fat rods that do not ripen well, and this is encouraged by a strong moist soil. For the introduction of this species from Japan we are indebted to Dr. Siebold. It is interesting to find a hardy shrub that in the open ground produces its flowers in June and July quite manageable when forced for flowering in winter and early spring, as we have not many such tractable subjects.

D. staminea is scarce. It is in the way of D. erenata, and is Himalayan.

D. corymbosa is scarce. It is in the way of D. crenata, and is Himalayan.

D. Fortunei is also scarce, and in the way of D. erenata.

D. crenata and *D. scabra* are one and the same; the species is widely diffused in Japan, China, and Northern India, and thus has acquired several distinctive forms which have been regarded as specific, hence a certain degree of uncertainty in determining them. If, however, the leading characters of D. crenata are kept in view the relation of others thereto will be apparent. The silicious stellate hairs of this plant may have some value in determining specific distinctions, but are of no consequence at all in the garden view of the subject. As a "rough-leaved" plant it is of some commercial importance, seeing that the polishing of ivory cannot be accomplished so perfectly without as with the aid of the leaves of Deutzia scabra. For this species we are indebted to the Horticultural Society, by whom it was introduced in 1833.

D. scabra, although the same as *D. crenata*, may, for horticultural purposes, be separately considered, because under this name the *single* flowering form is best known. It is an erect shrub, with slender stems, leaves ovate-lanceolate, rigidly serrulate, rough to the touch; the white flowers in racemes or panicles. B.M. 3,838.

D. crenata is the double form, the flowers are in dense panicles, white, tinged with rose, exceedingly beautiful. It is often grown in pots, and proves troublesome, because not flowering freely. But when planted out in a sunny spot, on a rather poor stony soil, it flowers freely, and is one of the best shrubs of its class. There is a pure white form called *alba*.

D. Pride of Rochester is the most distinct of the double varieties of D. crenata; the flowers are larger, and the panicles are larger than those of the type; they appear a week to ten days earlier, and last as long. They are white, tinged with rose.

DEUTZIA PRIDE OF ROCHESTER (⅓ natural size).

DOUBLE DEUTZIA, *Deutzia crenata flore pleno* (flowers white and rose).

HOLLYHOCKS.

By J. C. Clarke.

Your leader on the hollyhock is well timed, and I hope it may be the means of persuading many of your readers to again undertake the cultivation of this noble autumn flower; but I am afraid that all will not sufficiently comprehend the full meaning of your advice where you say "make them grow," as it may be taken to mean that they are difficult subjects to deal with, and therefore not the kind of plants for anyone to take in hand who does not thoroughly understand their requirements, or it may be taken as meaning that there is some secret process, known only to a certain few, and that further than the injunction which you have given, that they must "be made to grow," you are not willing to part with the necessary information.

All who know you know also the full meaning of your advice, and that you meant all who wished to be successful cultivators of the hollyhock must be prepared to give it the most liberal treatment, which in this case means a rich deep soil and plenty of water in dry weather. All stations or positions for lines of hollyhocks should be dug up two spits deep and three feet wide, and plenty of good rotten farmyard manure should be incorporated at various depths, that the roots may have something to feed upon. The noble bearing of thoroughly healthy specimens ought to convince anyone that such growth cannot be obtained from a poor soil and other indifferent management. The proper way to set about providing a suitable

soil for them is to get the stations trenched up for them early in the winter, and where the soil is light and sandy some heavy loam should be mixed with it. Those who can command the use of night soil should not fail to use it in preference to any other manure. When this is obtainable, a trench one foot deep and two feet wide should be thrown out, and then the trench half filled with night soil. A part of the top soil must then be put back. If this work is done early in the winter the soil will be well pulverised and in good condition for the reception of the plants in the spring. The most important point requiring immediate attention is securing a stock of plants. These can be obtained either from seeds or cuttings. As it is rather late for sowing in the open ground, pans or boxes had better be prepared to receive the seed, and the young plants should be raised in a warm pit or greenhouse, and kept there all the winter. About the end of February they should be put singly into five-inch pots, and kept in the same structure until the middle of April, when they should be hardened off and planted out early in May.

Those who have old plants will find no difficulty in getting a few cuttings, which, if taken off at once and put singly in small pots, using sandy soil, and placing them in a cold frame, will root freely if the frame is kept close and the glass shaded in bright weather. If the cuttings are put in later they must be placed on a gentle bottom heat, and be otherwise kindly dealt with. From the cutting pots they should be shifted into larger ones early in February, and kept in a greenhouse temperature until it is time to plant them out, as one of the secrets of success is to secure good strong plants in the first instance.

KENTISH FRUITS AND FRUIT TREES.

The cultivation of hardy fruits in this country has of late years increased enormously, and is still increasing. Some of our friends say "we have come to the end of it," while others say "we are but in the beginning of it." The statistics of imports will show that, "weather permitting," there is room for vast expansion yet on soils adapted for the business, and amongst the risks to be encountered that of adverse weather is certainly the most important. At the present time the Kentish fruit growers complain of lowness of prices, and occasionally they say of the plums that it will not pay to gather them. But for all this the plantations expand, orchards take the place of arable land, and grazing gives place to small fruit culture, with potatoes as an aid in cleaning the ground. The Kentish fruit farmer is like every other farmer in one respect, and like every man of business in town or country, in that he is silent when prosperous, and is only heard to speak when things are not going as he would have them. It is an old story that people will talk of their disasters, and will be silent about their successes, but the truth may be summed up in an aphorism in some such terms as these—contentment stills the tongue. It is a fact that fruit farming increases, and the lesson of the fact is not occult.

This Kentish industry has been greatly aided by the system of fruit tree manufacture that has accompanied it, and that has in part grown out of it. The continuous demand for trees has brought about a continually improving system of production that is nowhere more forcibly illustrated than in the operations of Messrs. G. Bunyard and Co., of the Old Nurseries, Maidstone. This firm has the advantage of a complete experience of the revival of fruit culture in Kent, which may be described in the rough as dating back about thirty years from the present time. It should be understood, however, that Kent has been famous for fruit from time immemorial—certain it is that Cæsar was impressed with the products of the locality, and before his arrival it was the garden, not of England (for England was not then invented), but of Britain, and to find any match to it a long journey westward into wilder parts was necessary. Of the actual extent of Messrs. Bunyard's nurseries we at once confess our ignorance, and indeed we are not curious to know what is the acreage or the average annual production. But we are concerned to take note of any and every point in this important industry that has any direct relation to fruit production generally, and more particularly in the garden, the interest of which concerns us much more than the farm, the field, or the forest, although of these we must be considerate, as links in the chain that binds together the several rural industries.

Whatever link you strike,
Tenth, or ten thousandth, breaks the chain alike.

On a sunny day lately we "dropped in" at Messrs. Bunyard's Barming grounds, the Barming station being a few miles removed from Maidstone. These grounds touch the station so that goods can be loaded at a siding, and thus Messrs. Bunyard may be said to have a railway of their own to carry their trees around the world. It is a big business to see the making of fruit trees here, because they are made by the thousand, the ten thousand, and the hundred thousand, and to see them one must work through miles of nursery roads, over hills that are accustomed to catch the clouds and melt them into money, and through defiles that are sufficiently rich in their loamy soil to need any special help from the clouds in money-making, their chief business with the elements being to catch the sunbeams for the complete maturation of the growth that their comfortable footing favours. Taking a run of thirty years as the "epoch" of improved fruit culture, there are several points to be noted in a general review of this place. An epoch is a moment of time, and thirty years in this connexion is scarcely more than a moment. The "era" that must grow out of it in progress, and the G.M. of the future will possibly have to deal with it. As regards the epoch, however, the past ten years gives us its concentrated essence, as the facts will show.

All the starving stocks have been abolished, and all the cruel and suppressive systems of pinching and pruning have been discontinued. Generous cultivation is here the rule, and the trees are visible, while—happy thought!—the fruit is conspicuous. If we talk in enigmas we shall take care to explain them. Ten years ago, and for some years precedent thereto, certain starving stocks and destructive practices were in fashion, the result being fruit trees one could scarcely see, and that were kept alive only to be tortured. There was fruit in the land certainly, because nature was allowed to have her way in a few places, but a thoroughly morbid system of fruit growing had come into fashion, and while the private gardens were the most directly injured by it, the welfare of the nation was not the less certainly prejudiced, and for very insufficient supplies of fruit the country was in great part dependent on importation. But the case is now altered. The orchards produce more fruit than they did, and the gardens produce immensely more; the "fruit garden" has ceased to be a reproach, for it makes a fair return every year, and in a good year surprises by its fruitfulness. Here, we repeat, in the centre of the garden of England the case is illustrated in a lively manner, the starving stocks have been consigned to oblivion, the pinching and pruning that made the miniature trees "bristle with fruit buds" that never came to anything have been abolished, and we see miles and miles of trees that are now not only remarkable for health and vigour, and all the characters that promise permanent usefulness, but are remarkable also for the fruit they carry, for the nursery quarters are literally smothered with fruit, and apple, pear, and plum trees in their second and third years of growth carry their blushing honours thick upon them. Let there be no mistake upon this point, for there is time for doubters to put the statement to the test by direct appeal to the facts represented. We do not look for fruit crops amongst nursery trees; but here they are, not in the way of accidental occurrences, but as normal, or, say, commonplace features of the locality and the system.

Apples shall have our first and principal attention. The trees are mostly made by summer budding, and the stocks employed are Rivers's Broad-leaved, Rivers's Nonsuch, and the English and Dutch Doucin. The French Paradise and all other starving stocks have been cleared out as worthless, a proceeding that redeems the dwarfing stocks from the reproaches they have deserved, because of their frequent deceptions. The sorts are selected for these several stocks by the judgment of the propagator, but a rough rule may be given by saying that large-leaved apples are upon large-leaved stocks, and, generally speaking, the propagator likes to see an agreement in habit between stock and scion. There are thousands, we will say tens of thousands, of trees that have had but two summers of growing, having been budded in 1884, now bearing ten to twenty apples, the trees themselves being in many instances less than five feet high, and, as a rule, wholly untouched by the pruning knife, every sort showing its natural habit of growth and natural habit of fruiting. We say as regards the use of the knife, "as a rule untouched," because unruly growths are checked, and the operators do not forget that while the purchasers require, first of all, healthy and fruitful trees, they would like them to be also somewhat shapely, and thus they are kept in order by tender touches, but the outrage upon nature that for long years was practised in the way of pinching and hard pruning is now regarded as the proper way to render the trees unfruitful and shortlived, and diseased and ugly, and a nuisance and disgrace to all concerned in producing or keeping them. The world has moved, and fruit-growing is becoming possible.

In the way of natural bush and pyramid trees, and in espaliers and cordons, the work done here is all to the advantage of production, without reference to any fads whatever. Most of us know but too well what is the outcome of fads in the fruit garden—it may be trees in the shape of barrels, or fountains, or feathers, or spirals, or the spelling of names, and trees that give much trouble, but it does not mean trees that produce fruit. But here we are in the midst of "nursery" trees that we do not usually demand fruit from, but they will produce it, and the nursery quarters will contribute large bulks of fruit to the markets, and one reason of the precociousness of the trees is that they are allowed to grow very much as they please, and being well made, and in a good soil, with no injurious pinching to compel them to make useless spray, they mature their wood properly, and a crop of fruit is the result.

Garden Apples.—The following varieties were noted as particularly fruitful amongst the young bushes and pyramids budded in 1884: *The Queen*, K.D., a good garden apple, large and handsome, Oct. to Feb. *Wealthy*, K.D., fruit round, handsome, fine brown-red cheek, Nov. and Dec.; this is an early bearer for trees in the second season of growth, and of quite neat form, without the aid of pruning are loaded with fruit. *Cox's Orange*, D., a perfect garden tree, very fruitful, Nov. to Jan. *Grenadier*, K. a grand thing for garden or farm, a heavy and constant cropper, the full-grown fruit a foot in circumference, Oct. to Nov. *Cardinal*, K.D., in the way of Nonsuch, tender fleshed, Aug. to Oct. *King of the Pippins*, K.D.; trees of this in second season make more than five feet, and, being unpruned, the ripe wood of last year consists chiefly of short fruit spurs now carrying a lot of fruit. *Calville Malingre*, K., is a capital fruit for late use, and should be in every domestic collection; it is naturally a shy bearer, but the simple treatment here shows its value in the fact that the young trees are heavily laden with fine fruit; its season is Dec. to April. *Hubbard's Pearmain*, D., is the perfection of a garden tree; the season is Dec. to Feb. *Irish Peach*, D., an ugly beauty of incomparable quality, the flesh tender; this bears at the points of the shoots, and the clever people who prune it simply bestow their time in suppressing the fruit; August. *Kerry Pippin*, D., another tender-fleshed favourite, "small and early," but better than weak tea; the fruitfulness of bushes and espaliers is astonishing, and suggests to one that the world might, if it liked, be covered over with apples. *Scarlet Nonpareil*, D., is superb on a proper garden stock, and the best way to grow this tender-fleshed and delicious apple is as an unpruned bush or espalier; it does not answer well as an orchard tree; Jan. to March. *Ecklinville*, K., is one of the best for profit, the little trees are little mountains of fruit; the season is Sept. to Nov. *Summer Golden Pippin*, also known as *Yellow Ingestre*, D., is remarkably productive, and makes a perfect bush on a proper stock; Sept. *Gascoyne's Scarlet*, K.D., has the beauty of a peach, and is one of the most noted of Kentish apples; the fruit comes chiefly at the points of the shoots, consequently pruning is a sure way to promote barrenness; good from October to March. *Margil*, D., has the flavour of Ribston, a fruitful tree, bearing early, Nov. to Jan. *Lord Suffield*, K.; this apple appears to have been designed by nature for proving the capabilities of a good Paradise stock, but it suits a stony soil better than one tending to clay or damp loam; the little trees here are quite crowded with fruit on the whole of last year's wood. *Lady Sudeley*, D., also known as *Jacob's Strawberry*, is beyond doubt the finest new dessert apple amongst many that have been lately introduced; its beauty and fruitfulness give it claim to a first place in any collection, large or small.

Market Apples grown on the crab stock stand high on clear stems to allow of cropping between and beneath them in market gardens, and they say plainly that although time must be allowed to prove their fruitfulness they will begin as they intend to go on, for in those quarters we see lots of fruit, proving the perfect ripening of the wood last year. The sorts selected for this culture are mostly such as have through long years proved profitable to Kentish farmers, who must put into the market the largest possible bulk of showy fruit, the quality not being always the first consideration. But while the first two qualities are of the highest commercial importance, many of the sorts that are in favour for market growing are of the highest quality, as will be seen by such as we shall name as conspicuous here by reason of the numbers grown: *Ecklinville*, K., a great bearer as a standard, Sep. to Nov. *Sugar Loaf Pippin*, K.D., "a boy's apple," and one that sells well in market,

Sep. and Oct. *Cox's Pomona*, K.D., a showy fruit, that should be allowed to ripen fully on the tree, Oct. and Nov. *Early Julien*, K., a most abundant bearer, and one of the most useful apples known, Aug. and Sep. *Lord Grosvenor*, K., a bold-growing tree, often better than Lord Suffield, Oct. and Nov. *Worcester Pearmain*, D., quite a leader for market work, because prolific and showy; it makes a profitable tree on Paradise, Sep. and Oct. *Domino*, K., a grand codlin for the farm and the cottage garden, should never be pruned except to let light in and keep it in order; it begins to bear on its first crop of ripe wood. It will be sufficient to name *Keswick Codlin*, *Grenadier*, *Blenheim Orange*, *Red Hawthornden*, or *Yorkshire Beauty*, *Colonel Vaughan*, a famous Kentish fruit; *Lady Henniker*, superb—it is said whoever tastes a fruit is sure to finish it; *Stirling Castle*, bears at the points; *Warner's King*; *Pott's Seedling*, a poor man's apple, leaves like a camellia, fruit of the largest size, the best apple for a town garden, and one that should always be grown as a free bush and not as a standard. The *Red Hawthornden* should be taken to teach the folly of systematic pruning, because when left alone it is abundantly fruitful, but when carefully pruned, so as to shorten in the growth neatly, and keep the tree conveniently within compass, it will not produce a single fruit.

Pears on Quince stocks are grown in all sorts of shapes and sizes, but the most interesting trees in the nursery are the oldish standards, with long rods that have been "pulley pruned" by their own fruit, and spread equally with pendent branches laden to their tips with fruit. But we need not search for such to find examples of profitable pear growing, for little trees that have scarcely entered on the serious business of life are showing that already they know what will be expected of them. Many of the upright cordons are clustered with fruit the whole length of last year's wood, but the candelabra and U-shaped espaliers are demanding more time, because the growth must be forced this way and that by the aid of the knife and the slight disturbance of nature's ways defers the season of productiveness. But the pear pays well as a wall tree when the sorts are suited to the circumstances. That delicious pear, *Madame Treyve*, is an example of this, for while it bears freely on open trees, it is also immensely fruitful as a palmette or angular candelabrum, an instance occurring in this district of a tree on a wall that bore an average of three pears to every square foot of space occupied by the tree. *Beurre Clairgeau*, *Emile d'Heyst*, *Beurre d'Amanlis*, *Beurre Diel*, *Easter Beurre*, *Beurre Hardy*, *Beurre Superfin*, *Bon Chrétien*, *Clapp's Favourite*, *Colmar d'Ete*, "a children's pear," *Comte de Lamy*, *Doyenne du Comice*, one of the finest pears for any style of culture, *Durondeau*, *Fondante d'Automne*, *Jargonelle*, *Josephine de Malines*, *Louise Bonne of Jersey*, *Knight's Monarch*, *Princess*, and *Pitmaston Duchess* were severally noted as bearing well on the quince, and as they are all good, a few of them extra good, the list may prove useful to many. There are many more equally good and a few very famous, but they are less "universal" in adaptability, as, for example, *Marie Louise* requires a warm soil, *Citron des Carmes* is not generally useful, except when aided with a wall, *Thompson's* is superb in a place that suits it, but is somewhat fastidious, while many others require special consideration.

Plums rank in importance next to apples, the number of trees produced is not more surprising than the manner in which the crowded nursery rows are also crowded with fruit. *The Czar* is one of the most important. It is an early red plum available for table or kitchen, a most abundant cropper, adapted for pyramid or wall. A "drift" of 3,000 *Victoria* plums tells a tale of its usefulness, for the crop is immense, and the trees are pictures of health and vigour. *Early Orleans* and the *Farleigh Damson* appear to compete for the attentions of the propagator, the numbers of each running far in the thousands, and the trees being in all possible shapes to suit all possible purposes. *Rivers's Prolific* will suit the people who can find amusement in pinching, because you cannot easily pinch the fruit out of it; the old wood will be covered with fruit even if the young wood makes useless shoots as the consequence of pinching.

Cherries are in a peculiar sense Kentish fruits, and the demand for trees is continuous. It is a pretty sight to see the *Morellos* in several shapes on mahaleb stocks. Many other sorts thrive on this stock, as for example, *Kentish Red*, *Late Duke*, *May Duke*, *Flemish Red*, *Belle d'Orleans*, *Wye*, an improved morello, *Royal Duke*, and *Tradescant's Black Heart*.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory and Greenhouse must be cleaned thoroughly at once, and made ready to receive the plants which are standing out of doors, for as boisterous winds, rains, and changes of temperature are to be expected soon it would be well to stage the choicest and tenderest of them at once. When arranging them, have an eye to a general pleasing effect; put them so far apart that the air can circulate freely and all around them; and do not shut them up close.

Examine the surface of the soil in which hard-wooded plants are growing, and if any signs of worms are visible turn the ball carefully out of the pot, when they may generally be picked out; supposing, however, that they are still invisible, do not break the ball to look for them, but return it to the pot, and stick a peg in it to serve as a reminder till the intruder is captured. Remove dead leaves, &c., from the plants, and see that the drainage is faultless. Give all the air possible, and only reduce the ventilation when there is an unfavourable change in the weather.

Intermediate Stocks are invaluable for indoor decorations early in the year, and preparations must be at once made for raising a stock for next year. The seed should be sown in a cool house or frame early in September, and the plants when large enough be pricked off singly into small pots, or in threes or fours into larger pots, to stand the winter. The large pots are valuable for the conservatory, and the small plants might be turned out into the open borders. A house or frame is necessary to preserve those stocks from frost during the winter.

Heliotropes to be kept in a vigorous condition for winter flowering.

Mignonette to be sown for winter blooming. Sow rather thinly, and thin to four or five plants in each pot. Fill the pots with a mixture of sound turfy loam and well-rotted manure, and place the pots in a cold frame.

Hyacinths and other Spring Bulbs for an early bloom will have to be potted shortly, and preparations must at once be made to secure plenty of good turfy compost in a sweet and friable condition. A liberal quantity of White Roman Hyacinths and Paper White Narcissus should be at once potted for the supply of flowers during the latter part of the autumn.

FORCING AND FRUIT HOUSES.

Peach trees from which the crop has been gathered must have a free circulation of air amongst their branches, and those infested with red spider or thrips must occasionally have a thorough washing with clean water from engine or syringe. The border should be kept rather drier than when the trees were swelling their fruit, but the soil must not be allowed to become dust dry and remain so.

Pinery.—Pines growing freely must have the aid of weak liquid manure and a moist atmosphere, but the bottom heat must be brisk if any stimulants are used. Shading may be removed at once. Guard against forcing small plants into fruit, and to prevent it keep the plants growing by frequently sprinkling the beds and paths of the house. Bottom heat for pines 84 deg., those ripening to be kept tolerably dry. Young stock to have air cautiously, which is best done when in dung-beds by first applying a lining to keep up the heat, which will allow of giving a little air at night.

Vines from which late supplies are obtained must be assisted with a little fire-heat in cold weather or the fruit will not be ripened whilst the weather is favourable to its attaining full maturity.

FLOWER GARDEN AND PLEASURE GROUNDS.

Bedders to have every necessary attention to keep them in proper order. Take cuttings of zonal and variegated in plenty, and to save further trouble put them in pots or boxes as they are to remain for the winter. Use plenty of drainage and a poor sandy compost now, in order to check growth and harden the wood.

Carnations.—Proceed with layering as rapidly as possible until completed. Layers to be potted or transplanted, as soon as rooted, in sandy soil; avoid rich soil or stimulating manures, as they must not be encouraged to make much growth, or they will acquire a gross habit, which will be very detrimental during winter, for then it is necessary that they should rest. Place the pots in a close frame for a few days until fresh roots are made.

Evergreens may soon be moved with the best chance of success, whether they be large or small. Hollies, aucubas, laurels, Portugal laurels, laurestinus, arbor-vitæs, have all done growing, their wood is hard, and if lifted about the middle of the month will make fresh roots while the surface soil is in the best condition of warmth and moisture of any period of the year.

Pinks.—Plant out the old stock plants that have been grown in pots into borders, and keep the beds of young ones perfectly clean and free from weeds.

Propagate all sorts of bedding stuff that will be wanted for next year as rapidly as possible. As soon as cuttings are rooted pot them off, or place in boxes as recommended above; keep them in a close pit or frame for a week or ten days, and then expose them to the weather for a short time before housing them for the winter.

Roses may be propagated now by inserting cuttings in a bed of light soil in a frame or pit. But a more certain way will be to prepare the cuttings and insert them in damp sand in a shady place, and keep them frequently sprinkled till they callus, and then pot them and plunge them in a gentle bottom heat.

Violets for bloom during the winter and early spring should be taken up now with good-sized balls, and potted in five or six inch pots, in rotten turf or a mixture of leafmould and road-sand, and then placed in a pit or frame near the glass.

FRUIT GARDEN AND ORCHARD.

Crops of early apples and pears to be gathered as they ripen, always selecting a dry sunny day for the purpose, when possible; be careful to preserve the fruit from bruises.

Peach, Nectarine, and other Fruit Trees must be looked to as soon as the last fruit is gathered; if any are infested with red-spider, dust them liberally with flowers of sulphur early in the morning before the dew is off the leaves, or else syringe them well before the operation, so that the powder may adhere.

KITCHEN GARDEN AND FRAME GROUND.

Cauliflowers to be pricked out into frames for the winter, and to be kept as hardy as possible.

Endive to be planted out on warm, well-manured borders, to stand the the winter.

Exhausted crops of peas, beans, &c., should be cleared off as soon as they have done bearing, and the ground manured at once, trenched at the first opportunity, and left in a rough state on the surface, or, if required, planted with other crops.

Mint to be potted for spring forcing. There is in almost every family a demand for mint before it can be supplied, and the only way to make sure of it is to put a stock of roots in pots; then it will be an easy matter to push them on as wanted.

Parsley is so much in demand during the winter that every effort should be made to have a good supply during that season. It is a good practice to make at this season of the year a plantation from the June sowing in a frame, or on a warm, sheltered spot, where the plants will be likely to survive the winter, for dried parsley is a poor substitute for the fresh green herb.

Spinach must be thinned as the plants attain a suitable size till they are about six inches apart; vacancies to be filled up by transplanting, and if the ground is heavy or trodden during the operation, loosen it with care, so that the roots may have the benefit of the air.

Vegetables in Season comprise Beet, Cabbage, Cauliflowers, Carrots, Celery, Cucumbers, Endive, French Beans, Lettuce, Mushrooms, Onions, Peas, Potatoes, Radishes, Spinach, Tomatoes, Vegetable Marrows, Turnips, and Small Salading.

GOLDEN GAGE PLUM.

This plum does exceedingly well in a garden near where I write, for it is a very regular bearer. I have watched the behaviour of one particular tree for several years past, and it has always had more or less of a crop. This tree is growing on an east wall, and is always clean and healthy. I should say that in quality the golden gage is not equal to the green gage, but it is a better bearer than that variety, which is something to say in its favour. I intend to plant a tree or two of it this autumn, as sure-bearing plums are not numerous. J. M.

HARDY PLANTS IN FLOWER.

Gypsophilas are much valued to cut from to furnish "flowery spray" in bouquets and other decorations. Very useful for this purpose are *Gypsophila paniculata*, *G. altissima*, and *G. prostrata*. The best of them all for the rockery is *G. cerastioides*, which is very cerastium-like, and makes a quite beautiful patch of mat-like leafage crowned with large white flowers. It is quite hardy and a fast grower.

Geraniums are passing out of flower, but *G. armenum* is still gay, and the *prostratum* form of *G. sanguineum* is covered with flowers. A rare beauty is the silvery-leaved *G. argenteum*, with leaves cut down nearly to the centre, and thereby rendered "palmate" or "digitate," very inadequately described as "septempartitis." The cold grey green agrees well with the pale rosy flowers, which are round enough to satisfy a florist and fragile enough for a weedist.

Lobed Cyananth is the "English" name given by Lindley (B.R., 1847, 6) to *Cyananthus lobatus*, a beautiful Himalayan bell flower now displaying its characters on the rockery. The plant has fleshy roots, small cuneate or deeply-notched ovate leaves, and flowers produced singly, with hairy inflated calyx and expanded limb of five angular lobes of a full violet blue. This is a good rockery plant, requiring a bed of moist peat and full exposure.

upon the dark wall, and we have gone out of our way, even when pressed for time, in order to renew the delight of its happy combination of colours, the red and yellow of the flowers being peculiarly set off by the green of the leaves. On a spacious rockery how full of fine character would this clematis be with a big sunny knoll all to itself.

Mutisia is one of the unknown plants that might be generally known with great advantage. *Mutisia decurrens* is a grand composite climber, of most elegant growth, the flowers larger than the average of such things (five inches over at the least), and the colour a brilliant reddish orange. It is a hardy Devonshire plant, and, being a native of high and dry ranges of the Chilian Andes, therefore it should be as hardy, say, as the blue passion flower near London. Experimentalisers should give their minds to this subject, keeping in view to persuade the plant that it is still at home on its Andean heights.

Tropæolums make an effect in the gardens, rivalling that of the poppies in the fields. Not many students of colour have seen the flaming breadths of dwarf "nasturtiums" on a great seed farm where many sorts are grown on an extensive scale. The bold blocks of colour on a hyacinth or tulip farm at Haarlem are scarcely comparable with it, although, for our own delight, we prefer the Dutchman's delight. But for power in colour for a test of the capabilities of the vision the dwarf nasturtiums are probably not to be surpassed by anything in nature or art. But we turn to *Tropæolum speciosum* with a sense

GYPSOPHILA CERASTIOIDES (Flowers white and pale purple).

Dwarf chestnut may be a suitable designation of the beautiful *Pavia macrostachya*, which is now in flower, but does not make so brave a show as last year. Being a good thing and a true garden shrub we recommend it to planters of choice subjects. It was figured in G.M., Nov. 28, 1885.

Zygadenus is not a popular genus, but the species have claims on eclectic cultivators. They are of the lily persuasion, with grey or green flowers of exceeding beauty, though unattractive to the world at large. We have beautiful examples of *Z. chloranthus*, *Z. venenosus*, and *Z. paniculatus*, raised from seed sent over from the Rocky Mountains, where, we are assured, they thrive in moist peat in shady places. Ours are in full sun, and have a delightful appearance.

Clematis should have at least a paragraph, and it should say that *Clematis Jackmanni* and *Veitch's Ampelopsis* are the two finest cheap wall and verandah plants in the world. But this paragraph shall be devoted to *Clematis coccinea*, which has established itself in all good gardens, and proves to be a much finer thing than when it first appeared. Having frequently met with it in a thriving state, we here record that the very best example we have met with is on the old west wall at Kew, where the glorious Prunus trilobata shows its smiling face. For some time past this particular plant has literally sparkled

of rest, and once more we ask, Why is it not universally grown, instead of being seen here and there as a rarity? It is certainly one of the loveliest, though least appreciated, flowers ever introduced to the English garden.

Hypericums of several kinds are still flowering freely, and we have gathered some pretty tufts of tutsan in rocky wilds in the far west, where it flowers in plenty at harvest time. A very fine plant is *Hypericum olympicum* (B.M., 1867), a native of the Levant, of wiry habit, the flowers larger than our St. John's Wort, and very brilliant in colour; an extra fine rockery plant, easily raised from seeds, which, it must be owned, do not often ripen, but they will do so this season. The roots may be planted in the autumn when the cool weather has set in, and cuttings may be struck with ease in spring. *H. patulum* and *H. empetrifolium* are proper occupants of the rockery.

Galtonia is an important acquisition, and well suited to become a general favourite, not alone in the choice garden, but in the limited enclosure of the cottager. We must no longer call it a hyacinth, since it is quite as easy to accept its proper name of *Galtonia candicans*. We saw a large patch of it lately, and could have pronounced it a group of miniature yuccas. It is of inestimable value for late summer and autumn, both to cut from and to leave untouched.

JAPAN ROSE.

Rosa rugosa.

Hitherto roses have been prized for their flowers alone, but the time is coming when they will be valued for their fruits. The ruddy hips, or heps, in an old-fashioned hedgerow give delight to the wayfarer in the autumn, and old bushes of sweetbrier that have not been overmuch visited, and have therefore ripened many of their orange-red fruits, are really more ornamental now than when in flower. Not many of the true roses, however, can equal in splendour of fruit the noble *Rosa rugosa*, the most distinct and glorious of all the single roses as regards individual character, this point being emphasised now that its large fruits glow amongst its rich leafage like so many nicely-fashioned red-hot coals. The exceeding attractiveness of these fruits may suggest the suitability of this rose for adorning approaches and extensive borders, as also the importance of leaving the flowers uncut to ensure a great crop of fruit.

FRUITS OF JAPAN ROSE, *Rosa rugosa.*

Fungologists will please take note that the twelfth annual conference of Cryptogamic Society of Scotland, under the presidency of Professor J. W. H. Trail, will be held in Aberdeen, Sep. 29 and 30, and Oct. 1.

NOTES ON ORCHIDS.

Cattleya Dowiana.—This superb species is well-figured in the "Reichenbachia," Part II, and we have it in flower in our own collection, where it has been greatly admired for two weeks, and the flowers seem as if they would last much longer. I like to go every morning to inhale the sweet perfume of the flowers, they are as remarkable for their sweetness as for their beauty. The sepals and petals are of a copper-yellowish tinge as described by Reichenbach. The large spreading lip is crimson, thickly covered with yellow irregular lines. It has now gone into its resting period, and as soon as the flowers fade, the plant, which is in a teak basket, will be again suspended from the roof of the Cattleya House. It will be kept dry, but not altogether without water, until it again starts to grow and form new roots, when water must be supplied freely, but not so freely as it is to C. Mossiæ, C. Trianiæ, and others of this section. Those who would like to grow this species would do well to purchase plants that have recently been imported, or in vigorous health: if they once get into bad health they are not worth caring about.

It is stated in "Reichenbachia" that this Cattleya was first discovered in Costa Rica by Warscewicz, about the year 1850, but was not success-

fully imported into England until 1865. It was named in compliment to Captain Dow. The variety, C. Dowiana aurea, is figured. This is stated to grow at the distance of a thousand miles from where the original species was found. Messrs. Sander say their collectors discovered it "on the Cordillera, to the west of the Upper Magdalena in New Granada."

Cœlogyne cristata maxima.—A superb form of this beautiful species is the subject of the next plate in the work above cited. I was interested to observe this form in flower with all the others at St. Albans, and in comparison with the Chatsworth and Trentham varieties it is not only larger in the flowers, but their formation is also different. It is not a new variety, for it was named by Lindley, quite forty years ago, and has been recognised as Lindley's plant by Reichenbach and others. This beautiful early spring flowering orchid does not degenerate under cultivation, as some orchids do, but may be grown on from year to year with increasing vigour if it receives the right treatment. The bulbs continue to pile themselves up one over the other until they form a confused heap so closely wedged together as to press each other out of form. Every body can grow this Cœlogyne and its varieties; the cultural requirements are well-known.

Odontoglossum Insleayi splendens is the subject of plate 7. It is a large-flowered and brightly-coloured form of the species. I have grown this species for many years, and do not find it very difficult to grow, provided it is placed at the lightest and coolest end of the Cattleya house. We repot the plants every year when they are starting to grow, and all through the growing period water is freely applied. They flower in September and are very useful at that time. They are kept comparatively dry at the roots, after they have flowered, and up to the time they again start into growth. Messrs. Sander say that this particular variety is found very rarely amongst hosts of the ordinary form, and that it inhabits the mountains of Western Mexico. The collector was fortunate to discover about a dozen plants in bloom on one tree; a lucky find which may not occur again. Its culture in baskets is recommended, as it can in that way be the more readily suspended near the roof. O. grande, O. Schlieperianum, and O. leopardinum are all allied species, requiring similar treatment.

Lælia Euspatha forms the subject of plate 8. Dr. Reichenbach takes the responsibility of declaring this to be a distinct species, which he described so long ago as 1860. The first appearance of the plate suggests its affinity to Lælia purpurata Russelliana, although those who saw it flower inform me that it is quite different, and it is stated to have the flowers of L. elegans, with the growth of L. purpurata, but the colour is different from both. A cross between L. elegans and the variety of L. purpurata, named Russelliana (which is not uncommon, having flowered in several collections during the past season) might produce such a mule as this. It was on this last occasion sent home from Brazil; but the collector could obtain six plants only. Doubtless it requires the same treatment as L. elegans and L. purpurata. These are most beautiful lælias, of robust, yet stately growth, and are of the easiest culture. They may be repotted now if that was not done about the time they flowered. They are starting to make their new bulbs, and are also rooting freely. We have potted them in all the four months, beginning with June, but that month is probably the best in which to repot them, as the roots have time to lay hold of the new potting material, before the growths have made much progress. They also require considerable pot room, and good fibrous peat, into which the roots will run freely and not decay afterwards. We mix with it some clean sphagnum moss, and a liberal portion of broken potsherds and charcoal. Orchid growers should take notice that cleanliness is next in importance to good potting and careful watering.

J. Douglas.

JAPANESE GARDENS.

"If equable happiness is attainable in a Japanese interior, much more can it be enjoyed in a Japanese garden. Even the ordinary Englishman, despite his brutal indifference to the superiority of Japanese civilization—against which dull Saxon philistinism Mr. Morse indulges in frequent diatribes—can appreciate the charm of a native *niwa*. There are no terraces, big lawns, geometrical flower-beds, massive shrubberies, or trim walks; but there lies before you, to be compassed in a glance, a landscape in miniature. The Chinese term for landscape is *shansui* (Japanese *sansui*), that is 'mountains and streams'; and the garden is a combination of mountains and streams, rocks and lakes accordingly; mounds planted with dwarf forests, overlooking fish-ponds alive with gliding, many-finned shapes of gold and silver, boulders (often procured at great cost of transportation) with trickling waters at their base—here a clump of golden chrysanthemums, there a solitary dwarf plum, with black, jagged, thick, fantastic trunk half hidden amid a cascade of bloom-laden sprays. Then a stone *torô* or votive lantern, a tiny shrine to Inari, a grove of rare bamboos, a weeping willow, a rustic bridge or two, choice flowers in all kinds of quaint pots, and meandering lines of large, flat stepping-stones instead of formal paths, complete the picture."

[The foregoing is from a review in the *Athenæum* of Aug. 7, of Mr. E. S. Morse's work on "Japanese Homes." Taking the reviewer's description as a proper key to the subject (which it probably is not), we confess to "brutal indifference" to the "charm" that has fascinated the reviewer. The Japanese garden is an example of fantastic foolery belonging properly to the land of toys and lollypops. The Japanese have their rights, as we have, to make life pleasant, and it would be out of taste to quarrel with their gardening until it is put forward as better than our own. We expect an English literary journal to have at least a touch of English feeling and an average share of common sense, and it is really shocking to find such trash in the *Athenæum*.—Ed. G.M.]

A clearance sale of the nursery stock of the Cranston Nursery and Seed Company is announced by Messrs. Protheroe and Morris, to take place early in October.

REPORTS OF FRUIT CROPS, 1886.

PLUMS.

ABERDEENSHIRE.—Crop very light in most districts.

Mr. G. H. Smythe, Aboyne Castle, states that the bloom was destroyed by spring frosts.

AYRSHIRE.—Partial, but on the whole hardly an average crop.

Mr. D. Murray, Culzean Castle, writes: About half a crop, and the fruit very rusty; Victoria, Kirke's, and Coe's Golden Drop are our best bearers this season.

Mr. W. Priest, Eglinton Gardens, says: We have a good crop, and the trees are much healthier than either apples or pears.

BANFFSHIRE.—Fairly good in most districts.

Mr. G. Berry, Cullen House, reports: Some varieties are bearing an extra good crop, whilst others are very scarce; Jefferson, Victoria, Washington, and Coe's Golden Drop are very fruitful; Green Gage and Magnum Bonum and some other varieties are very thin.

BEDFORDSHIRE.—Abundant in some places; moderately good in others.

Mr. G. Dale, Sandy Place, states: Very good crops on walls and in other places, where the trees happened to be sheltered from the cold north-east winds experienced at the time they were in bloom; but in exposed situations the trees are practically fruitless.

BERKSHIRE.—Good crops on wall trees, and fairly good on other trees in sheltered positions.

Mr. T. Jones, Royal Gardens, Frogmore, writes: We have an average crop, wall trees being the most fruitful. Standards are not so productive. Damsons very good.

Mr. J. Tegg, Bearwood, Wokingham, reports: A very good crop on walls. The following sorts do well here: Rivers's Early Favourite, Kirke's, Jefferson, Golden Drop, Magnum Bonum, Black Orleans, Prince of Wales, Victoria, Green Gage, and Late Gage.

BERWICKSHIRE.—Crop very light throughout the county.

Mr. W. Fowler, Mertoun House, St. Boswell's, says: We have a few Victorias and Magnum Bonum, but of other varieties there is not any fruit except one here and there on the walls.

BUCKINGHAMSHIRE.—Rather light in a few places, but generally an abundant crop.

Mr. J. Smith, Mentmore, Leighton Buzzard, writes: Very heavy crop indeed. We have been propping and tying up the branches for weeks past. Green Gage, Victoria, Orleans, Sultan, Oullin's Golden Gage, Grand Duke, The Czar, and many others are bearing heavy crops.

Mr. G. T. Miles, Wycombe Abbey, remarks: The crop varies considerably in different parts of the county, but in this district it will be above the average.

CAMBRIDGESHIRE.—A full average in most districts.

CARDIGANSHIRE.—Partial, and on the whole rather below the average.

Mr. F. Peppitt, Castle Malgwyn, Boncath, describes the crop as under an average; whilst Mr. J. Vearey, Gagerddan Hall, Aberystwith, reports an abundance of fruit.

CARMARTHENSHIRE.—A fairly good crop in most places.

Mr. J. Ticehurst, Dyneover Castle, Llandilo, says: Victoria, White Imperatrice, and Green Gage are bearing well on the walls.

CAVAN.—An excellent crop, the free-bearing sorts being very abundant.

Mr. D. M. Burns, Farnham House, observes: The crop is very fine of Victoria, Kirke's, Jefferson, Golden Drop, and Green Gage; but Magnum Bonum is very thin.

CHESHIRE.—An abundant crop throughout the county.

Mr. R. Mackeller, Abney Hall, Cheadle, remarks: Plums are better than usual in orchards, but trees on walls are not quite so good. There is a full crop of damsons.

Mr. W. Whitaker, Crewe Hall, writes: All kinds of plums are bearing more abundantly than for many years. Damsons, which are largely grown about here, are bearing a very heavy crop. The trees had set their fruit and come well into leaf before the severe weather set in, and the fruit was consequently protected by the foliage.

Mr. George Tandy, Norton Priory, Runcorn, reports: All sorts are above the average. There are especially good crops of Pond's Seedling, Denbigh Seedling, Autumn Compote, Coe's Golden Drop, White Magnum Bonum, Green Gage, Mitchelson's, and Kirke's. There are also good crops of Victoria, both on walls and standards.

CLACKMANNANSHIRE.—Plentiful in all parts of the county.

Mr. T. Ormiston, Alloa Park, says: Plums are very good, and Jefferson and Kirke's are especially so.

CORNWALL.—Rather below the average.

CORK.—Fairly good crop in most districts.

Mr. R. Brennan, Bantry House, Bantry, describes the crop a full average.

CUMBERLAND.—A moderate crop in most districts, very light in others.

Mr. T. R. Cucking, Eden Hall, Penrith, remarks: Green Gage and Victoria are the only kinds that escaped the winds, and they carry a fair crop.

DERBYSHIRE.—An average crop throughout the county.

DERRY.—Very light in most districts.

DEVONSHIRE.—Variable, and on the whole nearly an average

Mr. J. Garland, Killerton, remarks: Generally scarce, although some sorts are very good, Prince Englebert and Victoria being the best.

Mr. D. C. Powell, Powderham Castle, writes: There are heavy crops in market gardens, and wall trees are an average.

DORSETSHIRE.—An abundance of fruit throughout the county, and the trees are described as very clean.

DOWN.—A good crop in most places.

Mr. J. Taylor, Mount Stewart, remarks: Coe's Golden Drop and Victoria are the sorts on which we can depend.

DUBLIN.—Rather partial, but on the whole very good.

Mr. R. McKenna, Chief Secretary's Lodge, Phœnix Park, says: Plums are a heavy crop on the walls, the most fruitful being Victoria, Jefferson, Coe's Golden Drop, Reine Claude Bovay, and Transparent Gage. The old Green Gage and Orleans are very light.

Mr. G. Smith, Vice-Regal Gardens, Dublin, describes the damsons as a failure.

DUMBARTONSHIRE.—A full crop of most kinds.

DURHAM.—An indifferent crop in most place.

EAST LOTHIAN.—Considerably below the average.

Mr. R. P. Brotherston, Tyninghame, reports: There are good crops of Victoria, Kirke's, Washington, and Green Gage, all of which do well here. Other free-bearing sorts are Magnum Bonum, Jefferson, and Kirke's.

ESSEX.—An abundance of fruit throughout the county.

Mr. W. Dance, Gosfield Hall, Halstead, states: Rivers's Early is a never-failing cropper, Coe's Golden Drop and Victoria are very good, and of Cluster Damson there is a very heavy crop.

FIFESHIRE.—Thin in most districts.

Mr. R. Gossip, Crawford Priory, says: Plums generally are scarce, but Coe's Golden Drop and Victoria are fairly fruitful.

Mr. R. Tate, Balcarres Gardens, describes the crop as a failure with the exception of Victoria.

FORFARSHIRE.—Fruit scarce in most districts.

Mr. S. Laird, Kinnaird Castle, Brechin, says: Victoria has a good average crop, but other varieties are under.

Mr. W. McDowall, Brechin Castle, observes: A fair crop, that of Victoria very heavy.

GALWAY.—A moderately good crop, but the fruit is rather small.

GLAMORGANSHIRE.—A rather light crop in most districts.

Mr. J. Muir, Margam Park, Port Talbot, reports: Victoria, Kirke's, Magnum Bonum, and Green Gage are all bearing well on walls. The crop on standards is very light.

GLOUCESTERSHIRE.—An abundance of excellent fruit throughout the county.

HAMPSHIRE.—A heavy crop in most places, and nowhere very light.

Mr. W. Wildsmith, Heckfield Place, Winchfield, says: A full crop, and Old Orleans, Jefferson, Transparent Gage, Victoria, and Autumn Compote are bearing exceptionally well.

Mr. G. Trinder, Dogmersfield Park, observes: We have a most abundant crop, especially of Victoria; Golden Drop and Green Gage are much prized here for their excellent flavour.

HEREFORDSHIRE.—Good crops throughout the county.

Mr. W. Coleman, Eastnor Castle, writes: Literally devoured by aphis last year, we did not expect heavy crops, but, strange as it may appear, the trees are loaded with fruit and quite free from insects. We wash our trees throughout the winter with home-made soapsuds, and attribute our freedom from moss and lichen, as well as insects, to the use of this cheap agent. Coe's Golden Drop, the best of all late plums, the Gages, and Kirke's are excellent. Jefferson with us is thin. A few miles across the hills carries us into the Avon and Pershore district, truly the land of plums. There the variety known as the Pershore or Egg plum, a sort that reproduces itself from suckers, and the Victoria are already weighed down with fruit. Damsons too are plentiful. Half crops pay the growers best. The egg plum goes largely into the manufacture of apricot jam, and finds its way into every market throughout the Midlands and the North. Ask an Egg plum man where he comes from. In good seasons it is "Pershore; where d'ye think?" In bad seasons it is "Pershore; God help us!"

HERTFORDSHIRE.—Fruit abundant and good.

HUNTINGDONSHIRE.—Crops heavy, and the fruit of excellent quality.

KENT.—An abundant crop throughout the county.

Mr. A. Waterman, Preston Hall, Aylesford, reports: Both plums and damsons have produced a heavy crop, and there are but few sorts that are not fruitful. Even Green Gages are so heavily laden that it is necessary to support the branches. The Czar and Early Rivers are two varieties that all cultivators of plums should plant. They are early, good in quality, and very prolific.

Mr. G. Bunyard, The Old Nurseries, Maidstone, writes: Nearly every kind, including the coloured Gages, are very fully cropped, and any kind that fails this year must be cut out of our plantations. Damsons, most important in Kent, are fully cropped, even where the trees were heavily cropped last year. The Prune, Shropshire, and old sweet kinds are bearing well.

KILDARE.—A fair crop in most places.

KILKENNY.—Rather poor in most places.

Mr. W. Gray, Woodstock Park, Inistogue, says: The Victoria is bearing a good average crop, but other sorts are very much under an average.

KINCARDINESHIRE.—Very thin in most districts.

KING'S COUNTY.—Both plums and damsons are bearing well throughout the county.

KIRKCUDBRIGHTSHIRE.—Crop very light, owing to injury done by late spring frosts.

LANARKSHIRE.—Thin in most places.

Mr. J. Munro, Wishaw House, remarks: The Victoria is carrying an average crop.

LANCASHIRE.—Partial; in some places very good.

Mr. A. Jameson, Haigh Hall, describes the crop as above the average, and the Victoria as bearing very heavily.

Mr. G. Middleton, Rainford Hall, says: Crop generally light, but standards are more fruitful than trees on walls.

LEICESTERSHIRE.—Fruit plentiful, and generally of excellent quality.

Mr. W. Ingram, Belvoir Castle, writes: There are heavy crops on trained wall trees; less abundant on standards. Green Gage and Golden Drop, generally rather shy bearers, are very prolific this year. Fair crops of damsons, but the trees are healthy, as are the plums generally.

LINCOLNSHIRE.—Abundant on all sides, and remarkably good.

LONGFORD.—Very heavy crops in all parts of the county.

MAYO.—Above an average on all sides.

Mr. A. Campbell, Ashford House, Cong, says: Coe's Golden Drop, Green Gage, Prince of Wales, and Jefferson are very fine this season.

MIDDLESEX.—Partial, and on the whole, below the average.

Mr. John Gough, Harefield Grove, Uxbridge, states: Victoria, of which we have a thousand pyramids, is extra good; Golden Drop, fair; Pershore, too many; Jefferson, good; Diamond, half a-crop; Woolston Gage, good, as also are White Magnum Bonum, and Cox's Emperor.

Mr. J. Woodbridge, Syon House, Syon, says: Some kinds are bearing abundantly this year in some places, whilst in others they are thin. Rivers's Early Prolific, Orleans, and Gisborne's are some of the heavy croppers. This year the Victoria is very thin.

MONTGOMERYSHIRE.—Variable, and in many places very light.

Mr. W. Lee, Powis Castle, Welshpool, remarks: Under an average. Green Gages on walls are carrying a fair crop in some places.

MONMOUTHSHIRE.—On the whole fairly good.

Mr. T. Coomber, The Hendre, Monmouth, reports: The plum is an average one; the trees bloomed freely. Victoria, Washington, Coe's Golden Drop, Kirke's, and Transparent Gage are the most prolific. Trees in pots are very satisfactory.

MORAYSHIRE.—Partial, and on the whole fairly good.

Mr. J. Clark, Brodie Castle, describes the crop as a mere sprinkling; but Mr. J. Webster, Gordon Castle, writes: The crop of plums both on walls and standards is very good, and the fruit is clean and of excellent quality. Damsons are light.

MIDLOTHIAN.—Considerably below the average.

NORFOLK.—An abundance of fruit throughout the county.

Mr. H. Jones, Carrow House, Norwich, says: It has been necessary to thin severely to secure fine fruit. Sorts which are usually shy bearers are fruiting freely this year. Trees healthy, and making good growth.

Mr. W. Allan, Gunton Park, observes: Trees heavily laden, especially such favourite kinds as Rivers's Early, Kirke's, Orleans, Pond's Seedling, Goliath, and Prince Englebert.

NORTHAMPTONSHIRE.—An abundant crop on all sides.

NORTHUMBERLAND.—Fairly good in most places.

Mr. G. Harris, Alnwick Castle, writes; Victoria is carrying a good crop on walls; it is of no use here as a standard in the open. This variety is the most useful plum for the north; Jefferson and Golden Gage also have a good crop. The trees are protected in the spring with a double fish net.

NOTTINGHAMSHIRE.—Fruit plentiful on all sides, and generally good.

Mr. S. A. Woods, Osberton Hall, Worksop, remarks: Plums are a very fair crop, and the trees are cleaner and healthier than they have been for several years. There is hardly any green fly on them this season.

PERTHSHIRE.—Partial, and generally poor.

Mr. J. Robb, Drummond Castle, says: With the exception of Victoria, which is bearing a very small crop, all the varieties are this season fruitless.

Mr. James Brown, Abercairney, Crieff, states: On walls plums are under an average; but standards of such varieties as Victoria are bearing a good crop.

QUEEN'S COUNTY.—Below the average.

RADNORSHIRE.—A fair crop in most places.

RENFREWSHIRE.—Generally the crop is moderately good.

ROXBURGHSHIRE.—Below the average in most places.

SHROPSHIRE.—Both plums and damsons are abundant throughout the county.

SLIGO.—Generally good, both in quantity and quality.

Mr. McPhail, Mackree Castle, Collooney, describes the crop as very fine.

SOMERSET.—Generally abundant and good.

Mr. W. Iggulden, Marston House, Frome, writes: There is a fine lot of plums, and they are ripening nearly as early as usual. Such free bearers as Victoria, Morocco (the best early), Harvest, Kirke's, Jefferson, Magnum Bonum, and Pond's Seedling have required to be freely thinned. There is an abundance on the trees of Gages, Coe's Golden Drop, Ickworth, Imperatrice, and Goliath. Damsons are thin, but this is principally owing to the birds, which destroyed the principal portion of the buds.

Mr. J. C. Clark, Cothelstone House, Taunton, reports: Plums are bearing well on walls, especially such sorts as Victoria Green Gage, Golden Gage, and Guthrie's Late Gage. Coe's Golden Drop and Magnum Bonum are also plentiful. Damsons have produced a good crop.

STAFFORDSHIRE.—Generally a good crop of both plums and damsons.

STIRLINGSHIRE.—On the whole thin.

Mr. J. McLeod, Brentham Park, Stirling, remarks: Victoria is bearing well, but other kinds are very light.

SUFFOLK.—Very abundant, although rather thin in some places.

SURREY.—Variable, but on the whole nearly an average.

Mr. J. Burden, Bagshot Park, says: We have good crops of Green Gage, Victoria, Jefferson, Kirke's, and Orleans; other kinds are decidedly thin.

SUSSEX.—Generally a full average.

Mr. S. Ford, Leonardslee, Horsham, writes: A good average crop in this district on standards and bushes. In the gardens here the following kinds are looking well: Golden Drop, Pond's Seedling, Victoria, Reine Claude de Bovay, Green Gage, Kirke's, and New Orleans. Trees clean and free from blight.

Mr. E. Burbery, Arundel Castle, mentions Victoria as carrying a very heavy crop.

TYRONE.—Both plums and damsons are plentiful and good.

WARWICKSHIRE.—An abundance of fruit on all sides.

Mr. T. Beddard, Stoneleigh Abbey, describes the fruit as plentiful and good.

Mr. J. Rodger, Charlcote Park, says: The crop of plums is exceedingly heavy; Victoria, Kirke's, and Green Gage are breaking down with the weight of the fruit. Damsons are also so abundant as to weigh down the branches.

WESTMORELAND.—Partial, and on the whole very light.

Mr. F. Clarke, Lowther Castle: We have an average crop on walls of Imperatrice, Denniston's Superb, Victoria, Prince Englebert, and Magnum Bonum. All bush and standard trees in the open as well as damsons are a failure.

WEST LOTHIAN.—A thin crop of all but Victoria, which is fairly good.

WIGTONSHIRE.—An excellent crop in most districts.

Mr. J. Day, Galloway House, says: A heavy crop; Green Gage, Lawson's Golden Gage, Victoria, and Kirke's have required thinning.

WILTSHIRE.—Very plentiful in most places.

Mr. H. W. Ward, Longford Castle, writes: Plums are more plentiful than I have known them to be for a long time, many of the trees of Green Gage, Coe's Golden Drop, Orleans, Kirke's, Reine Claude Violet, Royal Hative, Mitchelson's, Prince Englebert, Pond's Seedling, Victoria, Nectarine, and Mirabelle Joune (a small round golden plum of German origin) are studded with fruit, a sight that gladdens the hearts of those having a weakness for plum tarts.

Mr. C. Warden, Clarendon Park, reports: Plums about here are very abundant, more so than for years past, both on standard trees in orchards and on walls in the gardens, as well as there being an abundance of the culinary kinds such as early and late Orleans and Victoria. There are also heavy crops of the dessert kinds. Damsons are heavily cropped.

WORCESTERSHIRE.—Remarkably plentiful throughout the county.

Mr. J. Austen, Witley Court, says: We have heavy crops of all varieties, particularly Victoria, Pershore, and Prince of Wales, which are largely grown for market. The crop of damsons is also enormous, the trees breaking down with the great weight of fruit.

Mr. W. Crump, Madresfield Court, reports: Plums are a tremendous crop, the fruit of the Pershore breaking down the trees. Victorias and Early Prolific also have very heavy crops. The Gages and Golden Drop are also very satisfactory. Damsons also good, and trees of all kinds very free from blight and insects.

Mr. W. Child, Croome Court, Severn-Stoke, states: The crop is the heaviest which has been known in this district for many years, almost all varieties alike requiring numerous props to prevent the breaking of the branches. Green Gages are heavily fruited, as also are Rivers's Early, Victoria, and Orleans.

YORKSHIRE.—Partial, and in many districts a failure.

Mr. G. Morrison, Newburgh Priory, Easingwold, describes the crop as almost a failure.

Mr. F. Nicholas, Upleatham, says: Quite a failure, the fruit having perished with the easterly winds, which were continuous during the setting period.

Mr. J. B. Riddell, Duncombe Park, mentions Victoria and Green Gage as bearing good crops.

Mr. J. Allsop, Dalton Hall, Hull, writes: Plums are above the average, and the trees are healthy. Coe's Golden Drop, Jefferson, Washington, and Victoria are bearing heavy crops on walls. Damson under the average.

PEACHES AND NECTARINES.

BANFFSHIRE.—Below the average on open walls.

BEDFORDSHIRE.—Crops fairly good in most places.

Mr. George Dale, Sandy Place, writes: We have a fairly good crop on trees that were protected in spring and have since been well cared for. The fruit will, I believe, be late in ripening.

BERKSHIRE.—Excellent crops in most districts.

Mr. T. Jones, Royal Gardens, Frogmore, states that it has been necessary to thin rather liberally.

Mr. W. Tegg, Bearwood, Wokingham, writes: Peaches have produced an average crop, and the fruit is very good and clean. The sorts grown are Hale's Early, Stirling Castle, Royal Ascot, Noblesse, Bellegarde, Sulhampstead, Late Admirable, and Grosse Mignonne. The crop of nectarines is also very good. The best sorts are Elruge, Murrey, Oldenburg, Pineapple, Pitmaston Orange, and Violette Hative.

BUCKINGHAMSHIRE.—Fruit plentiful in most districts.

Mr. J. Smith, Mentmore, Leighton Buzzard, says: We have good average crops. Trees very healthy and free from blight of all kinds. Early Beatrice ripe July 30, Early Louise ten days later. Lord Napier and Murrey nectarines are bearing freely.

Mr. G. T. Miles, Wycombe Abbey, remarks: Fruit very good and plentiful, and the trees remarkably clean and healthy. Among new kinds for early ripening Alexander is the best.

CAMBRIDGESHIRE.—Considerably under average.

CARDIGANSHIRE.—Good in some places.

CARMARTHENSHIRE.—Partial, and on the whole decidedly light.

CAVAN.—A poor crop in most districts.

CHESHIRE.—Variable, but generally light.

Mr. W. Whitaker, Crewe Hall, writes: Medium crop on walls, and trees healthy. The young leaves on some trees were blistered by cold winds, but have now quite recovered, and there have been very few aphides, owing perhaps to frequent washings with the engine. The peaches bearing best are Early Alexandra, Dymond, Stirling Castle, Osprey, and Barrington. The nectarines having the best crops are Lord Napier, Humboldt, and Prince of Wales.

Mr. R. Mackeller, Abney Hall, Cheadle, says: Peaches and nectarines are not much grown in this part outside, and in this respect they are certainly not worth the labour bestowed on them.

CLACKMANNANSHIRE.—Considerably below the average.

CUMBERLAND.—These are not grown outside, but our correspondents report plenty of fruit under glass.

Mr. T. R. Cuckney, Eden Hall, Penrith, remarks: These fruits are not grown outside. Inside they are carrying good crops, especially Noblesse peach. A tree of this variety, at least 50 years old, never fails to give us some splendid fruit.

DEVONSHIRE.—Crops good throughout the county.

Mr. D. C. Powell, Powderham Castle, reports: Good average crops. The peaches doing well are Veitch's Dymond, Sea Eagle, Goshawk, Late Admirable, Walburton, Lord Palmerston.

Amongst the nectarines Pineapple and Humboldt are doing remarkably well. The trees suffered a little in the spring from blister, but not to the extent of many of our neighbours' trees, which have been much punished.

Mr. John Garland, Killerton, observes: The peach trees are very healthy and vigorous. I never saw them set so thickly, even the Walburton Admirable, which is very shy, is bearing well. I am now (July 28) gathering Early Beatrice and Early Louise, and Hale's Early is ripening.

Nectarines are abundant, and bad to be thinned down to a full crop. Trees of both peaches and nectarines had plenty of water in the dry season.

DORSET.—Moderately good crops in most districts.

DUBLIN.—Very thin on all sides.

EAST LOTHIAN.—A very good crop of peaches in most places where grown in the open.

Mr. R. P. Brotherston, Tyningbame Castle, says of the peaches; All kinds have set a very full crop. We have Early Beatrice, Violette Hative, Dymond, Royal George, invariably good. Early Alexander not worth growing here, and late kinds do not ripen on the walls.

ESSEX.—Variable, but on the whole very good.

Mr. W. Dance, Gosfield, Halstead, states that with him Early Victoria, Royal George, and Barrington peaches, and Hardwicke Seedling and Elruge nectarines are especially good.

GALWAY.—Very thin on all sides.

GLAMORGANSHIRE.—Generally speaking, the crop is satisfactory.

Mr. J. Muir, Margam Park, Port Talbot, says; Hale's Early, Royal George, Noblesse, Late Admirable, and Sea Eagle are bearing unusually well, but peaches as a rule do best in the east and western part of this county, where they have the advantage of a limestone formation. Lord Napier, Elruge, Violette Hative, and Pitmaston Orange nectarines are bearing freely, and the crop is rather over the average.

GLOUCESTERSHIRE.—Variable, but on the whole nearly an average; fruit generally good.

HAMPSHIRE.—With but few exceptions, both peaches and nectarines are highly satisfactory.

Mr. W. Wildsmith, Heckfield Place, observes: Peaches and nectarines were never better, and the fruit will be very fine, and the trees are quite free from blight, and promise well for next year.

Mr. G. Trinder, Dogmersfield Park, says: Peaches and nectarines with us are a rather thin crop outside, owing to their being badly infested with red spider last summer. A short supply of water prevented our giving the trees sufficient to keep them in health.

HEREFORDSHIRE.—Rather thin in a few places, but generally speaking the crop is remarkably good.

Mr. W. Colman, Eastnor Castle, reports: Peaches are the finest crop we have had for years, and have required much thinning. Moreover, the trees are quite free from aphis, blister, and mildew. We pay particular attention to peaches, and they pay for it. All the trees are pruned and cleansed as soon as the fruit is gathered. The roots are worked round and supplied with a little fresh loam and old lime rubble every autumn. We unnail and wash in January, draw the branches away from the walls, and nail in again when the blossoms are ready to expand. Broad copings of glass or boards and fishing nets form our protection, and soapsuds the best of all insecticides. My best sorts are A'Bec, Early Grosse Mignonne, Large Early Mignonne, Belle Bauce, Bellegarde, Crimson Galande, Alexandra, the Old Noblesse, Royal George, Stirling Castle, Dymond, Old Grosse Mignonne, Barrington, the Nectarine peach, and Sea Eagle. Nectarines we treat as peaches. The best sorts are Lord Napier and Advance for early crops; Elruge and Stanwick Elruge, Violette Hative, Pitmaston Orange, Pineapple, and Albert Victor. Of the newer nectarines I grow Humboldt (good), Galopin, Spencer, and Dryden.

HERTFORDSHIRE.—A good average crop in most districts.

HUNTINGDONSHIRE.—A good crop of fruit, which is swelling freely.

KENT.—Crop generally good.

Mr. A. Waterman, Preston Hall, Aylesford, writes: Peaches are producing a heavy crop both indoors and on the open walls. With me have been very free from insect or blister. My peaches are all on the east walls. I am afraid that a good many people have made the mistake that I have made in planting the early kinds, such as Amsden, Jane, Alexander, Princess Beatrice, Early Rivers, and that class. I do not consider them worth growing while we have such sorts as Royal George, Stirling Castle, Noblesse, Dymond, Grosse Mignonne, and a host of other first-class sorts. Nectarines are also cropping heavily, and promise to swell up well. They do not appear to have any enemies this year except earwigs, which are very troublesome. We place bean stalks behind the shoots and blow them out every morning, by which means I hope to soon clear them off.

Mr. G. Bunyard, Old Nurseries, Maidstone, says: Peaches are even, but rather thin crop. In cool houses the American varieties, Alexander, Waterloo, and Hale's Early, have been very fine, and of a rich luscious flavour. Nectarines are rather better cropped than peaches.

KINCARDINESHIRE.—Fruit rather thin, but the fruit is described as of good quality.

KING'S COUNTY.—Fairly good in most districts.

Mr. J. Roberts, Charville Forest, Tullamore, writes: We cannot get peaches to live more than three years on the open walls. We have tried them several times; in new soil, deep and shallow planting, and in poor soil to get fine small wood, but they will not succeed. They are certain to "blister" till every leaf is a wretched sight; under glass they do well. The same remarks are applicable to the nectarine, except perhaps that nectarines may live the longest of the two on the open walls.

LANCASHIRE.—Fairly good crops in the districts in which these fruits are grown on the open walls.

Mr. F. Harrison, Knowsley Hall, Prescot, writes: Peaches perhaps have seldom looked better, and they only want suitable weather to finish the good crop of fruit now on the trees. The early peaches, *i.e.*, Early Beatrice, Early Louise, Early Alfred, &c., are not highly esteemed here, as they lack both size and quality. We stick to the best of the older sorts and grow most of them. One of the finest nectarines is Stanwick Elruge, but some varieties with Stanwick blood in them are too liable to crack in our climate, and therefore are not largely planted. The flavour of these varieties is, however, most piquant when the fruit is ripened under favourable circumstances.

LEICESTERSHIRE.—Good crops in most districts.

MAYO.—Generally thin, but of fairly good quality.

MIDDLESEX.—Excellent crops throughout the county.

Mr. J. Hudson, Gunnersbury House, Acton, reports: Very good crop of peaches on open walls, but somewhat late compared with trees in a more favourable aspect, ours being on a west wall. Alexander, a fine peach of high colour, is already gathered; Rivers's Early York, another good kind for early work, is carrying a heavy crop; Sea Eagle, for late use, is a reliable and hardy kind. Trees very clean, and free of insects. Nectarines are producing a good crop, chiefly on young trees. Humboldt is looking very promising. These and the peaches are frequently syringed on warm afternoons, and occasionally treated to a little soot-water for the same purpose, which tends to keep in check the red spider, and imparts to the foliage a deep green colour.

Mr. J. Gough, Harefield Grove, Uxbridge, writes: Inside crops very superior. The sorts extra good are Alexander, Hale's Early, Grosse Mignonne, Rivers's Early York, Condor, Marquis of Devonshire, Barrington, Princess of Wales, Sea Eagle, and Bellegarde very fine. Have only one tree of Royal George; shall root it out, as it always mildews. Walburton Admirable rather shy tree—but trees are young. No trees outside. The nectarines grown are Albert Victor, Humboldt, Lord Napier, Hardwick Seedling, Prince of Wales, all good; Pitmaston Orange, very fine; Rivers's Orange, too near Pitmaston Orange, both good; Elruge mildews, shall take it out; Victoria, good and fine.

MONTGOMERYSHIRE.—Crops light, and trees healthy.

MORAYSHIRE.—Fruit very thin in the few districts in which grown.

NORFOLK.—Nearly an average in most districts.

Mr. H. Jones, Carrow House, Norwich, says: We do not grow these fruits outside, but under glass the crops have been good. Waterloo peach, which has been recently introduced to cultivation, is a free bearer, but it has been decidedly second-rate in flavour and size. It ripens with Early Beatrice. Lord Napier nectarine has proved itself to be one of the best varieties introduced of late years. The fruit, which is of large size and fine quality, ripens several days before the midseason. Humboldt produces large and handsome fruit, and is a good bearer. Victoria is our best late variety, ripening well on roof in cool house.

NORTHAMPTONSHIRE.—Rather partial, and on the whole somewhat below the average.

NORTHUMBERLAND.—Crop light in the districts in which these fruits are grown outside.

Mr. G. Harris, Alnwick Castle, remarks: Peaches are under the average. Some trees of Royal George, which is the best for open walls in this district, are carrying a full crop.

NOTTINGHAMSHIRE.—Excellent crops throughout the county.

PERTHSHIRE.—Under an average in all places where grown outside.

RADNORSHIRE.—A good crop in most districts.

RENFREWSHIRE.—Decidedly poor in all places.

SHROPSHIRE.—Partial, and generally light.

Mr. J. Louden, The Quinta, Chirk, remarks: We have a good average crop which appears to be doing well; but a good autumn will be required to ripen some of the late varieties.

SOMERSETSHIRE.—A fairly good crop in most districts.

Mr. W. Iggulden, Marston House, Frome, writes: We have but few peach trees on the open walls, but those we have will be most profitable. Hale's Early was ripe at the end of July, and the trees of Bellegarde, Grosse Mignonne, Sea Eagle, and Barrington are all heavily cropped. Under glass the same varieties have been or are still very good, and in addition to these I can recommend Royal George, Alexander, Noblesse, Crimson Galande, and Abso, the last-named being useful for forcing. Nectarines do no good on the open walls. Under glass we had, or have excellent crops of Lord Napier, Downton, Pineapple, and Victoria. The last-mentioned has been much better than usual.

Mr. J. C. Clarke, Cothelstone House, Taunton, says: We have good crops of Barrington, Noblesse, and Royal George, which are the only varieties we grow outside.

STAFFORDSHIRE.—Moderately good in the places where grown outside and substantial protection afforded the trees.

Mr. G. H. Green, Enville Hall, says: Peaches are very good in houses and on open walls, where the trees were protected by glass coping.

STIRLINGSHIRE.—A good average crop of peaches.

SUFFOLK.—A full crop throughout the county.

SURREY.—Crop decidedly light in most districts.

SUSSEX.—Very thin in all parts of the county.

Mr. E. Burbery, Arundel Castle, observes: Under average; Royal George, Late Admirable, and Noblesse are carrying the best crops here.

WARWICKSHIRE.—Abundant in most places.

Mr. W. Temple, Packington Hall, Coventry, writes: When great attention can be given to keeping the roots near the surface, affording ample protection, and maintaining the trees perfectly clean, all of which means great expense, they can be grown out of doors to perfection. But you can always have splendid crops under glass at one-fourth the expense and trouble, therefore we do not now trouble with them on open walls.

Mr. J. Rodger, Charlecote Park, says: Peaches and nectarines are producing very heavy crops, but the fruit is very late—quite a fortnight later than usual.

WEST LOTHIAN.—Very thin on all sides.

WIGTONSHIRE.—Nearly a failure in the few districts in which grown in the open.

WILTSHIRE.—Very satisfactory in most places, both in quantity and quality.

Mr. H. W. Ward, Longford Castle, reports: Trees of Sea Eagle, Alexander, Noblesse, and Barrington set their fruits so thickly as to necessitate severe thinning. Trees of Bellegarde, Violette Hative, and Walburton Admirable are fairly well cropped, and the foliage is clean.

With reference to nectarines, Elruge and Pineapple do best here out of doors, and trees of these varieties are bearing heavy crops. They are, like the peach trees similarly cropped, mulched to the thickness of three or four inches with short dung. The substance of this, in addition to the material itself preserving the moisture about the roots, is washed down into the soil every time water is applied, to the great benefit of the crop. Lord Napier does well under glass.

Mr. C. Warden, Clarendon Park, Salisbury, says: We do not grow many peaches and nectarines out of doors; depending more upon supplies from an unheated orchard house. But those outside set a large crop, and look very promising. They were affected a little with blister shortly after coming into leaf, but have gone on well since the affected leaves were removed.

WORCESTERSHIRE.—Good crops in nearly all districts.

Mr. W. Crump, Madresfield Court, Malvern, writes: Peaches are bearing good crops, and trees on the open walls have not been so healthy for years. Crawford's Early—usually a shy bearer—has this season some very fine fruit. Hale's Early, Bellegarde, and Royal George are amongst the best. Nectarines are also satisfactory. Elruge, Pineapple, and Lord Napier have proved good reliable kinds.

YORKSHIRE.—Moderately good crops in a few places, poor in others.

APRICOTS.

The crop of apricots has been decidedly unsatisfactory throughout the United Kingdom, and in the aggregate much smaller than for some years past. In two or three instances the trees have produced good crops; but with these exceptions the fruit is reported to have been very thin or the crop to have been a complete failure. Some correspondents attribute the failure to cold wet weather which prevailed last autumn, and the consequent immaturity of the new growth, and others to the damage done to the flowers and young fruits by the frosts and biting easterly winds of the past spring.

Mr. W. Whitaker, Crewe Hall, considers Moor Park, Hemskirke, and Large Early the best kinds.

Mr. R. P. Brotherston, Tyninghame, East Lothian, writes: An extra large crop, but partial in the neighbourhood. The best all-round kind is Shipley, of a healthy constitution, large cropper, and fruit of fine quality. Royal is also a very large cropper, and the tree healthy. Moor Park dies out very rapidly, but we keep up the stock of young trees which bear at an early age. Peach is good, but shy bearing. Hemskirke has the same fault. Kaisha is a very early, good flavoured kind. D'Alsace is also being tried.

Mr. W. Wildsmith, Heckfield Place, Winchfield, says: We have hardly any apricots, for all the flower buds dropped before expanding. The long-continued and oft-repeated frost and thaw destroyed the buds, but did no harm to the trees, for they are now in perfect health and vigour, and, given a favourable winter, we may expect an apricot season in 1887.

Mr. W. Coleman, Eastnor Castle, reports: Apricots are almost a failure The trees up to the end of February looked promising, and the buds commenced swelling. A second winter then set in, cold sunless weather of some weeks duration forced back the sap, and nine-tenths of the buds fell off when of the size of swanshot. The few late flower buds left have set, and, as might be expected, the fruit promises to be very fine. Apricots as a rule do not have enough water, on heavily coped south walls especially; neither do the roots receive the attention they deserve. Root lifting, fresh calcareous loam, good mulching, and copious waterings are the main factors in the culture of this capricious fruit.

Mr. A. Waterman, Preston, Aylesford, Kent, observes: A very light crop; the trees are healthy and growing well. The sorts that are fruiting best are Moor Park and Breda. The long, cold spring, no doubt, prevented fruit swelling off. It set well, and when about the size of peas dropped. Apricots about here require some protection, such as a good wide coping, or, better still, a glass shelter.

Mr. W. Iggulden, Marston House, Frome, says: Our trees bloomed indifferently, but fortunately a good sprinkling of fruit set, and these are ripening very satisfactorily, especially where the glass coping was not removed. We find the coping also assists to ripen the wood. It certainly encourages the spread of red spider, but this does not appear to injure the trees. Our best sorts are Early Moor Park, Old Moor Park, and Hemskirke.

Mr. G. H. Green, Enville Hall, Stourbridge, remarks: We have a grand crop on wall trees, which were protected by glass copings.

Mr. J. Day, Galloway House, Wigtonshire, describes the crop as the best he has had for six years past.

Mr. H. W. Ward, Longford Castle, Salisbury, writes: An average crop, many of the trees of Moor Park being heavily cropped. The trees are somewhat shortlived in this district; in most years a few of the branches die in the most unaccountable manner.

Mr. C. Warden, Clarendon Park, Salisbury, says: We do not grow many apricots, as they do not grow satisfactorily in our soil, but what trees we have are better set with fruit than ever I have seen them before, and the fruit is swelling and doing well.

Mr. W. Child, Croom Court, Severn-Stoke, Worcestershire, reports: These are a fairly heavy crop, the Large Early doing by far the best with us, although, of course, we plant Moor Park and Hemskirke to succeed the first. The fruit large, clean, and highly coloured.

NUTS.

The crops of both nuts and walnuts are variable throughout the United Kingdom, and, regarded as a whole, are somewhat below the average.

BUSH FRUITS.

Gooseberries, red and black currants, and raspberries are all described as having produced immense crops. The fruit, with but few exceptions, has been of full size and excellent quality. Several correspondents state that gooseberries, owing to their great abundance, were so low in price in the neighbouring markets as to hardly pay for the cost of gathering.

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, August 24.

Exhibition of Cut Flowers.

Although the summer flowers are now rapidly on the wane the meeting of the Royal Horticultural Society on Tuesday was not less bright and attractive than the exhibitions previously held this summer. There was a great display of dahlias, gladioli, lilies, and other subjects now in full dress in the gardens, and roses were presented in magnificent condition for so late in the season, and evidently afforded much gratification to the large body of visitors by whom the conservatory was thronged from the hour of opening until the close of the exhibition. Additional interest was given to the exhibition by the competition for the numerous prizes offered by the society for fruit and vegetables grown by cottagers and artisans, and for those offered to its members by the Agricultural and Horticultural Association for vegetables and flowers.

Messrs. Kelway and Son, Langport Nurseries, Somerset, contributed a marvellous collection of gladioli, several boxes of phloxes, delphiniums, gaillardias, and miscellaneous cut flowers, and were awarded the silver-gilt Banksian medal. The collection of gladioli consisted of nearly two hundred spikes in the highest state of development, and included several beautiful novelties, of which five were certificated. The phloxes were represented by good spikes, and included Electra, a very beautiful new variety, with finely-formed flowers of a delicate pink colour, and Heroine, a distinct variety, with flowers of a rich purple-blue colour.

Messrs. W. Paul and Son, Waltham Cross, Herts, presented twelve boxes of roses, all of which were of exceptional freshness and quality for the end of August. The tea-scented varieties were very strongly represented, and there were finely-developed blooms of Ella Gordon, a superb hybrid perpetual recently distributed by the firm, and Grand Mogul, a remarkably beautiful variety, which received the distinction of a first-class certificate at a previous meeting this season. The flowers are large, globular, and splendidly finished, the colour bright velvety crimson. The last-mentioned of the two is evidently free and continuous in flowering, for the firm have exhibited blooms of grand quality for fully six weeks. The award of the silver Banksian medal was made to the firm.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, as at previous exhibitions of the current year, exhibited an immense collection of cut flowers, and was awarded the silver Banksian medal. Lilies were very plentiful, and included several hundred spikes of Lilium tigrinum and its brilliantly-coloured variety L. tigrinum splendens. There were numerous examples of the several varieties of L. speciosum and L. auratum, the forms of the latter including Rubro-vittatum and Virginale, two of the finest varieties that have yet been introduced. The miscellaneous subjects comprised Monthretia crocosmæflora, a very distinct plant, producing slender racemes of scarlet flowers; Veronica spicata nana, a dwarf variety with elegant spikes of light blue flowers; Geum coccineum plenum, Pentstemon barbatum, an old and elegant species, with bright scarlet flowers; Tritonia uvaria, Aconitum autumnale, A. napellus, Solidago virginica nana, Lythrum roseum superbum, a handsome variety, distinguished by the bright colour of the flowers; Œnothera speciosa, a beautiful species, with large white flowers; and Helianthus multiflorum fl. pl., one of the most effective of the perennial sunflowers. Mr. Ware also staged several boxes of single dahlias, which were highly effective, and well represented the best of the fine varieties raised in the Hale Farm Nurseries. Amongst the new flowers were Scotch Lassie, bright yellow, buff striped red; Mrs. Conick, peach-rose, with white band round the disc; William Potter, brilliant scarlet; Albert Victor, deep velvety crimson; Distinction, bright crimson; William Ferguson, clear yellow; and the two varieties on which first-class certificates were conferred. There was also an excellent box of blooms of Mrs. Hawkins, a beautiful decorative variety, with large flowers of a delicate cream colour, shaded rose and bright yellow in the centre; and a box of blooms of Jaurezi and other of the cactus dahlias.

Messrs. J. Carter and Co., High Holborn, contributed a collection of about one hundred pots of asters, lifted from the quarters in their Forest Hill seed

grounds, where they are largely grown for the production of seed. The pots contained about three plants, and the large masses of colour presented a highly-effective appearance. The varieties included the Dwarf German chrysanthemum flowered, an excellent type both for pot culture and garden decoration; Pyramidal German, an excellent form for borders; French Pæony-flowered, the best type for exhibition purposes; Victoria, a fine form with large reflexed flowers, and unsurpassed for competitive purposes where reflexed flowers are admissible; and the Bouquet, a dense-growing form, producing huge bouquets of medium-sized flowers. The colours of the several sections comprised bright red, deep crimson, purple, blue, rose, pink, and white. The silver Banksian medal was awarded the firm.

Messrs. Paul and Son, Cheshunt, staged a large and beautiful collection of cut flowers, comprising dahlias, gladioli, hardy plants, and cut roses, and received the award of the silver Banksian medal. The firm also contributed specimens of the most effective of the hardy trees with coloured leafage. The latter included the golden and purple oaks and elms, purple beech, golden elder, one of the best of the shrubs with golden leafage for towns, variegated oak, and purple plum. The miscellaneous cut flowers included a large gathering of the showy Harpalium rigidum, examples of the chaste Japanese anemone, and a basket of cut flowers of Hypericum oblongifolium, an exceedingly handsome species, with large bright yellow flowers.

Messrs. J. Veitch and Sons, Chelsea, submitted a collection of spikes of the new race of hardy gladioli, of which Lemoinei is the type. These included Voltaire, a beautiful variety, on which a first-class certificate was conferred; Guerrier de Dumast, fiery scarlet, with marone blotches on the lower segments; M. Charles Henry, brilliant crimson, the lower segments marked with a yellow stripe; Sceptre d'Or, bright yellow with crimson blotches; Mars, rich rose-purple, marked on the lower segments with dark blotch.

Lilium auratum was represented by a large collection of cut spikes from the New Plant and Bulb Company, Colchester, to whom the silver Banksian medal was awarded.

Cottagers' Fruit and Vegetable Show.

The exhibition of fruit and vegetables held in conjunction with the ordinary fortnightly meeting of R.H.S. committees was both extensive and instructive, showing in an unmistakable manner the great skill brought to bear upon the culture of vegetables by our *bona fide* cottagers and artisans. There was a tremendous competition, and as a result a magnificent display; in some instances the number of competitors in the class amounting to forty. Inferior produce was very scarce, while some of the exhibits were of unusual excellence, especially in the classes devoted to potatoes, which formed quite an exhibition in themselves. The Agricultural and Horticultural Co-operative Store Association offered special prizes for vegetables, and the display was fairly satisfactory considering that this was the first show of the kind.

Potatoes were shown to advantage, and the tubers were conspicuous for smoothness and good shape. There were twenty-four competitors in the class for three varieties, nine tubers of each, the first prize going to Mr H. Gibbs, Church Green, Sevenoaks, who put up in excellent condition Essex Challenge, a smooth white kidney, very handsome, Vicar of Laleham, and Woodstock Kidney. Mr. J. Wellard, Vine Cottage, Eynsford, Kent, and Mr. G. North, Mitre Street, Buckingham, were second and third respectively; and the fourth place was assigned to Mr. G. Kirtland, Bletchington, Oxon. The varieties that were most frequently exhibited in this class were Reading Russet, Vicar of Laleham, White Elephant, International, and Woodstock Kidney. In the class for one variety, nine tubers, there was again very severe competition, the competitors amounting to forty-three. Mr. G. Kirtland occupied the first place, staging superb tubers of Sutton's Fillbasket; Mr. G. North was second with the popular Reading Russet; Mr. J. Vennell, Manor Cottage, Maidstone, third with Vicar of Laleham; and Mr. J. Hall, St. Lawrence, Ramsgate, fourth. The varieties that made a good figure in this class were Ashleaf Kidney, Sutton's Fillbasket, Cosmopolitan, Vicar of Laleham, Duke of Albany, Snowdrop, International, and Schoolmaster; but half the dishes were unnamed.

Peas, like potatoes, were shown in plenty, and the quality was of a high order. In the class for two varieties, fifty pods of each, Mr. H. Gibbs was the most successful, showing Stratagem and Telephone. Messrs. G. North and G. Kirtland were second and third; and Mr. Charles Beckett, Amersham, Bucks, fourth. There were ten competitors. For one variety, fifty pods, Mr. G. W. Kentish, Bedmont, near Kempstead, Herts, was first, Mr. G. Kirtland second, and Mr. R. Neal and Mr. R. Timbs third and fourth.

Onions were shown to perfection, the premier award in the class for twelve going to Mr. G. Hacker, Wilts. Mr. Richard Hall, Dartford, put up excellent examples of Golden Rocco, and was placed second. Mr. T. Nunn, Heybridge, Essex, and Mr. Jesse Humphry, Bromley, were third and fourth. There were nineteen competitors.

Cabbages and Lettuces were of average merit, and in both classes there was keen competition. Mr. J. Bunting, Enfield, Middlesex, was first in the class for three cabbages; the second prize going to Mr. Geo. Dormer, Alderham, Herts; the third to Mr. Richard Hall, Dartford; and the fourth to Mr. W. Peasey, Ealing. For three lettuces, Mr. W. Dredgo, Bletchley, Bucks, came first; and Mr. G. Dormer second.

Runner Beans made a great display, as there were thirty-five competitors in the class for thirty pods. Mr. G. Kirtland came first with well-shaped, handsome, tender pods of the famous Ne Plus Ultra; and Mr. Samuel Richardson, Chase Green Avenue, Enfield, was a close second, exhibiting Girtford Giant; Mr. G. North and Mr. R. Neal were placed third and fourth respectively. There were seventeen competitors in the class for thirty pods of broad or long pod beans, and the winner of the first prize was Mr. J. Venn, East Acton; Mr. David Munroe, Dingwall, came second; Mr. G. Kirtland, third; and Mr. F. Dobson, High Wycombe, Bucks, fourth. In this class the competitors numbered seventeen, and the exhibits were of high quality.

Turnips are generally well shown by cottagers, and on this occasion they were exhibited in first-rate style, the roots being smooth, sound, and of good shape. For six Mr. H. Bunce, Tring, Herts, was well to the front; Mr. T. Smith, Eynsford, Kent, came second; Mr. J. Wollard third; and Mr. H. Gibbs fourth. There were twenty-six competitors in this class. Carrots were largely shown, the competitors in the class for six numbering thirty-five. The winner of the first prize was Mr. G. North; Mr. G. Kirtland was second; and Mr. Nunn and Mr. W. Waghorn, Allington, near Maidstone, third and fourth respectively. There were twenty-three competitors in the class for three beet, Mr. G. Kirtland occupying the first place with fine roots of Pragnell's Exhibition; Mr. J. Gardiner, Maidstone, was a close second; and the third and fourth prizes were awarded to Mr. H. White, 6 Railway Terrace, High Wycombe, and Mr. W. Jacob, Petworth, Sussex, respectively. Cauliflowers were exhibited in fine condition by Mr. Charles Beckett, Amersham, Bucks, who put up Walcheren, and was accorded the first prize. Mr. G. Dormer exhibited Autumn Giant, and was placed second; the third prize went to Mr. David Munroe; and the fourth to Mr. G. Hacker.

Cucumbers, Vegetable Marrows, and Tomatoes were exhibited largely, especially the marrows, the competitors numbering thirty. For one cucumber the prizetakers were Messrs. G. Castle, G. King, T. Smith, and G. Kirtland in the order of their names. In the class for vegetable marrows there were several meritorious exhibits, some of enormous size. The premier award was made in favour of Mr. S. Richardson, who had medium-sized, smooth examples of nice colour. Mr. H. Gibbs and Mr. W. Weal were second and third; and Mr. G. North, fourth. For six tomatoes Mr. Charles Beckett was first, showing well-coloured fruits of Perfection; Mr. R. Timbs was second with the same variety; the third prize went to Mr. W. Jacob, who had Dedham Favourite; and the fourth to Mr. T. Smith.

Fruit was not exhibited so largely as vegetables, but there was a good display. In the class for one dish of apples, six fruits of any sort, Mr. C. Hagger showed Keswick Codlin, and was placed first; Mr. W. Hook, Ottershaw, near Chertsey, coming second with Lord Suffield; the third prize was awarded to Mr. C. Strange; and the fourth to Mr. W. Waghorn. For three dishes, distinct varieties, six fruits of each, Mr. W. Jacob occupied first place, exhibiting Gloria Mundi, New Hawthornden, and Lord Suffield; the second prize went to Mr. C. Strange, the third to Mr. H. Bowers, and the fourth to Mr. J. Wellard. Gooseberries were well shown by Mr. J. Wellard, who was first in the class for one dish; Mr. T. Harvey, North Crescent, Hertford, Mr. G. North, and Mr. W. Waghorn were the other successful competitors, coming second, third, and fourth respectively. There were fourteen competitors in the class for one dish of currants, any variety, Mr. G. Warner, Alderham, Herts, exhibiting Veitch's Perfection, a red sort with large berries; Mr. W. Jacob second with the Cherry Currant, also a red-berried variety; the third award was made in favour of Mr. W. Waghorn; the fourth prize going to Mr. G. W. Kentish. The competitors numbered thirty in the class for a dish of cherries, Mr. W. Waghorn coming first, Mr. W. G. Kentish second, Mr. G. Crouk, Nettlestead, near Maidstone, third, and Mr. H. Gibbs fourth. In the miscellaneous class for fruits or vegetables Mr. C. Beckett was the most successful prizetaker.

Co-operative Association Prizes.

As mentioned above, the competition was not very keen, and in many instances the productions were of an inferior character. In the class for a quarter of a peck of peas the prizetakers were Mr. G. Ball, Rugby; Mr. G. Leabourn, Wilton, Wilts; and Mr. Charles Forkett, Morland Road, Penge, in the order of their names. For thirty pods of long pod beans, Mr. J. Foxley, Cheshire, was the most successful exhibitor; Mr. F. Sexton, Hope Cottage, Northampton, coming second. Scarlet runners were well shown by Mr. W. Powers, Mr. F. Sexton, and Mr. A. Newcomb, who were first, second, and third in the order of their names in the class devoted to these vegetables. Mr. F. Sexton came first for three heads of cauliflowers, and in the class for three cabbages the premier award was made in favour of Mr. Charles Forkett, the second prize going to Mr. J. Foxley. There was good competition in the class for six carrots, the first prize going to Mr. Jas. Adams, West Haddon, Rugby, the second and third places being occupied by Messrs. J. Sturch and H. Perry respectively. Beet were well shown by Mr. E. Hurst, Maldon, who was first in the class for three. Mr. Pusey, Staines, occupied the second place, and Mr. J. Sturch third. For twelve Giant Rocca onions, Mr. W. Cobbold, Maldon, Essex, occupied the post of honour, Mr. F. Sexton second, and Mr. G. Leabourn third. For six turnips, the prizetakers were Mr. George Bull, Mr. F. Sexton, and Mr. F. James in the order of their names.

Potatoes were poorly shown. Mr. J. Sturch was first in the class for nine kidneys, and Mr. G. Mitchell second. For nine round varieties, Mr. J. Adams and Mr. G. Mitchell were first and second respectively. For two vegetable marrows, Mr. J. Sturch occupied first place, and Mr. C. Kemp second. Mr. F. Sexton was first for a collection of vegetables; Mr. W. Pourry, Penge, second; and Mr. C. Forkett, third. There were several other classes set apart for vegetables, and the most successful exhibitors were Mr. Oliver Goldsmith, who was first in three or four classes; Mr. C. Kemp, Mr. J. Dean, Mr. C. M. Carter, Mr. G. W. Waugh, Mr. J. Gore, Mr. F. G. Barns, and Mr. J. Barnham.

We may add that both exhibitions would have been far more instructive and interesting if the exhibits had been properly labelled, but in very few instances was this the case. It is essential, in order to make an exhibition thoroughly useful, to name the exhibits, so that visitors and others may have an opportunity of noting the most popular sorts.

Floral Committee.

Present: G. F. Wilson, Esq., in the chair, Dr. Masters, Major Lendy, and Messrs. W. Bealby, Shirley Hibberd, H. Cannell, Thomas Baines, H. Herbst, Amos Perry, H. Bennett, C. Noble, George Duffield, J. Dominy, H. M. Pollett, E. Hill, J. O'Brien, H. Turner, and James Walker.

From Messrs. H. Cannell and Sons, Swanley, came two splendid stands of flowers of single and double begonias, which admirably represented their large collection of these flowers, which is now in capital condition, a bouquet of salpiglossis, and a stand of single dahlias, from which a beautifully-striped flower was selected by the committee as worthy of the distinction of a first-class certificate. Mr. C. Turner, Slough, contributed a collection of forty-eight blooms of dahlias, comprising Burgundy, Mrs. Gladstone, Sunbeam, Flag of Truce, Gaiety, Prince of Denmark, Herbert Turner, Ruby Gem, Champion Rollo, Goldfinder, Ovid, William Rawlings, and other first-class varieties. Mr. Turner, who was accorded a vote of thanks, exhibited also Bendigo, a new show flower, similar in colour to Ovid, but much finer in form and more highly finished.

There were but few orchids exhibited on this occasion, and the most important was the beautiful example of Cattleya gigas Hardyana, a superb variety distinguished by the rich colouring of the labellum, from G. Hardy, Esq., Pickering Lodge, Timperley. H. J. Buchan, Esq., Wilton House, Southampton, submitted a nicely-flowered specimen of Maxillaria setigera, an interesting species with yellow flowers. Mr. W. Bull, Chelsea, sent out flowers of Aristolochia elegans and Impatiens Hawkeri. Mr. Eckford, Borealton Park, Shrewsbury, contributed an attractive collection of sweet peas, and was accorded a vote of thanks. Mr. King, gardener to P. Crowley, Esq., Waddon House, Croydon, sent good blooms of Madame Desgranges chrysanthemum, and was voted a cultural commendation.

From Mr. R. Dean, Ranelagh Road, Ealing, came a stand of blooms of Dean's Mammoth African Marigold, an excellent strain, the flowers of immense size and good form, and a bouquet of Chrysanthemum hybridum Sunbeam, an

attractive form with sulphur-coloured flowers, said to have been obtained from a cross effected between Chrysanthemum coronarium and C. segetum. Mr. C. Noble contributed a wreath of Clematis Jackmanni alba, which is now becoming well-known for its freedom of flowering and value for associating with the type.

Fruit Committee.

Present—Mr. T. F. Rivers in the chair, and Harrison Weir, Philip Crowley, F. Rutland, J. Burnett, W. Warren, William Paul, C. Silverlock, J. Ellam, and G. Bunyard.

The most important contribution to the meeting of this committee was the collection of early apples from Messrs. William Paul and Son, Waltham Cross. In the collection were excellent examples of Lord Suffield, Hawthornden, Duchess of Oldenburgh, Yorkshire Beauty, Collini, Astrachan, New Hawthornden, Golden Spire, Keswick Codlin, and Ecklinville Seedling. Mr. Naylor contributed a good fruit of Blenheim Orange melon, and Mr. C. Noble exhibited a dish of Red Astrachan apples.

Novelties.

First-class certificates were granted as under:

To Messrs. Kelway and Son for the under-mentioned gladioli,

Lady Salisbury.—A very beautiful variety, the spike massive, and the flowers of fine form; the colour blush pink, lightly feathered with brilliant carmine.

Prince Edward of Saxe-Weimer.—An effective variety of high quality, the flowers orange scarlet, marked with violet on the lower segments.

Empress of India.—An exquisitely beautiful flower, of the largest size, and feathered with purple on a rose-lilac ground.

Lord Ashbourne.—A handsome variety, the flowers of large size and fine form; the colour light scarlet, painted with crimson.

Lady Macfarren.—A very chaste variety of high quality; flowers pure white, tinted lilac at margins of segments, and faintly striped with purple.

To Mr. Charles Turner for

Dahlia Eccentric.—A very distinct pompone, the flowers perfect in form, and attractively coloured orange, red, and creamy white.

To Messrs. J. Veitch and Sons for

Gladiolus Voltaire.—An attractive hardy hybrid, the flowers comparatively large in size and of good shape; the colour bright carmine-rose, marked on the lower segments with pale yellow and marone.

To Messrs. H. Cannell and Sons for

Dahlia Mr. Rose.—A distinct single variety; the flowers of medium size, and freely striped with rose and red on a blush-coloured ground.

To Mr. T. S. Ware for the undermentioned dahlias—

Yellow Constance.—A decorative variety, bearing flowers of the same size and form as those of Constance, but of a rich yellow colour.

Miss Liniker.—A beautiful single flower of a brilliant magenta-crimson hue, shading to bright rosy purple.

Amos Perry.—A superb single variety; the flowers rather large, perfectly circular, and of good substance; the colour rich velvety crimson, the florets distinctly margined with bright red-crimson.

BASINGSTOKE, August 19.

The tenth annual exhibition of the above society was held on the date named, in "The Goldings," a place specially well adapted for a flower show. The tents, dotted about here and there on the grass, relieved by the handsome trees all around, gave quite a picturesque appearance to the whole, and the pleasant promenade under the trees in the fine, warm afternoon was much enjoyed by the large and appreciative company. The show, on the whole, was a capital one. The only classes which showed any falling off were two or three devoted to plants, owing to some exhibitors being at other shows; still there were quite enough to make an attractive exhibition. Black grapes were excellent, while the vegetables were magnificent in all the classes; particularly does this apply to the collections of twelve in the open class. Cut flowers were of first merit, while epergnes, &c., were dressed in the best possible way.

The principal class for plants was that in which the first prize was given by the President (W. W. Beach, Esq., M.P.) for a collection of twelve, to be either in or out of bloom. Mr. Bowerman, gardener to C. Hoare, Esq., Hackwood, was placed first with a collection including Eucharis amazonica, Allamanda Hendersoni, Cycas revoluta, and Croton Queen Victoria; Mr. J. Dauncey, gardener to J. B. Stone, Esq., Buckfield, was second. A special class, provided by Major J. May, for gardeners in smaller places than the preceding class, brought out even better specimens. Mr. B. Tripp, gardener to S. Field, Esq., Goldings, easily carried off first honours, Clerodendron Balfouriana being particularly good; Mr. Thompson, gardener to Captain Boland, Down Grange, was second with healthy plants. Single specimens were freely shown, Mr. Bowerman taking the lead with Eucharis amazonica in capital condition; Mr. T. Weaver, gardener to W. W. Beach, Esq., M.P., Oakley Hall, Basingstoke, second; while three equal third prizes were also awarded. Mr. Weaver staged the best exotic ferns, his six specimens being all in the best possible health; Mr. Bowerman second; Mr. Thompson third.

For the best group arranged for effect Mr. Weaver was easily first; the plants employed were rather larger than those generally used for this purpose, but they were arranged judiciously, while all were in capital condition. Some excellently-bloomed plants of Pancratium fragrans in small pots, with one immense scape to each, were very attractive. The second prize fell to Mr. B Tripp, gardener to S. Field, Esq.; Mr. T. Holdaway, gardener to Major J. May, third.

Cut flowers were very good, and asters were in strong force, both the quilled and the French sections. For the former Mr. Kneller, gardener to W. S. Portal, Esq., Malshanger, was first, staging Betteridge's varieties in good condition; Mr. Lye, gardener to W. H. Kingsmill, Esq., Lydmonton, second; and Mr. Thompson third. Mr. Kneller was also first in the class for French varieties. Mr. Bowerman had the best twelve bunches of cut flowers. Water bouquets, a novelty in their way, were shown by Mrs. Wadmore, while Miss Blanche Powell had the best button-hole bouquets. The best two vases containing flowers only were contributed by Mrs. H. E. Thorne, Winchester Street, Basingstoke.

The best collection of eight varieties of fruit was staged by Mr. Weaver, his best dishes being Buckland Sweetwater and Black Hamburgh grapes, La Favorite melon, and excellent Morello cherries; Mr. Thompson, second. For the best six dishes, pines excluded, Mr. Jones, gardener to H. Harris, Esq., Steventon, Basingstoke, was first; Mr. J. Best, second. For three bunches of Black Hamburgh grapes Mr. Bowerman was easily first, staging excellent samples, large both in bunch and berry, and well finished; Mr. Jones, second, equal in quality, but lacking a trifle in size; Mr. Weaver, third. For three bunches of any other black variety Mr. Best was first with very fine Black Prince; Mr. Jones, second; and Mr Lye, third. Mr. Weaver was first for three bunches of white grapes, muscats excluded, with Buckland Sweetwater, good both in berry, bunch, and colour; Mr. Kneller, second with bunches having larger berries, but not so well-coloured; Mr. J. Best, third. Mr. Dauncey had the best Green Flesh melon and nectarines, while the best Scarlet Flesh melon and plums were staged by Mr. Bowerman.

In the class for twelve varieties of vegetables the first prize collection was staged by Mr. Bowerman, and grand they were, so clean were the samples that it would be difficult to surpass them as a whole; Mr. Dauncey followed with an excellent collection; Mr. Lye, third. Mr. Dauncey had the best collection of nine varieties of potatoes; medium-sized, even, clean samples. In the class for spring sown onions some extra good Rousham Park were shown by Mr. Kneller.

Messrs. Sutton and Sons, Reading, staged, not for competition, an excellent collection of cut flowers of annuals and perennials, which showed well the wealth of variety there is in this class of flowers, and was much admired. The arrangements were efficiently carried out by the energetic and courteous secretary, Mr. A. E. Holdaway.

BRIGHTON FLOWER SHOW, August 25 and 26.

The annual exhibition of the Brighton and Sussex Horticultural Society was held on Wednesday and Thursday, and although decidedly weak in the leading plant classes, as compared with previous years, the display produced was of large extent, and the greater portion of the productions were creditable to the skill of the large body of exhibitors. This year the place of exhibition was changed from the Pavilion, with its magnificent suite of rooms, to the Dome and the Corn Exchange, which are both ill-adapted to the purpose to which they were put on this occasion. The contributions to the plant classes and the cut flowers were arranged in the Corn Exchange, and the fruit, vegetables, table decorations, and bouquets had the Dome devoted to them. In the matter of weather the society was especially fortunate, for more delightful weather at the end of August could not well have been desired.

Ornamental-leaved Plants were represented by one collection only, but that was so good as to offer some compensation for the want of competition. The collection was exhibited by Mr. Rann, gardener to J. Warren, Esq., Handcross Park, Crawley, and consisted exclusively of specimens of immense size and splendidly developed. The twelve plants were arranged across the north end of the Corn Exchange, and produced a striking effect. They comprised Croton angustifolium and C. Warreni, a very handsome form with long twisted leaves, both very highly coloured, Thyrsopteris elegans, a bold-growing fern with large finely-divided fronds, Adiantum farleyense, Cycas revoluta, Cyathea dealbata, Kentia Balmoreana, Dicksonia antarctica, Davallia Mooreana, Pritchardia pacifica, Thamnopteris nidus, and Dasylirion aerotrichum.

Stove and Greenhouse Plants in bloom contained several good collections, although somewhat below the average; but, placed on a high stage, the pots and underside of the plants were objectionably prominent. In the class for eight Mr. E. Meachen, gardener to Mrs. Armstrong, Woodlee, Patcham, was first with an unequal collection, six plants being remarkably good, whilst two were very poor. The best plants were of large size, densely flowered, and in all other respects evinced cultural skill of a high order. They comprised Pimelia decussata, Allamanda nobilis, Rondeletia speciosa major, Bougainvillea glabra, Erica Ewerianа superba, a beautiful heath, reminding one by the shape and colouring of its flowers of the well-known Epacris miniata, and Allamanda Hendersoni. Mr. W. Hobden, Harold Nurseries, Hastings, was second with neat, well-bloomed examples of Statice imbricata, a very effective species when well grown, Rondeletia speciosa, Bougainvillea glabra, Allamanda grandiflora, Dipladenia Brearleyana, and other good things. In competition for the prizes for four Mr. Hobden was first, with excellent specimens of Erica Aitoniana, E. cerinthoides, a very beautiful species, of special value for late exhibitions, Allamanda grandiflora, and Statice profusa; Mr. Rann was a close second, his best specimen being the highly-coloured Erica cerinthoides; Mr. W. Jupp, gardener to G. Boulton, Esq., Eastbourne, was third, staging, amongst others, a fine specimen of Eucharis amazonica, bearing about thirty scapes, with from four to five flowers each.

Zonal Pelargoniums were represented by a large number of specimens, all of which were more or less good. The premier award in the open class for six double varieties was made to Mr. Hobden for large densely-flowered specimens of Emilie Girardin, Candidissima plena, F. V. Raspail, Madame Thibaut, Madame Lion Dalroy, and Guillion Mangeli; Mr. E. Meachen was second with specimens of medium size, and remarkable for their freshness and high quality of the trusses. There were four classes for single zonals, and the most successful of the several exhibitors were Mr. H. Townshend, gardener to Captain Thompson, Dyke Road, Brighton, Mr. E. Meachen, and Mr. Hobden.

Groups had four classes set apart for them, and the prizes were sharply contested. The space allowed for each group was not sufficient to enable the exhibitors to show much originality, and it will suffice to say that the whole of the arrangements were more or less tasteful. The successful competitors in the several classes for groups were Mr. Spottiswood, gardener to G. Duddell, Esq, Queen's Park, Brighton, Mr. Pannett, Chailey, Mr. Turner, gardener to Major Way, Wick Hall, Mr. Jupp, Mr. F. Rapley, Jevington, Polegate, Mr. Townshend, and Mr. Meachen. Messrs. W. Balchin and Sons, Brighton, and Mr. W. Mills, West Brighton, exhibited magnificent groups of fine-foliage plants, not for competition, which contributed much to the attractions of the exhibition, and brought them much praise.

Fruit constituted, as usual, one of the most important features of the show, for all the numerous classes were well filled, and the whole of the productions were more or less good. There was a sharp contest in the great class for twelve dishes, and the premier award was made in favour of Mr. C. Goldsmith, gardener to Mrs. Hoare, Beckenham, who staged an excellent collection, comprising Black Hamburgh and Muscat of Alexandria grapes, Bellegarde and Noblesse peaches, and Pitmaston Orange nectarine in especially good condition; Mr. Waterman, Preston Hall, Aylesford, was second; and Mr. Gore, gardener to Captain Taylor, Hastings, was third, his

collection containing good bunches of Alnwick Seedling grape. Of grapes there were about two hundred bunches, but they did not appear to advantage in consequence of an insufficiency of table room. For a collection of grapes Mr. Goro was a capital first, with large, well-finished clusters of the more popular varieties; Mr. Chatfield was second with huge bunches, some of which were deficient in colour. Classes were provided for six and three bunches of black grapes, in which the competition was open, and in these the prizetakers were Mr. Spottiswood, who was first in both classes with well-finished bunches; Mr. Hotson, Dyke Road, Mr. Inglis, Mr. Godby, and Mr. C. Goldsmith were also successful. In the corresponding classes for white grapes Mr. C. Goldsmith, Mr. Duncan, Warnham Court, Mr. Spottiswood, and Mr. Chatfield were the most successful competitors.

Peaches and nectarines, which were well represented both in point of numbers and quality, were contributed in especially good condition by Mr. Duncan, Messrs. Balchin and Sons, Mr. Cooke, Mr. J. Hopkins, Mr. C. Goldsmith, Mr. Inglis, Mr. C. Smith, and Mr. C. Storer, to whom the prizes in the several classes were awarded. Mr. Storer contributed a good dish of Thames Bank peach, a little-known variety of great excellence. Mr. Booth, Uckfield, was successful in having the premier award made in his favour in the class for a collection of apples; Mr. Dixon and Mr. Blake were second and third in the class. There were two classes for melons, and in each the first prize was awarded for a finely-ripened fruit of Hero of Lockinge. The exhibitors were Mr. Collins and Mr. Spinks. Mr. Morgan and Mr. Storer also exhibited well in the melon classes. For a dish of dessert apples, Mr. Cooke, Keymer, was first with Red Astrachan, and Mr. Woollard, Lewes, second with Irish Peach. Culinary apples were well shown, and Mr. Waterman was first with a fine dish of Peasgood's Nonsuch; and Mr. King, Hurst, was second, and Mr. Booth third, with Lord Suffield. Plums were plentiful and good, and Mr. Inglis and Mr. Cooke were first and second with good fruit of Washington. The prizetakers for Greengages were Mr. Vincent, Mr. Harris, and Mr. Waterman.

Cut Flowers were contributed in immense quantities, but, as in the case of the fruit, they were placed at a great disadvantage in consequence of the inadequacy of the staging provided for them. One of the most important classes was that for forty-eight show dahlias, to which two stands of superbly-developed blooms were contributed. The first prize was awarded to Messrs. Keynes, Williams, and Co., Salisbury, whose flowers were of large size and superbly finished; Mr. J. Walker, Thame, was second, with blooms equal in finish but a size smaller. Messrs. Keynes, Williams, and Co. were first also for twenty-four fancy dahlias, with finely-developed blooms of the most popular varieties. For twenty-four single dahlias Messrs. J. Cheal and Sons, Crawley, were first, with a very attractive stand. They were also first for twelve bunches of pompon varieties, Messrs. Keynes, Williams, and Co. were second, and Mr. J. Walker third. Asters were of exceptional excellence. In the class for twenty-four French asters, distinct varieties, Mr. J. Walker was first with large splendidly-developed blooms of the pæony type; Mr. W. Archer, gardener to Mrs. Gibson, Saffron Walden, was second with a stand of excellent blooms of the Victoria type; and Mr. J. Morgan third. In the corresponding class for German varieties Mr. Archer was placed first, and Mr. J. Walker, whose flowers were far superior, both in size and finish, and were, moreover, quite distinct, was awarded the second prize; Mr. J. Morgan was third.

There was a liberal contribution of roses, but, regarded as a whole, they were hardly so good as they usually are at Brighton. Mr. G. W. Piper, Uckfield, was first in the principal open classes, and good stands were shown by Messrs. Balchin and Sons, who were first for thirty-six bunches of hardy herbaceous flowers, and also occupied the first place in the class for thirty-six gladioli. Messrs. J. Cheal and Sons were second for flowers of herbaceous plants.

Table Decorations and Bouquets were admirably represented, and formed a very pleasing feature of the exhibition. Mr. J. R. Chard, Clapham Common, was first for three stands for the table and two bouquets; and the second prize for three stands was awarded to Mr. W. Brown, St. Mary's Nursery, Richmond.

Vegetables were abundant and good, the classes for collections and for single dishes being alike good. Mr. A. Waterman was successful in taking the first prize for eight kinds and for a tray of six sorts. The other successful exhibitors in these classes were Mr. C. Goldsmith, Mr. Manton, and Mr. Godby. Cucumbers were fairly good, and Mr. Spinks was first with a good brace of Improved Telegraph.

ENEMIES OF THE FRUIT CROPS.

The report on insects injurious to fruit crops prepared for the Agricultural Department by Mr. C. Whitehead, F.L.S., F.G.S., states that the report relates entirely to insects injurious to fruit crops, and to those among them which cause the most serious losses to fruit cultivators. There are others whose injurious effects are comparatively inconsiderable, so that it has not been deemed necessary to describe them here. For the most part the insects which have been described are formidable enemies, and in many cases more formidable because their work of mischief either is attributed to other causes, or is not discovered until it is too late to adopt means of prevention or to apply remedies. Some of these insects cause the failure of an entire crop, as, for example, the *Hyponomeuta padella*, or ermine moth, by whose action the apple crop has in some seasons been destroyed throughout large areas of orchard land; while others, like the *Carpocapsa pomonella*, or codlin moth, materially damage the appearance and quality of the fruits. Fruit growing is a most important branch of agricultural industry, and, taking the average of seasons and of the various fruit-producing districts, has proved profitable when other crops have not answered. The acreage of fruit land in England, according to the statistics given in the "Agricultural Returns," was 197,539 acres in 1885, and probably at this present time amounts to over 200,000 acres, as there has been a gradual increase in the acreage during the last ten years at the rate of about 3,500 acres per annum. Besides this acreage, properly termed "arable or grass lands used for fruit trees of any kind" in the "Agricultural Returns," which is *bona fide* farm fruit land, there is a large aggregate acreage of garden ground appertaining to all houses in the country, from the nobleman's mansion to the labourer's cottage, upon which much fruit is produced, and whose full yield is most important to the owners and to the consumers of fruit, which in its natural state, or preserved, forms an important and most wholesome part of the diet of the people. Information as to the history and habits of the chief insect spoilers of the fruit crop may, it is hoped, tend to their discomfiture, and to the larger production of the fruit lands of this country.

The following insects are mentioned in the report: The raspberry beetle (*Byturus tomentosus*), the green chafer (*Cetonia aurata*), the strawberry weevil (*Otiorynchus sulcatus*), the red-legged garden weevil (*Otiorynchus tenebricosus*), the raspberry weevil (*Otiorynchus picipes*), the apple blossom weevil (*Anthonomus pomorum*), the nut weevil (*Balaninus nucum*), the pear saw-fly (*Selandria cersai*), the gooseberry and current saw-fly (*Nematus grossulariæ*), the currant clearwing (*Ægeria tipuli formis*), the goat moth (*Cossus ligniperda*), the wood leopard moth (*Zeuzera æsculi*), the lackey moth (*Clisiocampa Neustria*), the common vaponrer moth (*Orgyia antiqua*), the magpie moth (*Abraxas grossulariata*), the winter moth (*Cheimatobia brumata*), the codlin moth (*Carpocapsa pomonella*), the small ermine moth (*Hyponomeuta padella*), the strawberry moth (*Peronea comariana*), the currant borer (*Lampronia capitella*), the raspberry shoot borer (*Lampronia rubiella*), the cherry aphis (*Myzus cerasi*), the apple aphis (*Aphis mali*), the plum aphis (*Aphis pruni*), the currant aphis (*Rhopalosiphum ribis*), the woolly aphis (*Schizoneura lanigera*), the mussel scale (*Mytilaspis pomorum*), the red spider (*Tetranychus telarius*), the black currant mite (*Phytoptus ribis*), and the natural enemies of injurious insects.

Replies to Queries.

Bramley will find nothing better than Baltet on Pruning, which can be obtained through any bookseller for a few shillings.

Names of Plants.—Constant Reader.—1, A megasea that cannot be named from the leaf only; 2, Veronica spicata; 3, Ajuga reptans; 4, Euonymus fimbriata; 5, Sedum carneum. W. W. H.—1, Saxifraga sarmentosa, "mother of thousands"; 2, Anemone Japonica alba; 3, A tradescantia that cannot be named without flowers. Boghead.—1, Veronica spicata; 2, a variety of Malva moschata; 3, Veronica longifolia subsessilis; 4, Lythrum salicaria; 5, Lythrum superbum; 6, Œnothera fruiticosa. McN.—Your succulent plant is Stapelia bufonis. R. H. S.—Geranium pusillum, a quite uninteresting weed.

Dieffenbachias.—W. J. H.—Dieffenbachias are perhaps the most easily cultivated of all stove plants grown for the beauty of their leafage, and a moderate amount of skill will suffice to produce well-developed specimens. They should have a rather light position in the stove, where, during the spring and summer months, they will not be exposed to the direct rays of the sun. A compost consisting of loam, peat, leafmould, and sand is the best. To increase the stock cut off the tops of the shoots and insert singly in pots of a suitable size, and then cut the stems into three-inch lengths, which also may be put singly in small pots. Liberal supplies of water at the roots and an abundance of atmospheric humidity are essential to the health of the plants. Six will be sufficient for any one collection, the following being decidedly the best: D. eburnea, D. majestica, D. princeps, D. Regina, D. Rex, and D. splendens.

Pentstemons.—B. W.—An annual renewal of the stock is an important point in the cultivation of pentstemons, as it is only from young and vigorous plants that fully-developed flower spikes can be obtained. The cuttings should be taken in July or August, the side shoots being the most suitable for propagation, and they should be inserted in pots or pans. A frame will be the most suitable place for the cuttings, which must be kept rather close and moist until they are struck. When rooted pot them off separately, using three-inch pots, and place in a frame where they can remain during the winter. The young plants may, if preferred, be planted in a bed of soil within the frame. During the winter protect from heavy rains and sharp frosts, but in mild and open weather the frame must be freely ventilated, or have the lights wholly withdrawn, for if at all coddled the plants will be of very little use. In the second or third week of March, or as soon after as the condition of the soil will allow, plant in the beds and borders in which they are to bloom. A moderately rich and thoroughly friable soil is the most suitable for pentstemons, but in the matter of these they are not peculiar in requirements. The following varieties are of great excellence, and will form a thoroughly good collection: Andrew Sinclair, Alfred Pellier, Archibald Anderson, Aurora, Avalanche, Bessie Anderson, Black Knight, Charles Darwin, Candidate, Countess of Tarbert, Count Munster, Dr. Luke, D. Neubronner, Egerton Hubberd, F. Gerold, Fleuron, George Smith, Henry Cannell, J. F. Kinghorn, J. H. Stanley, John McPherson, Joseph Buchner, King of Pentstemons, Lady Sinclair, Lord Macdonald, Lady Warrenden, Magnificum, Miss Hope, Mrs. J. Allen, Mrs. Duncan, Mrs. Everest, Mrs. Heywood, Mr. D. Macfarlane, Mr. Mechi, Osgood Mackenzie, Polly King, Pauline Dumont, Paul Véronese, P. Klein, Princess Louise, Progrès, Purple Perfection, Rabelais, Rev. Thomas Downie, Robert Osborn, Sculpteur Clésinger, Sir George Nares, Sir William Forbes, Stadtgartner, and Voie Lactée.

TRADE CATALOGUES.

James Veitch and Sons, King's Road, Chelsea.—*Hyacinths and Other Bulbous Roots.*

Ant. Roozen and Son, Overween, near Haarlem.—*Dutch and Cape Bulbs*, 1886.

Barr and Son, 12, King Street, Covent Garden.—*Daffodils.*

Emil Liebig, Dresden.—*Azaleas, Camellias, Rhododendrons, Ericas, &c.*

E. H. Krelage, Haarlem.—*Supplement to catalogue containing list of coloured plates.*

Obituary.

On the 18th, Mr. Robert Lord, the eminent florist of Todmorden. The suddenness of the event has made a deep impression on his friends, more especially those growers of carnations and picotees who met him, full of life and vigour, at the Oxford show, on the 3rd of August.

QUEEN OF BEVERAGES.—Refreshing the weary, stimulating the inactive, soothing the invalid, cheering the social.—Pure Tea alone, by its intrinsic and excellent qualities, "pales the fire" of all other drinks.—*A cup of good tea* is always welcome, as proved by the fact that 6,000,000 (six million) packets of Horniman's Pure Tea are sold every year by 4,000 duly appointed Agents, *Chemists and Confectioners.* The description, if Black, Green, or Mixed Tea, also the retail price, is plainly printed on each packet, with the Importers' warranty that their tea is free from all adulteration. Some unscrupulous persons copy the labels, wrappers, &c., used by Messrs. Horniman, purchasers are therefore cautioned to *avoid spurious imitations.* See advertisements in all papers, and at the railway stations.—[Advt.]

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.	Day of Yr.
1886		[Quarter, 7h. 56m. morn.	H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.		1886
5	S	**11th Sunday after Trinity.** ☽ First	5 20	1 25	6 37	1 39	10 41	6 31	6 57	3 32	3 56	59·4	Barkeria Lindleyana ..... Costa Rica.	248
6	M	Dr. R. Whytt born, 1714.	5 21	1 45	6 35	2 36	11 27	7 24	7 53	4 22	4 49	59·3	Brassavola acaulis ..... Central America.	249
7	Tu	Dr. Johnson born, 1709.	5 23	2 5	6 32	3 25	Morn.	8 23	9 8	5 18	5 53	59·1	Cattleya bicolor ..... Brazil.	250
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11	S	Battle of Malplaquet, 1709.	5 29	3 28	6 22	5 44	3 11	0 39	1 2	10 4	10 27	58·5	Scuticaria Steeli ..... Guayana.	254

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE.—COMMITTEE MEETINGS, Fruit and Floral, at Eleven a.m., in the Conservatory, on TUESDAY next, SEPTEMBER 7.

SHOW OF GRAPES, DAHLIAS, &c., on TUESDAY, SEPTEMBER 7, and WEDNESDAY, SEPTEMBER 8.

N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock. On Wednesday, Ten a.m.

NATIONAL CHRYSANTHEMUM SOCIETY, ROYAL AQUARIUM, WESTMINSTER.—GRAND EXHIBITION of DAHLIAS, GLADIOLI, EARLY CHRYSANTHEMUMS, &c., &c., THURSDAY and FRIDAY, SEPTEMBER 9 and 10.

Schedules on application (free) to WILLIAM HOLMES, Hon. Secretary, Frampton Park Nurseries, Hackney.

Revised official Chrysanthemum Catalogue now ready, 6d. per copy.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, SEPTEMBER 7, AND WEDNESDAY, SEPTEMBER 8.—ROYAL HORTICULTURAL SOCIETY.—Exhibition of Grapes, Dahlias, &c; Floral and Fruit Committees, 11 a.m., on first day.

WEDNESDAY, SEPTEMBER 8.—GLASGOW AND WEST OF SCOTLAND HORTICULTURAL SOCIETY.—Autumn Exhibition.

WEDNESDAY, SEPTEMBER 8, AND THURSDAY, SEPTEMBER 9.—ROYAL CALEDONIAN HORTICULTURAL SOCIETY.—Annual Exhibition.

THURSDAY, SEPTEMBER 9, AND FRIDAY, SEPTEMBER 10.—NATIONAL CHRYSANTHEMUM SOCIETY.—Exhibition of Early Chrysanthemums, &c.

Auction Sales for the Ensuing Week.

MONDAY, WEDNESDAY, AND SATURDAY, SEPTEMBER 6, 8, AND 11.—Mr. J. C. Stevens, at 38 King Street, Covent Garden; Dutch Bulbs.

MONDAY, THURSDAY, AND SATURDAY, SEPTEMBER 6, 9, AND 11.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.

TUESDAY, SEPTEMBER 7.—Messrs. Protheroe and Morris, at the Queen's Road Nursery, Buckhurst Hill; Greenhouse Plants.

WEDNESDAY, SEPTEMBER 8.—Messrs. Protheroe and Morris, at the Nursery, Beaufort Street, Chelsea; Stove and Greenhouse Plants.

THURSDAY, SEPTEMBER 9.—Messrs. Protheroe and Morris, at the Exotic Nursery, Chigwell; Stove and Greenhouse Plants.

FRIDAY, SEPTEMBER 10.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London, E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, SEPTEMBER 4, 1886.

THE POTATO CROP OF 1886 is favourably reported on by correspondents representing all parts of the United Kingdom. Universal satisfaction does not prevail; nor, on the other hand, is there any approach to universal discontent; the collective prospect is a sufficiency of potatoes and some to spare, but as the crop is to a large extent still in the ground, a bold declaration on this point would be the equivalent of reckoning the chickens before they are hatched.

The drought that characterised the early part of the summer affected injuriously the early sorts, and in many places a short crop was the result. But, for all that, the districts noted for early potatoes have had a fairly prosperous season. The late sorts have had weather altogether favourable, and the crops lifted thus far prove to be both heavy and clean. The field crops of Magnums and Champions have, for the most part, not yet completed their growth; but they promise to complete it in a respectable manner, and we repeat that there is a pleasant probability of plenty of potatoes.

The disease has appeared in many places, and there remains ample time for the late crops to be very materially lessened by its ravages. Our correspondents concur generally in reporting "no disease," but, as the world will move, what is true when the pen is in hand may become untrue when the ink is dry. As regards the general declaration of no disease, therefore, our readers must make judicious use of the customary grain of salt. It is a question of weather chiefly—some will say entirely—and thus there may be raised the interesting question—To what extent good management may prove available in saving the crop? One thing is certain, and therefore should not be disputed. It is that, however safe we may be at this particular moment, we have no guarantee of the continuance of safety. But that is not all, for the chances against us increase in a kind of geometrical proportion with the lapse of time—in other words, the probabilities in favour of disease are augmented in number and force with every day that passes by while the crop remains in the ground.

We have always advised the lifting of the crop so soon as the growth may be considered completed, and without waiting for the shaws or haulm to die down. We hold to that advice still, and now, without hesitation, repeat it in the interest of our readers in particular, and of the world at large in general. We are not unaware that men competent to teach, and of observant and reflective habits, take objection to our course of procedure, and advance various arguments in favour of leaving the crop in the ground for some time after disease has appeared in the shaws, to give it time to "clean itself." That, when such a course is followed, a certain proportion of sound tubers may be taken up we will not dispute, but the practitioner is obviously disadvantaged to this extent, that he knows not how many more he might have obtained by means of a smarter practice. If the advocates of ripening *in situ* could tell us all that goes on below ground we would listen with patience. But they cannot tell us, because they do not know; and because nobody can know. It is fair for the early lifter to say that a bushel may be obtained by the smart practice where only a peck or less can be secured by the slow practice, for this is often demonstrably true. But the slow man will retort that, while the bushel may contain many tainted tubers that will soon go from bad to worse, the peck or less will be sweet and sound as the result of leaving the crop to "clean itself." That the bushel *does* sometimes contain a proportion of bad bargains cannot be disputed, for it is a matter of fact. But, alas! for the philosophy of the late lifter, the peck or less is liable to the same calamity, notwithstanding the "cleaning" that has been effected by nature in the invisible laboratory underground. This is matter of fact also, and if we are to have a mixed sample by either system it seems reasonable to prefer a bushel to begin with than a peck or less.

The Jensenian theory that the spores are washed down to the tubers by the rains does not favour late lifting, because the longer the crop remains in the ground the more fully is it exposed to the risks of the washing down. If we reject the washing down hypothesis and revive the older doctrine of the fungus travelling downwards by way of the shaws, the longer we allow the tubers to remain the greater is the risk of the fungus reaching them by the travelling process. And, again, if we regard the ground as "poisoned" with the seeds of disease, then it appears advisable to remove our potatoes out of it as soon as potatoes have been secured by the aid of the kindly influences that promote healthy growth and that appear deadly to all diseases. It seems, indeed, that, whatever theory or hypothesis of the disease we adopt as our guiding star, the light will lead us to the old proverb that a bird in the hand is worth two in the bush, while it may enable us to rewrite another old proverb, enabling us to say Procrastination is the Thief of Potatoes. The doctors differ certainly, and between them the cultivator must for himself decide.

There remains just one point, however, about which there can be no dispute. It is as to the ripening of the crop in the store. Will it ripen if lifted while the skins are thin and the shaws are green?

The answer is that it does; and there, so far, is an end of the matter. It is possible to lift too soon, and it is possible to lift too late; no amount of doctrine or precept can obviate the need by the practical man of common sense and rational judgment. But the matter does not end with a decision as to the *time* of lifting, for there should be a word said as to the *way*. Now in this matter, also, we are uncompromising advocates for sharp practice. On a mildewy day, when a fog obscures the horizon, and a warm, still air oppresses one, it may not be prudent to lift potatoes, for as they come tumbling out their tender skins may be assailed by floating spores that a favourable atmosphere may deposit in a condition suited for immediate action. And if it is not prudent to lift when the elements appear favourable to the microscopic fungi, neither is it prudent to leave the crop on the ground for "a' the airts" to sport with it. Potatoes should be dry when stored, and when lifted in weather suitable for the work they dry so fast and so completely that the drying should have absolutely no consideration. They should be sorted and housed as fast as possible, for sunshine will tend to produce bitterness through the greening of the skin, and damp may tend to produce disease through assaults of fungi on the tender skins; and thus the slow-coach may come to grief through the very great precautions taken to ensure safety. People who leave potatoes on the ground to ripen with the certainty of promoting bitterness and the probability of acquiring disease are like those other people who put out their furs and feathers, as they say, to prevent the moth—but, as happens in the fact, to give the moth the best possible chance of reaching them. It is very strange that a large proportion of mankind will persist in taking the wrong road to prosperity and happiness. But there is a bright side even to that sad fact, for if they all took the right road there would be no employment for doctors, lawyers, turnkeys, policemen, or even for editors of horticultural papers. It is a grave question if any man interested in horticultural literature should speak very plainly about mistakes in gardening, for without them where would be the glorious institution? Those who will leave their potatoes in the ground to "clean themselves" will at least be useful to us as affording a text for another disquisition.

Dresden International Horticultural Exhibition will be held May 7 to 14, 1889, when prizes, amounting in the aggregate to £1,600, will be offered for competition.

Antwerp Horticultural Exhibition, 1885, is reported on at length in a "catalogue officiel," published by Bellemans Frères, 12, Marché aux œufs, Antwerp.

Hollyhocks are finely shown in the great exhibition of autumn flowers opened yesterday, and continued to-day, at the Crystal Palace. The recent roasting weather seems to have suited the late-planted seedlings that are now showing their first flowers.

At Brighton Show there was only one box of Victoria asters, which was placed third. Our report says it was placed second. For this correction we are indebted to Mr. J. Morgan, gardener to Major Scott, Reigate.

British Association commenced proceedings on Wednesday with an address from the President on "The Aspects of the Earth as Illustrated by Geology." The well-known views of Sir William Dawson were admirably arranged and enforced in this inaugural essay. Recent earthquakes and volcanic eruptions quicken public interest in this great subject.

Grislinia Macrophylla may be seen in a fine state of growth in the sub-tropical garden at Battersea Park. The tree may be some ten to twelve feet in height, richly clothed with large leaves of a brilliant golden green colour. It seems but as yesterday that Messrs. Smith, of Worcester, presented this noble hardy shrub at a Whitsun exhibition, and obtained for it a first-class certificate, Messrs. Moore and Hibberd being the adjudicators. The certificate is grandly justified by the specimen referred to.

MISTAKES IN GARDENING.

At the Bath Floral Fête, September 1, Mr. Shirley Hibberd, at the request of the Managing Committee, gave a brief address on "Mistakes in Gardening."

He said, in the few observations the title of his discourse suggested, he should not include a single word on any matter of taste. He would speak of what are commonly understood as practical matters, for although on the subject of taste he might know where to begin, he felt fully satisfied he should never know where to leave off. So, coming to practical matters, he would say that as in tailoring a man must cut his coat according to his cloth, so in gardening the best work was to be accomplished by making the best use of the materials at command. It was not to be questioned that the worst use was often made of the materials, and then gardening came to be described as a tiresome and costly process of obtaining a disappointment. Between what one would like and what is possible there was often a great gulf fixed, and one of the very first steps to success in gardening consisted in recognising the capacities of a place, and taking the fullest advantage of them. To enter into conflict with nature is a serious business, and therefore it is a folly to speculate largely in the cultivation of subjects that are not adapted to the conditions at our command. It should be understood that it is not possible to grow to perfection on the same soil a great number of diverse genera of plants; a calcareous soil will not suit American plants; a hot, sandy soil will not suit show roses; a heavy clay is a dreadful thing for alpines, and to get asparagus from it is not an easy matter. To a certain extent gardening is a conflict with nature from first to last, and the fact may be adduced as an argument in favour of softening the outlines of the conflict by every possible opportunity. To alter the character of the staple soil was in many cases impossible; in others it was a slow, laborious, and costly business; therefore it was always best to begin by humoring nature; selecting for the garden plants likely to thrive without any special aids or contrivances. A familiar example of the difficulty of modifying the original conditions was seen in plantations of rhododendrons in places where soil and climate were alike unsuitable, the result being a rapid deterioration of the trees from the beauty they had when planted fresh from their beds of peat in a country nursery, to miserable scarecrows not good enough for the dressing of a Jack-in-the-Green on the First of May. If the making of a soil for a special purpose can ever be justified at all, the rhododendron can offer as good a justification as any ornamental plants known to our gardens. But in truth, many such justifications may be found, and the man who can afford to gratify his whims may accomplish wonderful things verging on the impossible. But we see people who cannot afford to engage in great conflicts making grievous and costly mistakes in doing certain things badly, when other things quite as well worth doing are as clearly at command as the present moment and the ground we stand upon. Many amateurs who love gardening attempt too much, and spread their energies over too large a surface; the result being imperfect work and superficial enjoyment. Substantial enjoyment and perfect satisfaction can only be hoped for as the result of doing things well and with a view always, to use Greely's words, to "beat the best record." It is a key to sure success to measure first the range of capabilities, and, this being accomplished, it will be more creditable, and therefore more enjoyable, to make the best of these than to engage in conflicts and dally with difficulties. The resources of nature are so vast and various that wherever gardening is possible abundant entertainment and a reasonable range of profit may be secured by simply planting things that are the most likely to thrive, and leaving untouched, for a time at least, all doubtful subjects. There are sandy and loamy soils of such a kindly character that almost anything we plant will thrive upon them; but, generally speaking, every place has some peculiarities, and if unsuited for some things we should like may be admirably suited for some other things equally interesting and useful.

A common source of mistakes in gardening is the failure to forecast results. It is in picturing clearly the far-off effect of present work that the genius of the true landscape gardener is made evident. He sees the sapling tree as it comes to his hand for planting, and he at the same time sees it as it will be in twenty, thirty, or fifty years, and he sees his groups and combinations fully developed even at the moment of designing them, and thus it is that when he is dead and gone his work remains a living and a glorious monument. Now, many amateurs who love their gardens, and possess an immensity of knowledge of horticulture, fail in this necessary forecasting, and the beautiful pictures they make by means of costly planting develop into incongruities and absurdities, and the mistakes are declared when it is too late to remedy them. I will take you to a garden here and a garden there—for there are thousands of such as I have now in my mind's eye—and I will ask you if downright folly ever wore more beautiful features, or more plainly declared that the way the thing was done was the very way not to do it. Here we see pines, firs, cedars, spruces, and deciduous trees of many kinds, that when originally planted presented a most delightful stippling of many colours and sweet combinations of form, now jumbled in a confusion that confounds the planter, and compels one to groan aloud in a spoiled paradise, where sounds of joy only should be heard. How painful it is to see a lofty picea or pinus that has grown with vigour, and would have been a marvel of beauty under better circumstances, now eaten into by a forward spruce, or threatened with extinction by an overtopping sequoia that is itself hemmed in by a suffocating surrounding of deodars, yews, and cypresses! This sort of mistake is repeated in every variety of form throughout the country, and is attributable in the first instance to deficient judgment of future effect; and in the next place to lack of courage in sacrificing many trees of secondary value in order to save the noblest, the rarest, and the most interesting.

And the mention of coniferous trees reminds me of the frequency of mistakes in planting them where they are not only unlikely to thrive, but certain to perish. We may see spacious approaches, that might have been noble if planted with deciduous trees, made hideous with conifers that in their dinginess and distress seem lost in the cold calculation of the length of years allotted them. An impartial looker-on might unhesitatingly condemn such as bad firewood, or take the tops for cheap Christmas trees, but the owners of such things appear always to be of a hopeful disposition, and expect the branches to return that nature has removed for ever, not knowing that coniferous trees are of very limited elasticity and do not renew their youth when decrepitude has come upon them, as often happens with deciduous trees. The deodar, or the yew, or the giant holly that seals up all the windows of a house and makes pestilence in the family by excluding sunshine and air, we will not talk about, for it is not a mistake in gardening, it is an absurdity of a more dreadful nature, and belongs to the agencies—and there are many such—that blight the world and destroy life. These stifiers, however, illustrate in the most forcible manner the necessity of considering when we plant a tree what sort of thing it is likely to become in the course of a few years.

The needless conflict with nature in which men often delight when they take to gardening is seen in the mismanagement of things. They plant fruit trees, perhaps, and if they would but leave them alone nature would be kind and give them fruit. But they must do something, and so they pinch the trees several times in the summer, and prune them severely in the winter, and perhaps root prune occasionally when the trees have none too many roots, and the end of it is that they get no fruit at all, or so little that its value will scarcely pay for the sharpening of the instruments of torture. The chopping, and shaving, and bleeding, and distorting of fruit trees to make them fruitful may be said to have had its day. Certainly I have seen some good result from my preachings on the subject ten years ago, and I expect to see much more yet, for the loudest advocates of the repressive system are beginning to believe in nature a little, and they see that it is more profitable to allow the trees to produce fruit in their own way, than to ensure a crop by purchasing the fruit and tying it on. What is true of fruit trees is true of roses, and many more good things that people insist on doing too much for, as though nature had nothing to do with the production of flowers and fruits. One reason why standard roses die in gardens is that they are too severely pruned, and the powerful brier stock of which their stems consist must either be allowed to grow with vigour, or must give up an existence when it has become a mere oppression. If all the pruning knives and all the cutting and clipping machines that are used in gardens were completely abolished, nature would assert herself in the free and bounteous growth of

vegetation, and an abundant harvest of benefits for the sustenance and comfort and spiritual help of man; for as compared with any one tree that is pruned in a reasonable manner ten thousand are mangled into ugly barrenness, and their owners cry out that gardening is unprofitable. When Naaman was told to wash seven times he became an emblem of man in conflict with nature. The simple course prescribed for his cure was too simple, for it meant that cleanliness is our best protection against disease. He "thought," he said, the prophet would engage in an elaborate performance to effect a cure, but the washing was a despicable proceeding; it was a too direct appeal to the renewing powers of nature.

An illustration, both of the failure to forecast results and the tendency to attempt impossibilities, is seen in many gardens where the fruit trees overtop the walls. The essence of the case is that the walls are not tall enough for the trees, and the knife is freely used to effect a balance between them. For a time the balance is very poorly maintained by the cruel employment of coercion: the best growth the trees make being systematically shortened back to effect the accommodation. But this is for a time only. If the trees thrive they will endeavour to assert themselves; in place of clean rods, rising direct towards the sky, they will throw up a thicket of spray along the top line of the wall, and look over to see if there is any help at hand. While this goes on, the growth on the top line being periodically harried by the gardener's knife, the trees will be found to bear less and less fruit, and to cast off occasionally the best-placed of their lower branches. There are many miles of respectable garden walls, or walls that might be respectable, in this plight, the consequence simply of injudicious planting, as though by the word of command a tall Grenadier could roll himself up within a lady's reticule. It comes to nothing to say that walls cost money, because to make had use of them for the butchery of trees that would be useful if reasonably treated is simply to waste the money expended, or at least to waste the opportunity for employing them usefully. Walls that are too short for plums and pears may be tall enough for nectarines and morello cherries. Walls that are too short for these last may still be tall enough for gooseberries and currants and tomatoes. And walls that are too short for these last may pay their rent by sheltering early potatoes. Let us have proportion in gardening, and avoid complaining loudly of failures we have invited. The last man who should complain of having lost his head is he who willingly placed it in the lion's mouth.

The pivot on which we seem to turn in this kind of blundering is the notion that the knife is a remedial agent. Generally speaking it is an exasperating agent, making bad worse, thwarting rather than suppressing nature, and effectual only in whittling away the foundations of our prosperity in gardening. Wall trees are of necessity systematically pruned, and more or less severely trained; and because of this all the natural growth that can be allowed consistently with the proper working out of the system should be not only allowed but encouraged. In a great garden, where the walls suffice for the needs of the trees, we see them, generally speaking, grandly developed, in the best of health, and wondrously fruitful. It is in the garden where false economy requires a short wall to do the work of one thrice the height that we find trees that grow too much at top and too little at bottom; and that not only produce little fruit, but are vexatiously prolific in the production of vermin.

Having mentioned vermin, I am reminded of the plagues of Egypt, all of them consequent on Pharaoh's hardness of heart. It often appears to me that Pharaoh has been fished out of the Red Sea, and galvanised into an amateur gardener, for this interesting gentleman governs the Land of Goshen much as Pharaoh did, with great ability and spirit; and yet he so often tempts Providence that the plagues follow and endeavour to consume him. He plants roses and hollyhocks amidst overshading trees and in places so sheltered and snug that no unkind breath can reach them. The result is that a garden intended for flowers becomes a sort of hotbed for mildew, and the sulphur merchant is applied to in aid of plants that are simply perishing for want of air. I am satisfied, by years of critical observation, that the plagues of our gardens are in a great measure the proper consequences of our practices; and we are convicted of inconsistency and inhospitality that we are so mean as to curse the guests whom we have taken pains to invite. Many of the casualties with which we have to reckon are beyond our control, and are true calamities, no doubt; but air and water are needed in vastly greater proportions by plants than our customary economy acknowledges, and sure I am that roses and hollyhocks have been and are very badly treated in respect of these primary necessities. The moulds and mildews and the insect enemies, in great measure, are favoured by processes of starving and suffocating within doors and without, and if you will make a few comparisons between gardens that are clean and gardens that are dirty you will find that the differences chiefly consist in the proportions of air and water. You will say we cannot take our close town gardens into the breezy country, and to that I must respond in the affirmative. But I may add that the more unfavourable the circumstances, the greater the need for forethought and for the observance of proportion. We see in gardens of smallish dimensions all kinds of things doing badly on the boundary borders that would thrive joyously if planted in the very centre of the ground, to obtain a maximum of air and sunshine and a fair share of every falling shower. "We want the centre for our games," you say. Yes, but that does not necessitate crowding the borders with plants that can never prosper except in the fullest light and with all the heavenly breezes playing about them.

Mistakes in gardening will occur so long as the art is known to man, and the ablest gardeners will make mistakes, and will often learn from them more than they learn from their successes. But, for all that, successes are much to be desired, and if they do not bring material advantage they gratify the mind and confirm the wisdom of the adage that what is worth doing is worth doing well.

Dahlias now on view at the Crystal Palace abundantly justify the efforts of the National Dahlia Society, and will, we hope, win for the organisation many new friends. It would be a calamity were this noble autumnal flower to lose its hold on the affections of the florists, for assuredly in its present splendid condition it is one of the greatest triumphs of floriculture.

TEA IN OUR COLONIES.—The common idea that the people of England consume (per head) more tea than any other country in the world is erroneous. The Australians drink on an average 7¾ pounds each person, and New Zealand 7¼ pounds yearly; whilst the consumption in Great Britain is under five pounds per head. The system of direct supply from tea-growing districts to the Colonies ensures a pure article at moderate cost; precisely as Horniman's system in England guarantees at a fixed price the best tea the world produces. Those who appreciate full rich flavour, amazing strength, and perfect freedom from all adulteration, use Horniman's Pure Tea. Sold by agents, chemists, confectioners, &c., advertised in all papers and at railway stations.—[Advr.]

REPORTS ON POTATO CROP.

ABERDEENSHIRE.—Crops of both early and late sorts heavy and good.

AYRSHIRE.—Early crops good, and late crops present a satisfactory appearance.

BANFFSHIRE.—Remarkably good throughout the county. In one or two places the haulm was pinched by a sharp frost on July 27.

BEDFORDSHIRE.—Early varieties rather light in some districts, late kinds generally good.

Mr. Charles Turner, Cranfield Court, Newport Pagnell, writes: Veitch's Improved Ashleaf is the kind I grow for an early supply. I also find it the best of all the earlies for forcing. Covent Garden Perfection is an excellent potato for a second early. Beauty of Hebron does well here this season, and cooks well. Potatoes here are all free from disease at present. Later varieties are looking well in this neighbourhood; also in the fields at Cardington, Elstow, Shefford, and Clophill, where I was driving the other day, I noticed they looked remarkably well.

BERKSHIRE.—Crops remarkably good on all sides.

Mr. J. Tegg, Bearwood, Wokingham, reports: The potato crop about here is a good one. Early sorts have done well. Sutton's Ashleaf, Woodstock Kidney, Early Border, Early Favourite, and Fenn's Early Regent to follow, are our best sorts. Late ones look well and strong, comprising Covent Garden Perfection, Dunbar Regent, Victoria, Sutton's Reading Hero, Magnum Bonum, Schoolmaster, and Reading Russet.

BERWICKSHIRE.—Early and late kinds alike satisfactory in all parts of the county.

BUCKINGHAMSHIRE.—Early varieties rather light in some districts, but late kinds are very promising.

Mr. J. Smith, Mentmore, Leighton Buzzard, says: Snowdrop is one of the best, and Miss Fowler and Ross's M.P. are very promising new varieties.

CAMBRIDGESHIRE.—Crops heavy and good; slightly diseased.

CARDIGANSHIRE.—Crops heavy and of excellent quality.

CARMARTHENSHIRE.—Early and late kinds alike satisfactory.

CAVAN.—Both early and late kinds very good; slight attack of disease in some places.

Mr. David Burns, Farnham, remarks: Everywhere about here there appears to be a splendid crop. Ashleaf Kidney, Flounder's, Champion, and Magnum Bonum are the sorts principally grown here, and we expect a very large yield. Disease has been found, but not to any great extent. The quality of early sorts has been good, but rather soft.

CHESHIRE.—Somewhat variable, but on the whole the crop is heavy and the quality good.

Mr. W. Whitaker, Crewe Hall, writes: Potatoes planted early had light crops, and the tubers generally were smaller than usual, owing to the dry weather at the time they were swelling, but the quality is very good. Late potatoes are looking exceedingly vigorous and healthy, and should they continue free from disease there will be an abundant crop.

CLACKMANNANSHIRE.—Early kinds good, and late sorts very promising.

CORNWALL.—Fairly good in most districts. Disease reported from several places.

Mr. G. D. Vallance, Tresco Abbey, Isle of Scilly, writes: Early potatoes were nearly three weeks later this year than the average of seasons. Crop abundant, but tubers rather small. All were dug out at end of first week in June. Myatt's Prolific Ashleaf is the principal variety grown for early markets. Late crops good, but disease has set in rather hard. The long continuance of cold east winds all through the spring months kept the crop very backward.

CORK.—Rather poor in a few places, but generally good.

Mr. W. H. Swanborough, Doneraile Court, reports: Ashleafs are a good average crop and of good quality, but the disease has made its appearance. Magnum Bonum, White Elephant, Reading Hero, and Schoolmaster are all promising well and should yield a heavy crop.

CUMBERLAND.—Early and late crops are generally reported as very good.

Mr. T. R. Cuckney, Eden Hall, Penrith, says: Early potatoes are very good and sound. We grow Early Handsworth, Hammersmith, Veitch's Ashleaf, Lemon Kidney, &c. Late kinds are now looking well.

DERBYSHIRE.—Generally good; early varieties rather light in a few places.

DERRY.—Crop an average in quantity and of good quality.

DEVONSHIRE.—Crops generally are very good; in some districts the tubers are rather below the average in size, and in others complaints are made of the late sorts being injured by supertuberation.

DORSETSHIRE.—In a few places the early varieties were rather light, but generally the crops are very satisfactory.

Mr. P. Davidson, Iwerne Minster, Blandford, writes: We find Early Ashleaf, Myatt's Prolific, Early Rose, and Lapstone the best for early supplies. The last mentioned is the best flavoured of the second earlies, but it is subject to disease. Magnum Bonum, Schoolmaster, and Prince Arthur are the best of the late varieties. Regent is a heavy cropper, but inferior in flavour.

DOWN.—Early varieties produced light crops, but late kinds are very promising.

DUBLIN.—Generally both early and late kinds are in every way satisfactory.

Mr. R. McKenna, Chief Secretary's Lodge, Phœnix Park, says: Ashleafs are rather smaller than usual, and the best type is, I consider, Veitch's Improved. Other kinds, such as Early Rose, Snowflake, Early Handsworth, Beauty of Hebron, Queen of the South, White Elephant, and Scotch Champion are looking well.

DUMBARTONSHIRE.—Extra good throughout the county.

DURHAM.—Early and late sorts alike good throughout the county.

Mr. J. Hunter, Lambton Castle, Fence Houses, reports: Potatoes are looking well, and early varieties lifting free of disease, but small, owing to the dry weather early in the summer. Late varieties are doing well, and have an appearance of health about them that indicates good crops. Field potatoes look clean and free from disease, and owing to the late rains good heavy crops will no doubt be lifted.

EAST LOTHIAN.—Crops of both early and late varieties remarkably good.

Mr. R. P. Brotherston, Tyninghame, writes: Potatoes, mostly Myatt's Prolific Ashleaf, with White Don for end of August and in September. The Myatt's is selected and specially prepared for early cropping, and does extra well. Most of the new kinds have been tried as they come out, but we have

not found any to suit our soil and climate better than these. In the fields the kinds mostly grown are Regent, Victoria, and Magnum Bonum; Champion is not now so much grown; Reading Hero has been tried, but as a cropper it seems deficient; on one farm White Elephant is highly spoken of.

ESSEX.—Crops generally remarkably good; early sorts rather small on light soil.

Mr. Henry Eldridge, Chesterford Park, Saffron Walden, remarks: Early kinds rather smaller than usual, but very good. Late sorts are looking very well, having been much improved by the rains of July. The general complaint is potatoes do not pay to grow now, and I cannot say they do at forty shillings per ton. But what a boon to the poor cottager. The agricultural labourers have made great strides in the cultivation of potatoes during the past ten years, and the produce staged at the village shows proves their ability in vegetable culture to be equal to that of the gardener.

FIFESHIRE.—Crops of early and late kinds good throughout the county.

Mr. E. Tate, Balcarres, describes the crop as an excellent one, both in quantity and quality.

FORFARSHIRE.—Remarkably good in all districts; early varieties a trifle small in a few places.

Mr. S. Laird, Kinnaird Castle, Brechin, writes: Early varieties are very good, both in quantity and quality, and free from disease. Late varieties are backward, owing to late spring frosts, but the general appearance of the potato crop at the present time in this locality is very promising.

Mr. McDowall, Brechin Castle, reports a slight attack of disease.

GALWAY.—Crops generally good.

Mr. McKinnon, Kylemore Castle, says: Potatoes are, on the whole, remarkably good. The crops in the fields have improved much of late, and will probably turn out well.

GLAMORGANSHIRE.—Crops generally heavy, and of excellent quality.

Mr. J. Muir, Margam Park, writes: The warm weather experienced in June and July suited the potatoes admirably, and as yet I have not seen a diseased tuber. The crops are all looking well, and although some of the early varieties have been rather small when dug up the quality is first-rate.

GLOUCESTERSHIRE.—Early kinds rather light, owing to dry weather; late sorts very promising.

HAMPSHIRE.—Crops of both early and late kinds thoroughly satisfactory.

Mr. G. Trinder, Dogmersfield Park, reports: A very good and clean crop. Our early varieties have been turning out wonderfully well. Sutton's Ringleader is a great favourite here, both for forcing and early outdoor crop. It is a fortnight earlier than any other variety we have grown. We rely on Magnum Bonum for main crop.

HEREFORDSHIRE.—An excellent crop on all sides.

Mr. W. Coleman, Eastnor Castle, Ledbury, writes: Early sorts were caught by the dry weather, and are rather small, but of excellent quality. They are free from disease, and quite fit for lifting. Late varieties now look well, and, the rain having penetrated to the lower roots, the yield must be satisfactory. As yet I have seen nothing of the disease, and the haulm being short and hard, fine dry weather may carry us on to an abundant harvest. My best early sorts are Myatt's Prolific and Veitch's Ashleaf and Mona's Pride. Covent Garden Market and Lady Paget follow close on their heels, and the last, the best potato I grow, keeps good until the following July. I do not grow many sorts, but when I get a good one I stick to it.

HERTFORDSHIRE.—Generally good; early sorts rather below the average in size.

HUNTINGDONSHIRE.—Crops heavy and of excellent quality.

KENT.—Early crops rather light and tubers small, but late sorts are very promising.

KILDARE.—The crop is reported to be good throughout the county.

Mr. E. Knowldin, Carton Park, Maynooth, remarks: I have nothing but the old dwarf Ashleaf Kidney, which is very fine. I have tried other kinds, but none do so well as this, of which I grow a large quantity, and the quality is splendid.

KILKENNY.—Generally satisfactory, both as regards bulk and quality of crop.

Mr. W. Gray, Woodstock Park, writes: This crop, like all others, is from a fortnight to three weeks later than usual. Early varieties were small, but of good quality. Late sorts in fields are looking well. Champion is the principal sort grown in this county. Reading Hero is a good late sort, but not quite so productive with us as the Champion. Robertson's Victory, a new variety raised by Messrs. Hogg and Robertson, Dublin, looks very promising for field culture.

KINCARDINESHIRE.—Crop heavy and of good quality.

KING'S COUNTY.—An excellent crop in all parts of the county.

KIRKCUDBRIGHTSHIRE.—Early and late kinds remarkably good.

LANCASHIRE.—Crops of early varieties rather light, but late kinds are very promising.

LEICESTERSHIRE.—Excellent crops of late kinds; tubers of early sorts rather small.

LINCOLNSHIRE.—Crops good throughout the county.

Mr. George Johnson, Appleby Hall, writes: Early varieties are fully a fortnight later than last year. The field crops present a very promising appearance. Large breadths of potatoes are grown about here, and they produce some wonderfully fine samples. Magnum Bonum is chiefly grown for late crop. For early use we have not found anything better than Mona's Pride and Royal Ashleaf.

LONGFORD.—Crops generally are reported to be very good.

MAYO.—Crop rather heavy, and of excellent quality.

MIDDLESEX.—Early and late sorts alike good, both as regards bulk of crop and quality of produce.

Mr. J. Hudson, Gunnersbury House, Acton, reports: Very satisfactory crop, never promised better. Early Regent has proved a first-class kind, the crop of which and of Fiftyfold are dug up and stored, the ground being planted again with winter broccoli. Reading Russet is now nearly ready to lift, and will receive attention in a few days, and the ground filled up with winter turnips and spinach. Magnum Bonum never fails us for a main crop to start upon after Christmas.

MONTGOMERYSHIRE.—Rather poor in two or three instances, but on the whole thoroughly good.

MONMOUTHSHIRE.—Early varieties rather small and late, but other kinds very promising.

MORAYSHIRE.—Thoroughly good on all sides.

MIDLOTHIAN.—Late sorts are promising, but the early kinds are below the average.

NORFOLK.—Early crops rather lights in consequence of the drought, but late sorts are generally good.

NORTHAMPTONSHIRE.—Crops of early sorts below the average, but of late kinds remarkably good.

Mr. Joseph Hughes, Eydon Hall, Byfield, writes: Early varieties are small, the weather being too dry for them at the end of June and the beginning of July. The rains of July have improved the appearance of second early and late varieties. The following are looking extremely well: Chancellor, Sutton's Abundance, Sutton's Seedling, Reading Russet, Prime Minister, London Hero, Snowdrop, The Captain, and Purple Perfection.

NORTHUMBERLAND.—Crops of both early and late sorts remarkably good.

Mr. G. Harris, Alnwick Castle, says: Veitch's Improved Ashleaf and Beauty of Hebron are much the best of the early kinds; and by far the best of the late varieties is Magnum Bonum, which we had in excellent condition until quite the end of July. Early potatoes are small, as the weather was very dry here until the latter part of the month mentioned. On July 27 we had 1½ inches of rain, which proved of immense assistance to the late crops.

NOTTINGHAMSHIRE.—Satisfactory in all districts.

PERTHSHIRE.—Crops in gardens and fields are remarkably good.

QUEEN'S COUNTY.—Early and late sorts very satisfactory.

RADNORSHIRE.—Tubers of early varieties rather below the average in size, but late kinds promise to yield well.

RENFREWSHIRE.—Good alike in garden and field.

ROXBURGHSHIRE.—Early and late kinds are remarkably good.

SHROPSHIRE.—Somewhat below the average in consequence of the check received from the dry weather early in the summer.

SLIGO.—Crops heavy and of good quality.

SOMERSETSHIRE.—A heavy and excellent crop.

Mr. W. Iggulden, Marston House, Frome, writes: The Ashleafs, notably the true Old Ashleaf, and Veitch's Improved have yielded exceptionally heavy and good crops, the quality being excellent. Of second earlies we like Reading Russet, Early Regent, and Cosmopolitan, and we have excellent crops of them. The Dean, Village Blacksmith, and Chiswick Favourite are promising new sorts. We rely principally upon Scotch Champion and Magnum Bonum for the late supplies, but in many cases second growth has commenced, and a mixed crop must inevitably result. We anticipated this second growth in the case of nearly all the above named, but it would have been a mistake to lift the very late sorts.

STAFFORDSHIRE.—Crop of early varieties rather light, and the tubers small; late sorts good.

STIRLINGSHIRE.—Good in garden and field.

SUFFOLK.—Early varieties light, but late sorts promise a heavy yield.

SURREY.—Highly satisfactory as a whole; early varieties rather below the average in some places.

SUSSEX.—Early and late sorts good in most districts. Disease reported from several places.

Mr. T. Pryor, Chichester, mentions Magnum Bonum and White Elephant as being badly infested with disease.

TYRONE.—Early crops moderate; heavy sorts moderate.

WARWICKSHIRE.—Early varieties rather light, and with comparatively small tubers; late sorts good.

WESTMORELAND.—Generally good; early kinds suffered from drought, and tubers are in consequence below the average in size.

WEST LOTHIAN.—Crops good, especially of the late kinds.

WIGTONSHIRE.—Satisfactory, both in garden and field.

Mr. J. Day, Galloway House, Garlieston, observes: Potatoes, both in field and garden, look very healthy. Myatt's Ashleaf, Schoolmaster, Fortyfold, and Victoria are the sorts mostly grown in the garden; and Magnum Bonum and Scotch Champion form the bulk of the field crops.

Mr. A. Fowler, Castle Kennedy, says: Generally healthy, with the exception of those in old gardens, which have been frequently under potatoes; in these I observed the potato disease on July 16.

WILTSHIRE.—Early and late varieties are alike good.

WORCESTERSHIRE.—Early kinds suffered somewhat from drought, and the tubers were rather small in consequence; late sorts good.

Mr. W. Child, Croome Court, Severn-Stoke, writes: Ashleafs were smaller than usual, but second earlies are a good crop and the tubers of average size. Sutton's Seedling is one of the best varieties we have ever grown, and of splendid quality when cooked. The late varieties promise equally well; and as the haulm well covers the ground drought will not affect them seriously, and as there are no signs of disease the yield will be a heavy one.

YORKSHIRE.—Rather variable, the early kinds having in some places suffered from drought; late crops are exceedingly promising on all sides.

Mr. J. B. Riddell, Duncombe Park, Helmsley, remarks: Myatt's Prolific is turning out well; Magnum Bonum and Covent Garden Perfection look very promising. Covent Garden Perfection is the best keeper of any variety I know. We had it on July 28 quite equal to Magnum Bonum in March.

New Plants, Flowers, and Fruits.

Dendrobium pogoniates (*G.C.*, 1886, II., 199).—A botanical variety like a miniature *Dendrobium fimbriatum*.

Zygopetalum leopardinum (*G.C.*, 1886, II., 199).—A hybrid orchid of unknown origin.

Rhododendron Smirnowi (*Gartenf.*, July 1, 1886).—A tall shrub, much covered with wool-like hair; the flowers small, rosy purple.

Rhododendron Ungerni (*Gartenf.*, July 1, 1886) agrees with the foregoing in its leading characters, and is probably a variety; the flowers are white.

Begonia Hoegeana (*Grtf.*, July 1, 1886).—A climbing plant allied to *B. nitida*; the flowers white.

Adiantum capillus-veneris Hibernicum (*Gard. Mag.*, 1886, 475).—A free-growing form of the true maidenhair; pinnules fan-shaped.

Adiantum capillus-veneris magnificum (*Gard. Mag.*, 1886, 475).—A very rich form of true maidenhair; pinnules very large, curvate-cuneate, freely overlapping.

Anthurium subulatum (*G.C.*, 1886, II., 230).—A distinct and pretty species, recognisable by the long subulate point to the white spathe.

Anthurium Mooreanum (*G.C.*, 1886, II., 230).—A large-growing species with sub-hastate leaves of a bright green colour and purple-green spathe.

Notes of Observation.

THE APPLE CROP.

When the report of the fruit crop is analysed it will be found that, according to space, there are more apples in gardens than in orchards, and I further think that this fact should teach us a lesson. It should at least show that apple trees cannot continue bearing heavy crops of fruit every year; if they do so for two or three years in succession there is sure to follow a season of scarcity. In my opinion the cause of this year's failure is not difficult to explain. The trees have borne three good crops of fruit in consecutive years, which have so exhausted their strength that they are taking a rest this season to recover. These remarks, it will be understood, apply to orchards. In gardens the common report is that bushes and pyramids, as well as other forms of low growth, are bearing well, which helps to prove that even apple trees pay for receiving a reasonable amount of care. In gardens both the roots and branches receive proper attention, and they are generally growing in better soil. They occasionally, if not regularly, have the assistance of a little manure. The fruit, too, is sometimes thinned out where too thick, and the fact that the trees in gardens are for the most part bearing well, while orchard trees are not, plainly shows that when the elements are favourable it is possible by judicious cultivation to obtain regular crops of fruit. The condition of the orchard crops also strengthens this view, for where the trees are growing in deep alluvial soils there is a fair crop of apples this year. It is the neglected trees that are growing in poor and thin soils that are not bearing. I think this fact should have some consideration from those who are engaged in selecting sites for orchards. J. C. Clarke.

AUTUMN PEAS.

Of the peas of special excellence for late supplies mention may well be made of Criterion and Ne Plus Ultra, two tall-growing varieties remarkable for their productiveness and delicious flavour. They are now bearing heavy crops, and will give a good supply of fine peas all through the autumn.

Newburgh Priory, Easingwold. George Morrison.

A VALUABLE LATE BROCCOLI.

Last year I grew Veitch's Model broccoli for the first time, and I am glad I made its acquaintance. It stood the severe weather of last winter remarkably well, and turned in about the same time as Cattell's Eclipse, producing fine compact white heads, which were delicately flavoured when on the table.

Galloway House, Garlieston. James Day.

STANDARD CLEMATIS.

It is a quite common occurrence to see the ever popular Clematis Jackmanni draping walls with its rich blue flowers, but it is rare to meet with it in standard form, and few are acquainted with its wondrous effectiveness when so grown. Probably the best example of the cultivation of Jackmann's clematis as a standard that has yet been seen is to be met with in the Isleworth Nurseries of Messrs. C. Lee and Son. Between the entrance to the nursery and the dwelling-house there is a broad walk several hundred feet in length, alongside of which are two rows of standards. These are about eight feet apart on either side of the walk, and are about six feet in height, and have heads between three and four feet in diameter. At the present time they are literally solid with bloom, and the effect produced, as seen from the train as it rushes past the nursery, is almost enough to take one's breath away. I must confess that I have seen nothing to equal it, and I have seen at various times and in divers places many instances of successful clematis culture. The nurseries, it may be added, are on the up side of the railway, between Brentford and Spring Grove stations, and rather near the last-mentioned. George Gordon.

LATE RASPBERRIES.

As it is a point of some importance to maintain a supply of raspberries as late in the season as possible, it may be useful to state that when planted amongst fruit trees they continue in bearing longer than when growing in the open quarters. Planted singly between pear trees, trained to espaliers, the raspberries are still (August 15) fruiting freely, whilst the same kinds in beds are over.

Chichester, Sussex. Thomas Pryer.

HARDINESS OF CARNATIONS.

Like Mr. Gordon, I do not for a moment question the statement of Mr. Dean with reference to the way in which the collection of carnations was wintered to which he referred. But Mr. Gordon having given us his experience, I wish to say that I agree with him that it is not safe for young beginners to risk their stock in the open ground during the winter; such, however, is my experience in the West of England, where the winters are reputedly milder than nearer London. I find it necessary to pot the layers in four-inch pots in October and keep them in a cold frame during the winter, but I do this as much to protect them from excessive damp as from severe frost. They are planted out early in March. With us they suffer more from damp than from cold. The only way I can winter carnations safely in the open, and that is a risky business, is to raise a bed of light soil about nine inches above the level, and make the bed about two feet wide, and put the plants in on the raised mound. I then procure some wood binders and bend over them. The binders are of sufficient strength to support some mats which are placed over the beds in frosty weather. But this plan gives considerable trouble, and, as I have said, is not altogether reliable. J. C. Clarke.

PROFITABLE FRENCH BEANS.

We have a good crop of French beans, and Ne Plus Ultra and Canadian Wonder, which furnish our principal supplies, are very prolific. Taking all points into consideration, these are two of the most profitable varieties that could be grown for the supply of the table.

Arundel Castle. G. Burbery.

NANTES HORN CARROT.

As the supply of carrots is a rather important matter it may be useful to state that the Nantes Horn, which has now been in cultivation some years, has again proved the most generally useful for all purposes. The roots are of medium size, of good colour, and excellent flavour, and accordingly find favour when on the table.

Marston House, Frome. W. Iggulden.

RIGID SUNFLOWER.

The showy Harpalium rigidum is now in its full glory, and in looking at its large golden flowers I am fully persuaded that we have no perennial of its colour that can surpass it at the present time. We grow it rather largely in the mixed border, but find it particularly useful for planting along the front lines of shrubberies, as the habit of the plant is especially adapted to association with evergreen shrubs. Whether grown in conjunction with shrubs or herbaceous plants one point in its culture must have due attention, and that is a severe thinning of the young plants in the spring. Each example will produce a large crop of young plants arranged at varying distances from its base, and unless these are very severely thinned they become so overcrowded that they make a very weak growth, and produce small and otherwise indifferent flowers. As soon as the leaves are seen above the surface the young plants are removed with a fork and destroyed or planted elsewhere; and we usually have so many removed that the men are afraid they are nearly all taken away; but we never fail to have an abundance of plants and flowers of excellent quality. W. J.

ELLAM'S EARLY CABBAGE.

This is a capital cabbage for coming in early, and for sowing when a supply is required within the shortest possible time of the seed being sown. Cabbage was much injured during last winter, and, anticipating a scarcity in the spring, I sowed Ellam's Early in heat in January, and in due course pricked them off and planted them out. The crop so raised has done us remarkably good service.

Welbeck Abbey, Worksop. Richard Carr.

UNSEASONABLE VIOLETS AND PRIMROSES.

During the whole of the last month, or so, I have from time to time picked small bunches of Marie Louise violets from a bed under the north wall of my house. Is not this rather extraordinary? Many of the flowers are fully formed and of good size, but some are rather poor. All are deliciously fragrant. The plants are runners put in last autumn, and covered during the winter with a layer of cocoa nut fibre. They did not produce a single flower in the spring. I am now watering them carefully, and there is abundant promise of bloom to come. I have within the last few days turned out of their pots into a shady corner of my rockery two specimens of Primula cortusoides alba magnifica, each throwing up a fine head of handsome flowers, most welcome in these "un-primuliferous" days. Like the violets, these never flowered in their pots in the spring; they were formed by division of a large plant last autumn.

Ashridgewood, Wokingham. S. G. R.

SEEDLING FUCHSIAS.

Another season has rolled round since I last submitted blooms of seedling fuchsias. I now again have that pleasure in my present enclosure, and may tell you that the seed from which these flowers were obtained was sown on February 16 last, 1886. I think that you will consider that Lord and Lady Lewisham are somewhat distinct from the ordinary type of fuchsias in general cultivation; at all events the blooms look grandly effective on the plants. The seed of Lord Lewisham was obtained from Lady Heytesbury, crossed with pollen from Trumpeter, the latter one of my own raising some yew years ago. Lady Lewisham was obtained from Minstrel hybridised with pollen from Le Cygne, this latter being a fine bold double variety, of Continental origin.

Lewisham. George Fry.

[It is a good note of observation that fuchsia seed sown in February gives finished flowers in August. We have found in the case of fuchsias, pelargoniums, and many other such subjects that a period of 100 days suffices to afford the final test of the value of seeds sown the same season. The flowers sent are massive and strikingly coloured, but as the labels were separated from them by (as we suspect) a certain amount of shaking in transit, we cannot attempt to describe them. If our friends the amateurs could but dimly guess the delight that attends the raising of seedlings we should have a fine competition of novelties where now they are few and far between.—Ed.]

MULCHING AND TRENCHING.

The value of deep trenching and liberal mulching has been abundantly exemplified this season. We had a spell of dry weather early in the summer, but our peas have been very good; indeed, they have not been better for several years. We mulch heavily and trench deeply, consequently drought has no terrors for us in respect of peas or other vegetable crops.

Heckfield Place, Winchfield. W. Wildsmith.

CONGRESS PEARS.

Vicar of Winkfield.

ALTHOUGH in the estimation of many this pear "is not worth growing," it is one of the most popular, a proof of which is to be found in its long list of aliases, sixteen in number, the principal of which are *Monsieur le Curé, Paternoster, Bon Papa,* and *Belle Héloise.* It is one of nature's pears, for it was found growing wild in a wood by M. Leroy, curé of Villiers-en-Brenne, near Clion (Indre). It obtained the name by which it is best known here through being introduced from France by Rev. W. L. Rham, Vicar of Winkfield, Berkshire, but the printers have occasionally improved the name to their liking, as "Vicar of Wakefield."

Vicar of Winkfield pear is of the largest size, pyriform, usually unequal, with very prominent eye and long slender stalk inserted on opposite sides of the axis. Occasionally the stalk is accompanied with a fleshy swelling, but it is invariably inserted without depression, as shown in the figure, which presents one of the most typical samples in the Congress collection. There were seventy-seven dishes shown at the Congress of 1885, a sufficient proof, without the aid of the synonyms, of the popularity of this pear.

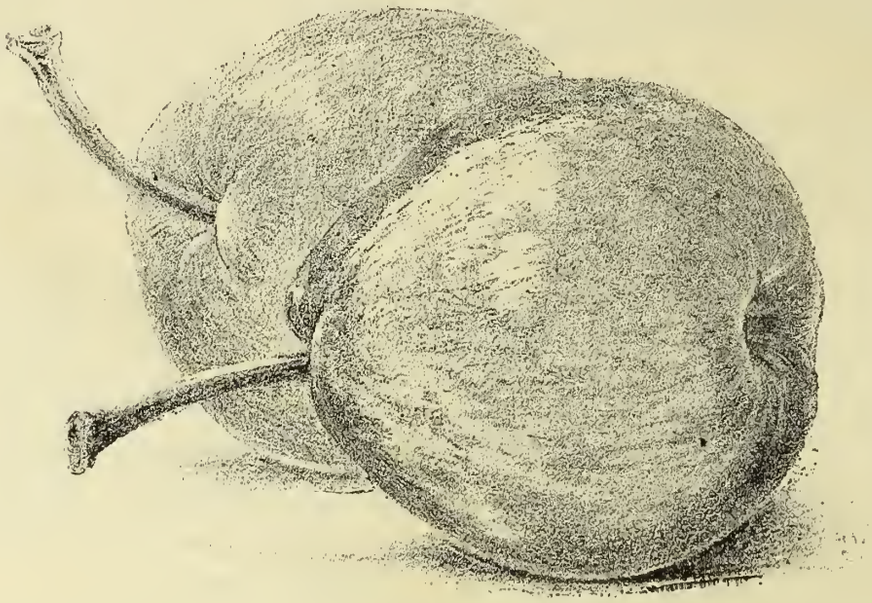
This handsome pear may be classed with dessert or culinary fruits. In certain soils and situations it has a melting flesh, white, fine-grained, juicy and sweet; but when it refuses to melt in its own way the only way to turn it to account is to compel melting by the usual process of cooking, for it is an excellent stewing pear, and in use from November to February.

While we should hesitate to recommend this variety for garden culture, we must own that we have seen it looking very happy as a pyramid or espalier on the quince, but its fine character is only fully displayed when grown as an unpruned standard on the pear, and in this form it is well adapted for adorning a paddock or playground, as also for a place in a profitable orchard.

Fortunée.

This is a popular pear on account of its exceeding fertility and bergamot flavour. It is at any time no better than second-rate, and, though juicy and sweet, is at times objectionably astringent. Its popularity is attested by its half dozen or more synonyms, the best known of which are *Bergamotte Fortunée* and *Fortunée de Parmentier.* The fruit is below medium size, roundish, turbinate, uneven, of a bronzy yellow colour, with many patches and lines of russet, the eye closed and sunk, the stalk long, inserted in an irregular cavity.

Fortunée is well adapted for rough orcharding, and is best grown as a standard on the pear. In the southern counties it is occasionally to be met with as the favourite pear of the district, and a profitable variety for a cottage garden. When it refuses to accommodate the palate as an eating fruit it may be subjected to the process of cooking, when it proves to be one of the best of stewing pears; its season is August and September.



DESSERT AND CULINARY PEAR FORTUNÉE.

MESSRS. WESLEY AND SON'S BOOK CIRCULAR, No. 76, contains a quite representative collection of botanical and biological books. They are arranged in an admirable manner as illustrative of the Floras of Europe, Great Britain, France, Italy, Belgium, Holland, Germany, Switzerland, Scandinavia, Russia, Australia, Africa, America, &c. This particular catalogue should be preserved by persons interested in the works reported on, and Messrs. Wesley would do well to issue a special interleaved edition at a reasonable price—say, perhaps, a shilling. Their address is 28, Essex Street, Strand, London, W.C.

NEW AND OLD ROSES.

THE remarks of "Viator" in the G.M. of the 14th inst. on the new roses as seen at the recent rose shows is a very interesting communication, as it deals with the flowers under quite a different aspect from those seen in the garden. What appears to me to be rather unusual is that the best roses on the exhibition table this season have also for the most part been the best as decorative roses in the garden. The variety *Lord Bacon,* for which "Viator" appears to entertain a very favourable opinion, is well worthy as a garden rose of all the writer has said in its favour. It flowered grandly with us at the end of June, and as I write, in the third week in August, it is in flower for the second time; thus its perpetual character is established. The first lot of flowers on the plants were remarkable for their large size and full, globular character.

Duchess of Bedford and *Duke of Albany* are perhaps rather too much alike for both of them to be wanted in small collections, but the last-named is such a grand rose that it should be included in the most limited collection. It is so large and full and has such magnificent petals that it promises to be a useful garden rose. The colour is clear vivid crimson, with a rich velvet shading overlaying the petals. *Queen of Queens* has been a very attractive variety, having a neat habit of growth and ample foliage. The flowers, too, are large, full, and of fine form. The colour is pink, with a distinct and peculiar blush shade, which is almost a new colour in roses, and one much wanted. *Merveille de Lyon* is a little variable in colour, but the majority of the flowers were sufficiently pure to entitle it to be classed as the best white rose; the flowers are perfect in form and very large.

In my estimation, there have been no roses this season so pleasing in colour as those bearing cerise-red flowers, of which *Mrs. Baker* may be taken as the type, and of which *Ulrich Brunner* is a worthy representative. With us, however, they have been very beautiful. There is a degree of cheerfulness in these roses that belongs to no others. *Dr. Garnier* and *Dupuy Jamain* are also in the same line of colour. Amongst bright red flowers *Duke of Teck* is a conspicuous rose, and it makes good growth on the Manetti stock, but as a garden rose *Red Rover* is unsurpassed as a continuous bloomer in this line of colour. There are others with larger and better-formed flowers. The best are, perhaps, *Alfred Colomb, Lord Raglan,* and *E. Y. Teas.* Of those with very dark-coloured flowers *Empress of India* is a rose that may be trusted. It grows very well, and flowers fairly all through the summer, but it is only valuable as a garden rose. If we want form and fulness, there are no better to be selected than *Reynolds Hole* and *Sultan of Zanzibar.* This season I have no fault to find with the behaviour of *Xavier Olibo,* for it has been both large and excellent in form, owing, I presume, to the heavy rainfall during the month of May, and the absence of insects on the plants.

The present season has brought out in a wonderful manner such weak-growing roses as *Marie Baumann* and *E. Y. Teas.* The first-named has been very fine, and when in this condition there is no rose that surpasses it in effectiveness. *Marguerite de St. Amand* is another weak grower which I have failed to persuade to thrive in a satisfactory manner.

The most disappointing of all roses are those with thin petals, as they cannot endure either heat or drought. The most conspicuous in this respect is *Violette Bouyer,* and *Madame Nachury* is not much better. Under a bright sun the petals burn, and a storm of rain is equally as injurious, for, instead of opening, the flowers decay into a mass of rottenness when there is much rain.

Moss roses have done exceedingly well this year. The best are *Celina,* rich crimson; *Lanei,* rosy crimson; *Gloire des Mousseuses,* blush; *Marie de Blois,* lilac; and *White Bath.* J. C. C.

EARLY FLOWERING POMPONE CHRYSANTHEMUMS.

By J. Mardlin, Finsbury Park, N.

For more than a month past the early flowering pompone chrysanthemums have contributed materially to the attractiveness of the borders in the enclosures on the east side of the park, and the great masses of flowers have received a full share of attention from visitors, although the brilliantly-coloured bedders are now in perfection. They are still in capital condition, and will remain so for some time hence, as the flowers retain their freshness and beauty for a considerable period. The readers of the magazine have had the merits of the varieties forming the early section brought before them by Mr. Piercy and others; but it will probably be useful to again suggest that they are of great value for the embellishment of the flower garden and for the supply of cut flowers for indoor decorations.

In the first place they may be described as perfectly hardy, and in proof of their hardiness I would direct attention to the fact that the examples we have now in bloom in Finsbury Park have been in the open borders during the three past winters without having been injured. A few of the more forward shoots may have been nipped by the frosts, but in no case has the injury been sufficient to prevent their flowering in the most satisfactory manner. The early flowering pompones are particularly suitable for localities in which the rainfall is above the average, for the flowers suffer less from wet than those of any other class of hardy plants blooming at the same time. One other recommendation that must not be overlooked is the excellent habit of the plants, for when planted out and placed under the conditions favourable to their making a healthy growth they do not require either stopping or training, the stiff shoots rendering the support of sticks altogether unnecessary.

The propagation of the varieties flowering during the summer may be effected either by means of cuttings or division, as in the case of the pompones flowering during October and November. When cuttings are resorted to for the increase of stock they should be struck early in the spring in precisely the same manner as advised for the large flowered varieties when referring to their propagation. But to render it unnecessary for the reader to refer back, I will mention the principal points to be observed in the multiplication of stock. Healthy shoots should be selected, and have their tops taken off about three inches from the point. The lower leaves must be removed, and when this has been done insert singly in small sixties, or several together, in five-inch pots, and place in a frame where they can be kept rather close and warm for a short time; but a forcing heat must be avoided. When rooted, those struck in small sixties should be shifted into three-inch pots, whilst the others must be potted off separately; pots of the size last mentioned being the most suitable for their reception. When it is intended to increase the stock by division, the plants should be lifted in the spring, as soon as the young shoots are about three inches high. Each stool can frequently be broken up into as many parts as there are shoots, but generally speaking it is better to divide them into portions having three or four shoots each. As they are divided, plant in the beds or borders in masses, or in conjunction with other subjects as may be desired. But they appear to the greatest advantage in the mixed border, and should as a rule be grown in it. The ground ought to be liberally enriched with manure, and be deeply stirred previous to the plants being put out; and an annual top dressing of old hotbed manure or some other suitable fertiliser will be highly beneficial.

The best of the pompones flowering at the end of the summer are *Little Bob*, reddish marone; *Precocité*, bright yellow; *Illustration*, pink shading to white; Yellow Jardin des Plants; White Jardin des Plantes; Lyon, deep rose; and St. Mary, white. For forming a succession to the foregoing, the following are of a high degree of excellence, namely, *Fiberta*, bright yellow; *Early Late Flora*, deep yellow; *Anastasio*, deep rose; and *Frederic Marronet*, deep orange.

VERONICA LONGIFOLIA SUBSESSILIS.

Although this recently-introduced veronica failed to find favour with the Floral Committee of the R.H.S. when submitted to that body last year, I have no hesitation in claiming for it the distinction of being one of the very best of the hardy herbaceous plants that have been introduced to English gardens during the past decade. The growth is rather robust, but very neat, and the leafage is remarkable for its amplitude and richness of colour. The shoots, which in strong plants attain a height of about two feet, terminate in a spike of brilliant blue flowers, ranging from six to eight inches in length, and between two and three inches in diameter. Spikes of flowers rather smaller in size are also freely produced from the axils of the leaves at the upper part of the stems. Small plants with two or three stems are very pleasing in appearance, but it is not until the plants have become so well established as to produce from eight to twelve stout shoots that an adequate idea can be had of its great beauty. At the present time I have some large specimens in conjunction with huge clumps of the white Japanese anemone, and the effect produced is surprisingly beautiful. I see that this veronica, which is of Japanese origin, is described in some of the trade catalogues as deciduous; but with me it is herbaceous, dying down every winter, and producing new growth from the crown in the spring. Propagation is readily effected by division of the crown, but as strong plants are obtainable for a mere trifle I would strongly advise cultivators to add to their stock by purchase rather than to disturb the established plants until they show signs of having so far exhausted the soil as to render their removal to fresh stations necessary. George Gordon.

DESSERT AND CULINARY PEAR VICAR OF WINKFIELD.

MILDEWED PEAS.

Some cultivators assert that watering is an infallible remedy for mildew on peas, but according to my experience it is not so. During the hot dry weather which prevailed for some time in the early part of the summer our peas were severely attacked by mildew. We watered the rows very liberally, but so far as could be seen the watering did not check the spread of the mildew. When the rains came the late crops began to improve, and have been yielding good supplies. Emperor of the Marrows and Champion of England are the best and most continuous bearers. Sturdy and Gladiator, two comparatively new varieties, well deserve attention, for they have a strong habit, are free bearing, and of excellent quality.

Carrow House, Norwich. H. Jones.

TREE PÆONY.

Madame Laffay.

In a series of tree pæonies or moutans, shown by Mr. T. S. Ware, of Tottenham, at recent meetings of the Floral Committee of the Royal Horticultural Society, the variety figured was conspicuous for its exceeding beauty. Although of great size the flower has the form and finish of an exhibition rose, a resemblance augmented by its brilliant rosy carmine colour and rich perfume. It is not desirable in any special degree that a pæony should resemble a rose, for it is rather desirable that every flower should have a character of its own. But when resemblances occur we cannot fail to note them; and in the case of this brilliant moutan the fulness of the folding petals and the general smoothness of the flower made an impression on the florists and won for it a first-class certificate. The figure is a truthful representation of the flowers presented, but somewhat reduced in size. The habit of growth is shown by means of a plant placed in one of Mr. Crute's ornamental pots, but as the variety is of vigorous growth it is but a question of time for it to acquire the vigorous growth and ample dimensions of an average moutan. *Madame Laffay* is doubtless the finest tree pæony known.

MOUTAN PÆONY IN CRUTE'S TERRA COTTA TABLE VASE.

PHILLIPS'S MAIDENHAIR FERN.

On close examination I have found that Adiantum cuneatum Phillipsi, certificated at the meeting of R.H.S., August 10, is quite distinct from the variety Oweni, and not identical with it, as I at first considered it to be. It appears to be a hybrid between A. cuneatum and A. decorum, as it is intermediate in character between the two; but it is, of course, impossible to speak positively with reference to this point.

Floral Nursery, Maidenhead. Robert Owen.

Lilium auratum is represented in the Art Treasures Exhibition at Folkestone by a specimen with forty-five stems, bearing in the aggregate upwards of three hundred flowers.

NEW AND OLD CARNATIONS AND PICOTEES.

What of the newer carnations and picotees? it may very properly be asked at the close of the growing season. I have made notes of them as they came before me at the various exhibitions, and I think the information may prove of value to such of your readers as are growers and lovers of the flowers. That the culture of the carnation and picotee is rapidly extending there can be no doubt; of late years these charming subjects have become very largely grown in gardens for cutting purposes; and though many of the varieties so grown are what the florist would properly term inferior, yet there is room for hope that these will become improved in point of quality as time goes on. At many country shows held at the end of July and early in August it is the custom to offer prizes for carnations and picotees; but it is rarely that show flowers are produced. I think judges are somewhat to blame in this matter, for they sometimes give prizes to almost anything, which practice tends to encourage the culture of rubbish instead of something really good. I always make a practice of withholding the prizes from flowers that are not up to the mark of what I think the schedule requires, and I invariably find this practice has a stimulating effect, and soon leads to something better being grown. I was glad to find that at the meeting of the northern division of the National Carnation and Picotee Society at Manchester, on the 14th ult., several new exhibitors had put in appearance, and both at South Kensington and Oxford there was no falling off in the number of competitors; and the interest in the shows appeared to be decidedly on the increase.

Now as to the new flowers of the year. Not a few were shown under the vague name of seedlings, and especially so by Mr. B. Simonite, at Manchester—varieties of decided promise, but as it is difficult to identify these I have passed them over. I think that pretty well at the head of the list must be put Mr. Samuel Barlow's fine scarlet bizarre Robert Houlgrave; this was raised at Stake Hill two or three years ago, and from the first regarded by Mr. Barlow as a flower of great promise. Several blooms of it were shown by Mr. Barlow at Manchester, on the

14th ult., and it was so highly esteemed that it was awarded a first-class certificate of merit. It is acknowledged to be an improvement upon that grand old flower, Eason's Admiral Curzon; the flowers are large, full, bright, and effective, and it is an excellent grower, for I have seen it doing well planted out in the open ground in Mr. Robert Houlgrave's garden, at Conway, and also in pots at Stake Hill. At South Kensington, Mr. James Douglas, Great Gearies, Ilford, had several new flowers, such as scarlet bizarre Thetis, the ground pure, petal smooth and of fine substance, and well marked with rich maroon and scarlet. Another was crimson bizarre Duc d'Aumale, pure ground broadly with pale rose on a pure ground, the petals finely formed, and the bloom symmetrical. Corisande has pale rose stripes and flakes on a pure white ground, very full, good, and distinct, and it can be coupled with Felicity, as possessing decided individuality of character.

That Mr. E. S. Dodwell has a large number of seedlings undergoing trial could be seen in his frames at Oxford on August 3. As he does not exhibit at the meeting of the Oxford Carnation and Picotee Union, opportunity is not afforded to see his new varieties in their best form; but new flowers will be distributed this autumn.

New picotees are even more numerous than carnations. I think

MOUTAN PÆONY MADAME LAFFAY (Colour rosy carmine).

and excellent petal, the rich crimson and purple markings definite and striking. Pink and purple bizarre Felicity is a large flower of full substance, in the way of Sarah Payne, the charming pale pink marking is very distinct. Scarlet flake Alisemond has well-formed petals and fine broad scarlet flakes on a pure white ground. Thalia and Diana both come into this class, and they were both awarded first-class certificates of merit at the meeting of the National Carnation and Picotee Society, in 1885. The former is a large and full flower, the petals broad and regularly flaked with pale rose. Diana is flaked well of Mrs. Sharp, heavy scarlet edged, raised by Mr. J. P. Sharp, Lozells, Birmingham. It was finely shown by Mr. Sharp at the Oxford Carnation and Picotee Union in 1885, and awarded a first-class certificate of merit. It was seen in fine form at Manchester, on the 14th ult., shown by the late Mr. Robert Lord, Todmorden, Mr. B. Simonite, Sheffield, and Mr. Sharp, the raiser; and thus from three somewhat widely separated districts it came in good form, with its finely-formed petal, pure white ground, excellent substance, and smooth edge of bright rosy scarlet. Another fine heavy scarlet edge is Mary D.

Anstiss, raised by Mr. Thomas Anstiss, of Brill, Bucks, and awarded a first-class certificate of merit at the National Carnation and Picotee Society's Southern Show at South Kensington, on July 27. It may be accepted as an early variety and a very pleasing flower, broad, stout, smooth petals, and a smooth edge of rosy scarlet; Mr. Anstiss reports that it is a good grower and very free. The remainder of the new rose and scarlet edged flowers are: Henreuse (Douglas), medium edge of reddish rose, broad petals, edge smooth, flowers full and handsome; Mrs. J. Wood Ingram (Wood and Ingram), medium rose edge, the white pure, petals of good substance, one of the best of its class; Duchess (Fellowes), heavy scarlet edge, very large full flowers, quite distinct, and very attractive; Maud (Fellowes), light rose edge, fine broad, smooth petals, a chaste and charming flower; and Orlando (Fellowes), light rose edge, also large, full, and fine.

I do not remember having seen a single new red-edged flower this season—if one or more put in appearance I overlooked them; and so I pass on to notice the new purple-edged varieties. One named Wookins (Wood and Ingram), light purple edge, I saw at St. Neot's Show on Bank Holiday, the white ground pure, petals moderately broad, with a wire edge of bright deep purple; Queen Adelaide (Wood and Ingram), heavy purple edge, is a large full flower, with a solid, broad margin, and good form; Juliette (Fellowes), medium purple, good broad, smooth petals, fine large full flowers, quite distinct in character; Catherine (Fellowes), heavy purple, pure white ground, petals of fine form, broad, and smooth; and Mrs. Nicholay (Fellowes) light purple, a very large and full flower of excellent quality, and having a good free habit of growth.

Of new yellow picotees, I may state that Mr. James Douglas has some very fine seedlings that will no doubt be seen in good character next season. He had a very fine stand of flowers at South Kensington, on July 27, all unnamed, but possessing evidences of high quality. Smith Barry (Wood and Ingram) has a bright yellow ground, heavily-margined with crimson, is decidedly attractive, and a promising flower.

Another question may very properly be put: What are the best varieties of exhibition carnations and picotees as they have been seen this season? I have made a careful selection of flowers seen in winning stands, and they are as follows, and exclusive of the new varieties already described—Scarlet bizarres: Admiral Curzon (Eason), a flower that was sent out forty years ago, and still holds its own, the colours are rich, bright, well delineated, and strongly contrasted, and an excellent outline; Arthur Medhurst (Dodwell), Edward Adams (Dodwell), both seedlings from Admiral Curzon, Fred (Dodwell), which this veteran raiser regards as "the master flower of his S.Bs.," George (Dodwell), Master Stanley (Dodwell), Robert Lord (Dodwell), and Tom Power (Dodwell). Crimson bizarres: E. S. Dodwell (Hewitt), somewhat early to bloom, and a good grower, Harrison Weir (Dodwell), H. K. Mayor (Dodwell), John Harland (Adams), J. D. Hextall (Simonite), a glorious flower that deserves to be classed among the best six C.Bs., Master Fred (Hewitt), one of the very best, a grand flower of full size, fine form, great substance, and perfectly smooth; Mrs. Gorton (Dodwell), Rifleman (Wood), and Samuel Barlow (Dodwell). Pink and purple bizarres: James Taylor (Gibbons). Mrs. Barlow (Dodwell), Sarah Payne (Ward), Sir Garnet Wolseley (Hewitt), Squire Llewelyn (Dodwell), Thomas Anstiss (Dodwell), Unexpected (Turner), and William Skirving (Gorton). Purple flakes: Dr. Foster (Foster), Florence Nightingale (Sealey), George Melville (Dodwell), James Douglas (Simonite), a flower of large size, superb white ground, and beautifully marked with bright purple, as seen this season I should put it at the head of its class, Mayor of Nottingham (Taylor), Sarah Payne (Ward), a sport from the P.P.B. of that name, Sporting Lass (Flowdy), Squire Meynell (Bralbere), and Squire Whitbourn (Dodwell). Scarlet flakes: Clipper (Fletcher), Dan Godfrey (Holmes), Figaro (Abercrombie), Henry Cannell (Dodwell), John Ball (Dodwell), Matador (Abercrombie), Robert Morris (Dodwell), Scarlet Keet (Dodwell), and Sportsman (Hedderly), a sport from Admiral Curzon, which originated thirty years ago, and has maintained an invariable constancy since. I have seen Jackson's Annihilator in good form this season in two or three instances, but it is said to be difficult to propagate, and sportive in character, so that I have not included it. Rose flakes: James Merryweather (Wood), John Keet (Whitehead), Miss Erskine Wemyss (Dodwell), Mrs. Bridgewater (Bridgewater), Mrs. Tomes (Dodwell), Rob Roy (Gorton), Sybil (Holmes), one of the best, and Tim Bobbin (Gorton).

A selection of picotees is as follows—Red-edged, heavy: Brunette (Kirtland), Dr. Epps (Smith), Henry (Matthews), J. B. Bryant (Ingram), John Smith (Bower), Mrs. Dodwell (Turner), and Princess of Wales (Fellowes). Light reds: Clara (Bower), Mrs. Gorton (Simonite), Thomas William (Flowdy), and Violet Douglas (Simonite). Purple-edged, heavy: Mrs. A. Chancellor (Turner), Muriel (Hewitt) and Zerlina (Lord). Light purple: Alice (Lord), Clara Penson (Willmer), Her Majesty (Addis), Jessie (Turner), and Nymph (Lord). Rose or scarlet edges, heavy: Constance Heron (Fellowes), Edith Dombrain (Turner), Louisa (Addis), Miss Horner (Lord), Mrs. Payne (Fellowes), and Royal Visit (Abercrombie). Light rose or scarlet: Daisy (Dodwell), Evelyn (Fellowes), Favourite (Liddington), a beautiful flower, so fine in quality, so free, and reliable, Nellie (Rudd), another lovely light rose, shown by Mr. Rowan at Oxford in such beautiful form that it was placed first, second, third, and fourth in the light rose-edged class, quite displacing Favourite, and Miss Gorton (Dodwell).

R. DEAN.

A HEAVY HAILSTORM has done an immense amount of damage to the gardens in the environs of Paris, smashing the glass in a wholesale manner and doing great damage to the fruit crop.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

BEGONIAS with fibrous roots intended for winter-flowering must be at once shifted into the pots in which they are to bloom, unless they have been put into them. It is impossible to obtain a good display of flowers from them unless they are well rooted by the end of the autumn. Late-struck plants that are still in the cutting pots should be shifted into larger pots without being separated, as they will bloom more freely and produce a better effect than they would do if separated and put into smaller pots. They should, from the present time, have a light position near the glass, with but little, if any, shading.

HARD-WOODED PLANTS must be taken indoors with as little delay as possible. Ventilate freely for some time after they are placed in the house, that they may not be subjected to any great change.

PELARGONIUMS of the show and fancy sections must be placed in frames or pits and receive moderate supplies of water, as an excess of moisture at this season of the year is decidedly injurious.

HERBACEOUS CALCEOLARIAS should now be in large sixty-pots, and preparation must be made for wintering them. Place the plants as near the glass as possible, and at one end of the house where they will obtain plenty of side light as well as light from above. During severe frost it may be well to draw them back or remove them to a shelf lower down to about the centre of the house, but they must be restored as soon as possible to the fullest light obtainable, as they have to do all their growth under glass. The more air that can safely be given the better, and dispense with fire-heat if a temperature of 44 deg. to 55 deg. can be maintained without it. Remove every decayed leaf as it appears.

ROMAN HYACINTH AND PAPER-WHITE NARCISSUS, which produce small snow-white flowers, should be grown more extensively in private gardens. As soon as the bulbs are obtained pot them, and plunge them with two inches of cocoa-nut fibre refuse over their crowns, and as soon as the green spikes peep through the material take them out and put them in frames and greenhouses. If a very early bloom is wanted pot in September, and when well rooted put them in gentle heat, and they will bloom in November. As border bulbs Roman hyacinths are most useful, and the way to treat them is to plant four inches deep, and leave them undisturbed for several years.

STOVE AND ORCHID HOUSE.

ORCHIDS ripening off must have as much air as possible, but with caution, as a chill at such a time is more likely to cause disease in the next growth than when the plants are full of vigour. In the same way the withholding of water must be done by degrees, and not suddenly, and the cultivator must bear in mind that many orchids when in their native sites are never dry, except perhaps for an hour or two at midday; hence the reduction of atmospheric moisture must be carried only to a certain point.

WINTER FLOWERS.—Many subjects in the stove may be turned to account to supply winter flowers, if attention be paid to them in time. Indeed, we look to the stove for the decoration of the dinner table, and for occasional embellishments of the conservatory until the bulbs, cinerarias, primulas, and cyclamens come in once more.

FORCING AND ORCHARD HOUSES.

PINES swelling their fruit will need a little clear liquid manure: nothing better than soft water to which moderate quantities of soot and guano have been made. Guard against any of the young plants fruiting prematurely; to prevent it, keep them liberally watered, and in a warm moist atmosphere.

STRAWBERRIES to be forced should now have well-formed plump crowns. They will require rather liberal supplies of water during periods of warm dry weather, but in cold and damp weather the watering pot must be used with great care.

VINES that have ripened their fruit to be kept well aired, cool, and dry.

FLOWER GARDEN AND PLEASURE GROUNDS.

AURICULAS.—Look over the whole stock, and stir the surface of the soil in the pots, and remove dead leaves. If any leaves are damaged turn the plants upside down and search for insects. If any green-fly is visible shake some dry silver sand among them, and blow it out with force, and the vermin will be carried away.

BEDDING PELARGONIUMS struck now should be potted singly and shut up close in frames. It is too late now to put cuttings in the open border, as the ground is cooling and the plants are sappy. All the bedding stock that is now well rooted and potted off for winter should be placed out of doors on a hard bottom of stone or slates, to harden, for three or four weeks.

BULBS to be planted. Those most important now are snowdrops, crocuses, narcissi, and hardy border lilies, as these do no good if kept long out of the ground. Pot hyacinths, early tulips, Narcissus bulbocodium, Tritonia aurea, ixias, and sparaxis.

CALCEOLARIAS may be propagated now in quantity; they need no bottom heat. Take short stubby side shoots, dibble them into a mixture of leafmould, rotten dung, and about a fourth part sand. They will readily root now, and make first-rate plants for next season. Put in plenty of short stubby side shoots, and shut up in a frame.

HARDY ANNUALS may still be sown to keep over winter. If sown in the open ground it must be on poor hard soil in a dry position. All the really hardy annuals are better from autumn than spring sowings.

HOLLYHOCKS to be cut down as soon as they have bloomed out. Any very choice varieties from which cuttings are required to be cut down without waiting for the last blooms to open, as it is important to gain a week or so to obtain good breaks from the stool to cut from.

FRUIT GARDEN AND ORCHARD.

APPLES AND PEARS to be gathered as soon as ripe, which may be known by the colour of the pips, and by the stalk parting readily from the tree. Gather with great care, and keep apart from the best all that fall in the process. Gather only during dry weather, and store at once; there is not the least need for the "sweating" process usually adopted. The fruit store should be in a dark place, capable of being freely ventilated, yet generally admitting but a trifling current of air, and it should be cool, and yet safe from frost.

WALL TREES only need such care as may be necessary to assist in the ripening of the wood. Where spray-like growth and rank shoots overtop and shade wood selected for bearing, remove it or cut it into reasonable bounds, for the wood laid in needs now all the sun it can obtain, and it is

sure not to have too much. Train in regularly, and by all means avoid overcrowding.

KITCHEN GARDEN AND FRAME GROUND.

Arrears must be brought up, or the fogs and morning frosts will overtake something that has been too long delayed. Refer back to notices of the past few weeks, and especially be on the alert to propagate whatever has been neglected hitherto.

Lettuces to be sown to stand the winter, if not done already. Choose a sheltered piece of well-drained ground. Those sown three weeks since to be planted out under walls or in patches, to be protected with hand-lights.

Mushrooms.—Prepare the bed for winter supply. The first thing to be done is to collect plenty of short unfermented dung, or, if only long dung can be had, pick out the long straw and lay it in small heaps to ferment gently, and turn it every three or four days till it produces only a gentle heat, then make up the bed. A dry dark shed is as good a place as any, but a better crop and a larger supply may be ensured where the beds can be made over a warm chamber.

Potatoes that are ready should be taken up with reasonable care. Magnum Bonum and Scotch Champion will require to be left later than others, because of their late-growing and money-making properties, and great power of resisting disease. But, as a rule, it is not wise to wait for the dying down of the haulm, because, when the tubers are fully grown, they ripen as well in the store, out of harm's way, as in the ground, where they are exposed to influences that are simply destructive.

Spinach.—In favourable seasons and forward localities winter spinach sown now will make a good plant before winter. Thin the plants that are already up to six inches apart.

STOVE AND GREENHOUSE PLANTS IN FLOWER.

The houses are now gay with fuchsias, celosias, pelargoniums, balsams, gloxinias, achimenes, begonias, a few carnations and chrysanthemums, hoyas, kalosanthes, lapagerias, and liliums.

Everlastings comprise aphelexis, rhodantho, acroclinium, and trichinium, in addition to the helichrysums and waitzias that are grown in the borders. Of the whole catalogue there is not a more useful or delightful plant than *Trichinium Manglesi*. This may be a greenhouse plant or an annual for the borders, and in any case it is at once novel, distinct, and beautiful, and may be likened to a bunch of the most delicate rosy-tinted feathers. It has been figured, but the artists have quite failed to catch its lovely frothy feathery beauty. Mr. Thompson, of Ipswich, introduced this sweet thing with many more of the peculiar subjects he has the gift of securing for English gardens. *T. spectabile* differs from it only in having narrower leaves and broader spikes.

Throatwort is *Trachelium cœruleum*, a nearly hardy campanula that is not like a bell flower when its crowded clusters of small flowers appear. The two varieties, blue and white, are useful to help out in furnishing at this time of year, and as they certainly are not hardy they may be, with at least some degree of propriety, classed as greenhouse plants.

Bougainvillea is commonly regarded as proper to the stove, but as Mr. Daniel taught us years ago, and as observation might convince anyone to-day, the stove is not wanted for the perfect development of this magnificent plant. The best way to do it is to plant it out in the border of a warm greenhouse or intermediate house and give it plenty of head room; in fact, other things should be cut away if needful, to make room for the plant as it spreads, so that some three or four hundred square feet may be finally occupied by it. With such treatment, *Bougainvillea glabra* becomes a lion in the district, and if it does not roar on its own account its admirers will roar its praises, and ensure to the cultivator all the joy that comes of the fame of doing a thing well.

Crinums occupy the borderland between the hardy and the tender plants. For all general purposes, and especially for the adornment of a cool house, there is nothing to equal *Crinum Moorei*, the delicately warm-tinted flowers of which have for some weeks past made a very pleasing feature. For a small collection one should have *C. giganteum*, flowers white; but better than this coarse species is *C. g. v. concinnum*, of dwarf habit, a very nice greenhouse plant; *C. americanum*, white, fragrant; and *C. Lindleyanum*, white and purple; all suitable for cool house culture, but doing well in a warm house also. *Hymenocallis macrostephana* is one of the best plants in this family, and does not need a strong heat; the flowers are of the purest white. The well-known *Pancratium fragrans* is a delightful thing, and a favourite with the ladies. It requires average stove heat to make a proper head of bloom.

Thunbergias belong to the useful class of odds and ends that are wanted for baskets, and to trail over a bit of rock, or fill up a corner one is puzzled with in respect of furnishing. The best are *Thunbergia alata*, yellow; *T. fragrans*, white; *T. coccinea*, scarlet; and *T. laurifolia*, blue. The last named is a strong grower, and will ramble fast and far.

Swainsonias and Kennedyas are too little known to gardeners of the present age, for whom often quick-growing herbaceous subjects have more attractions. But how beautiful now is *Swainsonia Osborni*, with its racemes of rosy purple; or *S. galegifolia*, red or white, for there are two varieties; or *S. coronillæfolia*, rosy purple. Kennedyas flower earlier, and make longer journeys, for as rafter plants they are quite grand, and will soon reach the roof of a lofty house. *Kennedya inophylla* is, perhaps, the best of all, its scarlet flowers being produced in plenty. But *K. Marryattæ*, scarlet, and *K. monophylla*, purple, are much to be desired where room can be found for them. It is a mistake to grow these plants in pots, except in the earlier stages preparatory to planting out, for in a border of turfy loam or good peat—and we prefer turfy loam of the best quality—they make a grand growth and give no trouble, whereas in pots the growth is poor, the bloom is thin, and the plants are troublesome.

Eupatorium does not rank high as a genus for greenhouse selection, but *Eupatorium riparium*, producing a gigantic head of white "ageratum" flowers, is one of the useful things that few people can dare to despise. A finer plant, and one of special interest, is *E. atrorubens*, long known and catalogued as *Hebeclinium atrorubens*; is distinct enough to be put in a selection of the best herbaceous greenhouse plants. The growth is free and almost noble; the flowers are in thyrse-like heads of a soft purple colour.

Cactuses may be said to be out of season, but this is the time for the two night-flowering species of torch thistle, *Cereus triangularis*, with greenish yellow flowers, and *Cereus Macdonaldiæ*.

Exhibitions and Meetings.

CHIPPENHAM DISTRICT HORTICULTURAL SOCIETY, August 25.

On the above date the annual exhibition of this society was held in the grounds of Monckton Park, by permission of West Aubrey, Esq., the *locale* being contiguous to the railway, the approach to the tents being a splendidly-kept carriage drive, bounded on either hand with very handsome specimens of Berberis Darwini, maples, and other decorative shrubs.

The productions well filled five large tents, but these were hardly sufficient, for a large quantity of vegetables had to be placed under the stages, and the agricultural roots were displayed on the lawn in the open. To attempt to describe the subjects in detail would fill a larger amount of space than can well be afforded, but it may be remarked that at few exhibitions do "cottagers" exhibit so well as at Chippenham. The schedule included four or five divisions, exclusive of the special prizes, the total number of the classes being 237.

Plants.—As will be noted, one exhibitor was awarded several premiers, the competition in this division being greatly under the average, many exhibitors reserving their products for the great show at Bath. For nine stove or greenhouse, Major Clarke, Trowbridge (gardener, Geo. Tucker), presented an excellent group, including Stephanotis floribunda (fresh and profusely bloomed), Anthurium Scherzerianum (furnished with thirty spathes), Ixora Morsei, I. coccinea superba, I. Fraseri (carrying 30 corymbs), Rondeletia speciosa major, Bougainvillea glabra, Allamanda Hendersoni, and Statice profusa. For six fuchsias, H. Harris, Esq., Bowden Hill House (gardener, W. Farr) was strong with plants eight feet high, well furnished with healthy foliage, the blooms hanging in graceful fringes from apex to base, the varieties being Grand Duchess Marie, Lye's Favourite, Gustave Doré, Arabella, Bountiful, and Star of Wilts.

Exotic Ferns comprised large examples of Davallia Mooreana, Adiantum cuneatum, Gymnogramma suphureanum, Dicksonia antarctica, D. squarrosa, and Asplenium nidus avis; a first prize was awarded to Major Clarke, for these, as also for a mixed group of three ferns and three lycopods of fair average quality. Zonal geraniums were a limited display, the best half-dozen came from Mr. F. Slade, Trowbridge, whose plants were vigorous in development and fairly well furnished with stout trusses of bloom, the varieties being Circulator, Lucie Lemoine, Mrs. Keeler, Rev. J. B. M. Camm, E. J. Lowe, and De Lesseps. Single petunias were shown in a most attractive form, the plants each carrying about one hundred expanded flowers, and being trained to a wire in the form of an open fan every portion of the plant was seen at a glance, H. Harris, Esq., staging the premier six; he also putting up nine tuberous begonias of fair exhibition quality. Balsams were plentiful, and were staged as dwarf stocky examples, but the individual blooms were not up to the standard for size; on the other hand cockscombs were most excellent, being dwarf-grown, and level for size of plant, and the combs of good colour, the cards going to Mr. James Gane, Chippenham, and Mr. A. A. Walters, Bath.

Cut Flowers.—Any deficiency in the plant classes was more than compensated for by the quality and profusion of exhibits in this section, very noticeable being the roses. There was a great display for the advanced period of the year, professionals, amateurs, and cottagers all being strong in their respective classes. For thirty-six the boxes were pretty well balanced in appearance, the most merit attaching to the collection staged by Mr. John Mattock, New Headington, Oxford, who put up fair-sized blooms. S. P. Budd, Esq., Bath, was second, with fairly good flowers. An extra prize was awarded to Messrs. Jefferies and Sons, Cirencester, for a grand lot of large blooms. Equally prime quality ruled in the twenty-four class. Messrs. Cooling and Sons, Bath, staged a grand box of clean blooms; Mr. George Humphries, Kington Langley, a good second.

The dahlias formed a large display; for eighteen Mr. G. Humphries headed the list with blooms of large size and fine spherical outline, and well-coloured. Mr. Thomas Hobbs, Stapleton Road, Bristol, second, with smaller flowers. Of stands of a dozen single varieties with foliage and buds attached there were six or seven exhibits, Mr. A. A. Walters leading the way with good flowers; Mr. G. S. Walters second. Asters in the several sections were good, the flowers in the boxes being marked by large size and distinct colours. For twenty-four reflexed Mr. G. S. Walters was first, and J. S. Pope, Esq. (gardener, Mr. W. J. Jones), Bath, second. The same exhibitors changed places for twenty-four quilled varieties. In this latter class the whites, purples, and the bicolors were grand, every flower perfectly convex. Gladioli were good, the three lots staged being well set up, Messrs. G. S. and A. A. Walters dividing the honours. Verbenas were in strong force, the individual flowers distinct and borne on stout trusses; Messrs. Cooling and Sons first, Mr. G. S. Walters second. Picotees and carnations were small but bright; Mr. F. Hooper, Bath, first, and Mr. T. W. Ball, Chippenham, second.

In the amateurs' division all the above classes were represented with excellent products, the chief prizetakers being Mr. James Gane, Mr. W. Weston, Rev. J. Daniels, Mr. S. Cooper, and Mr. S. Baker. In plants it was a kind of see-saw with Mr. Weston and Mr. Gane for first and second places, their fuchsias, geraniums, coleus, balsams, cockscombs, greenhouse plants, and petunias being A 1. The same remark applies as strongly to the cottagers, whose plants and blooms were regarded by the judges as marvellous. The cut flowers in both amateurs and cottagers' sections comprised large well-finished asters, dahlias, roses, French, African, and other marigolds, with bouquets *ad libitum*; the wild flowers including some forty well-arranged, shapely exhibits as bouquets.

Fruit formed a magnificent display; apples, pears, plums, and bush fruits in abundance; the collections of fruit in the first class including fine grapes, peaches, nectarines, &c. The bulk of the dishes of fruit and vegetables were staged unnamed.

Potatoes were staged in large quantities. In the amateurs' class for three dishes, distinct, the card went to Mr. John Cooper for truly handsome samples of Porter's Excelsior, Radstock Beauty, and Woodstock Kidney; Mr. Mark Jefferies second.

Agricultural Roots formed a most interesting feature for the more bucolic of the visitors, the 400 specimen roots being regarded as representing good forms and heavy tonnage per acre.

The arrangements of the show left little to desire; Mr. A. Wright, Landsend, Chippenham, officiated as hon. sec.

FROM OXFORD TO ABINGDON.

A pressing invitation led us to make the journey from Oxford on August 12. The route is one of great interest. At the first start we have to bear in mind that the railway station and its appurtenances occupy a portion of the site of the famous Osney Abbey, founded in 1129. It was a magnificent pile, said to have been "the envy of all other religious houses in England," containing a church with a variety of chapels, twenty-four altars, two lofty towers, and a grand peal of bells, the latter being taken to Christ Church College (Cardinal Wolsey's foundation) at the dissolution in 1546. No trace remains of the structure, save a fine doorway standing in the boundary wall on the river's brink, near Worcester College; Osney being really three islands. As the train moves slowly out of the station we glance at the square embattled towered church of St. Thomas-ye-Martyr, founded in 1141, by the canons of Osney, its low situation rendering it liable to flood, it being inundated in 1774 for one week to the depth of four feet. On our right is the cemetery of St. Sepulchre, where the stones of the old abbey are continually being turned up. We are now crossing the Thames, or more correctly the Isis, and to our left hand the populous district of the Friars is seen, backed by the "distant spires and towers" of the classic city, apparently in close confusion; while following the river a little more east, the extensive gasworks form a foreground. The works are extending across the beautiful river, and an immense gas-holder close to the railway is now approaching completion. On our right hand, across the water-meadows, we descry the village of North Hincksey (from Hengesteigge, a pathway through the hill), the little quaint church, boasting of a Norman doorway, and capitals coloured red, and an Early Decorated village cross in the centre of the grass-grown hillocks in "God's acre"—where "the rude forefathers of the hamlet sleep." A few more strides of the "iron horse," and we come into full view of South Hincksey village, its church nestling amid groups of elms, the square tower being in good condition. This village, with the other Hincksey, was given to the Abbey of Abenden in 821, by Caedwalla. Near by is a rough path which leads over the hill to Choswell Farm, an old religious house—

> "Where there be much to hear, but little to see,
> A rigmarole, long-drawn historee;
> A chapter quaint it well may bee,
> From some old torn apocryfee."

We cannot alight to hear the story, as we are speeding past the suburb of New Hincksey and its lake, which supplies the city of Oxford with a generally good article, but which will soon be augmented by an additional supply brought four miles north of the city. On we go, and in the distance, on our left, rise Shotover Heights, one of the points used for the trigonometrical survey in 1791; the hill, geologically speaking, being remarkable for the renowned Oxford ochre and a good iron ore at its apex, showing the varied sands of Alum Bay on its Oxford side, with those spherical or rounded stones (boulders) called countryman's marbles, and emitting a most peculiar yellow pulp, on the side of the Cowley Moors. On that side nearest Headington stone quarries the bee orchis grows in abundance. While we are reciting we have been whirled along in view of the village of Iffley—Gyftley, a gift-meadow—spelt in about eighty different ways, whose small Norman church is regarded as one of the purest specimens extant, and, standing on the edge of a steep bank, is most conspicuous; not less so is the quaint watermill, which is quite an artist's idol. The large field on the opposite shore nearest the railway is renowned as being prolific in dusky-purple fritillaries. We notice that the bosom of "the silvery, winding Thames" is gay with small craft gliding down stream, its occupants "on pleasure bent;" further down we observe a house-boat, drawn by two horses, conveying a party of youth and beauty to the "grassy slopes of Nuneham." A slight jerk indicated that we had passed the points at the junction of the Thame Railway, where, on our right, for a mile stretches out Bagley Wood, with its forest of young oaks; on our left, the village of Littlemore appears to join the Iffley farmlands, the Oxon County Lunatic Asylum rising above the market gardens and the ornamental buildings of the pumping station connected with the Oxford sewage. Here, in the eleventh and twelfth centuries, one or more nunneries flourished; and at the sewage farmhouse, called the Minchery, traces of exquisite Decorated architecture may be seen. Half a-mile further on, and we pass Sandford-on-Thames, with its noted hostel for lovers of the piscatorial art, and a large paper-mill, whose circular chimney-shaft leans as a miniature tower of Pisa. Far back in the village is a restored church, the porch being inscribed: "Mistress Elisa Isham built me in the year of Grace, 1652."

> "Thanks to thy charitie, religiose Dame,
> Which found mee old, and made mee newe againe."

Bump! We have stopped at Radley Junction, where we change carriages, and have to wait a short time ere "we pursue the even tenor of our way." Radley village is somewhat noted, having a college situate in its midst; it has a park, in which are many grand, wide-spreading oaks, and an avenue of sweet chestnuts. It possesses a neat church with square embattled tower, its register dating from 1559, containing the names of several of Cromwell's Ironsides. On one side of the church is a huge willow tree, beneath whose shade a blacksmith carries on his craft—church, tree, and shop making a pretty subject for an artist. There was a church here as early as the twelfth century closely connected with the Abbey of Abingdon. Walking to the south end of the platform at Radley Station, a grand view may be had of Nuneham House (the residence of E. W. Harcourt, Esq.), Park, and Wood, where for a mile or more the forest of elms and oaks stretches out on either side of the stone-built mansion, terminating at the point where the railway crosses the Thames on its way to Didcot. All who are privileged to visit the place agree with the description of Horace Walpole, "It is a park in which are scenes worthy of the bold pencil of Rubens, or to be fit subjects for the tranquil sunshine of Claude de Lorraine." The beautiful nature of the ground, the bold spurs thrust forward from the tableland above the river, the giant elms, the sturdy oaks that cap the brow of these, and the peaceful meadows below, with some white sail or brightly-coloured array of visitors floating down the silver Thames, combine to make this an attractive *locale* for a day's outing. Already we observe groups of visitors on the hill near the conduit, and we feel somewhat inclined to rush across the wheat field at our feet and cross the river and join them; or, what would be more congenial to our taste, wend our way to the far-famed gardens of thirty acres, and admire the brilliant parterres, the foliaged giants, the glorious ailanthuses, deodars, piceas, magnolias, the valleys of rhododendrons, the marvellous hollies, and the other countless beauties of the place. But we refrain, as duty is a pleasure, and we resume our journey, arriving in the ancient Berkshire centre at the hour of noon.

To reach the showground we have to pass beneath an archway known as the abbey gateway, which has a postern; the whole in excellent preservation. It forms part of what was once a prison. The abbey was founded in or about 675, but not on this spot; somewhere in Bagley Wood, it appears to be generally thought the first religious house was raised connected with the abbey, and from thence removed at a later period. All around the neighbourhood evidences exist of the extent of the influence and possessions of the abbots. Good old times those! when the monks

> "Sung and laughed, and the rich wine quaffed,
> And lived on the daintiest cheer."

Why so many monastic institutions were built near the river we cannot stay to inquire, but Abingdon and Osney Abbey were both in very low levels near the river's edge, and in those days conveniently situated for beef, fish, and other good things of this world.

Abingdon is an ancient town of much historical note. Wealthy by the affluence of its citizens, religious in its tone from the earliest times, and a royal residence upon more than one occasion, as well as being the natal-place of men of mark, it has attracted more than a moderate degree of notice. Leland says, Abbingdune, *i.e.*, Town of the Abbey. The same author, referring to the large manufacture of cloth in those days, says: "Abingdon standith by clothing," a truly prophetic remark, seeing that for the past half-century the large ready-made clothes factory of Messrs. Hyde and Clarke, who employ many hundreds of hands, both within and without the factory, in very truth proves that "it standith by clothing." Time would fail to recount all that might be said respecting the three churches, four chapels, market house, town hall, corn exchange, hospitals, almshouses, the bridge, or its eminent natives. Our purpose was to visit the horticultural show, held in the pleasure grounds of the Abbey House, by permission of E. J. Trendell, Esq. These spacious gardens were well adapted for the exhibition. Amongst the attractions is a pile of ruins formed of portions of the old abbey, collected and arranged so as to present an appearance as like as possible the original structure. W. G.

A WALK FROM OXFORD TO FARINGDON FLOWER SHOW, August 19.

In these days of express speed, travellers lose much of the impressive beauty of country life, which they pass through often at the rate of a mile a minute. In the good (?) old coaching days it was a relief to the stiff, dust-stained traveller to alight at a road-side inn, and, while stretching his legs, and perchance partaking of a hasty meal, to listen to the legendary stories of the neighbourhood related with much gusto by "mine host." The localities still exist, and the scenery remains unchanged, save where perhaps the snorting, puffing locomotive rushes along at lightning speed with its trail of white; dullness taking the place of the bustle and activity displayed at wayside hostels where horses were changed. The chief passengers nowadays are bicyclists and tricyclists speeding on at a goodly pace from town to town, rarely patronising the village inn, unless too tired to proceed. But while everything else seems changed, these rural districts possess real pleasures in consequence of their being situate "far from the madding crowd."

To describe a few spots in North Berks which have more or less of historic fame is the purport of these notes, made while doing the journey "by road" on our way to the above show. To accomplish the journey it was necessary to be up early in the morning. Leaving Oxford city by the western entrance, or Seven Bridge Road, we pass through the suburb of Osney, over a series of stone bridges which span the Isis and its branches that intersect the water-meadows. On our left hand, at the foot of Hincksey hills, stands the old Norman church at North Hincksey (founded in 821), with its partially-decayed decorated cross in the graveyard. To our right is Seacourt, or Seaworth, a camp or chapelry in 952, raised to a village in 1089, later a small town, at one period containing twenty inns, being a place of resort for pilgrims who used the waters of St. Margaret's Well, at Binsey, one mile due north, to cure blindness. The only vestige of either camp, village, or town now remaining is the foundation of a wall running near to the boundary of Wytham Abbey Estate. Left of Seacourt is New Botley, a village of modern cottages, forming two neat uniform streets, with a line of houses facing the "Seven Bridge Road." Arriving at the seventh bridge, at Botley, we note an ancient corn-mill and bakery, so low that an ordinary person would have to stoop under the thatched eaves in order to gain admission. The name Botley is supposed to be derived from *bot*, or fine, as "certain men of Seacourt broke illegally through the water with great daring; and suffered a heavy fine." This event occurred in the time of King Rufus. Beyond this the village has no historic lore. In the centre of the village the road abruptly turns off northward to Wytham, "an abode among the withies." This village is distant about one mile and a half, and contains many proofs of the old abbey founded here about 680, Abingdon, Cumnor, and other places being practically part and parcel of one foundation. Lord Abingdon owns the estate, his palatial mansion, known as The Abbey, being located in the midst of a forest of oaks, on a gentle elevation commanding extensive views south and eastward, and boasts of fine lawns, flower-beds, rosery, and large kitchen garden. The villagers have comfortable houses, with extensive gardens attached, in which strawberries are largely cultivated.

Proceeding on our way, and leaving Botley some half-mile behind us, we come to the junction of the Bath Road with the road leading to Cumnor village. The morning sun shines forth with power, and the ascent proves a bit tedious, so, halting half way up, we pause, and take in the grand panoramic view spread out like a map before us. To the right we trace the Bath Road skirted with the hamlet of Dean Court (Dane's Court) and the stud stables at Tilbury Farm, while on the rising ground the solitary oak on Beacon Hill, with the rounded knoll beyond, indicates the boundary of Wytham Wood, near to the town of Ensham, formerly (about 600) a stronghold of the West Saxons. In front, the apex of the hill we are climbing, Cumnor Hurst, stands boldly prominent, its small clump of fir trees appearing fewer than they did forty years back; while to our left, in all its summer quietude, lies the classic city. Reaching the top we pass Lord Abingdon's timber and brick works at Chawley, an industry which has given an employment to the villages round, and also supplies Oxon with garden flower-pots. It is still early morn when we pass through Cumnor, and remember that Ina, King of Wessex, granted, in or about 700, five thousand acres of land in this parish to Abingdon Abbey; that here the tragic event occurred in which Earl Dudley, Antony Forster, and Amy Robsart figure so conspicuously in Sir Walter Scott's "Kenilworth"; and that, although Cumnor Hall has been levelled so as not "to leave one stone on the other," yet the fine old church (part Transition Norman and part Early English) is worth a visit, its register dating from 1504. A noted inn, yclept "The Bear and Ragged Staff," has been removed lower down the

village; still mine host holds out equal inducements to travellers "to wet a cup" in passing. To the right hand a horse road takes you along a pleasant road through grass lands, down a slope to Bablockhythe Ferry, referred to by Matthew Arnold thus:

"Thee at the ferry, Oxford riders blythe,
Returning home on summer nights have met,
Crossing the stripling Thames at Bablockhythe."

Had time permitted we would have made a detour, and, crossing by the ferry boat, walked the one mile farther in order to visit Stanton Harcourt, with its large share of antiquarian stores, including the remains of an ancient mansion, with a tower of chambers (one where Pope is said to have studied), a curious eight-walled kitchen without a chimney, a gatehouse, and the church with its ants chapel, wherein

"Twenty of Harcourt's barons bold
Lie buried in that proud chappelle."

Half a mile south-west of this pile there are a number of monumental stones called the "Devil's Coits," said to commemorate a battle between the British and Saxons in 614. The soil hereabouts is gravel on rock.

Time presses, and we are moving on toward Bessilsleigh, one and a half miles from Cumnor, an ancient village connected with the Abbey of Abingdon as early as 687. The parish contains about 900 acres of sandy loam, with subsoil sand. There is a handsome modern mansion in the Tudor style; the church, a neat structure in the Third Pointed style, contains a brass dated 1335; the register dating from 1538. From here to the next village is one and a half miles, Tubney, with its grand giant elm at the junction of the Oxford and Abingdon main roads, its dense wood, and its pretty Gothic church, simple yet graceful. At Tubney Warren farmhouse there are some ancient and beautiful specimens of tapestry. Taking the westerly of the two roads, after another mile's walk, and we arrive at Tyfield, or Tyhide, granted by King Edwy to Althenoth in 956. The church is a neat Middle and Third Pointed edifice, with a modern tower, the register dating from 1587. Still westward, and a stage of one and a half miles brings us to Kingston Bagpuze, the gift of William the Norman. We soon pass through Little London, a hamlet of Longworth, lying south of the parish, and here still remains one of the inns on the wayside, yclept "The Waggon and Horses," where the coaches used to pull up to change teams. Had it been convenient, we would fain have broken off at this point in order to visit the celebrated rose farm of Mr. Geo. Prince, and probably have wandered as far as Longworth church, so rich in curious epitaphs, the structure itself possessing many points of interest, containing portions of Transition Norman, Early English, Decorated, and Perpendicular styles of architecture, while from the elevated nature of the ground a grand view of the Berks valley and the Thames basin is gained.

Continuing our course due west, we next come to Pusey, the chief residence being Pussy House, which boasts of large, well-kept gardens. The pretty church is of Classical Gothic, the register dating from 1661. Pusey Firs consists of a dense growth of tall firs and beeches, through which the road passes for three-quarters of a mile, gloomy in the extreme in winter, cool and shady in the summer months. About half way through stands an old road-side inn with double bays, now used as a farm or keeper's lodge; and to an artist this piece of the old Bath road would afford more than one subject for his brush and pencil. Clear of the wood, and we soon reach Buckland Park, the seat of Sir W. Throckmorton, Bart. The mansion, which lies back from the road, is in the Italian style, having a centre and two wings, each terminating with an octagonal building. Near the mansion, and around, are many gigantic elms, cedars, sweet chestnuts, oaks, and beeches, the front lawn having a fine avenue of deodars planted to define the exact area of the *Great Eastern* steamship. Behind the mansion there is a deer park of 130 acres. The kitchen gardens, under the care of Mr. James Gough, are extensive and well kept. Yet a mile farther, and we pass Carswell House, the seat of T. H. Southby, Esq. The mansion is of Tudor design, and there are well-appointed gardens; while still further on we come to the newer erection known as Barcote House, the residence of W. West, Esq., whose premises and gardens are worthy of inspection. We soon reach Littleworth, a quiet, snug village. It has a church in the Early English style, the chief residences in the neighbourhood being Kitemore House and Wadley House, from which grand panoramic views of the White Horse country may be had, as also the extensive landscape stretching from Bampton on the east to Buscot Park in the west, the distant Cotswold Hills facing you.

Leaving the main road, we take the path through the fields, and we come right to the flower show, where we arrived just before the judges had finished their duties for the day. The exhibition was held in the grounds of George F. Crowdy, Esq., being a portion of the ancient Faringdon Park. A large marquee was allotted to each of the three divisions of the show, there being twelve exhibitors in the "open" division, thirty-nine in the "amateurs," and twenty-six cottagers, whose products were rather crowded. Twenty-two villages and hamlets contributed to the display, which was one of the largest produced by the Faringdon Horticultural Society.

Plants.—Of these, in the open division, there were three very effective groups of about eighty or one hundred half-specimens in each. The groups formed solid pyramids, and consisted of popular greenhouse plants. The premier award was made in favour of Mr. Meads, gardener to Viscount Barrington, Beckett Park, Shrivenham, his group having some specimen valottas of much beauty; the second prize was awarded to W. West, Esq., Barcote House, for a group which included fine crotons and pandanads and a splendid Nepenthes Masteriana, furnished with thirty pitchers. This exhibitor also received an extra prize for three fine groups of thirty plants each, in each of which were a couple of specimens of Araucaria excelsa, and some noble plants of the white eucharis. For twelve stove and greenhouse W. West, Esq., was awarded first for a fine level lot of full-sized specimens, comprising Caladium Chantini, C. Wighti, Dracæna Baptisti, D. Lindeni, Latania borbonica, Pandanus Veitchi, Alocasia metallica, Asparagus verticillatus, Eucharis Amazonica, furnished with nearly one hundred blossoms, Seaforthia elegans, and Begonia Weltoniensis; Mr. Meads second, with foliage plants only. Zonal geraniums were represented by two collections of twelve each, Mr. S. Haines, gardener to Earl Radnor, Coleshill, first with plants dwarf and fully flowered; W. West, Esq., second with stouter, vigorous-growing specimens, the best being Rev. Brymer, Madame Thiabaut, Vesuvius, Placida, Guillion Mangelli, Henry Jacoby, Lord Raglan, Mr. H. Cannell, and Hermione. The coleus were good plants, but there was no competition, the card going to Mr. Arthur Brown, Pusey Gardens, for six well-coloured convex bushes. There was only one exhibit of six begonias, and these under the average exhibition quality as seen at many shows. Mr. R. Tucker was the exhibitor, he also taking the premier for fuchsias with fairly good specimens of Lord Beaconsfield, Mrs. H. Cannell, Grand Duchess Marie, Mrs. Marshall, Gustave Doré, and Monarch. Exotic ferns made a good addition to the plant classes, Mr. W. West staging the best six, including Adiantum Farleyense, A. concinnum latum, A. concinnum, A. cuneatum, Nephrolepsis davallioides, N. furcans, and Microlepia hirta cristata. Balsams were poor, but the cockscombs fully maintained the general excellence displayed at this show. Mr. W. Lodge, Compton Gardens, was placed first, and Mr. S. Haines second, the majority of the combs measuring twenty-five inches from tip to tip, and full ten inches across; the amateurs being unusually strong with fuchsias, exotic ferns, geraniums, coleus, and general greenhouse subjects.

Cut Blooms were sparingly contributed to the open class. True there were a few roses, small, and many fully expanded, but only one lot of twenty-four was staged in a suitable form. Mr. A. Brown was first with good blooms. Some of the dahlias were fair, but as a collection unlevel, the best blooms being Princess, Letty Coles, Acme of Perfection, Miss Rudd, Cremorne, Mabel Keynes, James O'Brien, John Sladden, Aristides, Goldfinder, Chang, Prince of Denmark, Mrs. Dodds, and Fanny Sturt. Mr. W. Lodge was the exhibitor. Hand bouquets were but few, yet tasteful; the collections of perennials being very choice, but in bunches too small to be effective. Mr. T. Freed, East Hendred, was first, and Mr. A. Brown second. French asters were of good average quality, Messrs. Meads and W. Keep, Faringdon, taking the cards. In the amateurs' classes the roses were somewhat better for size and general contour than in the first division, the best box, by Mr. G. W. Habgood, containing fresh blooms; Mr. J. P. Lockwood was second.

Fruit was decidedly superior. The black grapes from Mr. T. Freed and Mr. S. Haines were very fine. Mr. J. Gough, Buckland Park Gardens, had the best melon (a good fruit of Hero of Lockinge); Mr. W. Keep was second with the same variety. The single dishes were of great excellence, the plums, apricots, cherries being fully ripe, and of good average quality. The collections of six dishes were superior even for this neighbourhood of large gardens.

Vegetables.—In the first division the class for collections of nine kinds produced four competitors, very unequally matched in point of quantity, the two winning sets being much more bulky than those not placed, the terms of the schedule leaving it an open question how many heads of cauliflowers, &c., form a dish. Mr. S. Haines was a good first, his Autumn Giant cauliflowers and his onions were simply superb, and carried him a few points; otherwise his Girtford Giant beans were a few points to the bad as compared with two other lots of runner beans. Mr. A. Brown was second, his best dish was that of Snowdrop potato. Mr. J. Gough would have run hard for first place had he staged a large bulk, as his cauliflowers, cucumbers, peas, runner beans, onions, and potatoes were splendid examples. Amateurs did well in the vegetable classes, all kinds of roots being excellent, while the cottagers were in some points ahead of the second division. The competition in the classes for collections brought out the abilities of the cultivators, the productions in the class for six dishes being of the highest standard. In the first prize collection for Messrs. Sutton and Sons' special we noticed a grand lot of Royal Norfolk Russet potato, the only exhibit of that variety in the show. In the class for three dishes of potatoes Mr. C. A. Clack, Uffington, had the premier card for handsome and large examples of Sutton's Prizetaker, Sutton's Seedling, and Reading Russet; Mr. W. Cooper, Shrivenham, second.

ROYAL NORTHERN HORTICULTURAL SOCIETY OF ABERDEEN.

The autumn exhibition of the Royal Northern Horticultural Society will be held in the Music Hall Buildings, Aberdeen, on Friday and Saturday, September 10 and 11. There are 165 classes, with three awards in each, making 500 prizes for competition. These classes are divided into four divisions—professional gardeners, nurserymen, amateurs, and working classes. The exhibits are to comprise four varieties—namely, pot plants, cut flowers, fruit, and vegetables. The opening ceremony will take place on Friday, September 10, at noon, when Lord Provost Matthews will preside. As usual, there will be a musical promenade, Mr. Fraser's fine band supplying the music. Entries close on September 6. Notwithstanding the backward state of the season, it is fully expected there will be a large number of exhibits.

LAUNCESTON AND DISTRICT COTTAGE GARDEN SOCIETY.

This society recently held its forty-second annual exhibition in the large and commodious Market Hall, which, as usual, was tastefully decorated with evergreens. Before going into the merits of the show a few lines is due to the town itself, for Launceston is a place of great historical importance. There is the remains of its old castle, no doubt built by the ancient Britons. There is a lot told you about King Arthur and the Round Table in connection with the castle. No doubt he was often there, but more likely most of his time was spent at Tintagal, on the north of the county. At this long lapse of time one is scarcely certain what took place. It is very much like the history of his death, which is said happened in the thick of a great battle, where the hill ran down with blood and stained the water of the river at the foot. This was said took place at Camelford, but as a similar story is told about Horrakbridge, about fourteen miles distant from Launceston, of course the reader can believe what tale he likes; but one thing is certain, that the castle must have been a place of great size and importance long before King Arthur was born, and still it leaves its impression on the beholder, and the place is kept in capital condition. The old walls are preserved, and the grounds around the same are beautifully laid out with shrubs and flowers. The climate being mild shrubs grow very compact, and such plants as escallonias, veronicas, &c., are one mass of bloom. On the occasion referred to there were several visitors to the town, for the castle and flower show combined formed a great attraction, and it is some pleasure to record the fact that I met with several of our Colonial visitors who had come to enjoy the scenery around Launceston. As regards the show itself it was in every way a great success, equalling, if not rivalling, any of its predecessors.

Vegetables.—On this occasion vegetables formed one of the great features of the show. There were over four hundred entries, and the various classes numbered about one hundred and sixty, the competition in some being very keen and spirited. Carrots, parsnips, lettuce, scarlet runner and French beans were very good; potatoes, onions, cabbages, leeks, celery, and Scotch kale were perfection itself, the first being remarkably fine, clean, and quite free from disease. The principal prizetakers were: Messrs. W. Ellicott, W. Burnes, F. Blake, H. Bartlett, T. Sleep, J. Reed, J. Werring, A. Hepper, W. Crossman, J. Burgoyne, Thomas Ball, R. Petheck, W. Lugg, H. Jasper, and W. Heard. Those mentioned were mostly exhibitors of potatoes, and all

first prize men, but the same names occur again and again in other classes; W. Lugg, as in former years, particularly distinguishing himself.

Fruit.—The fruit was fairly plentiful, and very good in the cottagers' class, the apples being very large and fine. Messrs. Masters, J. Brown, and J. Burgoyne came out well.

Flowers.—The cottagers made a very good display of both pot plants and cut blooms. Fuchsias, geraniums, asters, and coleus were very fine. The cut flowers were also very clean and nicely set up. The prizetakers were Messrs. R. Symons and M. Werring.

Wild flowers were, as usual, extensively shown. There were in all eight prizes offered, and the little hands had quite enough to do—and they did it well, for there was a greater improvement in tasteful arrangement than has been seen in former years.

Gentlemen Gardeners' Section.—In this division prizes were offered for collections of vegetables and fruit, also for cut flowers, and best brace of cucumbers. The result was that Mr. Mounsden, The Gardens, Lifton Park, was first for the collection of vegetables, Mr. Walke being a good second, and Mr. Connett third. For fruit Mr. Mounsden was again first with a capital lot, and Mr. Walke again second with a nice collection. For cut flowers Mr. Walke was first; Mr. Connett second. The cucumbers were very good, especially the first prize brace from Mr. Walke; second, Mr. Creeper.

The trade was represented by Messrs. Lucombe, Pince, and Co., of Exeter, who sent several boxes of cut blooms, consisting of dahlias, asters, begonias, and other good things, which made a capital display, greatly to the credit of the firm. Mr. Serpell, of Plymouth, had a nice lot of cut blooms, amongst which were some good stove and greenhouse flowers. Mr. Lea, of Northill, staged a very nice lot of plants in pots, also cut flowers, which were much admired by the visitors. Great praise is due to Mr. Mounsden for the grand lot of specimen plants staged by him, not for competition. It contained all that was good in the way of foliage and flowering plants. The best thanks of all well-wishers of the society is due to the painstaking committee, ably led by Mr. J. F. Geake, as well as to the hard-working secretaries, Mr. G. Graham White and Mr. Wise, who all pulled together to make the show a success, which it was in every way. John Burley.

Hereford Road Nursery, Bayswater, W.

BATH FLOWER SHOW, September 1 and 2.

The autumn exhibition of the Bath Floral Fête Committee was held in the Sydney Gardens on Wednesday and Thursday last, and, favoured by fine weather, proved a brilliant success. There was, as usual, a very keen competition in the whole of the hundred classes provided in the schedule, and five huge tents were required for the accommodation of the various productions which were of remarkably high quality throughout. Stove and greenhouse plants in bloom and remarkable for the beauty of their leafage were surprisingly good, but the great feature in the plant division was that formed by the fuchsias, which were contributed in immense numbers, and the specimens were so large and splendidly flowered as to surprise not a few of the visitors. There was an immense display of fruit and cut flowers, and vegetables were abundant and good. In the afternoon of Wednesday Mr. Shirley Hibberd gave a lecture on "Mistakes in Gardening," before a large audience.

Fuchsias were so strongly represented as to form one of the most important and attractive of the many good features of the exhibition, and fully justified their having the first place in the schedule. There were five classes, and in that for nine Mr. J. Lye, gardener to the Hon. Mrs. Hay, Clyffe Hall, Market Lavington, who is so well known as a raiser of these flowers, occupied the post of honour. The specimens, which were trained in pyramidal form, were about nine feet high, and densely furnished with foliage and flowers from the apex to the base, the lower shoots completely hiding the pots. The varieties staged by Mr. Lye comprised Final, Emily Bright, Lye's Favourite, Floribunda, Benjamin Pearson, Henry Brook, Pink Perfection, Thomas King, and Doel's Favourite, all of which are of a high degree of excellence in their several lines of colour. Mr. George Tucker, gardener to Major Clarke, was a close second with large, splendidly-developed specimens, chief amongst them being those of Miss Lucy Finnis, Doel's Favourite, and Charming. Mr. G. Snell was third with excellent examples, that of Arabella being particularly good. There was a very spirited contest in the class for six, and at the head of the competitors was Mr. J. Riddick, whose specimens ranged from six to seven feet in height, and were perfect in development. The varieties comprised Bountiful, Thomas King, and Arabella. Mr. A. W. Southward was a capital second. In competition for the prizes for four Mr. A. Hawkins occupied the first place with superb specimens, and Mr. Lye was a very close second. In the two classes for single specimens Mr. Hawkins, Mr. Lye, and Mr. Tucker were the principal prizetakers.

Stove and Greenhouse Plants in Bloom were remarkably good for the beginning of September, and formed a large and highly-attractive feature. In the great class for twelve Mr. J. Cypher, Cheltenham, was first with a collection comprising large superbly-flowered specimens of Erica Marnockiana, E. Aitoniana Turnbulli, Lapageria alba, Phœnocoma prolifera Barnesi, Allamanda grandiflora, A. nobilis, A. Hendersoni, Clerodendron Balfouriana, Bougainvillea glabra, Anthurium Andreanum, Ixori regina, and J. Duffi, the last mentioned being the most conspicuous specimen in the collection; Mr. W. Long, gardener to C. Gardiner, Esq., Brislington, was second with a collection in which the ixoras were particularly good; and Mr. J. F. Mould, Pewsey, was third. The awards in the class for six were made in favour of Mr. J. Mould, gardener to E. Bryant, Esq., Mr. Tucker, and Mr. W. C. Drummond, all of whom had excellent collections. For a single specimen greenhouse plant Mr. Cypher was first with a good phœnoooma, and Mr. Tucker second with a nicely-flowered statice.

Ornamental-leaved Plants were not less satisfactory than the stove and greenhouse plants grown for their flowers. In the great class for twelve Mr. Cypher occupied the post of honour with a collection in which were large and splendidly-coloured specimens of the following crotons: Prince of Wales, Majesticus, Interruptus aureas, an effectively-coloured form with narrow foliage, Queen Victoria, and Johannis; Mr. J. F. Mould second with a collection in which occurred a fine specimen of the brightly-coloured Croton Queen Victoria. The premier award in the class for a single specimen was made in favour of Mr. J. Cypher, who had Cordyline indivisa.

Orchids were comparatively few in number, but those staged were exceptionally good, and proved immensely attractive. The first place in the class provided for these plants was occupied by Mr. J. Cypher with very fine specimens of Odontoglossum grande, Cattleya speciosa, C. Gaskelliana, C. Dowiana, Saccolabium Blumei, and Dendrobium bigibbum, the last-mentioned being remarkably good; Messrs. Heath and Son, Cheltenham, were second with a good collection, containing a large, well-flowered specimen of Saccolabium Blumei.

Ferns were staged in considerable numbers, and the collections generally were remarkably good. In the class for nine exotic species Mr. T. Truckle, gardener to T. Carr, Esq., was first with large and fresh specimens; and Mr. W. C. Drummond and Mr. W. Dobson were second and third respectively. For fifteen the prizetakers were Mr. J. Coke, gardener to A. P. Stancombe, Esq., Mr. J. Mould, and Mr. Tucker. In the corresponding classes for fifteen British ferns Mr. A. T. Hall and Mr. E. Hall were first and second respectively with good specimens, of which the scolopendriums were the most noteworthy.

Soft-wooded Plants in bloom were more or less good, and contributed much to the attractions of the exhibition. Zonal pelargoniums were of a high degree of excellence, and the specimens with which Mr. Tucker occupied the first place in the class for six were exceptionally well finished. Mr. Riddick, who was second, also had a good collection. Lilies were well shown by Mr. A. Walters, Bath, and Messrs. G. Cooling and Son, Bath; begonias by Mr. J. Dyer, Mr. W. Guigell, and Mr. Durbin; petunias by Mr. A. W. Southard and Mr. Durbin; verbenas by Mr. W. Mattock; cockscombs by Mr. J. Weston, Mr. W. Mattock, and Mr. J. Coke; and balsams by Mr. W. Mattock.

Fruit was so plentiful and good as to constitute a feature of great importance. In competition for the liberal prizes for eight kinds, Mr. W. Nash, gardener to the Duke of Beaufort, Badminton, was first with superb Muscat of Alexandria and Alicante grapes, excellent Bellegarde peaches and Elruge nectarines, and good Washington plums, Hemskirke apricots, and Brown Turkey figs; Mr. Pratt, gardener to the Marquis of Bath, Longleat, Warminster, was second with a collection in which the Black Hamburgh and Muscat of Alexandria grapes were especially good; Mr. A. Miller, gardener to W. H. Long, Esq., M.P., was third with an excellent collection. There was a very severe competition in the class for a collection of grapes, to comprise eight bunches in not less than four varieties, and the post of honour was occupied by Mr. Taylor, gardener to J. Chaffins, Esq., Charlcombe, Bath, with one of the finest collections that has yet been placed on the exhibition stage. The varieties were Alicante, Alnwick Seedling, Gros Maroc, and Muscat of Alexandria, and both bunch and berry were of immense size, and the colour and finish perfect. The bunches of Gros Maroc were indeed so splendidly developed that some of the most experienced grape-growers present mistook them for Gros Colmar. Mr. W. Ragbourne was second with large well-finished bunches of Alicante, Muscat of Alexandria, Black Hamburgh, and Mrs. Pince. There was a sharp contest in most of the classes for single dishes of grapes. For Black Hamburgh Mr. W. Marchant, gardener to J. Murch, Esq., Bath, was first with medium-sized bunches remarkable for the large size of the berries and the fine colour; Mr. Pratt and Mr. Edwards were second and third respectively. The first prize for Gros Colmar was awarded to Mr. J. Miller; and in the class for any black grape other than the foregoing Mr. Nash, Mr. G. Peacock, and Mr. A. Young were the prizetakers in the order of their names, each staging Alicante. In the class for black grapes grown within six miles of Bath, Mr. Marchant was first with excellent clusters of Black Hamburgh, and Mr. Peacock and Mr. Rice were second and third. The muscat class was a good one, and the prizes were awarded to Mr. W. Pratt, Mr. Elliott, and Mr. Taylor, all of whom had large, handsome, and highly-finished bunches. For any other white grape Mr. A. Young was first with superb bunches of Buckland Sweetwater; Mr. Iggulden, gardener to the Earl of Cork, Marston House, Frome, was second with Foster's Seedling; and Mr. Rye was third with Golden Champion, the bunches rather small but the berries good.

Both peaches and nectarines were very plentiful, and of plums there must have been considerably over a hundred dishes. For eight peaches Mr. Iggulden was first with finely-finished fruit of Barrington; and Mr. G. Pymn was second with Exquisite. For six peaches Mr. Derham was first with Ford's Seedling; and Mr. H. Lewis second with Royal George. In the two classes for nectarines the most successful exhibitors were Mr. W. Marchant, Mr. W. Mattock, gardener to J. G. Foley, Esq., Limpley-Stoke, Mr. G. Pymn, and Mr. Rice; and the principal varieties shown were Elruge, Pineapple, and Victoria. Melons were numerous and of fairly good quality. For a green-fleshed, Earl Cowley was first with Sutton's Perfection; and Mr. J. Weston and Mr. W. Long were second and third. In the corresponding class for a scarlet-fleshed fruit Mr. G. Compton and Mr. G. Pearce were first and third with Scarlet Invincible; and Mr. C. Holland was second with Read's Scarlet-flesh. For a dish of dessert plums Mr. Dando was first with Washington; and Mr. C. Miller was second with Kirke's. In the corresponding class for culinary plums Mr. J. Carpenter was first and Mr. Hall third with Fonthill; and Mr. A. Biss second with Goliath. The prizetakers in the classes for greengages were Mr. Hall, Mr. J. Weston, and Mr. Mattock. Pears were very strongly represented, and the most successful of the numerous exhibitors were Mr. Herne, Mr. Rye, and Mr. Bannister, Cote House, Westbury-on-Trym.

Cut Flowers were very largely shown, and formed a very attractive part of the exhibition. The premier position in the class for twenty-four dahlias was occupied by Messrs. Keynes, Williams, and Co., Salisbury, with large superbly finished blooms; Messrs. Heath and Son were second; and Mr. Joseph Nation third. Messrs. Keynes, Williams, and Co. were first also for twelve fancy dahlias; and Mr. G. Humphries was second. In the amateurs' class for twelve dahlias, Mr. Bush and Mr. S. Humphries were first and second respectively. For twelve single dahlias Messrs. Keynes, Williams, and Co., Mr. A. Walters, and Mr. Truckle were the prizetakers in the order of their names. Roses were particularly good for so late in the summer, and special mention may well be made of the boxes contributed to the class for twenty-four varieties, three trusses of each, by Mr. J. Mattock, Mr. G. Campbell, gardener to S. P. Budd, Esq., Bath, and Messrs. G. Cooling and Son, who were the prizetakers in the order of their names. Mr. W. Smith, Mr. W. Narroway, and Mr. Davis were the prizetakers for twelve varieties, three trusses, staging good blooms.

Gladioli were sufficiently plentiful to produce a bright display of colour. For thirty-six spikes Mr. S. Bird, Mr. G. S. Walters, and Mr. W. Brooks were first, second, and third respectively; and for twelve spikes the awards were made in favour of Mr. J. Tout, Mr. Tottle, and Mr. J. Mattock. Zonal pelargoniums were presented in capital style by Messrs. G. Cooling and Son and Mr. J. Mattock; and good stands of verbenas were contributed by Mr. Hawkins and Messrs. G. Cooling and Son. Hollyhocks were well shown by Mr. Burgess and Mr. W. Smith; and excellent stands of phloxes were contributed by Mr. Picton, Mr. J. Mattock, and numerous other exhibitors. Asters were shown in very large numbers, and the majority of the blooms were of high quality. For twenty-four German asters Mr. J. Jones, Mr. A. Walters

and Mrs. W. Jones were the prizetakers; and in the corresponding class for French varieties the awards were made in favour of Mr. F. Evry, Mr. J. Jones, and Mr. T. Salter. The first prize in the class for a stand of twenty-four bunches of cut flowers was awarded to Messrs. Heath and Son; and Mr. J. Cypher was first for a hand bouquet and a stand for the dinner table.

VEGETABLES had a large number of classes provided for them, and were admirably represented both in point of numbers and quality. There were three classes for collections, and in that for eight kinds Mr. A. Miller and Mr. Evry were first and second. For six kinds Mr. F. Marsh was first, and Mr. G. Horsell second; and in the class for six kinds, in which the prizes were provided by Messrs. J. Carter and Co., the first and second places were occupied by Mr. E. J. Day and Mr. G. Snow. Mr. Evry was successful in occupying the first place for a basket of salading, and Mr. W. S. Tylee was second. Mr. Iggulden was first in the class for tomatoes with a good dish of Carter's Perfection, and Mr. G. Horsell had a fine collection of gourds.

MISCELLANEOUS CONTRIBUTIONS included a very large and attractive collection of single and other dahlias from Mr. T. S. Ware, Tottenham.

BEDDING ARRANGEMENTS IN THE LONDON PARKS.

THE high temperature and brilliant sunlight of the past few days have had a most beneficial influence on summer beddes of all classes, and as the result of the important change in the weather the several displays in the metropolitan parks are now as bright and effective as at any previous period during the summer. Some of the beds of zonal pelargoniums present a rather thin appearance, as the knife of the propagator is now busily at work, but the plants are flowering so freely that there is plenty of colour. The beds of mixed flowering plants are bright and attractive. The sub-tropical plants are in the most luxuriant condition, and the alternantheras, coleus, and other leaf plants employed in mosaic or carpet bedding have now attained to their highest development, and produce a more brilliant effect than at any other time during the season, and will continue to present a bright appearance until nipped by the frost.

HYDE PARK.

The fame which this important and admirably-managed park has so long enjoyed for the great excellence of its bedding arrangements is fully maintained by the display which has proved so great a source of attraction to visitors throughout the summer. The principal arrangements are confined, as for some years past, chiefly to the enclosures alongside Park Lane, and these are sufficient to afford lessons of the most valuable character in the colouring of the parterre. There are a few good beds of plants remarkable for nobility of aspect and the beauty of their foliage in the enclosures which skirt the Drive and Rotten Row between the Marble Arch and Albert Gate, and those who have sufficient time at their disposal for making a leisurely inspection of the park should not fail to see them. Well worthy of attention, also, is the arrangement of musas, palms, and other plants of stately habit in the dell at the head of the Serpentine. The large group of erythrinas or coral trees on the north side of Rotten Row is remarkably beautiful, and will continue to increase in effectiveness some time hence. Equally showy, but of a very different style of colouring, are the bold groups of the double perennial sunflower in the mixed border beyond the erythrinas.

In proceeding northward from the Marble Arch the bedding arrangements by the side of Park Lane commence at Stanhope Gate. From this point until reaching the elm tree within the enclosure there are two rows of beds, one on either side, and between the tree and Grosvenor Gate there are three, two on the left and one on the right. The mixed beds, which are arranged at intervals on either side of the walk, are very good, and present a pleasing contrast to the brilliant masses of zonal pelargoniums. Especially noteworthy amongst the zonals are: Titiens, an excellent variety, neat in growth and profuse in blooming, the flowers bright pink; Dr. Rawson, rich crimson, one of the best in its shade of colouring; J. C. Masters, bright crimson, free and good; Sybil, deep pink, a distinct and beautiful variety; Laura Strahan, bright salmon, a free-growing and profuse-flowering variety, quite surpassing Lizard and other varieties in the same line of colour, when the soil is not too rich; Olive Carr, bright pink, very free and effective; Charles Schwind and Henry Jacoby, two dark crimson varieties of which it would be difficult to speak too highly; and Blanche Gordon, deep lilac pink, rather strong in growth, but surprisingly free in blooming, and in effectiveness quite unsurpassed by any variety in its line of colour.

To the left of the walk are eight or ten carpet beds, which are remarkable alike for the taste evinced in the arrangement of the colours and their high keeping, and are especially worthy of the attention of those who are interested in this style of bedding. In several of the designs the golden alternanthera is employed with singularly good effect. In others the golden spergula is doing good service. Fuchsias planted out have done remarkably well, and the several beds devoted to them show how pleasing these flowers are in the garden when placed under conditions favourable to their making a vigorous growth. Begonias are sparingly employed, and the several beds devoted to them are now at their best, and afford a pleasing variety.

REGENT'S PARK.

The flower garden which forms such an important part of the southern section of the park is so rich in attractions that it is not surprising to find the walks intersecting the enclosures more or less crowded throughout the day. All the styles of summer bedding that now find favour are admirably represented, and no preference appears to have been shown to either flowering or ornamental-leaved plants. In the garden on the eastern side of the chestnut avenue there are several very pleasing ribbon borders, which are useful in showing how immensely attractive narrow strips can be made by a judicious arrangement of subjects. The plants employed in the borders comprise blue and white lobelias, golden feather, Iresine Lindeni, and pink and scarlet zonals of comparatively dwarf growth. At intervals there are beds of flowering and leaf plants, the former being very bright and effective, and the latter afford excellent examples of high-class carpet bedding. In these beds the golden alternanthera is liberally employed, and its value for associating with A. magnifica and other of the forms with high-coloured leafage is abundantly exemplified.

The geometrical scheme, in which zonal pelargoniums are chiefly employed, is still exceedingly beautiful, and promises to remain so for some time hence with a continuance of fine weather. On the western side of the avenue there are numerous good groups of sub-tropical plants, comprising palms, cannas, wigandias, and castor oils. A fine effect is produced by the line of Musa ensete in front of the belt of shrubs and the vases, which are all admirably filled, and contribute their full share to the attractiveness of the flower garden

There are several good examples of carpet bedding on the eastern side, an special attention may well be directed to the border surrounding the central tazza, which is coloured with much taste.

VICTORIA PARK.

The several features for which this park has been remarkable have undergone considerable improvement during the past two years, and on all sides are to be seen striking evidence of the excellent taste and sound judgment of the superintendent. In the several parts of the park devoted to bedding plants there are displays of the most tasteful character, and the great geometrical is more tasteful than in any previous season during the past twenty years. It is satisfactory to note in passing along the walk which skirts the northern end of the lake that the hollies with which the shrubbery is so richly furnished are now allowed to grow naturally instead of being pruned hard back annually. Alongside this walk there are numerous excellent beds of sub-tropicals, and several very beautiful examples of carpet bedding. Those on the breadth of turf between the upper and lower walks are especially good.

Carpet bedding is admirably represented in the beds alongside the drive between the Crown and Royal hotels, the large S bed presenting an exceedingly beautiful appearance. The circular beds by the side of the drive on the western side of the park are planted chiefly with zonal pelargoniums and verbenas, and are all more or less good. The colouring of the geometrical scheme is very rich, but rather softer than in previous years, and there is no longer a preponderance of scarlet and yellow. In the scheme are six carpets, which are exquisitely coloured, and afford some of the very best examples of this style of bedding that has yet come under our notice. They are, indeed, so good that they may be regarded as excellent models of this form of garden decoration. The borders at Shore Place, which are principally planted with pelargoniums, are also very effective.

BATTERSEA PARK.

In this charming park the principal arrangements are by the refreshment rooms near the steamboat pier, in the sub-tropical garden, and in the borders contiguous to the refreshment rooms at the northern end of the lake. On the breadth of turf surrounding the first-mentioned of the two refreshment rooms there are four good carpet beds and two effective mixed beds, the latter being one of the most attractive features of the bedding arrangements at Battersea. In the border at the back of the turf the plants are arranged in festoons, and present a good effect. The sub-tropical garden is arranged on the same lines as those of previous years, and may be described as the most attractive part of the park. The mixed beds of flowering plants, the tasteful examples of leaf-colouring, the bold masses of ornamental-leaved plants, and the noble palms dotted about on the turf combine to produce a rich and picturesque effect. The erythrinas and fuchsias are especially meritorious, the latter flowering with a freedom which is by no means common when grown in the open.

The fern dell and the alpine point are not less attractive than in previous years, and the beds on the breadth of turf which skirts the western side of the lake are by no means wanting in effectiveness. The beds and borders contiguous to the refreshment rooms near the lake are filled with plants producing flowers remarkable for their brilliancy of colour.

IN MEMORIAM.—ROBERT LORD.

THE death of Mr. Robert Lord, of Todmorden, in his 68th year, takes from among us one old florist more, and is a loss not only to many scattered floral friends, but to the town in which he lived so long and laboured in the gentle profession of music.

In that he had many labours as well of love as of living, and had gained high esteem for his natural ability and kindly disposal of his aid.

To ourselves he was known as an always kindly, cheerful friend, with that enthusiastic patient love for flowers that binds the florist fellowship together.

I never knew him a grumbler if a show did not fall to his very day, nor ever a boastful winner.

His home and garden were high among the rocks of the valley side; and here for years he grew his favourite flowers, the auricula, carnation, and picotee.

The wild dianthus would have flourished there, and the alpine auricula would have felt at home. Instincts of its suitability seemed aroused in his cultivated flowers of these species, for he grew the auricula right well; and the carnation and picotee with him put on such colouring as no other grower of our day has excelled. There was a shade richer in the colours, a degree purer in the white, and a crisper freshness in the petals of his flowers than were seen elsewhere.

He had chosen the very flowers that would naturally have chosen a situation such as his, and a grower like to him. Music was his profession, and flowers were his recreation; and, therefore, very touchingly appropriate were the last accompaniments of these—the wreaths of summer flowers on the coffin, and the choral funeral service.

Two wreaths of his very own and favourite flowers, the carnation and the picotee, lay with heraldic significance over all; for with these high florists' flowers Robert Lord has done so valiantly and dealt so lovingly, as to have left a fair name as one of the champions of his day—a great raiser, a most skilful cultivator, and a real florist.

Even so, there comes into my memory the recollection that upon the gravestone of George Lightbody his favourite flower is graven above his name; and the auricula—but not with stem broken or dashed petals, like the Tombstone Lily and the Undertaker's Rose—the auricula with the sailor's knot entwined, tells of the life that had known both storm and calm; that had given best years to the service of his country on the sea, and been spared to a peaceful eventide and close amid the quiet resting places and pleasures of a garden.

It may be due only to the coincidences that will fall within a lengthening experience, but I cannot help calling to mind how many now of our brother florists have passed onward just as their favourite flowers could follow in the burial train, not, indeed, as mourners, not as faces wet with tears, but in the full freshness of all their beauty, as our nearest, brightest emblem of a life not lost in nothingness, but only past its earthly bloom; and as little like, as possibly can be, to that further studied token of extinction, the topsy-turvy torch, which I would not dare to sculpture on a dog's memorial stone.

Friends, with their favourite flowers, rest here and there along the pathway of the past—from the death of my father in the tulip bloom of twenty-five years ago, to that of my dear friend, John Simonite, at whose side I was able to lay a few early auricula blossoms last spring.

For myself, there are these two companionships among those I fain would like to recognise around me at the last—my flowers and my dog.

Burton-in-Lonsdale. F. D. HORNER.

The Household.

COFFEE.

Having contributed a few words to the "coffee controversy" that has been raging in the *Times*, I find it is expected I should say something on the subject in the G.M.; but it would be imprudent to reproduce my letter here, because of its direct relations to other letters and the general course of a discussion that in the first instance arose out of a questionable magisterial decision.

There are many reasons for serious consideration of the subject of coffee. When used in moderation it is probably the finest of all stimulants, for while it refreshes the mind it contributes to the support of the body; moreover, it is favourable to appetite, and assists digestion. But untimely or excessive coffee drinking is scarcely less injurious than dram drinking, and, in fact, there is a disease known to medical science, very nearly resembling del. trem., that is produced by coffee drinking. The few cases recorded in Paris and Vienna suffice for a general warning, and should be kept in remembrance by those weak-minded people who look to stimulants as substitutes for health and strength, the fact being that stimulants tend to the destruction of both. Coffee is the most powerful of all stimulants, but when prudently taken one of the safest, and, beyond all doubt, it is of the greatest value for the substantial support it affords in cases where the nervous energies are severely taxed.

In respect of the controversy there is one letter that should be noticed here. It is from the Editor of the *Grocer*, and has place in the *Times* of August 14. The writer assures us that some of the grocers roast their own coffee, and are thus enabled to supply a fresh and fragrant article, and he adds "that the public, after all, have this matter very much in their own hands. The grocers are merely servants of the public, and in regard to the coffee and chicory question supply what their customers demand." At the very best this sort of wisdom is too cheap, for it is at the command of every cheat in the universe. A beerseller who supplies essence of strychnine, or a butterman who serves out filthy fat from the slaughterhouse, and an editor who fills his paper with lies may join the very conscientious grocer by saying "We are the servants of the public and supply what our customers demand!" The grocers offer "pure coffee," "coffee as in France," &c., &c., &c., and supply their customers with mixtures that contain only infinitesimal proportions of coffee. Does any "customer" want a mixture of chicory, roasted potatoes, carbonised beans, burnt sugar, and iron filings bearing the deceptive label "coffee"? Such mixtures are sold, as I know, by having purchased them, and were the grocers such excellent public servants as this editor represents them, the magisterial decision, out of which the controversy originated, would have been equally necessary and just, and would have raised no debate whatever.

It is a part of my story to say that canister coffees, whatever the names they may bear, are usually of a very low quality, and at the best contain an unfair and injurious percentage of chicory. Since I made this declaration in the *Times* I have received several samples from leading houses in the grocery trade, the object of sending them being first to convince me I have made a mistake, and next to convert me to the recognition of canister and tinfoil coffee. All the samples supplied to my table a coffee far inferior to what I am accustomed to, and such as I certainly would not have except under compulsion. And here, having denounced the canisters and convenient parcels, I shall add that *all* ground coffee as grocers grind it is objectionable, and, without any play upon words, I must say that it is so fine that it needs fining. Coffee ground at home is granular, and it is quite an easy matter to obtain from it a bright and well-flavoured infusion. Coffee ground by the grocer is in the nature of dust, such as people who are careless in the use of words would describe as "impalpable." In this state it chokes the cafetiere, and the cook is tempted to use a spoon freely, the result being that much of the dust is forced through, and, as a matter of course, dust mixed with water makes mud, and thus you secure for your annoyance coffee that is as obnoxious to the eye as to the palate. The best way to make ready-ground coffee is to use the old-fashioned tin coffee-pot, and a *tall* one should be preferred. Put the coffee into the dry pot, and make the affair moderately warm before pouring on the boiling water. Then you are not tempted to boil it, which is a sure way to spoil it, and by pouring out and in two or three cupfuls the making is completed. In the course of five minutes the coffee should be clear, and should be carefully poured off into a respectable vessel for the table, all the grounds being left behind. To test the purity of grocers' ground coffee, shake a little over a tumbler of fresh, bright cold water, and leave it untouched for an hour. Pure coffee does not quickly give out its colour to cold water, and when it has done so the infusion will be of a pale tint, and will continue clear and bright; but the villainous mixtures that are commonly used quickly colour the water, making it dark and opaque, and quite unpleasant to the vision.

First-class coffee can be obtained only by grinding as wanted, and making it fresh from the mill. I obtain a fine Plantation Ceylon, ready roasted, at 16d., but the same article is usually charged 20d. As I do not intend to say how I obtain my coffee I hope no one will ask me—it is sufficient to say tha any one may obtain it in the same way; there is no obligation or secret in the matter. Roasting at home is a troublesome job, but grinding is really no trouble with a good mill properly fixed to the wall—the little mills that are fixed to a table or placed on the knees are unpleasant things, and calculated to scare people from the use of coffee.

For breakfast one large teacupful (four ounces) of ground coffee with one teaspoonful of chicory will suffice to make three breakfast cups of a strong and bright infusion. Use a cafetiere or caffee-kahn, which should be scalded out daily, and changed once a month, so that it is well to have two in the house, to allow of airing one of them occasionally. If the daily boiling of milk is found troublesome use Swiss milk in lumps direct from the tin, for it mixes quickly and harmonises perfectly, for the flavour of condensed milk, that spoils tea, may be considered an improvement to coffee, and with the finest Demerara sugar completes the very best of breakfast beverages. Coffee for the dinner table should not contain so much as a suspicion of chicory, and should be served with loaf sugar and hot milk, although the wise people usually prefer to reject sugar and milk, and take it with nothing or with something, as the case may be.

Now a word on the economical view of the subject. At 20d., the shop price of roasted Plantation, the cost in coffee alone, using four ounces for three cups, is nearly 2d. per cup. One cup of such coffee is far better than two of a less strength, for it is not good to load the stomach with hot fluid. When made for the dinner or tea table the strength should be at the rate of two ounces to the measure of a breakfast cup, and Mocha mixed with Mysore is the proper kind of coffee for the purpose. The small cups used at dinner render the cost less than appears on the first statement of the case, but it must be apparent to all that really good coffee is a somewhat expensive article; and the fact probably accounts for the prevalence of adulteration and the objectionable practice of boiling the coffee. But in the way of economy we shall now proceed to the boiling, and please observe first that home-ground coffee is granular, and does not give out the whole of its strength to the water that is poured over it in the cafetiere. You may take advantage of this to boil the grounds and save the second-hand decoction for making the next day's coffee. This will reduce the requirements of pure coffee to about one ounce per breakfast cup, and the cost will be concurrently reduced to a penny, a matter worth considering where a family has to be daily provided for. As there is no family here, we do not trouble to economise, but as a matter of amusement I have proved by experiment that the perfection of coffee may be enjoyed daily by following the routine above suggested. Should the fresh coffee be muddy as a consequence of this economy, the fault will be in the operation, and not in the system.

Finally, it should be understood that for both coffee and tea soft water at boiling heat should be used. The cook who says "it has boiled" is not to be trusted, for that is not the language of common sense. The water in common use in houses is slightly hard, but is so good that one must not complain of it. But one may be prudent for all that, and so I beg all and sundry to bear in mind that water slightly hard is not improved by boiling. Therefore do not make the kettle boil until you want it. Then use what you want at the instant of the boiling, for the longer it boils the harder it will get, and the less satisfactory will be your coffee and tea making.

Shirley Hibberd.

BOMBAY DUCKS.

In *Illustrated London News* of August 28, Mr. G. A. Sala gives the following recipes for cooking these delicacies: Toast the duck over a brisk fire till it is warmed through and crisp at the thinnest part; then flour the duck, and beat it with a rolling-pin on a baking-sheet; bang away at the duck till it is as flat as a comic song in a drawing-room or an unsuccessful farce. Then you may cut the duck into fancy shapes if you like, and make it hot and eat it with as much butter as it will absorb. . . . Beat the duck without first toasting it, and when it is well beaten fry it till brown and crisp. Would that mine enemy were a Bombay duck! How pleasant it would be to beat him first, then fry him, and eat him with as much butter as he would absorb.

EXPERIMENTAL TOBACCO CULTURE.

The "fragrant weed" has doubtless assumed a position of importance this season by reason of the introduction of the subject to the Upper House of Parliament early in the present year.

We need not enter here into the "pros and cons" then raised—they are known to most of our readers—sufficient for our purpose is it to say that, as a consequence of that discussion, Messrs. James Carter and Co. have made an experimental field-crop of tobaccos this year, and a few notes on the subject may possess some little interest at the present time.

An acre of ground was selected for the experiment in which there are three kinds of soil.

The ground is quite square, with a fall of three feet towards the north, lying in a valley sheltered on the north-east, east, and south-east by hills and woods, the south and south-west being quite open to the sun. The lower side, of about half an-acre, consists of a light black sandy loam, largely mixed with gravel, with a tendency to keep very moist. It is in this part that the plants have grown best. The centre of the plot is of a more stiff texture; here the plants have also done well. The top part is a poor yellow sandy loam full of stones; here the plants have not done so well, though with good manuring and cultivation we think they would do as well as in the other soils. The land was ploughed three times early in the spring, then ridged one yard apart; the manure used, consisting of equal parts of horse and cow manure well mixed, was put between these ridges to the extent of 30 loads to the acre. On the top was sown 10 cwt. of Carter's Normal Artificial Manure; then the ridges were split with a ridge plough, so as to turn the earth to the top of the manure. All now ready for planting, the seed was sown on April 27 in a cold frame on a gentle bottom heat, and "pricked off" into boxes two inches apart, kept in cold frames for about ten days, and then exposed entirely to the open air.

The plants were planted out on June 16 on the top of the ridges, one yard apart every way; these ridges, after the plants were a foot high, being cross-ways, and moulded up in "hillocks," similar to the way in which hops are grown. The plants were well watered; for the first few weeks they made very little progress, the weather being so cold and dull. After the weather got brighter they began to grow freely, in the last three weeks making a growth of eight inches each week to this date (August 25); the leaves at the same time increasing fast in size. In the broad-leaved varieties the leaves measure now 15 in. by 24 in.; height of plant, 3 ft. In the narrow-leaved varieties the leaves are 12 in. by 20 in.; and height of plant, 3½ ft.

There are 17 varieties in the experiment, and they are now looking very fine; they have been "stopped" now for the last time, and all flower buds taken off, leaving about nine to twelve leaves on a plant.

The varieties which seem to be the earliest are the narrow-leaved, but the broad-leaved are naturally the finest to look upon, but fourteen days later.

There are two varieties which do not appear to suit this climate, viz., "White Barley" and "Kentucky," they being much weaker and shorter in growth than the others on trial.

The earliest varieties are "Havana," "Big Frederick," and "Connecticut," and most of the narrow-leaved varieties. The best being "Yellow Prior," "Island Broadleaf," and "Maryland Broadleaf," very fine, but late.

For the benefit of those interested, and who may be desirous of seeing the collection, we may state the ground is situated at Mr. Phillip's, Holloway Farm, Southend, Catford. The nearest railway station is Plaistow (South-Eastern Railway). It can also be easily reached from Bromley or Lower Sydenham stations.

B.

TRADE CATALOGUES.

Wm. Paul and Son, Waltham Cross.—*Bulb Catalogue.*

Barr and Son, 12, King Street, Covent Garden.—*List of Daffodils—Autumn Catalogue of Bulbs, &c.*

Viccars, Collyer, and Co., Leicester.—*Bulbs, Seeds, and Specialities.*

Carter and Co., 237, High Holborn, W.C.—*Bulb Catalogue*, 1886.

William Bull, 536, King's Road, Chelsea.—*Bulbs and Tuberous-rooted Plants.*

Replies to Queries.

Cabbages.—C. V.—The practice to which you refer is attended with so much risk that it cannot be recommended.

C. T., Chesterton.—We can give no opinion on your carnation, for the flower was packed with wet grass and reached us in a state of decomposition.

Hedge.—H. C. S.—It will be much better to lift and replant than to bury the stems to the depth mentioned. The beeches and other trees must certainly not have their stems buried.

Grape Vines.—J. C.—The vines are evidently in an unsatisfactory condition at the roots, but the information before us is not sufficient to enable us to give a definite opinion as to the cause of the mischief. It is probable that the roots found their way to a cold subsoil.

Apple Trees.—Beechwood.—The ground on which you intend planting the apple trees should be trenched over to a depth of about eighteen inches, as it is very undesirable that any portion of the gravelly subsoil should be brought to the surface, or indeed be mixed with the loam.

Dog's Tooth Violets.—M. B.—To produce a good display it is necessary to plant rather thickly, and as early in the autumn as practicable. The following comprise the best of those at present in cultivation: E. Americana, E. dens-canis album major, E. dens-canis purpureum major, E. grandiflorum, E. purpureum, E. purpureum albiflorum.

Zonal Pelargoniums.—B.—The plants in the border which you are desirous of potting up for conservatory decoration next summer should have the shoots shortened at once, and as soon as they commence to break freely be potted up. In lifting them avoid unnecessary injury, and use pots just large enough to receive the roots without overcrowding.

Injured Fruit Trees.—R. W.—The leaves of your fruit trees are infested by the slugworm, the larva of Selandria atra. One of the most effectual remedies for this troublesome pest is dusting the trees two or three times at short intervals with slack lime. Syringing the trees with rather strong tobacco water, or a solution of Nicotine soap, would also probably prove destructive to the pest.

Names of Plants.—Guillaume.—1, Asplenium ruta-muraria; 2, A. septentrionale; 3, A. viride; 4, Polystichum aculeatum; 5, Lastrea patens. G. H. Jerrard.—1, Rochea falcata; 2, Mesembryanthemum inclaudens; 3, Echeveria metallica; 4, Echeveria secunda. No. 4 is not the glaucous form that is in favour with practitioners of bedding, but the one regarded as the original type.

Ornithogalum arabicum.—E. W. S.—The bulbs of this handsome species should be potted not later than the end of September, but the sooner they are potted after having become thoroughly ripened the better. Use a compost consisting of turfy loam, sand, and either well-rotted manure or leafmould, the proportions to be three parts of loam and one part each of sand and manure or leafmonld. They do not require artificial heat, but the bulbs should have a place during the winter in a pit or house where they will be protected from frost. The lily is probably Lilium auratum, but we cannot speak definitely without seeing a flower. The fruit is that of Rosa rugosa.

Roman Hyacinths.—S. M.—The bulbs of Roman hyacinths required for flowering at the end of the autumn and the early part of the winter should be potted at once. Those intended for the decoration of the conservatory and drawing-room should be put in five-inch pots, three in each; but when intended simply for the supply of cut flowers it is preferable to put them in pans and boxes because of the saving effected both in the space and the labour.

Caladiums.—W. M., Weybridge.—The plants should be gradually dried off, and when the leaves have died down place the pots on their sides underneath the stage of the plant stove, where they should remain throughout the winter. Caladium corms may be removed from the soil in which they are now growing, and be placed in small pots with silver sand about them. But there is some risk in keeping them in sand, as excessive dryness is highly favourable to the development of dry rot. The only advantage in keeping the corms in sand is the practicability of wintering them in a much smaller space than is possible when they remain in the soil in which they were grown during the season previous. They ought not to be subjected to a temperature below 60 deg.

Literature.

Library of English Literature. By Henry Morley. (Cassell.)—Part 44 of this admirable work is rich in reviews of poetry published between 1678 and 1785, including in one direction Butler, and in the other Cowper, with Falconer of "The Shipwreck," Pope of universal fame, Thomson of the "Seasons," and Grainger of the "Sugar Cane."

Doré Gallery has reached part 42, which contains "The Judgment of Solomon," "A Voyage to the Moon," "The Plague of Darkness," "The Break of Morning," and a humorous scene from Don Quixote.

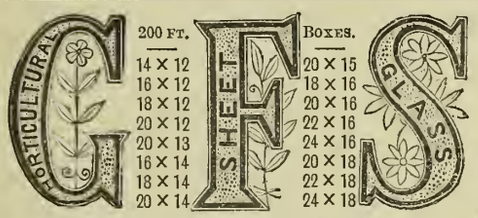
Hibberd's Garden Flowers (Cassell).—Part 91 contains "The Verbena and the Major Convolvulus." Mr. Hulme's figures are exquisitely finished and strikingly truthful.

Messrs. Ward and Lock have forwarded part 5 of Quentin Durward in their noble series of selected Waverleys; part 22 of *Universal Instructor*; part 10 of *Plutarch's Lives*; part 11 of *Whiston's Josephus*; part 11 of *Popular Histories for the English People*; part 58 of *Amateur Work* (reflecting telescope, map colouring, dry-plate photography, &c., &c.); and the current issues of *Sylvia's Home Journal* and Ward and Lock's *Family Journal*.

Obituary.

On August 28, at his residence, near Chichester, Lord Henry Gordon Lennox, third son of the late, and brother of the present, Duke of Richmond, in the 65th year of his age. As a politician he is better known than as a horticulturist, but it should be here recorded that he was always in true sympathy with the rural arts, and contributed in many ways to the success of the great horticultural exhibition, 1866.

On the 30th August, at Heathlands, Longcross, Chertsey, James Goodchild Wakley, M.D., for 25 years editor of the *Lancet*, youngest son of the late Thomas Wakley, M.P.



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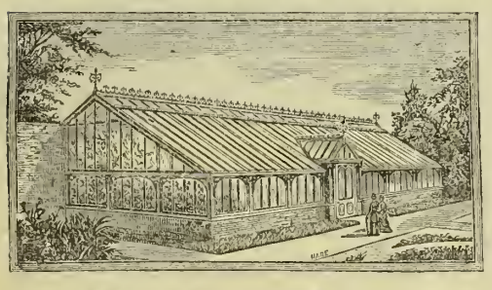

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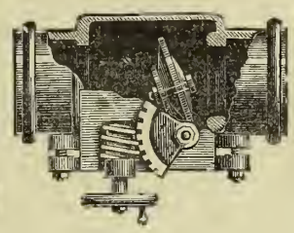

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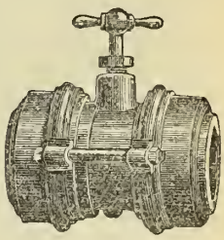

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THESE TILES, manufactured in Terra-Cotta, Terro-Metallic Ware, Red Ware, and Glazed Stone-ware (in the above and other patterns), are recommended in preference to Box and other "grown" Edgings for the following reasons: They do not harbour slugs and insects, they take up less room, require no attention, are far more durable, and consequently, in the end, prove much cheaper. For Kitchen Gardens the plainer patterns are much used, and have been found invaluable. To be obtained at

F. ROSHER and CO.'S Warehouses, Upper Ground Street, Blackfriars, S.E.; King's Road (Corner of Church Street), Chelsea S.W.; and Kingsland Road, Kingsland, N.E.

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FLOWER BOXES for WINDOWS and BALCONIES
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Every Monday, Thursday, and Saturday. Great Unreserved Sales.

MESSRS. PROTHEROE and MORRIS will SELL BY AUCTION, at their CENTRAL SALE ROOMS, 67 and 68, CHEAPSIDE, E.C., every MONDAY, THURSDAY, and SATURDAY, at Half-past Eleven o'clock precisely each day, extensive consignments of HYACINTHS, Tulips, Crocus, Narcissus, and other bulbs, from Holland, in excellent quality, and lotted to suit the trade and private buyers.
On view mornings of sale, and catalogues had.

Buckhurst Hill (near the Station).—Important to Cut Flower Growers.

MESSRS. PROTHEROE and MORRIS are instructed by Mr. J. R. SOUTH, to SELL BY AUCTION, on the PREMISES, THE NURSERY, QUEEN'S ROAD, BUCKHURST HILL, on TUESDAY, SEPTEMBER 7, at Two o'clock precisely, 150 specimen EUCHARIS AMAZONICA, very fine plants, in No. 8 and 12 pots; 30 specimen Camellias, 6 to 8 ft., principally double whites; large white Azaleas; 300 well-furnished Maidenhair Ferns, in 32 and 48 pots, and other plants.
May now be viewed. Catalogues may be had on the Premises; or of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone.

Chelsea.—Clearance Sale of unusually well-grown Stove and Greenhouse Plants.

MESSRS. PROTHEROE and MORRIS are instructed to SELL BY AUCTION on the PREMISES, THE NURSERY, BEAUFORT STREET, CHELSEA (about a mile from Chelsea Station), on WEDNESDAY, SEPTEMBER 8, at Twelve o'clock precisely, without reserve, the whole of the beautifully-grown Greenhouse and Decorative PLANTS, a large portion of which are admirably adapted for furnishing, comprising Palms in variety, two Araucaria excelsa, 14 ft., large Eucharis ficus, magnificent specimen, Aspidistras, one grand plant measuring 5 ft. through, 1,000 Maidenhair ferns, 200 Azaleas, 1,000 green Euonymus, 10,000 flower pots, and various other items.
On view two days prior to sale. Catalogues may be had on the premises; or of the Auctioneers, 67 and 68, Cheapside, E.C.

Chigwell.—Important to Cut Flower Growers.

MESSRS. PROTHEROE and MORRIS are instructed by Messrs. J. W. STEEL and Co., to SELL BY AUCTION, on the PREMISES, THE EXOTIC NURSERY, CHIGWELL, on THURSDAY, SEPTEMBER 9, at Twelve o'clock precisely, a large quantity of well-grown GREENHOUSE PLANTS, including 14 grand specimen Stephanotis, large trained plants, about 40 smaller plants, 250 Gardenias, 300 Roses, all finely grown in large pots, 600 named Chrysanthemums, specimen Azaleas, 80 Eucharis grandiflora, 600 Bouvardias, best sorts, Jasmines, &c.; also 30 head Poultry.
On view two days prior to sale. Catalogues had on the Premises; principal local inns; and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone.

Friday next.

MESSRS. PROTHEROE and MORRIS are instructed by Mr. F. SANDER, to SELL BY AUCTION, at their CENTRAL SALE ROOMS, 67 and 68, CHEAPSIDE, LONDON, E.C., on FRIDAY, SEPTEMBER 10, at Half-past Twelve o'clock precisely, a large quantity of Imported and other ORCHIDS, including Vanda Hookerii, a splendid lot of Cypripedium Stonei, C. Hookerae, Dendrobium heterocarpum (Ceylon variety), Coelogyne pandurata in fine order, Odontoglossum Pescatorei, Eulophia scripta (a good lot), a new Angraecum from Madagascar, and many valuable orchids from the East.
On view morning of sale, and catalogues had.

Lee, Kent, S.E.

GREAT ANNUAL TRADE SALE, to commence punctually at Eleven o'clock, in consequence of the large number of lots.

MESSRS. PROTHEROE and MORRIS are instructed by Messrs. B. MALLER and SONS to SELL BY AUCTION, on the PREMISES, THE BURNT ASH-LANE NURSERIES, LEE, S.E., adjoining the railway station, on TUESDAY, SEPTEMBER 14, at Eleven o'clock punctually, without reserve, 25,000 Winter-blooming Heaths, beautifully grown, and remarkably well set with bloom buds, including 15,000 Erica hyemalis, 5,000 gracilis, and large quantities of melanthera, ventricosa, perspicua erecta, Cavendishii, and other best kinds; also a large quantity of small Erica hyemalis, for growing on; 8,000 Solanum capsicastrum, unusually well berried; 6,000 Bonvardias, including Lemoine's new doubles; 2,000 Genistas, very fine; 1,000 Cyclamen persicum, 2,000 Adiantum cuneatum, 3,000 Lomaria gibba, true, compact variety, and other ferns; 500 Epacris, well grown; a quantity of extra-strong Maréchal Niel and other tea roses; fine English-grown Camellias, Azaleas, Grevillea robusta, Palms, Ficus elastica, greenhouse Passifloras, Poinsettias, Ampelopsis Veitchii, a fine lot of Araucaria excelsa, Stephanotis, and other stock.
May now be viewed. Catalogues may be had on the Premises; or of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.
N.B.—Messrs. Protheroe and Morris desire to call the attention of intending purchasers to the stock to be offered as above. The plants are remarkably well grown, fit for immediate sale, and the whole will be found in an equally good condition as in former years.

Lea Bridge Road Nurseries, Leyton.—Annual Sale of WINTER BLOOMING and other HEATHS, remarkably well grown, and including hyemalis, gracilis, hybrida, and others; 1,000 Epacris of the choicest kinds; 4,000 Cyclamen persicum, Fraser's superb strain; 4,000 Genistas; Tea-scented and Noisette Roses; 4,000 Solanum capsicastrum, in berry; 4,000 Bouvardias, well set; healthy young plants of Lapageria rosea superba; Clematis indivisa lobata and other greenhouse climbers; a beautiful lot of Hollyhocks, named sorts; 1,000 early-flowering and other Chrysanthemums; 200 Maréchal Niel and other Roses, from 7 to 10 ft.; a large quantity of fine plants of Ampelopsis Veitchii; 3,000 Clematis Jackmanni and others; a splendid lot of variegated Ivies; 8,000 Genistas, for growing on; and other stock.

MESSRS. PROTHEROE and MORRIS are instructed by Mr. JOHN FRASER to SELL the above valuable STOCK BY AUCTION, on the PREMISES, THE LEA BRIDGE ROAD NURSERIES, LEYTON, E. (a few minutes' walk from Hoe Street Station, Great Eastern Railway), on WEDNESDAY, SEPTEMBER 15, at Eleven o'clock precisely, in consequence of the large number of lots.
May now be viewed. Catalogues may be had on the Premises; or of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

Sales by Auction.

Tottenham, N.

Great Annual Trade Sale of Winter Flowering Heaths, Stove and Greenhouse Plants, &c., to commence punctually at Eleven o'clock, there being upwards of 1,200 lots.

MESSRS. PROTHEROE and MORRIS are instructed by Mr. JOHN MALLER, to SELL BY AUCTION, on the PREMISES, THE BRUNSWICK NURSERY, TOTTENHAM (close to White Hart Lane Station, G.E.R.), on THURSDAY, SEPTEMBER 16, at Eleven o'clock precisely, without reserve, 20,000 WINTER BLOOMING HEATHS, beautifully grown and abundantly set with flower buds, including hyemalis, gracilis, caffra, Wilmorea, and other best kinds.
1,000 Epacris, in best varieties.
5,000 well-grown Ferns, including Adiantums, Pteris, &c.
1,000 Double White Primulas.
500 Crotons, beautifully coloured.
500 Ficus Elastica.
Thousands small Ericas, Genistas, Ferns, &c., for growing on.
4,000 Tree Carnations, best varieties.
5,000 Solanums, remarkably well berried.
5,000 Bouvardias, including the new doubles.
4,000 Genistas.
Large Camellias and Azaleas for culling, Golden Euonymus, and the usual great variety of Stove and Greenhouse Plants, suitable for the Trade and extensive buyers.
May now be viewed. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C., and Leytonstone.
N.B.—The whole of the Stock is in first-rate condition, the Ericas being especially well set for flower.

Sidcup, Kent, S.E.—Great Annual Trade Sale of winter-flowering Heaths and other plants, forming one of the largest collections ever submitted to the public. The stock of Heaths is unrivalled (without doubt the finest lot ever offered by Messrs. Gregory and Evans), the plants being particularly well grown, beautifully set with flower, and worthy an inspection by intending purchasers.

MESSRS. PROTHEROE and MORRIS are instructed by Messrs. GREGORY and EVANS to SELL BY AUCTION, on the PREMISES, THE LONGLANDS NURSERY, SIDCUP (ten minutes' walk from Pope Street Station, South-Eastern Railway), on FRIDAY, SEPTEMBER 17, at Eleven o'clock precisely (there being upwards of 1,200 lots), an enormous quantity of unusually well-grown winter-blooming HEATHS and other plants, including:—
20,000 Erica hyemalis, well set, and E. hyemalis superba.
4,000 ,, gracilis.
1,000 ,, melanthera.
4,000 ,, ventricosa and perspicua of sorts,
700 ,, Cavendishii.
10,000 Genistas.
2,000 Tea Roses, splendid plants.
3,000 Solanums.
2,000 Adiantum cuneatum.
Thousands of small Heaths for growing on, &c.
The stock is now on view. Catalogues may be had on the Premises; or of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

Upper Edmonton.—The first annual sale of 30,000 beautifully-grown greenhouse and other plants.

MESSRS. PROTHEROE and MORRIS are instructed by Mr. H. B. MAY to SELL BY AUCTION, on the PREMISES, DYSON'S LANE NURSERY, UPPER EDMONTON, on SATURDAY, SEPTEMBER 18, at Twelve o'clock punctually, 30,000 GREENHOUSE and STOVE PLANTS, remarkably well grown, and in the best possible condition, comprising 10,000 Tree Carnations, including a valuable lot of Miss Joliffe, Andalusia, Lucifer, &c., 2,000 Tea Roses in pots of the best sorts, 3,000 Variegated Ivies, 1,000 Clematis, finest varieties, 5,000 Ferns, beautifully grown, and including Adiantum cuneatum, Farleyense, Pacotti, &c., Pteris cretica Magii (a lovely new fern), Davallias, and others, 1,000 Ampelopsis Veitchii, 500 Azaleas (Fielder's white), and 4,000 miscellaneous plants, such as English-grown Camellias, Eucharis, Double Primulas, Dracænas, Genistas, Myrtles, &c.
May now be viewed. Catalogues may be had on the Premises; or of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

BULBS. BULBS. BULBS.

MR. J. C. STEVENS will SELL BY AUCTION, at his GREAT ROOMS, 38, KING STREET, COVENT GARDEN, every MONDAY, WEDNESDAY, and SATURDAY, first-class BULBS from Holland, lotted to suit all buyers.
View morning of sale, and catalogues had.

Orchids in Flower and Bud.

MR. J. C. STEVENS begs to announce that his next SALE OF ORCHIDS in Flower and Bud will take place at his GREAT ROOMS, 38, KING STREET, COVENT GARDEN, on THURSDAY, SEPTEMBER 16, and he will be glad if gentlemen desirous of entering plants for this Sale will please send particulars of same not later than Thursday next.

To be Let.

LIGHT FACTORY in Farringdon Road (a few minutes' walk from the station M. and D. Railway, Ludgate Hill, and Fleet Street).—A WARE-ROOM or light FACTORY, on second floor; capital light. Rent £60 per annum. Debenham, Tewson, Farmer, and Bridgewater, 80, Cheapside.

TO GARDENERS, NURSERYMEN, AND OTHERS.—TO BE LET, within three minutes' walk of the railway station, a capital NURSERY and FRUIT GARDEN, containing one acre, with greenhouse 120 feet long (fitted with hot water apparatus), stable, shed, and piggeries. Incoming, including greenhouse and buildings, about £150.—Apply Mr. ALFRED DARBY, Chelmsford.

TO BE LET (at a low valuation), the old-established, fully-licensed INN, known as the Alma Tavern, Sandwich, Kent. Free for sundries. Rent £18. The premises contain six bed-rooms, bar, bar parlour, smoking-room, living-room, kitchen, good cellarage, and shop adjoining the bar. Would suit a market gardener.—Apply to R. BAXTER and Co., Export Brewery, Sandwich.

For Sale.

Fifty Nurseries, Market Gardens, Florist, and Seed Businesses to be disposed of.

MESSRS. PROTHEROE and MORRIS'S HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained gratis at 8, New Broad Street, E.C.

FLORIST and SEEDSMAN. — STOCK, GOODWILL, FIXTURES, &c., TO BE DISPOSED OF, a great bargain; situate in a good locality.—For price and all particulars apply J. G. HAMMOND, jun., 39, Great Tower Street, E.C.

Wanted.

WANTED, a first-class SINGLE-HANDED GARDENER; married, but without encumbrance.—Address, stating age, references, wages required, and fullest particulars, E. M., Roseback, Berkhamsted, Herts.

WANTED, a thorough HOUSEMAID, for a family in the northern suburbs; domestic comforts; good wages; good reference indispensable.—Apply by letter, C., 3, Hillside Lawn, Hornsey Lane.

WANTED, a plain COOK, or General Servant who understands plain cooking, for a family in the suburbs; must have good reference; comfortable home, with good wages.—Apply by letter to L., 3, Hillside Lawn, Hornsey Lane.

Situations Wanted.

A LADY desires to RECOMMEND a superior middle-aged WOMAN (widow) as Nurse-Companion, where no night nursing is required, or as wardrobe-keeper in a school; thoroughly trustworthy and well recommended.—Address C., The Elms, Hornsey, N.

A YOUNG MAN seeks a situation as UNDER GARDENER; age 19; been in garden four years; good character.—Address the GARDENER, The Friage, Aylesbury.

A YOUTH, age 17, seeks a Situation as THIRD JOURNEYMAN or Improver in a gentleman's garden; good knowledge of the work.—G., Woodlands Cottage, Muswell Hill Road, Highgate.

AS GARDENER (Single-handed).—Fourteen years' good experience both in and out of doors; age 29; single; three years and eleven months' good character from last employer, and nine years' previous.—S. BROWN, 3, Clare Cottages, The Green, Barnes, Surrey.

CARPENTER, or Handy Man, seeks a Situation on a gentleman's estate or otherwise; total abstainer; 14 years' character from last place.—Address J. P., 53, Whistler Street, Drayton Park, London, N.

GARDENER (Head, or good Single-handed).—Thoroughly practical; 15 years' experience; excellent reference; age 30; married, no family; disengaged September 18; near a town preferred.—Address GARDENER, Morden Lodge, Morden, Surrey.

GARDENER (Head).—Age 30; single; thoroughly experienced in orchids and all branches of the profession; good reference.—R. ALDOUS, 5, Northwold Road, Upper Clapton, E.

GARDENER (Head, Working); age 37; married; understands stove and greenhouse plants, melons, cucumbers, early and late forcing; good plant grower; 20 years' practice; can forward the best of references and character.—H. TILBURY, Hillside Grove, Southgate, N.

GARDENER (Head, Working); thorough practical knowledge in all branches; land and stock if required; married; age 38; five years' character from last place.—PERRY, 125, Casaline Road, South Hackney, London.

GARDENER (Head, Working, where two or three are kept).—Eleven years' experience in all its branches; three years' character; age 25; married, no family; total abstainer.—W. JONES, Parkground Cottage, Lyndhurst, Hants.

GARDENER (Head Working).—Age 36; married, one child; 24 years' experience in good establishments; three years in present situation, eight years in one previous.—C. J. W. CRANHAM, near Romford, Essex.

GARDENER (Head Working) to any lady or gentleman requiring a thoroughly practical and efficient man. Highly recommended. Married, age 35.—WILLIAMS, 8, Crampton Road, Penge, S.E.

GARDENER (Head), where not less than two are kept.—Age 38; married, one child (aged 10 years); understands every branch of the profession; also land, stock, poultry, &c.—Address J. G., 14, Ewart Road, Forest Hill, S.E.

GARDENER (Second Kitchen), in a good establishment.—Age 20; good references; willing, energetic; five years' experience.—BOYCE, The Rectory, Sandon, Chelmsford, Essex.

GARDENER (Second).—A Young Man, age 19, seeks Situation; four years' experience, in all out doors; good recommendation from last employer.—E. GODWIN, Bowling Green, Faringdon, Berks.

GARDENER (Second, where four or five are kept). Age 23; 10 years' good character.—F. FARWELL, Ockley, Dorking, Surrey.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			18·6
12	S	**12th Sunday after Trinity.**	5 31	3 49	6 20	6 8	4 14	1 22	1 42	10 47	11 7	58·3	Cattleya marginata	Brazil.	255
13	M	O Full Moon, 10h. 5 m. morn.	5 32	4 10	6 18	6 31	5 17	1 58	2 14	11 23	11 39	58·1	Cattleya pumila	Brazil.	256
14	Tu	Duke of Wellington died, 1852.	5 33	4 31	6 16	6 55	6 19	2 28	2 43	11 53	—	58·0	Erlopsis biloba	South America.	257
15	W	Brunel (engineer) died, 1859.	5 35	4 53	6 14	7 17	7 24	2 58	3 13	0 8	0 23	57·8	Ionopsis paniculatus	Trinidad.	258
16	Th	Mont Cenis Tunnel opened, 1871.	5 36	5 14	6 12	7 43	8 27	3 29	3 44	0 38	0 54	57·6	Lælia elegans Dayi	Brazil.	259
17	F	*Lambert, Bishop.*	5 38	5 35	6 10	8 9	9 32	4 0	4 15	1 9	1 29	57·3	Lælia furfuracea	Mexico.	260
18	S	Length of day, 12h. 27m.	5 40	5 56	6 7	8 41	10 37	4 32	4 49	1 40	1 57	57·2	Lælia Lindleyana	Brazil.	261

Auction Sales for the Ensuing Week.

MONDAY, WEDNESDAY, AND SATURDAY, SEPTEMBER 13, 15, AND 18.—Mr. J. C. Stevens, at 38 King Street, Covent Garden; Dutch Bulbs.

MONDAY, SEPTEMBER 13.—Messrs Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs and 30,000 Tuberoses.

TUESDAY, SEPTEMBER 14.—Messrs. Protheroe and Morris, at the Burnt Ash Nurseries, Lee; Annual Trade Sale of Plants.

WEDNESDAY, SEPTEMBER 15.—Messrs. Protheroe and Morris, at the Lea Bridge Nurseries, Leyton; Annual Trade Sale of Plants

THURSDAY AND SATURDAY, SEPTEMBER 16 AND 18—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.

THURSDAY, SEPTEMBER 16—Messrs. Protheroe and Morris, at the Brunswick Nursery, Tottenham; Annual Trade Sale of Plants.

THURSDAY, SEPTEMBER 16.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

FRIDAY, SEPTEMBER 17.—Messrs. Protheroe and Morris, at the Longlands Nursery, Sidcup; Annual Trade Sale of Plants.

FRIDAY, SEPTEMBER 17—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Special Trade Sale of Orchids.

SATURDAY, SEPTEMBER 18—Messrs Protheroe and Morris, at Dyson's Lane Nursery, Edmonton; Trade Sale of Plants.

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ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, SEPTEMBER 11, 1886.

THE EXHIBITION SEASON closed on Saturday last with a magnificent display of flowers and fruits at the Crystal Palace, Sydenham. We may expect quiet times until chrysanthemums are ready, when they will constitute a season of their own, or, at least, will make an episode in the round of the year's activities. There can be no doubt about the realities of the horticultural exhibitions. They are not spasmodic in their occurrence; they are not trivial in their nature; they are healthy and useful in respect of their objects; and they are successful from first to last, save when unkind weather or mismanagement ensures the exceptions that prove the rule. It would be idle to enquire if these exhibitions are justifiable on any higher grounds than the entertainment they afford. It is late in the day to question their usefulness, and the best way to approach them for general considerations is to recognise them as necessities, and on that basis speculate on their relation to the advancement of horticulture.

Those who move in the thick of the throng must occasionally have to regret a needless and injurious multiplication of exhibitions. In some particular centre there is developed a suitable spirit, and the forces around are gathered together with facility; the result being a general awakening of the district and the establishment of a series of useful demonstrations. But the necessary concentration of energy is often rudely checked by some divergence of opinion or feeling, and the result is the creation of as many small exhibitions as there are parishes in the town or villages surrounding it. Then a blight is seen to fall on all alike, or one or two of the number survive to tell the tale of the weakness that results from injudicious division of forces. Many of our readers have seen and lamented occurrences of the kind, which are injurious alike to local interests and to the cause of horticulture. But the splitting up of parties must be inevitable and advantageous in certain circumstances; and the point of importance seems to be that the division should represent geographical and industrial requirements, and not personal pique or superficial enthusiasm. Any case of threatened dissolution should be measured by the standard of necessity, and then if it is seen to represent growth more than temper, and public as distinct from private advantage, it is good, and may be encouraged. Short of this, division is dangerous, for one strong and spirited organisation is every way preferable to a number of competing peurilities.

The position of the flower show in public estimation is illustrated in many ways. At Manchester, York, Northampton, Leicester, Shrewsbury, and many more busy places the horticultural exhibitions attract greater thousands than any other entertainments of the whole twelve months. In many cases the arrangements are susceptible of considerable improvement, and the men of business who are expert in practical matters and understand the peculiarities of the locality should be pressed into the service even if, in many cases as may be, they are not ambitious of distinction as horticulturists. It is our pleasure to know of many earnest workers in the cause, who know but little of gardening, but enter into the details of the annual exhibition in the most practical manner out of pure love for a good cause under any name and in the impulse of genuine public spirit. There is much more to be done for a flower show than to prepare the schedule and arrange the plants, and the men who can tap the local purse and manage letter-writing and book-keeping may find agreeable employment for a portion of their leisure in giving a helping hand to their neighbours of the horticultural persuasion. The gardeners who are great on the show table are often not so great in what is called "management," and the men of business, whether known as "gentlemen amateurs" or as "local politicians," are much wanted to raise the wind and cause it to blow in a suitable direction. When the gentlemen amateurs work alone as a kind of clique, the affair is as insecure as when the gardeners isolate themselves in a too confident spirit. There is no institution so well adapted to combine all classes and all interests as the horticultural exhibition, and we hope the promoters of the happy thought will always keep in mind that breadth of spirit is essential to real enjoyment of the work and the best guarantee of success.

The special societies that represent florists' flowers are, without exception, prosperous. But the prosperity is dependent on the constant work of the several representatives, and when these fail of endeavour decline is certain. The money does not come from heaven, and the flowers do not come without proper invitation. The only thing of the kind that we should at this moment speak of as in danger of decline is the National Dahlia Society, for the growers support it with their flowers only—or, at the best, subscribe to the funds with less spontaniety and liberally than the cause demands. It is, perhaps, not difficult to account for the apparent indifference of cultivators of the dahlia as regards the "sinews of war." The exhibition is located in the Crystal Palace, and, therefore, appears to be the "property" of a trading concern. But it is taken there for convenience merely, and the company affords a reasonable amount of assistance. The society is indebted to the company for accommodation and for pecuniary help. But it retains its independence; it is free to move the show to any place that may appear the most convenient; and, in fact, the thing would not be worth doing as a Crystal Palace concern merely. To maintain its independence and carry on the work in a manner worthy of the flower in particular, and of floriculture in general, a special fund is required, and this has fallen so low that unless the people who believe in dahlias adopt a more generous action there must be an end of the exhibition.

Having made mention of the Crystal Palace, we are bound to speak of it again as the best home, in recent as well as in earlier years, of demonstrative horticulture. The vast arena, the agreeable surroundings, and the perfect shelter are advantages of primary importance. In the early days of the palace horticulture was splendidly vindicated, but there followed a term of trifling with the subject, and through a run of years the exhibitions were much below a reasonable standard. The mistake has been recognised and remedied; and for some years past horticulture has been welcomed at Sydenham in the most liberal and enlightened manner, and the exhibitions have been advantaged by the most judicious manage-

ment. In the exhibition of last week an improvement of considerable importance was adopted. In place of the long table with front rows of exhibition subjects divided by a central line of plants, the display was broken up into a series of blocks in the nature of separate tables. This was only partially carried out in the dahlia show, but was fully carried out in the fruit show, and the inspection of the samples was a quite convenient and agreeable affair even when the tide of visitors was highest. We have recorded the rapid execution of preliminaries at Northampton, where the judging was completed and the public were admitted in thousands at the hour of noon. That and the new arrangement at Sydenham appear at this moment to be the points best worth recording in a review of the exhibition season that has just closed. Perhaps on the dark side we ought to place the glorious exhibition of the National Rose Society because it was located in a place that afforded neither room to move nor air to breathe. The N.R.S. will have to do better, or it will soon do worse. It is thriving, and deserves to thrive; but its one great day in the year should be a happy one, and should not remind even the cynics, much less the sweet ones that are all content, of the Black Hole of Calcutta.

EXETER PEAR AND APPLE SHOW will be held October 21 and 22.

MR. A. HORSELL, late of Wonersh Park has been engaged as gardener at Shobdon Court, Herefordshire, the seat of Lord Bateman.

"FLORA OF BRITISH INDIA."—The thirteenth part of this important work is announced as ready for publication.

YORKSHIRE NATURALISTS' FUNGUS FORAY is fixed for September 30.

SIR HERBERT EUSTACE MAXWELL, Bart., M.P., has been elected President of the Scottish Arboricultural Society.

BRIGHTON CHRYSANTHEMUM SHOW will be held November 17 and 18, instead of on the dates originally announced.

MR. J. BUSS, late of Parkside, Ewell, has been engaged as head gardener by A. Aston, Esq., West Hill, Epsom.

TEDDINGTON CHRYSANTHEMUM SOCIETY will hold its annual exhibition, November 16 and 17.

TOBACCO-GROWING IN FRANCE is the subject of an essay by Mr. P. M. Taylor, to be published shortly by Mr. Stanford. The author has had long experience in tobacco-growing in the department of Lot-et-Garonne, and can treat of the commercial aspects of the subject.

DAHLIAS MOUNTED ON BLACK VELVET show their characters well, and the system is worthy of consideration. At the National Dahlia Show some stands of flowers were so presented by Mr. Hockney, and the judges made no objection. It may be assumed, therefore, that the thing is legitimate, and may be adopted by many.

THE EARTHQUAKE AT CHARLESTON, succeeding closely upon that in New Zealand, concurrently with the lunar movements that are associated with augmented tides, illustrates in a striking manner the noble discourse of Sir William Dawson on the history of the Atlantic, and the formation of the great continents. In the G. M. of Dec. 22, 1877, will be found a series of maps delineating the lines of earthquake and volcanic energy upon the face of the globe, from which it will appear that Charleston is far removed from any known centre of subterranean energy. The Atlantic may be regarded as a well-behaved ocean, for the immense traffic upon its waters testifies to its conformity to respectable notions, however, it may sometimes chafe and fret under the restraints of decorum. The Charleston phenomena seem to indicate the establishment of a new line of moveable surface as an off-shoot of that which crosses the Atlantic from the Gulf of Mexico to the European Peninsula.

POISONOUS FUNGI.—Dr. H. Handford, consulting physician to the Nottingham General Hospital, has been in communication with Dr. M. C. Cooke, specialist of fungi at the Royal Herbarium at Kew, with respect to the recent fungus poisoning case in Nottingham. Dr. Cooke, after examining the remains of the fungi gathered by the man Whitworth, and which proved fatal to him and his child, is of opinion that the fungus is the *Agaricus (amanita) phalloides*. Some people were poisoned by the same variety at King's Lynn two or three years ago. There is a good illustration of it in a plate in Figure 1 in Berkeley's "Outlines of British Fungology" (1860), and also in No. 7 on the sheet of poisonous mushrooms published by Hardwicke. It bears but little resemblance to the *Agaricus (Trichotoma) personatas*, commonly called Blue-button, Blue-bottom, or Blewitt, for which it was mistaken, and which is commonly sold both in Nottingham Market and in Covent Garden. *Agaricus (amanita) phalloides* is most closely allied to *A (a) Muscarius*, from which muscarin, the active principle of poisonous fungi, was first obtained. The symptoms in the man Whitworth so closely resembled those observed in the recorded experimental inquiries into the action of muscarin on the lower animals, that Dr. Cooke has little doubt that muscarin, or a substance differing from it only in a trifling degree, was the active principle that caused death. He thinks it is not sufficiently recognised by the public, though it has been repeatedly stated by fungologists, that it is frequently difficult to distinguish edible fungi from the poisonous varieties that closely resemble them. Those who attempt to do so by means of coloured plates, without having at the same time a sound knowledge of the subject, are very likely sooner or later to meet with disaster. The small quantity which proved fatal in the case of the poor man Whitworth shows how dangerous a mistake may be.

THE WASTE OF PLUMS that has been much deplored as an incident of the season comes very near to the nature of a scandal. It would be the very essence of stupidity to blame men for wasting fruit that it is impossible to touch except with the certainty of a loss of money. But the *impossible?* contains a problem, and a general answer to it is that, so much possible money being on the trees, there should be found a means of converting it into actual money, for that implies benefit to all, the grower included. The utilization of a glut of fruit will, of course, be for many a long year to come associated with the recommendations of "old jam pot," and much has been done to carry out that recommendation. Mr. H. M. Roberts, of Tring, proposes the drying of plums in the fashion of French prunes, in which form, if well done, they would be a fair marketable article. Mr. Roberts says; "I thought of stretching netting just above my malt-kiln floor, placing the plums—having gathered them just before ripe—in a thin layer all over, and at short intervals slightly agitating the netting so as to alter the position of the fruit. Now, the heat to start them at, and whether they should be allowed to cool several times during the process, and whether one could burn any substance upon the fire that would assist in shrivelling the skin (and not bursting it), are points upon which a little help would be worth no end of pity."

BIRKENHEAD'S BEETLE TRAP, which was exhibited at South Kensington and the Royal Aquarium during the past week, is so great an improvement on existing contrivances for catching cockroaches, that it is not surprising it should have received a large share of attention. The trap is not less simple in construction than it is effective in operation, and has the appearance of a light beech-wood box fitted with glass lid. The trap consists of two parts, and in setting it, a little bread soaked in beer, a portion of fish, or other tempting morsel, is placed in the lower section, and the upper section is then placed in position and secured by brass hooks at the side. The lid is formed with two strips of glass, which are fixed somewhat in the form of the letter V, one of the strips having a semi-circular piece taken out of the lower side. This arrangement enables the cockroaches to pass readily into the trap, but under no circumstances can they find their way out again. The lower section is fitted with a false bottom, which has at one corner a circular hole covered with a zinc slide. When it is desired to destroy the cockroaches the slide is removed, and in a very short time the whole of the captives will pass down through it into the dark chamber. As soon as this is the case, the slide is returned to its place, the upper section is removed, and the lower part being plunged into a vessel containing boiling water the whole of the beetles are destroyed without the slightest difficulty. The inventors and manufacturers are Messrs. W. and J. Birkenhead, Sale, who have had it in use in their numerous fern houses for some months past, and have found it singularly efficient.

HOW TO ENJOY CHRYSANTHEMUMS OUT OF DOORS.

By JOHN THORPE, Queens, New York.

SELECT an open position where the soil is rich, and some time in May plant out as many chrysanthemums as may be necessary, not less than two and a-half feet apart each way, but three feet will be better. If the soil is not rich it must be made so by liberal additions of manure, and it must be kept clean. There is no better place for them than a vegetable garden. They must not lack for nourishment.

About the first week in June each plant should have the centre of the shoot pinched out—an operation known as "stopping." A strong stick should at the time be placed by the side of each plant, to which it should be loosely tied. In a few weeks there will be grown from four to six more shoots, four or five inches long. These must again be "stopped," and this operation continued until the 1st of August, after which time let every shoot grow and do not stop any more. Keep the plant tied so as to prevent being broken by the wind. By the first week in September many buds will be formed; if very large flowers are desirable, one-third or more of the buds should be taken off. Some weak liquid manure can be given.

At any time before the end of September, decide on some spot, according to the quantity of plants, where a bed can be planned; carefully dig up the tallest plants first, placing them in line so that there is just room for daylight between them, and divide the number of plants into equal parts so that they may be arranged about four feet deep, with the tallest at the back, the shortest ones in front. Of course, all the soil must be kept on the roots as far as possible, and they must be firmly planted and well watered. Four posts are to be set in the ground, two at each end. Let each post be two feet taller than the plants—this will give you the tallest at back. Nail an inch board, four to six inches wide, edgewise all round, the edges to be flush with the pitch of the posts. A board should also be nailed on edge at bottom on surface of the ground. If the bed is longer than ten feet, more posts will be required as supports. On the side and at both ends, tack a roll of canvas, cloth, muslin, or any material that will simply protect the flowers from cutting winds. Cover the top, which will be on a slope, with the same material, nailing it at upper side and attaching it to a roller, so that it can be easily let down and taken up. This should be let down on the approach of the first cold snap—which is generally early in October, and which lasts only one or two nights—and on cold nights and very stormy days afterwards, the plants should be kept covered. As a matter of course, provision will be made to securely tie the canvas in case of high winds. We have not given any dimensions as to the size, that can best be determined according to the number of plants. We can, however, tell our friends that they will be delighted with the experiment, that the flowers will be nearly equal to those opened in the greenhouses, and that the canvas cover will be sufficient to keep them from being injured by the frost, and will serve the same purpose many years.

British Association.

THE CRUST OF THE EARTH.

AS ILLUSTRATED IN THE GEOLOGICAL HISTORY OF THE ATLANTIC OCEAN.

By the President, Sir WILLIAM DAWSON.

THE geological history of this depression of the earth's crust, and its relation to the continental masses which limit it, may furnish a theme at once generally intelligible and connected with great questions as to the structure and history of the earth, which have excited the attention alike of physicists, geologists, biologists, geographers, and ethnologists. If we imagine an observer contemplating the earth from a convenient distance in space, and scrutinising its features as it rolls before him, we may suppose him to be struck with the fact that 11-16ths of its surface are covered with water, and that the land is so unequally distributed that from one point of view he would see a hemisphere almost exclusively oceanic, while nearly the whole of the dry land is gathered in the opposite hemisphere. He might observe that the great oceanic area of the Pacific and Antarctic oceans is dotted with islands—like a shallow pool with stones rising above its surface—as if its general depth were small in comparison with its area. He might also notice that a mass or belt of land surrounds each pole, and that the northern ring sends off to the southward three vast tongues of land and of mountain chains, terminating respectively in South America, South Africa, and Australia, towards which feebler and insular processes are given off by the Antarctic continental mass. This, as some geographers have observed, gives a rudely three-ribbed aspect to the earth, though two of the three ribs are crowded together and form the Europ-Asian mass or double continent, while the third is isolated in the single continent of America. He might also observe that the northern girdle is cut across, so that the Atlantic opens by a wide space into the Arctic sea, while the Pacific is contracted towards the north, but confluent with the Antarctic ocean. The Atlantic is also relatively deeper and less cumbered with islands than the Pacific, which has the higher ridges near its shores, constituting what some visitors to the Pacific coast of America have not inaptly called the "back of the world," while the wider slopes face the narrower ocean, into which for this reason the greater part of the drainage of the land is poured.

The Pacific and Atlantic, though both depressions or flattenings of the earth, are, as we shall find, different in age, character, and conditions; and the Atlantic, though the smaller, is the older, and from the geological point of view, in some respects, the more important of the two. If our imaginary observer had the means of knowing anything of the rock formations of the continents, he would notice that those bounding the North Atlantic are in general of great age, some belonging to the Laurentian system. On the other hand, he would see that many of the mountain ranges along the Pacific are comparatively new, and that modern igneous action occurs in connection with them. Thus he might be led to believe that the Atlantic, though comparatively narrow, is an older feature of the earth's surface, while the Pacific belongs to more modern times. But he would note in connection with this that the oldest rocks of the great continental masses are mostly toward their northern ends, and that the borders of the northern ring of land and certain ridges extending southwards from it constitute the most ancient and permanent elevations of the earth's crust, though now greatly surpassed by mountains of more recent age near the equator. Before leaving this general survey we may make one further remark. An observer looking at the earth from without would notice that the margins of the Atlantic and the main lines of direction of its mountain chains are north-east and south-west, and north-west and south-east, as if some early causes had determined the occurrence of elevations along great circles of the earth's surface tangent to the polar circles.

We are invited by the preceding general glance at the surface of the earth to ask certain questions respecting the Atlantic. (1) What has at first determined its position and form? (2) What changes has it experienced in the lapse of geological time? (3) What relations have these changes borne to the development of life on the land and in the water? (4) What is its probable future?

Before attempting to answer these questions, which I shall not take up formally in succession, but rather in connection with each other, it is necessary to state as briefly as possible certain general conclusions respecting the interior of the earth. It is popularly supposed that we know nothing of this beyond a superficial crust perhaps averaging 50,000 to 100,000 feet in thickness. It is true we have no means of exploration in the earth's interior, but the conjoined labours of physicists and geologists have now proceeded sufficiently far to throw much inferential light on the subject, and to enable us to make some general affirmations with certainty; and these it is more necessary to state distinctly, since they are often treated as mere subjects of speculation and fruitless discussion.

(1) Since the dawn of geological science, it has been evident that the crust on which we live must be supported on a plastic or partially liquid mass of heated rock, approximately uniform in quality under the whole of its area. This is a legitimate conclusion from the wide distribution of volcanic phenomena, and from the fact that the ejections of volcanoes, while locally of various kinds, are similar in every part of the world. It led to the old idea of a fluid interior of the earth, but this is now generally abandoned, and this interior heated and plastic layer is regarded as merely an under crust.

(2) We have reason to believe, as the result of astronomical investigations, that, notwithstanding the plasticity or liquidity of the under crust, the mass of the earth—its nucleus, as we may call it—is practically solid and of great density and hardness. Thus we have the apparant paradox of a solid yet fluid earth; solid in its astronomical relations, liquid or plastic for the purposes of volcanic action and superficial movements.

(3) The plastic sub-crust is not in a state of dry igneous fusion, but in that condition of aqueo-igneous or hydro-thermic fusion which arises from the action of heat on moist substances, and which may either be regarded as a fusion or as a species of solution at a very high temperature. This we learn from the phenomena of volcanic action, and from the composition of the volcanic and plutonic rocks, as well as from such chemical experiments as those of Daubrée and of Tilden and Shenstone.

(4) The interior sub-crust is not perfectly homogenous, but may be roughly divided into two layers or magmas, as they have been called—an upper, highly siliceous or acidic, of low specific gravity and light coloured, and corresponding to such kinds of plutonic and volcanic rocks as granite and trachyte; and a lower, less siliceous or more basic, more dense, and more highly charged with iron, and corresponding to such igneous rocks as the dolerites, basalts, and kindred lavas. It is interesting here to note that this conclusion, elaborated by Durocher and Von Waltershausen, and usually connected with their names, appears to have been first announced by John Phillips in his "Geological Manual," and as a mere common-sense deduction from the observed phenomena of volcanic action and the probable results of the gradual cooling of the earth. It receives striking confirmation from the observed succession of acidic and basic volcanic rocks of all geological periods and in all localities. It would even seem, from recent spectroscopic investigations of Lockyer, that there is evidence of a similar succession of magmas in the heavenly bodies, and the discovery by Nordenskiöld of native iron in Greenland basalts affords a probability that the inner magma is in part metallic.

(5) Where rents or fissures form in the upper crust, the material of the lower crust is forced upward by the pressure of the less supported portions of the former, giving rise to volcanic phenomena either of an explosive or quiet character, as may be determined by contact with water. The underlying material may also be carried to the surface by the agency of heated water, producing those quiet discharges which Hunt has named crenitic. It is to be observed here that explosive volcanic phenomena and the formation of cones are, as Prestwich has well remarked, characteristic of an old and thickened crust; quiet ejection from fissures and hydro-thermal action may have been more common in earlier periods, and with a thinner over-crust.

(6) The contraction of the earth's interior by cooling and by the emission of material from below the over-crust has caused this crust to press downward, and therefore laterally, and so to effect great bends, folds, and plications; and these, modified subsequently by surface denudation, constitute mountain chains and continental plateaus. As Hall long ago pointed out, such lines of folding have been produced more especially where thick sediments had been laid down on the sea bottom. Thus we have here another apparent paradox—namely, that the elevations of the earth's crust occur in the places where the greatest burden of detritus has been laid down upon it, and where consequently the crust has been softened and depressed. We must beware, in this connection, of exaggerated notions of the extent of contraction and of crumpling required to form mountains. Bonney has well shown, in lectures delivered at the London Institution, that an amount of contraction almost inappreciable in comparison with the diameter of the earth would be sufficient; and that as the greatest mountain chains are less than 1-600th of the earth's radius in height, they would on an artificial globe a foot in diameter be no more important than the slight inequalities that might result from the paper gores overlapping each other at the edges.

7. The crushing and sliding of the over-crust implied in these movements raise some serious questions of a physical character. One of these relates to the rapidity or slowness of such movements, and the consequent degree of intensity of the heat developed, as a possible cause of metamorphism of rocks. Another has reference to the possibility of changes in the equilibrium of the earth itself as resulting from local collapse of ridging. These questions in connection with the present dissociation of the axis of rotation from the magnetic poles, and with changes of climate, have attracted some attention, and probably deserve further consideration on the part of physicists. In so far as geological evidence is concerned, it would seem that the general association of crumbling with metamorphism indicates a certain rapidity in the process of mountain-making and consequent development of heat, and the arrangement of the older rocks around the Arctic basin forbids us from assuming any extensive movement of the axis of rotation, though it does not exclude changes to a limited extent.

Keeping in view these general conclusions, let us now turn to their bearing on the origin and history of the North Atlantic. Though the Atlantic is a deep ocean, its basin does not constitute so much a depression of the crust of the earth as a flattening of it, and this, as recent soundings have shown, with a slight ridge or elevation along its middle, and banks or terraces fringing the edges, so that its form is not so much that of a basin as that of a shallow plate with its middle a little raised. Its true permanent margins are composed of portions of the over-crust folded, ridged up, and crushed as if by lateral pressure emanating from the sea itself. We cannot, for example, look at a geological map of America without perceiving that the Appalachian ridges, which intervene between the Atlantic and the St. Lawrence valley, have been driven bodily back by a force acting from the east, and that they have resisted this pressure only where, as in the Gulf of St. Lawrence and the Catskill region of New York, they have been protected by outlying masses of very old rocks, as, for example, by that of the island of Newfoundland and that of the Adirondack Mountains. The admirable work begun by my friend and fellow-student, Professor James Nicol, followed up by Hicks, Lapworth, and others, and now, after long controversy, fully confirmed by the recent observations of the geological survey of Scotland, has shown the most intense action of the same kind on the east side of the ocean in the Scottish Highlands; and the more widely distributed Eozoic rocks of Scandinavia may be appealed to in further evidence of this.

(*To be continued.*)

A TOWN GARDEN.

A CAPITAL illustration of a good town garden is that attached to The Abbey, Kensington, the residence of W. Abbott, Esq.

The house itself is quite an imposing structure, giving one the idea of a religious building—hence its name. There is a nice stretch of green sward in front of the house, and there are some fine masses of rhododendrons, which are a prominent feature in the flowering season. Dotted here and there are good specimen trees, especially noticeable being the Weeping Elms and Limes; and to secure privacy from the surrounding houses, such tall-growing trees as Planes, Norway Maples, Limes, Horse Chestnuts, and Poplars have been planted, which, in addition to effecting the end in view, impart somewhat of an arboricultural feature to the place.

A conservatory attached to the building is kept gay with the usual subjects, and there are two vineries bearing heavy well-finished crops of Black Hamburgh.

Mr. Fletcher, the gardener, may be congratulated on the satisfactory condition of affairs in general at this "Town Garden." B.

TEA IN OUR COLONIES.—The common idea that the people of England consume (per head) more tea than any other country in the world is erroneous. The Australians drink on an average 7½ pounds each person, and New Zealand 7¾ pounds yearly; whilst the consumption in Great Britain is under five pounds per head. The system of direct supply from tea-growing districts to the Colonies ensures a pure article at moderate cost; precisely as Horniman's system in England guarantees at a fixed price the best tea the world produces. Those who appreciate full rich flavour, amazing strength, and perfect freedom from all adulteration, use Horniman's Pure Tea. Sold by agents, chemists, confectioners, &c., advertised in all papers and at railway stations.—[ADVT.]

Notes of Observation.

ROSES IN POTS.

THOSE who anticipate starting to grow or add to the number of their pot roses, should lose no time in getting them potted up. If not possessed of the desired stock of plants out of doors, endeavour should be made to visit the nearest nursery, where the plants are grown extensively, and have the desired number of plants lifted and conveyed home with as little delay as possible. They should be potted into suitable size pots in a compost of strong fibrous loam, with about a fourth portion of coarse sand and manure added. If the roots have become at all dry in transit dip them into a can of water as the potting proceeds, when it will be found that the soil will adhere to the roots and assist them greatly. In potting it may be necessary to shorten the roots back a little, and those left should be turned carefully round the sides of the pots, and some fine particles of the soil shaken between them, so that when the firming commences all the roots will not be pressed together. They should be potted quite firm, after which they should be stood in a partially shaded position, and receive a good soaking of water. In addition they should be syringed several times daily in fine weather, until the roots take to the new soil. Plants treated in this way are in much better condition for starting into growth during February and March than those that are potted up later on in the season, say October or November, for when treated as described they take to the new soil, and are but little inferior for late starting than those that have been established in pots for a much longer time. W. C. C.

NEW PEAS.

Amongst the peas of recent introduction Webb's Wordsley Wonder and Chancellor are two excellent varieties, as they produce enormous crops, and are of high quality. Laxton's Charmer and Waltham Hero are very promising, more especially the first mentioned of the two. The latter produces fine handsome pods, but there are not sufficient of them to please me; Telegraph, Telephone, Pride of the Market, and Stratagem still hold their own against all comers.

Longford Castle, Salisbury. H. W. WARD.

EARLY PEAS.

The long-continued cold in the spring was rather too much for the early peas. Those sown outside suffered considerably, and were unsatisfactory; but those sown on strips of turf and planted out in favourable weather did remarkably well. The best variety for early sowing here is, I find, William I., which is now too well known to render description necessary.

Enville Hall, Stourbridge. G. H. GREEN.

OUTDOOR TOMATOES.

In the neighbourhood of Ealing the cultivation of tomatoes in the open fields is carried on somewhat extensively, and, so far as can be seen with a full measure of success, for where suitable varieties were selected and the plants put out early the crops are heavy, and the fruit is ripening satisfactorily. I have for some time past been much interested in a large field of tomatoes belonging to Messrs. Steel, the well-known market gardeners, for the practice they have adopted is of the simplest character, whilst the results generally are decidedly satisfactory. The plants were put out about two feet apart each way, and have been allowed to grow with but little attention beyond keeping the spaces between the rows free from weeds. They appear to have been allowed to grow unchecked until they had produced two or three clusters of flowers, when the points of the shoots were nipped out. A small crop of secondary shoots was in due course produced, and these were allowed to extend freely until the latter part of August, when they were removed with a considerable proportion of the larger leaves. When the shoots and foliage were cut away the crop revealed in the best part of the field was so large as to be sufficient to surprise those who have not had any experience in the production of tomatoes in the open. The plants have produced from two to four large clusters each, and the weight of the individual fruits will range from two to four ounces. These remarks refer to the plants occupying an area of two or three acres on the eastern side of the field, for on the west side the crop is far less satisfactory, owing either to the variety having been unsuitable or the plants being put out too late in the spring. The variety bearing so well is, so far as could be seen, a good selection from the Common Red, which, taking all points into consideration, is by no means surpassed. We have had a number of so-called new tomatoes introduced during the past decade, but for outdoor culture they are of very little value, as compared with a good type of the Common Red.

GEORGE GORDON.

PEAS FOR SUCCESSION.

According to my experience, Sangster's No. I is still the earliest pea in cultivation. For succeeding it we sow William I., which is followed by Telephone, Champion of England, and Ne Plus Ultra, the last mentioned for late supplies. Evolution is a grand midseason pea.

J. C. CLARKE.

EXCELLENT SUMMER PEA.

Criterion, which may be described as the summer Ne Plus Ultra, is one of the heaviest cropping peas we have. It is my favourite summer pea, and in my opinion should be grown in every garden where a first-class variety is appreciated for home consumption. We also grow Marvel, Champion of England, Veitch's Perfection, and Dr. Maclean, all of which have this year either produced good crops or are still in full bearing.

Gunton Park, Norwich. WILLIAM ALLAN.

CHECKMATING THE SNAILS.

Our practice in raising the early crops of peas during the past sixteen years has been to sow in three-inch pots at the end of January, and when sufficiently advanced gradually harden off, and plant out when the weather is favourable in March. By this means we avoid the injury that is so frequently done by snails and other marauders to the plants in their earliest stages. I have no recollection of peas being better than this season, or more free from mildew. We gathered Veitch's Selected Early on June 8, and this excellent early variety was closely followed by William I., which in its turn was succeeded by Criterion, Telephone, and Ne Plus Ultra, which have maintained a constant supply without a break.

Gunnersbury House. J. HUDSON.

DICKSON'S LATE MAY BROCCOLI.

Broccolis stood the winter remarkably well, and we had Dickson's Late May in cutting up to June 10. This variety stands quite as well as Cattell's Eclipse, and has the great advantage of producing heads much better in form and colour.

Rainford Hall, St. Helen's. G. MIDDLETON.

HARDINESS OF THE FLORISTS' CARNATIONS.

When Mr. Dean called upon me lately I did not anticipate he would make my collection the subject of a notice in your valuable paper, or I would have entered more into detail with him where points of culture were concerned. I quite agree with Mr. Gordon that it is desirable not to run the chance of misleading a beginner, and it is therefore well to point out that the plants which Mr. Dean saw in the borders here were the stools turned out of the pots, with the rooted layers attached, after I had taken off as many of the latter as I wanted to pot up. Of course, this differs from planting out the young layers in the important point that the parent plant, with its abundant roots, is able to dispose of the excessive moisture caused by the heavy autumn and winter rains, with which the little detached plants, just rooted, and struggling to establish themselves, would be gorged and injured, and probably killed. A beginner would get his plants as rooted layers, and his safest course is to place them in small pots, and winter them in a cold frame, keeping them close for the first week or so, then giving plenty of air, the protection of the frame being directed not against frost, but against the excessive rain, which their little rootlets have not the capacity to absorb. The plants turned out, and which passed through the autumn and winter in the borders here, comprised all classes of the show sorts, some of the less vigorous-growing varieties among them. All bloomed in good character, and are sound and healthy. No doubt the conditions here are very favourable, the aspect being south-west, the soil a made one of light loam resting on gravel. But, granting a well-drained soil, and following the method of leaving the layers attached to the parent plant, I think we are entitled, after the experience of last autumn and winter, to claim that our florists' carnations are as hardy as can reasonably be desired.

August 7, 1886. M. R.

USEFUL PEAS.

For supplying the table we rely chiefly on Telephone and Magnum Bonum. The first comes in with us as a second early, and produces a heavy crop of the highest quality. Magnum Bonum is grown for main crop and late supplies, and is of a high degree of excellence Last year we gathered from it until November 19. We save the seed of peas ourselves, and thus make sure of good stocks.

Osmaston Manor, Ashbourne. W. SHERWIN.

The peas grown here are William I. (true), Stratagem, Telegraph, Veitch's Perfection, and Ne Plus Ultra. New sorts are tried as they make their appearance; but the above are relied on. The seeds are sown thinly in narrow trenches, and in some seasons we have good peas till the middle of November. The above sorts are selected for size, colour, and flavour of the peas.

Tyninghame, East Lothian. R. P. BROTHERSTON.

A GOOD MAIN CROP PEA.

To succeed William I. I grow Telegraph, and as a midseason pea I consider it the most reliable of any of the varieties.

Galloway House, Garlieston. J. DAY.

TWO GOOD EARLY PEAS.

We had splendid crops of Veitch's Selected Early and Chelsea Gem, two varieties of the highest excellence for furnishing the first early supplies.

Canford Manor, Wimborne. D. WILLIAMS.

HUNDREDFOLD PEA.

Of the various peas grown, the old Hundredfold is by far the heaviest cropper, and decidedly the best here for main crops. It is not only a good cropper, but it is of good colour and quality when on the dinner table.

Eglington Gardens, Irvine. WILLIAM PRIEST.

HYDRANGEA PANICULATA GRANDIFLORA.—Unquestionably one of the finest hardy deciduous plants grown is Hydrangea paniculata grandiflora. A bed of it in the Royal Horticultural Society's gardens at Chiswick is just now a conspicuous feature. Great pyramidal panicles a foot in depth and two feet in circumference, crowded with large white flowers are produced in abundance. B.

AMONGST THE ROSES.

I had an opportunity on a sunny day lately to pay a hurried visit to the far-famed nurseries of Messrs. W. Paul and Son, Waltham Cross, and had the further gratification of being shown round by the senior member of the firm, Mr. W. Paul. I am a raiser of seedling florists' flowers, and have made some little progress in the art of the florist, and although I have never raised a seedling rose can fully appreciate the work of a brother florist in this fair field of floriculture.

The raising of new varieties of roses in this country, superior to those already in cultivation, is a work requiring great patience. It can scarcely be expected to be profitable, considering how many seedlings have to be raised before a selection can be made from them to grow again. Mr. Paul showed me many fine seedlings, which had been propagated in various ways, to thoroughly prove them. One variety, of the richest crimson-scarlet colour, with most exquisitely formed petals, seemed most promising, but on taking hold of a flower the pressure of the hand showed that they were not full enough, and the variety will have to be destroyed, with many others, of various shades of colour, having flowers nearly perfect, but not quite. I proved half a houseful of carnations and picotees in the same way this year, and had some hope of effecting quite a revolution in this lovely flower; but, after all the trouble, most of them had to go to the rubbish heap. But we do not forget the simple, useful line, "If at first you don't succeed, try, try again."

The rose grower, like the cultivator of seedling carnations, has the most favourable opportunities for practising patience. Mr. Paul has had many prizes in his fifty years' personal experience of rose growing, as well as numerous disappointments; and can conduct the whole business of raising seedlings without getting excited over it. Here we can see the old and the new roses growing together, and under the most favourable conditions. Amongst the hundreds of roses cultivated in our gardens, a few dozens are sufficient for all ordinary purposes; and of the popular varieties hundreds are grown to tens of other varieties. Mr. Paul has a new dark-coloured seedling, which he thinks is the best rose he has ever raised; it is named *Grand Mogul*, and is a seedling from A. K. Williams, which it follows in form, but is a dark crimson. *Silver Queen* is a vigorous-growing variety, with pale rose petals, lighter in the outer petals. *Lady of the Lake* is a full globular rose, of a light, lively rose colour. *Florence Paul*, crimson, and a full globular rose, is a most desirable acquisition. In a long walk through quarters of dwarfs and standards, I noted the following as being the best of the hybrid perpetuals. *Pride of Reigate* is a striped form of the Countess of Oxford. *Emperor* was selected as the best dark flowered button-hole rose. *Lord Frederick Cavendish*, bright dazzling red; the flowers are full, and the colour stands well; this last is a most valuable characteristic in any rose. *Prosper Laugier*, crimson-red, a full and good variety. *Benoit Comte*, a fine garden rose, of a rich crimson-red colour. *Ella Gordon*, free in growth, bright red, good form. *Heinrich Schultheis* has large full flowers of a distinct rose-colour. *Countess de Casteja*, crimson-scarlet, vigorous, and a good rose. *Queen of Queens*, a superb variety, of globular form, pink, with pale edges. *Ulrich Brunner*, deep cherry red, very free grower, a good garden variety. *Star of Waltham*, a grand variety of a deep rosy red colour, which stands well. *Charles Darwin*, a fine dark rose, and a good autumn bloomer. *Pride of Waltham*, deep salmon-rose, of good form, free in growth. *Duchess of Bedford*, rich crimson, a very fine variety.

Amongst the tea roses there have been some very distinct and handsome varieties raised in recent years. Indeed, during the last decade, quite a revolution has been effected in this beautiful section. The first variety to arrest attention is *Souvenir de Theresa Levet*, crimson, with a rosy shade in the centre, beautiful in bud. *Anna Olivier*, creamy with buff centre. *Hon. Edith Gifford*, the best of the new tea-scented roses; it is blush, with yellowish buff centre, forms a beautiful bud. *Jean Ducher*, a large full flower, buff with creamy edge. *Comtesse de Nadaillac*, buff, with rosy suffusion. *Souvenir d'Elise Vardon*, a well-known and superb rose. *Madame de Watteville*, quite distinct, and of a peculiar rosy tint. *Grace Darling*, one of the best of the newer roses, the flowers are of a rosy tint, with yellow at the base of the petals.

There are scores of other good roses, which ought to be named here; but the above stand out prominently amongst the others. One thing particularly worthy of remark was the vigorous development of some standard tea roses. For one year's growth they were something to astonish ordinary amateurs, and to prompt the question, Why cannot we grow such roses as those? Why cannot we, indeed? Many amateurs, of moderate means, who live sufficiently far from the impure London atmosphere, where their business takes them daily, could grow such roses, but they don't. They do not mind paying a good price for the best roses, and it is a labour of love with them to attend to their pets; and yet, when the time comes for the roses to put forth their buds they do it feebly, and by blooming-time their strength seems to be exhausted. In nine cases out of ten the reason is to be found in the want of preparation of the soil. It is the easiest thing imaginable to lay out a garden with walks, borders, and a grass plot; without taking any heed of the special requirements of the plants to be grown. Levelling the ground, and digging it after the builder has done his work, is not enough. In many cases the ordinary soil is not deep enough. Sometimes it can be made deeper by digging out enough gravel to make all the garden paths; and in most suburban places where building is going on plenty of good turfy loam can be obtained if it is needed to make the soil deep enough. There ought to be at least eighteen inches of good soil for roses. Two feet is better, and incorporated with it a very liberal supply of good manure. Let the roses be planted in good time, say in November. The ground ought to be ready for them, before they are ordered, and they must be planted as soon as they come home from the nursery. Don't plant them deeper than they were before, at least not much deeper; and after planting, place over the surface some decayed stable manure, and, if this is objectionable, some cocoa-nut fibre over it. Dwarf teas are the best, as standards may be killed in the winter. Good, vigorous, spreading hybrid perpetuals are the best to form standards for amateurs' gardens. The dwarf teas are sometimes killed down to the mulching; and if they are not mulched may be killed outright.

May I offer a suggestion about pruning? It is this: Do not be afraid to cut the one-year-old plants well back in the spring. Cut the shoots to within two or three buds of the base. They will grow with greater vigour the following season, and being more vigorous, will produce better flowers. When the buds start, and have made some growth, the maggot that preys upon the flower buds in the very earliest stages of their growth must be looked for. An ordinary sewing-needle is a good appliance to prick them out with. Green-fly, mildew, and other ills which roses are heir to, must be attacked and vanquished before such roses can be obtained as may be seen every year in our best nurseries; but if the foundation is laid in preparation of the soil as I have described success is certain. I would further advise every rose grower to visit a good nursery once a-year, keep his eyes open, and be not afraid to ask questions. They are sure to receive courteous answers.

Essex Florist.

PLANTS OF THE ALPS.

By H. Correvon, Director of the Jardin d'Acclimatation, Geneva.
Translated by R. Irwin Lynch, A.L.S., Curator of the Botanic Garden, Cambridge.

CHAPTER V.

Correspondence of the Alpine Flora with the Floras of other Mountains of the Globe.

We have seen that the vegetation of the Alps presents peculiar features, that it possesses a character of its own, and has but little correspondence with the vegetation of the plains. On the other hand, it presents much analogy with the flora which clothes the summits of high mountains in other parts of the world. It is true that it is chiefly between the mountains of the Northern Hemisphere that this analogy is striking. If we look over the herbaria of these different mountains, if we take for example the flora of the Himalayas, and compare it with that of the Caucasus, the Atlas, or the Alps, or even with the Rocky Mountains of North America, we find not only a certain number of genera common to the different countries, but, further, in many cases a considerable number of species, which are the same. After Professor Christ we count in the Spanish mountains and the Pyrenees 126 species common to our Alps, 231 on the Apennines, 125 on the Balkans, 23 in Asia Minor, 86 on the Caucasus, 15 in England, 59 in Labrador, and 2 on the Himalayas. The vegetation on the summits of the Southern Hemisphere, though having the same character as that of our Alps, becomes nevertheless tolerably distinct as regards species. A certain number of genera, however, are common to the two hemispheres, and there is more than one species found on our Alps and also on the Andes of South America.

Everywhere the plants of snowy zones preserve the same qualities, the same forms, the same features, and the same habit. This is explained by the fact that they are found under the same conditions of existence, and that the glacial phenomena produced on our Alps are found on the greater number of the high summits of the globe. In Tibet as on the Andes, on the mountains of Norway as on those of Tasmania, the species which compose the flora of the glacial regions preserve their dwarf, stunted habit, their stoloniferous stems creeping on the soil or spreading into a mat upon the rock, and their flowers with relatively large corollas carried on short stems. On the frozen slopes of Mount Cook, in New Zealand, we find a certain number of species of *Gentian*, *Ranunculus*, *Myosotis*, and *Viola*, which have near relation to their congeners of the Alps. The Edelweiss of New Zealand (*Gnaphalium grandiceps*) so far resembles our alpine flower as to be mistaken for the famous flower of the Alps. The white felt of its stems and bracts is the same; these last, however, are shorter and more obtuse, and its leaves are smaller than those of our Edelweiss. A traveller who made the ascent of this mountain, in company with a Swiss guide, relates that his companion, thinking he had found the plant of his country, could not withhold a cry of pleasure. Comparing the flower in question with a flower of Edelweiss which he carried in his hat, he could find scarcely any difference. The vicinity of great glaciers and eternal snows permits, or perhaps encourages, the development of a similar flora in a country so far distant from ours as New Zealand. The landscape of these zones has, besides, much similarity with that of our Alps. The basis of the mountains are furnished with forests of Eucalyptus, beneath which are vast expanses of shrubs and under-shrubs. Then come the pastures, in all points similar to those of our Alps, in which we meet with a brilliant flora, the sister of our own. There are spread the most graceful Veronicas, brilliant Gentians, Ranunculuses, Ourisias, and Utricularias. Last year a flower of Edelweiss was shown me which a missionary had gathered on the mountains of the centre of China, and, apart from a thicker tomentose nap of a yellower white than of our Swiss Edelweiss, it was quite similar as regards form and dimensions. In the mountains of Abyssinia there exists a flora which has analogy with that of our Alps, and it offers a certain number of genera in common with it. If we study the flora of the American mountains, we find there, again, still the same forms, the same characters, and the same genera. In the Andes of South America we find the Saxifragas and Gentians represented by very pretty species. Some genera, which elsewhere form trees and shrubs, are found there in the state of dwarf and creeping tufts, as is the case with willows on the Alps. We find, for instance, in the genus fuchsia, the same phenomenon observed in our Alps with azalea, which is to say that it becomes perfectly dwarf and creeping. We have already seen that North America possesses a certain number of species in common with our Alps, and with Greenland the correspondence is still greater.

Now, if from the new we pass over to the old world, the conformity of species is still more accentuated, and goes on increasing the nearer we approach the Alps. Let us commence in Asia; we find in China, of mountain plants (which alone I mention), our *Primula Auricula*. Such species as *Solidago Virgo aurea*, *Arctostaphylos alpina*, *A. Uva Ursi*, *Veronica alpina*, *Pedicularis*

versicolor, *P. verticillata*, *Rhodiola rosea*, *Saxifraga cernua*, *S. Hirculus*, *S. stellaris*, *Teucrium montanum*, *Polygonum viviparum* and *P. Bistorta* are found on the mountains which form the chain of the Himalayas, which is particularly rich in *Primulaceæ*. On the Taurus we find *Myosotis alpestris* and *Pinguicula alpina*. The Altai possesses a form of *Saxifraga cernua*, a form of *Saussurea alpina*, *Campanula latifolia*, *Androsace Chamæjasme*, *Cortusa Mathioli*, *Gentiana tenella*, *Gentiana cruciata*, *Myosotis alpestris*, and several species of *Pedicularis* and *Polygonum*. If we explore Siberia, we find in the vast plains, or on the flanks and plateaux of the mountains, a flora which considerably approaches our own. There the forests are formed of Swiss stone pines (*Pinus Cembra*) and larches, and it is observable that *Larix sibirica* very slightly differs from our own. We find there, among others, the little yellow violet of our Alps, also *Saxifraga cernua*, *Saussurea alpina*, *Sibbaldia procumbens*, *Linnæa borealis*, *Pyrola minor*, *Primula farinosa*, the dwarf and creeping azalea of our Alps, *Myosotis alpestris*, *Androsace Chamæjasme*, and several species of *Pedicularis*. A certain number of alpine species are found in Siberia as well as in North America, where the flora is equally analagous to that of the Alps. Kamtschatka and Daburia possess some of them. The nearer we get to the European centre the greater is the increase of alpine species among the mountain plants. The Ural and the Cancasus contain many more of them than the Himalaya and the Altai. Asia Minor, notwithstanding the dry climate and warm temperature which characterise its mountains, contains a certain number of species which are found also in the Alps. We find *Pinguicula vulgaris* in Bithynia and *Centaurea montana* almost everywhere in the mountains. *Petasites albus*, many of our Campanulas, and *Androsace villosa* cover the pastures of the Lehanon and mountains of Cappadocia. *Gentiana cruciata*, *G. asclepiadea*, *Myosotis alpestris*, *Veronica fruticulosa*, and Teucrium montanum we find on the mountains of Greece and the Epirus.

If we take the western extremity of Europe, we meet with, in the Sierra Nevada and other Spanish mountains, a certain number of genera and species which are familiar to us. The flora of the Iberian mountains contains a very large number of our plants—*Aster alpinus*, *Solidago Virgo aurea*, *Senecio Doronicum*, *Vaccinium uliginosum*, *Pinguicula vulgaris*, *P. grandiflora*, *Primula integrifolia*, *Aretia* (*Gregoria*) *Vitaliana*, *Gentiana lutea*, *G. alpina*, *Linaria alpina*, *Veronica alpina*, *Pedicularis verticillata*, *Daphne alpina*, &c., As regards the Pyrenees, we have already seen that Christ attributes to them 126 species common to our Alps, and that this number rises to 231 in the chain of the Apennines.

There are few alpine plants that are cosmopolitan; one only, a grass, *Trisetum subspicatum*, is found on the summits of all the mountains of the world, from New Zealand to the North Pole.

But if all the mountains of the globe, or rather the snowy countries, have a flora of the same stamp, the same habit, and the same character, they have each also their own species, which are found nowhere else. Some are richer than others, but all offer some peculiarity. In the mountains of Oceana it is the genus Veronica that predominates, and on the Andes there are great numbers of species of gentiana, pentstemon, dwarf umbelliferæ, fuchsia, and saxifraga entirely different from our own. In North America it is the phloxes and œnotheras which characterise the flora, and on the Himalayas it is the primulas, androsaceas, the various potentillas, and curious composites. The East, rich in campanulaceæ and ranunculaceæ, whilst in the North we have saxifragas and cruciferæ, and in the mountains of Southern Europe labiates and scrophularias.

The flora of the frozen zones of our globe is by far the prettiest and most richly coloured of all those which cover our earth. It merits preference in all respects for cultivation. But among all the mountain floras the most interesting and exquisite is certainly that of our Alps and the mountains of the European centre; it is this, moreover, that, above others, we seek to acclimatise in our plains.

NOTES FROM THE READING NURSERIES.

AMONGST the different kinds of popular flowers that Messrs. Sutton have taken in hand to improve are gloxinias and tuberous begonias. A sight of their stock of these plants some three years ago, led to the impression that there was then little room for improvement. Yet a recent inspection of this year's seedlings at once disclosed the strides that have been made during the interim.

In *Gloxinias*, the habit of the plants, combined with the size of the flowers and the purity of their markings, is such as to show the marked advance that has been effected. Where these plants are raised annually from seed in very large quantities, and subjected, as they are at Reading, to careful selection by retaining only the best, the strain becomes such that an indifferent flower is a rarity. Strength and substance in the flowers and flower-stalks, so as to enable the head of bloom to stand erect above the leaves, are amongst the first essentials that have been aimed at, with the result that the plants, filling nine houses and pits, present an even sheet of bloom such as it would be difficult to realize without seeing. The stock is divided into several distinct sections in the matter of colour. Pure white tubes predominate, in which the colour is as sharply defined from that of the zone of purple or blue, crimson or red, which covers the inner portion of the lobes, as if it had been laid on by the brush of a painter. In many flowers the zone has a broad white band around that covers the outer edge of the segments; in others this white margin is marked as evenly as if it had been stencilled, with spots alike in colour to the zone. In another section the red or purple colour extends from the mouth of the tube to the extreme edge of the segments; in others the inner surface of the tube is striped longitudinally, or spotted evenly all over. A distinct break in the marking has appeared, in these the colour extending from the mouth of the tube to the outer edge of the segments forms a complete network that stands out clearly from the white ground; this gives the flowers a very telling appearance. Needless to say, when anything of a distinct character like this appears, the utmost care is taken that the flowers are not affected by the pollen of any of the other varieties. The whole of the stock, I understand, is fertilized by hand. The different shades of purple, from the deepest, in which the colour is almost black, to the palest porcelain blue, the reds from the darkest crimson to scarlet and pale pink, are each kept to themselves so far as fertilizing the flowers is concerned. In regard to the habit of the plants, equal care is taken that each section is kept clear of the others; the erect flowered varieties are fertilized with pollen from others of like character, whilst the half-drooping forms are alike kept to themselves. The white-flowered division have a house wholly to themselves; the stock of these is erect in the habit of the flowers, which are as pure in colour as possible, scarcely a trace of the green shade in the inside of the tube, which detracts so much from their appearance, being observable. In these again the flowers possess unusual substance, but as invariably happens with these plants, the flowers do not attain the size that the coloured varieties do—a peculiarity that seems to be inherent in gloxinias more than other plants.

Tuberous Begonias.—There is a marked distinction in the character of the begonias that have been raised here from that of others one is in the habit of meeting with. Form, substance, and purity of colour in the flowers, with a free disposition to bloom, have been aimed at rather than sensational size. Still there are plenty that produce flowers big enough to satisfy reasonable ideas. To get a strain that make short-jointed shoots with small leaves has been the object steadily kept in view. With this intention, the dwarf-growing B. Davisii has been freely used for crossing the seedlings raised between B. Boliviensis and B. Sedenii, and from which the best results have followed, as the disposition to flower has been greatly increased, as seen by the head of bloom the progeny so raised produce as compared with the varieties from which they have sprung. Of seedlings blooming the first time there are quantities in every shade of crimson, red, and scarlet, with flowers perfect in form borne on stout stalks that keep them well above the foliage, and sufficiently erect to display the inner surface of the flowers, which in this section of begonias is usually more intense and pure than that of the outside. In the whites and the yellows the advance has been still greater; of the former the flowers are as broad in their petals and as perfect in form and colour as a Christmas Rose, which individually they resemble more than anything else. Noticeable amongst these white seedlings were some with orange-red anthers, the presence of which does much to increase the effective character of the flowers. The yellows range in shade from pale sulphur to orange and Indian yellow, and are alike in advance of the varieties from which they have been raised. The last break in these tuberous begonias that has appeared is red flowers with distinct white centres; these are likely to be favourites with cultivators from the effect they produce when associated with self-coloured varieties.

OUTDOOR FLOWERS.

The trial ground where the seeds of the various plants—annuals and others raised from seed—are proved is always a source of interest.

Border Carnations.—This section of these favourite flowers has been so much improved of late years that a good strain of seed may now be depended on to produce flowers good enough for all decorative purposes. For though they may be deficient in the exactness of their markings to satisfy the florists' ideas, still they possess all that is required in beautiful sweet-scented flowers, whilst their vigour of growth enables them to give ten times the amount of bloom that the more delicate florists' varieties will. Plants raised from seed, sown in spring and grown on through the summer, with the protection of a frame the ensuing winter, and then planted out in ordinary soil, will each yield hundreds of flowers, so that from a moderate sized bed one may cut armfulls so long as they continue to bloom. Though past their best, there was enough left to show the character of the flowers, flaked or edged with the various shades of red or crimson on white and yellow grounds. In addition to these there was no lack of self-coloured varieties, ranging from white and yellow to mulberry.

Hollyhocks.—Despite the troublesome disease through which these stately plants have suffered more than almost any in cultivation, there are still many who persevere in growing them. A beautiful lot of strong, vigorous plant, about four feet high, were just coming into bloom. These were raised from seed sown in February, showing what can be done in the time when the plants are kept going.

Pelargoniums.—Of the freest flowering large bloomed type, and also the golden bronze leaved section, from seed, the latter come fairly true and attain the size of ordinary bedding stock, when sown at the beginning of the year and kept freely moving. The flowering varieties, sown at the same time, were just coming into bloom (at the middle of August); the plants were as large as those usually grown in six or seven inch pots.

Shrubby Calceolarias were stout, bushy plants as broad as high, just coming into bloom, as also were Pentstemons. Few things in the garden are more effective than the white-tubed and other distinct varieties of these that now can be had from seed.

The pretty blue Forget-me-Not, Myosotis Azorica, was likewise in bloom; raised from seed, this variety comes in after the earlier blooming sorts are over.

Phlox Drummondi.—Those who recollect the straggling habit of growth which the original purple and the white varieties of this pretty annual had, cannot avoid noticing what has been done by selection, the result of which is that the plants now require no attention in pegging down, being close and branching, so that the flowers almost cover the leaves, whilst few things equal them in the lustrous shades of vivid colour that a package of good seed will produce.

Stocks.—These old favourites were in beautiful condition, the dwarf German varieties being remarkable for the profusion of flowers which the short-branching plants produce, and still more so for the absence of single flowers. In three rows of each of the principal colours—red, white, and purple—only four per cent. were single, whilst the purple gave a slight percentage more. The larger growing branching varieties, which are more suitable for cutting than the dwarf kinds, are equally fine.

Balsams and Zinnias.—These occupy a large space, the self-coloured varieties of Balsams in their different colours are each kept to themselves, as also are the mottled sorts. Nothing in their way could be finer, the flowers as double and almost as large as medium-sized camellias. The Zinnias, which are amongst the most beautiful and effective of all double-flowered plants, were just coming in, showing their rich colours and their constancy in producing full flowers.

Portulacas.—Why are these charming little annuals not more grown? Possibly it may be through failures in getting the seed to vegetate, which is usually traceable to wrong treatment. They are grown here so as to form a margin, about fifteen inches wide, to the road in one part of the grounds. The plants were thickly studded with their bright-looking, vivid-coloured flowers, the purity of colour in which it would be difficult to surpass. The seed is sown at the end of May in the place where the plants are to be grown; the surface is made firm and smooth by treading before sowing. On this the seed is distributed, not too thickly, and then slightly covered with fine sifted soil. If the precaution of making the surface firm and close is not taken, much of the seed gets too deep to vegetate, and to this cause most of the failures that take place with these beautiful plants is attributable. At the seed farm, a short distance out of Reading, where the trial of annuals in large breadths is carried out, many of the most showy kinds are grown in long stretches. Here may be seen the effect which the masses of distinct colour present.

Late Annuals.—The following are the most noticeable: Double rose-coloured Clarkia, Calliopsis Drummondi, the orange and the pale yellow varieties of African Marigold, with the French varieties in their various colours, were in beautiful condition; Linum grandiflorum rubrum, a mass of vivid colour; Godetia Lady Albermarle, one of the most telling annuals; G. Duchess of Albany, white, and very effective, especially when near a high-coloured plant such as Nasturtium King of Tom Thumbs, which was a glowing mass of colour; Chrysanthemum Burridgeanum; Salpiglossis in different colours; Viscaria cardinalis, another telling annual that flowers after the earlier blooming kinds are over, was a sheet of scarlet; the yellow variety of Sweet Sultan was in charming order, contrasting agreeably with the deep blue of Convolvulus minor. Not the least noticeable feature in the various plants named was the uniform evenness in habit of growth, and in the colour of the flowers of the respective kinds, the result of attention in discarding all that show any disposition to deteriorate. One of the consequences that followed the rage for summer bedding was that many of the most beautiful annuals were all but lost sight of, and through their absence there has been so much more poverty in most gardens. But there are signs that many of the old favourite kinds are again likely to meet with the attention they deserve. T. B.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory should undergo some amount of revision and specimen camellias, azaleas, and other hard-wooded plants should have a position where they will enjoy uninterrupted light and a free circulation of air. The watering must be carefully attended to, and for the majority of the occupants a material reduction in the water supply will be necessary. Tuberous begonias and late flowering lilies must be gradually dried off as they go out of bloom, and be removed to pit or other structure in which the tubers and corms will not be exposed to frost. Climbers must be thinned where it can be done without cutting away flowering growths.

Cinerarias, Primulas, Calceolarias of the herbaceous class, and other soft-wooded plants now growing freely, should be carefully looked over to see that they are in a fit state for housing as required. Some will want a shift, some will be found infested with fly, &c. None of these things should suffer for want of water, as it will spoil their appearance by causing the leaves to turn yellow.

Crocuses for conservatory decoration should be potted at intervals of a fortnight; and the named varieties are worth this mode of treatment, both for the size of their flowers, and for the exceptional brightness and diversity of their colours. Use a light rich soil, and put four or five corms in a five inch pot. They may also be grown in quantity in large seed-pans or in shallow boxes. When coming into flower, the roots may be freed from soil to facilitate the packing into ornamental baskets or vases.

Fuchsias may be kept in bloom late by the aid of weak liquid manure and a close warm house. The shading may be removed and the pots have a sprinkling of fresh sheep or deer dung as a top dressing. Gather ripe berries of any varieties from which seed is required; bruise the berries with sand, and expose the mixture of pulp and sand to the sun till quite dry; then store it in chip boxes till spring, when sow sand and seeds together. Raisers of seedlings who can keep the young plants in the stove all winter may sow at once in a mixture of three parts leaf and one of sandy loam, and start in a gentle heat.

Hard-wooded Plants must be kept well aired and in full sunshine, to ripen the wood and give them full strength to pass the winter in an ordinary greenhouse temperature.

STOVE AND ORCHID HOUSE.

Orchids generally should have less moisture as the days shorten. The majority of growers keep them too damp and too warm all winter, but they should now be prepared to pass the winter at as low a temperature as will be safe, and in as dormant a state as possible. Fires will be useful now on dull days to dry the house, and allow of the admission of air. Young plants of aerides, dendrobiums, vandas, cattleyas, and saccolabiums to be kept growing in the warmest compartment.

Stove Plants will in many cases require a considerable reduction in the supply of water to the roots; but in reducing the moisture, as in carrying out other details, they must not be subjected to any severe check. Caladiums should soon be dried off, and the pots be laid on their sides underneath the stage of the stove.

FORCING AND FRUIT HOUSES.

Fruit Trees in pots to have small supplies of water, and full exposure to the sun, near a wall or fence facing south, where the heat will be reflected on them, and they will ripen their wood well. Any trees that are in a green and sappy state may be laid on their sides and be sprinkled over their tops every morning. This will check growth without distressing them, and help to coax them into rest.

Prepare for Repotting or planting out any that are to be turned out of the house, &c., as when November comes there will be extra pressure of work, and many important operations of planting and potting may be delayed to the injury of next season's produce, unless pots, compost, &c., are ready in good time.

Peach and Nectarine Trees that were forced should now be quite at rest, and leafless. Those not repotted to have the top soil of the pots removed, and its place supplied with fresh turfy soil and rotten manure heaped up round the stem of the tree.

Pines.—Repot the young stock struck during the summer and plunge in a brisk heat; suckers on old stools to be taken off and potted singly, and plunged at once; they will root immediately. Give as much air as possible during fine weather.

FLOWER GARDEN AND PLEASURE GROUNDS.

Bedding Plants struck in the open ground must be potted without delay; in all cases a poor sandy soil and plenty of drainage must be used, especially if the plants are to be kept in pits or other places where they will be exposed to a low temperature during hard weather. Take up all choice plants that are to be kept through the winter, and pot them; if left in the ground any longer they will be likely to die after potting.

Bulbs of all kinds which it is inconvenient to plant early because of the ground being occupied, may be started in a mixture of leaf-mould and old dung, or in cocoa-nut waste, so as to be lifted in clumps with good roots to the positions in which they are to flower as soon as those positions are ready for them. When an early bloom of snowdrops and crocuses is required, and the ground cannot be made ready for the bulbs, this plan answers the purpose to perfection.

Flowering Shrubs to be forced for the conservatory should now be thought of, to have them potted up and plunged ready to be taken in to force. Plants that have made good growth in the open ground are best for this work, such as Lilacs, Kalmias, Daphnes, Andromedas, Polygala chamæbuxus, Ledum latifolium, Rhodora canadense, double-flowering plums and cherries, Azaleas of the nudiflora section, Weigelas, &c. Put them into as small pots as possible without doing any serious harm to their roots, and plunge in a bed of cocoa-nut waste, in a sheltered position, till required to go to the forcing house.

Planting may be proceeded with from this time to the end of November, beginning with evergreens, and getting them into their places, and meanwhile preparing the stations for deciduous trees, roses, &c. Whenever it is possible to prepare the ground some time before planting, it should be done; and where orchards and shrubberies are to be planted in November the soil should now be trenched up and made ready, even to manuring if required. It is much against the prosperity of the trees to be planted in soil only recently turned over, and before there has been time for the atmosphere and sunshine to act upon it.

Roses budded this season require now to be looked over, the wild growth cut in slightly, the ties loosened, and any wild buds starting below the work to be rubbed off. Roses struck from cuttings to be potted off as soon as rooted into 60-sized pots, and to be put on a gentle dung heat, to promote the filling of the pots with roots. Roses layered in the open ground may be removed and potted; in fact it is better to winter all roses on their own roots in pots the first season after striking them, if there are conveniences for doing so.

KITCHEN GARDEN AND FRAME GROUND.

Capsicums may be gathered before they are ripe if needful, and ripened by laying them on a shelf in a warm greenhouse.

Lettuces required for use in winter to be planted out, a portion in frames, and another portion on a warm sloping border. The cabbage kinds will bear frost with the least injury. Some forward plants of Cos lettuce put out now on a rich warm border will come into use late in the autumn.

Onions to be taken up when the weather is dry, and well ripened for storing. Those from autumn sowing will now want thinning, and the thinnings may be planted on a warm rich border to make large bulbs next season, or for use during winter.

Parsley sown in July to be thinned, and the thinnings planted if needful. Remove all the plants that show single leaves, and in transplanting save only those that show handsomely-curled leaves.

Tomatoes to be gathered immediately they are ripe. If bad weather interferes with the finishing of the crop, cut the full-grown fruit with a length of stem attached, and hang them up in a sunny greenhouse, or some other warm spot in full daylight.

TOBACCO GROWING EXPERIMENTS IN AMERICA.

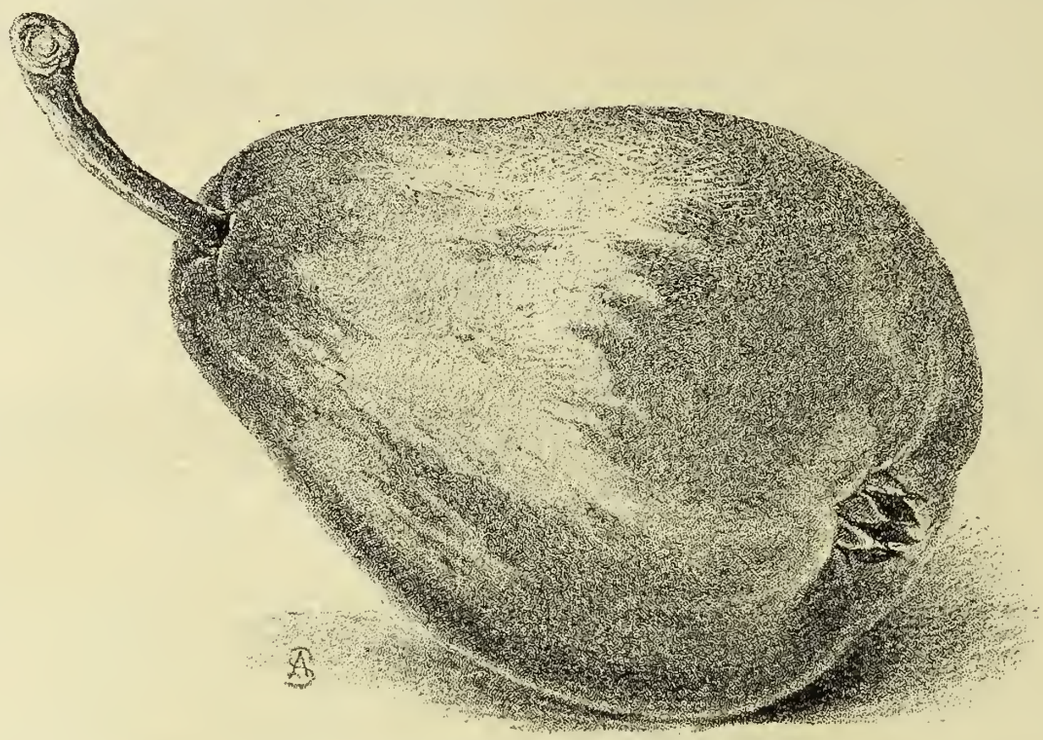
The last monthly report of the Department of Agriculture for the State of Carolina (U.S.A.) announces that in order to practically test tobacco growing in South Carolina, and to ascertain whether it can be made a profitable crop, the Board of Agriculture has appropriated £360 to encourage experiments by farmers in this State. The following rules are to be observed by farmers making the experiments and by those farmers who desire to contest for the premiums offered by the Board of Agriculture to the farmer who obtains the best results in the culture of tobacco for the year 1886: 1. One acre of land must be cultivated in tobacco, a correct record must be kept showing the date of sowing the seed and the name of the variety used. 2. The manner of preparing the plant bed, whether the soil was burned over or not, how fertilised, and whether or not covered with canvas. 3. The date of transplanting, and whether planted in hills made with hand hoes or in beds thrown up with ploughs. 4. The percentage of the first planting which rooted and grew off and percentage which died from natural causes, and percentage killed by insects, cut worms, grasshoppers, &c. 5. Character and description of soil planted in tobacco (topographical and geological), and whether fresh or long in cultivation, and what crop, if any, preceded. 6. State mode of preparation. 7. Quantity and kind of fertiliser applied, mode of application, whether in hills, drills, or broadcast. 8. Date of first topping or budding, average number of leaves left on each stalk to mature, and whether primed or not, *i.e.*, the inferior lower leaves pulled off. 9. Date of first appearance of the horn worm, and whether numerous or not during season. 10. Whether the army worm or other insects preyed upon the growing tobacco. 11. Daily condition of the weather during the season. 12. Cost of producing the crop, including every item of expense connected therewith, itemising the kind and cost of labour. 13. Date of cutting and curing the crop and the mode of curing, whether with artificial heat, such as charcoal or flues, or by the sun and air. 14. Total yield of pounds of marketable tobacco per acre, stating the number of pounds of leaf and number of pounds of lugs, *i.e.*, the inferior ground leaves. 15. A statement of area and yield must be certified to in a manner to be hereafter prescribed. The Department of Agriculture has selected one farmer in each county to experiment in the culture of tobacco, and will pay the sum of £10 to each farmer appointed for this purpose; and this sum will be paid after the crop has been cured and ready for market, and samples, with reports prescribed, have been sent to the Commissioner of Agriculture, provided all the requirements made by the Department have been complied with. The Board of Agriculture has also appropriated £20 as a premium to the farmer reporting the best results in the growing of tobacco for the season 1886. This premium is open to any farmer in the State who desires to contest for it and who will follow the rules of the Department governing the contest. The farmers selected in each county by the Department to make the experiments, and all others who desire to compete for the £20 premium, will be required to send a statement of the average temperature of the weather (compiled from daily record) and the condition of the crop to the Commissioner of Agriculture on the first of each month, and to send a sample of the tobacco when cured to the Department of Agriculture, weighing not less than 10lb. The £20 premium will be awarded by the Board of Agriculture after all the reports of results and the samples have been received. It may be useful to compare these conditions with those which were laid down in the spring by the Government in this country.

CONGRESS PEARS.

Verulam or Black Beurré.

This is sometimes considered the same as Black Worcester, but is quite distinct, both in form and colour. *Verulam* resembles in form Brown Beurré; our figure is from a fair typical sample, but we have often seen it larger and in proportion longer. It may be described as obovate with an undulating crown, the eye large and set in a shallow basin, the stalk an inch to an inch and a-half long, set in a small cavity. The skin is dull green or bronzy orange, much covered with russet, with a reddish brown cheek strewed with grey dots. In favourable circumstances this is a melting pear of good quality, though always coarse grained, but usually it is grown for culinary purposes only, and in that capacity is one of the best of its class, the flesh when cooked being of excellent flavour and a brilliant yellow colour. Its season is December to March. It is in some places known as the Spring Beurré, a name that refers to its ripening for the table about February or March.

This may be regarded as a Suffolk pear, as in that county many great old trees of it may be found. It is a most abundant bearer on the pear stock, but does not succeed on the quince.



DESSERT AND CULINARY PEAR, VERULAM OR BLACK BEURRÉ.

VIOLETS FOR WINTER AND SPRING.

By J. C. Clarke.

Those who managed to have their violet plants put out in good time, with the soil and position favourable, are now rewarded with strong healthy plants, for the dull days and cooling showers which characterised the weather from the last week in July up to the middle of August proved eminently suitable to the growth of violets that were under favourable conditions. The result is that the plants are in capital condition to be removed to their winter quarters, at all events our stock is in that condition, and those that are intended to flower in pits and frames have preparations made for them.

A good brick pit is the best winter quarters for such sorts as the Neapolitan, Swanley White, and Marie Louise. The last named is unquestionably the most serviceable violet grown, for it is in flower at least nine months in the year. It is necessary to provide a thoroughly rich soil for violets that are to flower during winter and spring. A compost of one-third rotten farmyard or hotbed manure and two-thirds loam or good garden soil is not a bit too strong for them. It should be nine inches thick, and the surface so arranged that when the plants are put in and the lights put on the leaves of the plants will be not more than three inches from the glass. The bottom of the pit or frame will, of course, require to be filled with some kind of material that will not sink down. It generally happens that cucumbers or melons have been grown in these structures during the summer, and when one of the exhausted beds is available no one could desire a better foundation for violet beds. All the attention such beds require is to raise the soil sufficiently near to the glass to accommodate the violets. I like to get our stock planted in frames about the middle of September, as they then have time to recover before cold weather sets in. In any case they ought to be in their winter quarters by the end of the month.

Previous to taking up the plants all the runners should be cut off and all weeds and yellow leaves removed, and if the soil is at all dry it should be well watered the day before it is intended to move them. The plants must be lifted carefully with good balls of roots, and placed on a hand-barrow to be carried to the frame. When planting, the crown of the plant should be raised slightly above the surface, to prevent damp from settling amongst the leaves. There should be a clear space of three inches between the plants, and in planting the fine soil should be pressed firmly about the roots. For the first week after planting the lights should be shaded during bright sunshine, and a very little air will suffice during that time. But at the end of a week shading may be discontinued, and abundance of air may be given by tilting the lights at the back, and on warm days the lights may be drawn off altogether. The soil must be kept moist by judicious watering as often as it becomes dry, for damp is injurious to them. The plants should be kept free from dead leaves, and all runners up to the middle of February should be cut off. Runners made after that time will be required for producing the next stock of plants. In frosty weather the lights will require to be securely covered to keep out frost.

Violets in Peach Houses.

I find that growing violets in peach houses is in every way satisfactory. I am, of course, alluding to those houses which are not forced. As to whether the house is heated or not is of no consequence, so long as fire-heat is only used to keep out frost. There is no necessity to disturb the borders; all that is required is to select the most open and airy part of the house and to place the plants on the surface, and lay some fine soil between them so as to fill up the spaces to make the surface level. In this structure it will be found that they flower abundantly and give but little trouble, as they are not so subject to damp as in the smaller area of a pit or frame. The varieties with single flowers do capitally in cool houses, especially such sorts as the Czar and Victoria Regina.

SPARROWS AND PEAS.

Early and late crops of peas are excellent, but small birds are intolerable. If something cannot be done to keep the impudent sparrow in check we must give up growing peas, or resort to wholesale netting. Peas, as a rule, are sown too thick and do not have enough water. I always throw out trenches as for celery, and fill in with old soil from vine borders, refuse mulchings, and charred prunings. These we collect throughout the year, and add soot before wheeling into the trenches.

Eastnor Castle, Ledbury. William Coleman.

APPLE-FRUITED ROSE.

Rosa villosa v. pomifera.

The villose section of roses borders close on those of Caninæ and Rubiginosæ, and is distinguished from them by the root shoots being erect and stout with straight prickles and divergent serratures. Of *Rosa villosa* there are doubtless many trivial varieties representing differing geographical conditions, but the prevailing forms are recognized by Lindley in "Rosarum monographia" as *pomifera* and *tomentosa*, "the most essential point of difference between the two is in the fruit, which has in *R. villosa* [*pomifera*] a considerable number of rigid setæ, and even prickles, scattered over its surface; while that of *tomentosa* can never be termed more than hispid."

The apple-fruited rose is described by Parkinson (Paradisus, 418) as *Rosa pomifera major*, a name suggestive of the size of the fruit, which exceeds that of the terrific Rosa ferox, R. sinica, R. stricta, and other wild roses that are conspicuous by reason of their handsome berries. It is the largest of the wild roses, with a trunk as thick as a man's arm, and as Parkinson remarks, "couered with a darke grayish barke, but the younger branches are somewhat reddish, armed here and there with great and sharpe thornes." The flowers resemble those of the eglatine (*R. rubiginosa*), occurring mostly in pairs but sometimes three or four together, and the fruit, soon following, is pear-shaped, purple or deep red, covered with prickles, and conspicuously crowned with the sepal segments, as in the Japan rose, figured at page 511.

APPLE-FRUITED ROSE, *Rosa villosa pomifera* (Flowers purplish red, fruits deep scarlet or crimson).

Rosa tomentosa ranks as a species in Lindley's list, although his own definitions make it but a variety of R. villosa. The R. mollissima of Willdenow is a form of it, and amongst the synonyms occur R. dubia, R. fœtida, R. pulchella, &c., the perplexity being the necessary result of species making, and the failure of the botanist to grasp groups of related facts.

The apple-fruited rose is a beautiful object now, and can fairly compete with R. rugosa in respect of the splendour of its fruits.

A PICNIC AT APPLETON PARK.

APPLETON HOUSE is the charming residence of Squire Oldacres, an enthusiastic amateur gardener and rosarian. It is situated about seven miles south of the busy little town of Cinderford. In order to encourage a taste for gardening among the workpeople at Cinderford, he has placed at their disposal a twelve-acre field near the common. There is a rent-charge of sixpence per pole, but the whole sum collected, after deducting the repairs of roads and fencing, is expended in prizes and awards for superior cultivation. Allotments, as a rule, are unattractive, entirely without boundary fences, sheds, or arbours for rest and shelter, and the crops are confined, of necessity, to the usual roots and greenstuff. There are no little borders for flowers or bush fruits, and for the greater part of the year they are entirely devoid of interest. Not so with the Cinderford allotments, they are gardens in the best sense of the word, separated by trim privet hedges, with a neat wicket gate, and each possessing a little shanty or arbour. They are much resorted to in spring and summer time by the wives and families of the tenants. Among the tenants there are some capital florists and gooseberry growers, and many a bunch of pinks and gillyflowers, roses, carnations, and dahlias is carried home on the Saturday evening to gladden the eyes of the Cinderford workpeople who have no gardens.

The picnic I am now about to describe was in the beautiful park and gardens of Appleton Hall. Being president of the common gardens, and taking a warm interest in the work, Squire Oldacres had invited the whole of the tenants to pay a visit to the beautiful park and gardens at Appleton. The squire, it was well known, did nothing by halves; even the card of invitation was a charming little work of art. It was a gilt-edged, rose-bordered vignette of Appleton Hall, with a few lines at the back of it requesting the favour of "Mr. and Mrs. So and So's and children's company on Saturday next. A train will be in waiting at half-past one at Hill Street Station." These cards are treasured as souvenirs of the visit, and hang, neatly framed and glazed, many of them on the walls of the cottages.

Rumours had long been afloat of the beauties of Appleton gardens, of the famous four-acre rosary, of the American gardens, of the acres of glass in which flourished the banana, the bread fruit, and the palm; of the strange and beautiful exotics that hang suspended in the air, of some whose leaves were in perpetual motion, of others that bloomed only at midnight, and of a gigantic water-lily with blossoms nearly two feet across, on whose gigantic leaves children might dance a minuet without fear of accident.

A large crowd assembled to see the commoners start, and loud cheers were raised as the great engine, profusely decorated with wreaths and garlands of roses and evergreens, moved slowly from the shed. Twenty minutes' run landed the visitors within fifty yards of the park gates. One could see at a glance that these humble florists were men of a superior stamp; their wives and children were evidently better fed and clothed and tended. There were more gold watch chains and overcoats, umbrellas and perambulators than would have been seen in a crowd of workmen elsewhere. The results and profits of their gardens, and the innocent and delightful recreation provided therein, told its tale clearly enough. A well-tilled allotment of fifteen poles, at a moderate rent, adds at least 10 per cent. to a workman's wages, and frequently, no doubt, another 10 per cent. is saved by the profitable employment of his leisure.

Appleton Hall is one of the stately old homes of England of which Englishmen are naturally proud. It is situated at the foot of a range of wooded hills, which were just now in the fulness of their summer leafage. Beyond the belt of woodlands one catches glimpses of a noble down spattered over with gorse and heather. Majestic cedars, oaks, beeches and limes are scattered in groups over the park, and in the welcome shadows beneath them are herds of fallow deer. An avenue of ancient elms stretches from the park gates to the hall. On the left, where the ground slopes westward, are groups of whitethorns, with the lower foliage sheared off by the browsing deer. Between the gnarled stems of the ancient thorns a gleam of water is seen in the valley below. One can imagine the effect of this bit of landscape when the west is aglow with sunset fires.

At the park gates the visitors were met by the squire's son and some of the tenantry on horseback, the village Oddfellows' Club with the banners and insignia of their order, and the Cinderford brass band. The latter had arrived by an earlier train in order that the musical arrangements could be made in conjunction with the squire's lady and daughters. Carriages, carts, and waggons were in waiting to convey the aged and weakly and young children.

The visitors were marshalled in a rude procession, headed by the young squire and band, and moved leisurely along the avenue now flecked and chequered with the golden sunlight. As the road sweeps round to the right they were met by the squire's youngest daughter, a little maiden of ten, in a phaeton drawn by a pair of white ponies. She wore bunches of roses, the traces and harness were also garlanded with roses, the reins too were wreathed with white roses. A bevy of young girls accompanied the phaeton, each of them carrying a basket of roses. On meeting the procession, the carriage was turned round and led the way to a huge marquee. Long tables were loaded with substantial viands, and profusely decorated with flowers. At one end there was a raised platform, on which sat the squire's family and friends. As the white-haired host came to the front he was loudly cheered. "A word or two, my friends," he said. "I am very glad to see you. Go where you please in the gardens and grounds after you have refreshed yourselves and return to the tent as often as you please; there are plenty of wholesome viands, and the drinks won't hurt you." "There," said he, pointing with his stick, "is the rosery under the hill, there the American garden and the lake; by the house here are the conservatory and glasshouses. There are the orchid houses; my friend Parson Norman will tell you about them. My friend Mr. Wilson will show you the rhododendrons and roses. Behind the rosery you will find an acre or two of strawberries, refresh yourselves when you please, and gather a handful for each of the children."

Most of the guests made at once for the famous rosery. It was an oblong about two acres in extent, and surrounded on three sides by clipped yew hedge, twelve feet high. The remaining side, which was on the south, was open. The dark yew hedge not only afforded sufficient shelter from the wind, but served as an admirable foil for the pillar-roses, which were trained to rods and hung in festoons from one to the other. Some of the more enthusiastic of the visitors shouted with delight as they caught sight for the first time of the gorgeous display of colour—white, pink, cerise, crimson, sulphur, and gold, with the infinite and subtle blendings, tints, and tones of the Queen of Flowers. The whole air seemed to be filled with fragance. The principal walks, which were of beautifully-kept turf, were twelve feet wide; there were two of these, one on each side the central one, and a like number cutting these at right angles. The beds, therefore, except where three circular rose temples were formed, were all rectangular. The central object was a fountain-shaped trellis, sixteen feet high and twelve feet through at the base. Over this was trained vigorous growing hybrid perpetuals, with Gloire de Dijon and Climbing Devoniensis. Among the perpetuals we noticed General Jacqueminot, Jules Margottin, Victor Verdier, Charles Lefebvre, Countess of Oxford, and Climbing Captain Christie.

The summer roses, though of brilliant colours, are of shorter duration of bloom, were confined to the pillars and festoons. For a few weeks, however, they are magnificent, especially such fine varieties as Charles Lawson, Paul Ricaut, Coupe d'Hébé, Vivid, Fulgens, and Blairi No. 2, the latter perhaps the handsomest rose for a dome-shaped trellis; Madame Plantier and Ruga, a delicate shell petalled flesh, wonderfully floriferous, and deliciously fragrant.

Along the centre of the beds on each side the principal walk were the choicer kinds of hybrid perpetuals and teas. Each oblong bed consisted of seven rows of dwarf trees, and down the middle of the beds were alternate pillars and unpruned standards, so that they formed drooping dome-shaped heads. Many of these were five feet through, and grand objects. Within a foot of the broad grass walk was a line of cordon-trained roses; Gloire de Dijon was extensively used for the purpose, and next to it was a line of the old crimson monthly China.

At the open or southern end of the rosary was a wild garden consisting almost entirely of roses and ferns. The spot appeared to have been an old orchard, and the roses unpruned were allowed to ramble at their own sweet will over the gnarled lichen-stained stems of the trees, and huge stone boulders which lay scattered about promiscuously. There were hundreds of thousands of blooms of Aimée Vibert, Crimson Boursault, Ruga (before mentioned), Gloire de Dijon, Ayrshire, and the yellow and white Banksias—a very wilderness of rose sweets.

Among the border roses the teas were conspicuous, their delicacy of tone, elegance of shape and habit, abundance of bloom, and delightful fragrance seemed to astonish the Cinderford amateurs. Among the whites the most charming were Niphetos, Madame Villermoz, Alba Rosea, Marie Van Houtte, Yellow Devoniensis, Yellow Narciss, Lamarque, Belle Lyonnaise, Isabella Sprunt, Madame Falcot; of blush flesh and rose, Homer, Souvenir d'un Ami, President, Catherine Mermet, Comte de Paris, and Madame Etienne Levet.

The whole of the space was reserved for roses only, and each plant was allowed room and verge enough to show its true character of growth and the beauty of its foliage.

There was no wonder that Cinderford commoners were delighted with this feast of roses, and gathered eagerly round the white-haired Squire as he dilated on the merits of his pets, or cut them buds of their favourite varieties, or delivered his racy criticisms on the characteristics, or gave the younger ones instruction in budding or judging the points of a rose.

The sound of a bugle now drew attention to the American garden. The ground here was broken and irregular, and rose at its further end to a considerable height. The background was diversified by groups of conifers and Scotch firs. Scattered over a space of six acres were the rhododendrons, mostly in lines of varying colour, width, and direction, trending towards the margin of the lake. The plants were admirably arranged for picturesque effect, forming, as it were, rivers and cascades of gorgeous colour. Along the edge of the lake were clumps of bulrushes and flags, little thickets of oleander, drooping osmundas, and lady fern, and on the lake itself rafts of lilies. Some splendid clumps of Pampas grass formed grand objects here.

At six o'clock the bugle again sounded, summoning the guests to tea, during which the Squire's family, aided by some friends, sang a selection of glees. Then the Squire once more came forward to say good bye! "My friends," said he, "I don't want to bore you with a long speech, but I should like to say a word or two at parting. We all of us, wife, family, and friends, have spent a very pleasant afternoon here, and your presence has contributed very much to its delightfulness, so that we have to say in the old-fashioned way, 'Thank you for coming.' I sometimes, as I walk through your gardens at Cinderford to make a few pencil notes as a guide to us in awarding the prizes, almost envy you the possession of such plots. The pleasure of a garden depends very much on our individual knowledge or acquaintance with the plants we cultivate, and the highest pleasure in a garden is derived from the consciousness of work done. This is just the knowledge and acquaintanceship which we lack. Then I look upon gardening not merely as a delightful and interesting recreation, but as a profitable and healthful occupation of leisure time, and after a rough calculation I reckon that Cinderford is a thousand pounds a-year the richer for the common gardens tilled by your intelligent industry. Then your garden is an outdoor school-room for yourselves and children, in which you may learn to read some pages of that glorious book that is spread open in the field and wild—the Book of Nature, which is full of tokens of the wisdom, the providence, and the goodness of God. Teach your children to study that book, and they never need want for recreation of the purest and most elevating kind. Tell your friends what a solace and delight it may be, lead them to 'consider the lilies how they grow,' and your little homes will be the brighter, the happier, and the better for it.

"There are three of the commoners unavoidably absent, I believe. Will any neighbour of these speak to my wife?

"As you pass through yonder door, accept each of you a small punnet of strawberries and a bunch of roses. It is now nearly seven o'clock: my friends will help you sing 'God Save the Queen,' and then good-night, God bless you, and thank you for coming." After cheers again and again repeated for the Squire and his family, the commoners, with a handful of rosy remembrances, bid good-night to Appleton Hall and strolled leisurely towards the park gates homeward.

LUKE ELLIS.

AGAVE FILIFERA, now in flower at the International Exhibition, Edinburgh, has a very distinctive character, differing from the average of agaves in colour. The flowers combine in their colouring crimson and purple in place of the usual creamy green or yellow. The scape is twelve feet high, and carries many thousands of flowers. The Agave Americana that has been in flower for some time in the conservatory of R.H.S. has flowers of a dull yellow, and they are decidedly effective as we see them overhead, crowning a tall stem that may be likened to a flagstaff.

Exhibitions and Meetings.

CRYSTAL PALACE.—EXHIBITION OF FRUIT AND CUT FLOWERS, SEPTEMBER 3 AND 4.

THE exhibition of fruit and cut flowers which was held at the Crystal Palace on the above dates, formed, in conjunction with the National Dahlia Show, one of the finest autumn exhibitions that has been held for many years past, and must be regarded as one of the most important horticultural events of the year. There was a severe competition in the whole of the forty odd classes provided in the schedule, and the fruit and cut flowers which were contributed from all parts of the country were, on the whole, of a high degree of excellence, and represented cultural skill of the highest order. The fruit was sufficient to occupy four broad stages extending the whole length of the north nave. The miscellaneous cut flowers required nearly the whole of the available space in the nave for their accommodation, and the dahlias were arranged on a series of stages in the south nave. The arrangements of this great gathering were under the direction of Mr. Head, the able superintendent, admirably carried out, and reflected no small degree of credit on all concerned.

COLLECTIONS OF FRUIT had four classes set apart for them, and as they were contributed in large numbers and consisted of produce of high quality, they constituted a very important feature. In the great class for a collection to consist of not less than twenty dishes there were seven competitors, and the several collections differed but little in relative merit. Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, was successful in taking the first place with a collection remarkable for its completeness and the high quality of the whole of the fruit. Especially good were the Alnwick Seedling, Muscat of Alexandria, Black Hamburgh, and Foster's Seedling grapes, Queen and Smooth Cayenne pines, Walhurton Admirable and Bellegarde peaches, Elruge and Victoria nectarines, Washington and Kirke's plums, Morello cherries, Hemskirke apricots, Jargonelle pears, Mr. Gladstone apples, Hero of Lockinge melon, Brown Turkey figs, and Vicomtesse Hericart de Thury strawberries. Mr. J. McIndoe, gardener to Sir J. Pease, Bart., M.P., Hulton Hall, Guisboro', was a close second with a collection comprising thirty-three dishes, and including excellent examples of Duke of Buccleuch, Trebhiano, Black Hamburgh, and Gros Maroc grapes, Elruge and Humboldt nectarines, Princess of Wales and Golden Eagle peaches, the last mentioned being particularly handsome, Charlotte Rothschild pine, Brown Turkey and Negro Largo figs, Monarch and Scarlet Premier melons, Clapp's Favourite pear, Worcester Pearmain, and Grand Duke Constantine apples, and Late Duke cherries. Mr. J. Roberts, Gunnershury Park, Acton, was third with a collection consisting exclusively of fruit of great excellence, the grapes, peaches, and nectarines being especially good. There was a very severe competition in the class for twelve dishes, and in this Mr. J. Roberts occupied the first place with a collection in which the whole of the examples were of a high degree of merit. It consisted of Muscat of Alexandria and Gros Maroc grapes, Charlotte Rothschild pine, Williams's Bon Chretien pears, Brown Turkey figs, Marchioness of Downshire peach, Victoria Nectarine, William Tillery and Blenheim Orange melons, Moor Park apricot, La Gros Sucree strawberries. Mr. J. McIndoe was a capital second; and Mr. A. Miller, gardener to W. H. Long, Esq., M.P., Trowbridge, Wilts, was third. The entries were numerous in the class for a collection of eight kinds, and Mr. Pratt, gardener to the Marquis of Bath, Longleat, Warminster, was first with excellent examples of Black Hamburgh and Muscat of Alexandria grapes, Elruge nectarine, Royal George peach, and figs, plums, and apricots. The three bunches of Black Hamburgh weighed twelve and a-quarter pounds, and the three bunches of Muscats eleven and a-half pounds. Mr. S. Pullman, gardener to R. B. Sheriden, Esq., Frampton Court, Dorchester, was second with a collection in which Muscat of Alexandria and Black Hamburgh grapes, Pine Apple nectarine, and Dymond peach were remarkable for their high quality. Mr. H. G. Oclee, Blickling Hall, Aylsham, was a close third. The class for collections of unlimited extent was well filled, and the contributions produced a very attractive display. The prizetakers were Mr. G. H. Wingfield, 37, Market Street, Brighton; Mr. J. H. Redman, 32, King's Road, Brighton; and Mrs. E. Peters, Brighton Market.

GRAPES had nine classes set apart for them, and in the whole of them the entries were very numerous. The contest was very sharp in the great class for ten kinds, two bunches of each, and at the head of the competitors was Mr. J. H. Goodacre, who had rather large and superbly-finished clusters of Golden Queen, Black Hamburgh, Alnwick Seedling, Muscat of Alexandria, Madresfield Court, Foster's Seedling, Alicante, Lady Downes, Duke of Buccleuch, and Muscat of Hamburgh; Mr. H. W. Ward, gardener to the Earl of Radnor, Langford Castle, was an uncomfortably close second with a collection in which Buckland Sweetwater, Muscat of Alexandria, Foster's Seedling, Alnwick Seedling, and Lady Downes were exceptionally good; Mr. Wildsmith, gardener to Viscount Eversley, Heckfield, was third with well-finished clusters. For a collection of five varieties, two bunches of each, Mr. Taylor, gardener to J. Chaffin, Esq., Charlcombe, Bath, was first with a collection so good that it was generally acknowledged to contain the finest grapes in the exhibition. The varieties were Muscat of Alexandria, Madresfield Court, Gros Maroc, Alicante, and Alnwick Seedling, the bunches being of immense size, the berries very large, and the colour and finish perfect; Mr. Pratt was second with large and well-finished clusters of Lady Downes, Mrs. Pince, Alicante, Black Hamburgh, and Muscat of Alexandria; Mr. W. Elphinston, Shipley Hall, Derby, third. There were eight entries in the class for three bunches of Black Hamburgh, and the prizes were awarded to Mr. W. Pratt, Mr. T. Moorhouse, gardener to J. W. Temple, Esq., Groombridge, and Mr. W. Howe, gardener to H. Tate, Esq., Streatham Common. Nine dishes of Muscat of Alexandria were staged, and the awards were made in favour of Mr. W. Pratt, Mr. J. Roberts, and Mr. C. J. Goldsmith, Manor House, Beckenham, all of whom had clusters remarkable for their large size and superb colouring. Alicante was very plentiful, and the finest bunches of this useful late grape were those of Mr. Howe; Mr. Pratt, and Mr. W. Tidy, Great Stanmore, were second and third. Gros Maroc was specially well represented, and Mr. W. Elphinston, was first with grand clusters; and Messrs. T. Rivers and Son and Mr. C. McIndoe were second with good examples. The first place in the class for three bunches of Madresfield Court was occupied by Mr. J. J. Bury, gardener to A. Richards, Esq., Tewkeshury Lodge, Forest Hill, with bunches remarkable for their high colour; Mr. H. Perkins, gardener to Right Hon. W. H. Smith, M.P., Henley-on-Thames, second; and Mr. F. Jordan, Godalming, third. There were sixteen entries in the class for a dish of any white grape, and the premier award was made in favour of Mr. J. Wallis, Koole Hall, who had rather small but well-finished clusters of Mrs. Pearson; Mr. J. Bury and Mr. H. Perkins, were second and third with Foster's Seedling. Mr. Ward had a capital dish of Buckland Sweetwater. In the corresponding class for black grapes the prizetakers were Mr. Ward, Mr. J. Hudson, gardener to H. J. Atkinson, Esq., M.P., Gunnershury House, Acton, and Mr. McIndoe. For a basket of black grapes Mr. W. Howe was first with superb Black Hamburgh; Mr. McIndoe was second with the same variety; and Mr. J. Hudson was third with Alnwick Seedling perfect in colour and finish. In the corresponding class for white grapes Mr. C. Goldsmith was first, and Mr. T. Osman, Ottershaw Park, Chertsey, third with Muscat of Alexandria; and Mr. McIndoe was second with a fine basket of Duke of Buccleuch.

PINE APPLES were decidedly poor, with the exception of the two fruits of Smooth Cayenne from Mr. C. Ross, Welford Park, which were of immense size and exceedingly good. The two fruits were of the aggregate weight of 18½ lbs., and they were both of good shape and well ripened: Mr. T. Smith and Mr. McIndoe were second and third for any variety; and Mr. Smith and Mr. McIndoe were first and second for two fruits of The Queen.

PEACHES AND NECTARINES were numerically strong, and, generally speaking, of high quality. The entries were numerous in the great class for twelve dishes of peaches and nectarines to comprise equal numbers of each, and the post of honour was occupied by Mr. Elphinston with large and good fruit of Elruge, Victoria, Pitmaston Orange, Albert Victor, and Violette Hâtive nectarines, and Bellegarde, Barrington, Royal George, Walhurton Admirable, and Princess of Wales nectarines; Messrs. T. Rivers and Son, Sawbridgeworth, were second with good fruit of Dryden, Otway, Rivers's Golden, Pineapple, Rivers's Orange, and Albert Victor nectarines, and Dr. Hogg, Dymond, Lord Palmerston, Stirling Castle, Princess of Wales, and English Galande peaches; Mr. W. H. Divers, Kelton Hall, Stamford, third. There were eight entries in the class for four dishes of peaches, and the first prize was awarded to Mr. J. McIndoe for large well-ripened fruit of Violette Hâtive, Golden Eagle, Stirling Castle, and Princess of Wales; Mr. C. Goldsmith was a capital second with Barrington, Royal George, Prince of Wales, and Lady Palmerston; Mr. H. G. Oclee third with fruit remarkable for its high colour. In the corresponding class for nectarines Mr. W. Elphinston was first, staging Pine Apple, Pitmaston Orange, Elruge, and Violette Hâtive; Mr. G. H. Richards, Somerley, Ringwood, was second; and Mr. J. Roberts third, chiefly with the same varieties. Seventeen growers took part in the competition for the prizes for a single dish of peaches, and Mr. W. H. Divers was first with Prince of Wales; Mr. W. F. Smith, gardener to Mrs. Byass, Nevill Court, Tunbridge Wells, was second with Late Admirable; and Mr. J. Ridout, Reigate, third with Violette Hâtive. There were sixteen entries in the class for a dish of nectarines, and Mr. Hannagan, gardener to R. C. Naylor, Esq., Hooton Hall, Chester, was first, Mr. Pullman second, and Mr. A. Evans, Lythe Hall, Haslemere, third, each staging Pine Apple.

MELONS were numerous, and generally of good quality. For a scarlet-fleshed variety, Mr. J. Lambert, Herne Hill, and Mr. O. Goldsmith, Polesden, Dorking, were first and second with Hero of Bath, and Mr. J. McIndoe was third with Scarlet Premier. In the corresponding class for green-fleshed fruits Mr. G. Pullman was first with Golden Perfection.

PLUMS, for which liberal provisions were made, were staged in considerable quantities, and formed a large and attractive part of the exhibition. For three dishes of purple fruit, Mr. G. H. Wingfield was first, with Purple Gage, Diamond, Goliath, and Mitchelson's; Mr. G. H. Richards was second with Kirke's, Belgian Purple, Diamond, and Prince Englebert; Messrs. T. Rivers and Son were fourth, staging, amongst others, Late Prolific, and Black Imperial. In the class for four dishes of yellow and green plums, Mr. G. H. Wingfield was again first staging Coe's Golden Drop, Green Gage, Washington, and White Magnum Bonum; Mr. J. Neighbour, Bickley, was second, with Washington, Jefferson, White Magnum Bonum, and Green Gage; Mr. Wells, Windsor Forest, was third. Mr. Wingfield was first also, for four dishes of red plums, his collection consisting of Red Magnum Bonum, Prince of Wales, Victoria, and Cooper's Large; Mr. Wells, and Mr. Ward, were second and third respectively.

APPLES were plentiful and good, the competitive collection being supplemented by several collections from nurserymen. In the class for three dishes of ripe apples Mr. J. Butler, gardener to A. J. Thomas, Esq., Sittingbourne, was first with excellent examples of Red Astrachan, Quarrenden, and Hunt's Early; Mr. A. Waterman, gardener to H. A. Brassey, Esq., Preston Hall, Aylesford, was a close second with Red Astrachan, Kerry Pippin, and Duchess of Oldenburg; Messrs. G. and J. Lane, St. Mary's Cray, were third. In competition for the prizes for twelve dishes to comprise equal numbers of kitchen and dessert varieties, Mr. J. Butler had the premier award made in his favour. The varieties were Melon Apple, Red Astrachan, Lord Suffield, Ecklinville Seedling, Cox's Orange Pippin, Brabant Bellefleur, Peasgood's Nonsuch, Worcester Pearmain, Stirling Castle, Quarrenden, Hunt's Early, and Grand Duke Constantine; Mr. Waterman second, and Mr. Fuller, Lancing, third with collections of great excellence.

PEARS were admirably represented both in numbers and the quality of the fruit. The first place in the class for ten varieties was occupied by Mr. J. Butler, his collection comprising Clapp's Favourite, Desiré Cornelis, Windsor, Beurre d'Amanlis, Louis Bonne of Jersey, Beurre de l'Assomption, Williams's Bon Chretien, Doyenne Boussouch, and Pitmaston Duchess; Mr. A. Waterman and Mr. J. Hunter, Lamblon Castle, Durham, were second and third respectively with good collections. For three dishes of ripe pears Mr. Wingfield was first with Beurre d'Amanlis, Williams's Bon Chretien, and White Beurre; Mr. Butler was second with Beurre d'Amanlis, Windsor, and Williams's Bon Chretien; and Mr. A. Waterman third.

TOMATOES in collections of six distinct kinds were invited, and as the entries were numerous, the display produced was very bright and effective. The first prize was awarded to Mr. C. Goldsmith for large, well-ripened fruit of Reading Perfection, Hathaway's Excelsior, Acme, Stamfordian, Vick's Criterion, and Trophy. Mr. Jennings, Farnboro', and Mr. Waterman were second and third respectively.

GLADIOLI were well shown, and the collections arranged in front of the great orchestra presented a very effective appearance. For a collection to comprise not less than thirty-six varieties, Messrs. J. Burrell and Co., Howe House Nurseries, Cambridge, were first with a collection consisting of about one hundred and fifty well-developed spikes, and including the best of the varieties of Continental origin. Messrs. Harkness and Co., Bedale, were second, and Mr. Walter Calne third. In the amateur's class for twelve spikes, the Rev. H. H. D'Ombrain was first with magnificent spikes. Mr. Whitton Aiskew and Mr. Cattley, Bath, were second with good stands of flowers.

HOLLYHOCKS were admirably shown and formed a very pleasing feature.

Messrs. Webb and Brand, Saffron Walden, were successful in taking the first prize in the class for twenty-four varieties with well-developed and very fresh blooms of Victor, Nettie Buckle, Jessie Dean, Peri, Bijou, Walden King, Golden Drop, Magnet, King, Grace, Prince Arthur, Crimson Queen, Walden Primrose, Purity, Cairns, Chater, Marion, Ianthe, Enchantress, Fire King, and Sunset. In the amateurs' class for twelve, Mr. A. Whitton and Mr. R. Mann were awarded the first and second prizes for good stands of bloom. Mr. J. Blundell, Martell Road, West Dulwich, who has been especially successful in the raising of new varieties as well as in growing the older sorts, exhibited flowers of several exceedingly beautiful seedlings raised this year. These included *Baroness Rothschild*, a large, finely-formed flower of a delicate pink hue, the colour resembling that of the rose of the same name; a most valuable addition to its class, *Prince Alexander*, bright carmine, a large well-built flower of an exceedingly effective shade of colour; *Princess Louise of Wales*, deep pink, the flowers of large size and very smooth; and *Primrose Gem*, a grand yellow flower which was certificated at a recent meeting of the Royal Horticultural Society.

ASTERS have seldom been shown in such large numbers and in high-class condition as on this occasion, and the large assemblage of blooms must have gladdened the hearts of those who take an interest in these flowers. The finest stands of quilled asters were those shown by Mr. J. Walker, Thame, Mr. Jones, Lambridge, and Messrs. Saltmarsh and Son, and the finest French asters were contributed by Mr. J. Jones, Mr. W. Sloper, and Mr. J. Morgan.

EARLY-FLOWERING CHRYSANTHEMUMS were represented by large and very attractive collections from Mr. N. Davis, Camberwell, and Mr. Piercy, West Road, Forest Hill, who were first and second respectively, and a good group from Mr. H. James, Norwood, to whom the third prize was awarded.

MISCELLANEOUS CONTRIBUTIONS were so numerous and good as to materially enhance the attractions of the exhibition. Messrs. W. Paul and Son exhibited a large collection of apples; Messrs. T. Rivers and Son contributed a very effective group of fruit trees in pots; Mr. W. Gordon, Twickenham, contributed a magnificent group of lilies consisting of varieties of L. auratum and L. speciosum; Messrs. Laing and Co., Forest Hill, had a beautiful group of tuberous begonias; Messrs. Bunyard and Co., Maidstone, staged a collection of apples and other hardy fruits; Messrs. J. Cheal and Sons exhibited a collection of apples; and Mr. Hannah sent a bunch of Raisin de Calabre weighing 21 lb.

The judges were: Messrs. G. Bunyard, T. Rivers, W. Coomber, A. F. Barron, J. Willard, T. Bailey, J. Woodbridge, J. Hudson, S. Ford, J. Laing, W. Earley, and J. Douglas.

NATIONAL DAHLIA SHOW, SEPTEMBER 4 AND 5.

The National Dahlia Show, which was held at the Crystal Palace on the above dates, was not less successful than the previous exhibitions under the directions of the committee of which Mr. Thomas Moore is the secretary, and formed an important adjunct to the great show held at the same time. Show, fancy, pompone, and single varieties were all shown in large numbers, and the blooms, more particularly of the shows and fancies, were in quality somewhat above the average. The classes provided in the schedule were, as in previous years, broken up into three groups, one of which was set apart for nurserymen, one for amateurs, and, in the other, the competition was open to cultivators of all classes.

NURSERYMEN'S DIVISION.

SHOW FLOWERS were staged in magnificent condition in the several trade classes, and their noble appearance secured for them a full share of attention from the general body of visitors. The competition in the great class for forty-eight distict varieties was as keen as could have been desired, as proved by the fact that equal first prizes were awarded to Messrs. Keynes, Williams, and Co., Salisbury, and Mr. Charles Turner, Slough. The two stands consisted of blooms remarkable for their large size, perfect finish, and rich colouring, and contained the best of the varieties, new and old, at present in cultivation. The varieties represented in the collection contributed by Messrs. Keynes, Williams, and Co., were: Imperial, Cardinal, Shirley Hibberd, Mrs. Langtry, Charles Wyatt, Ethel Britton, Mr. Spofforth, Mrs. Stancomb, Mrs. W. Slack, Vice President Henry Keith, Williams Rawlings, Mrs. Hibberd, Buttercup, John Wyatt, General Gordon, Miss Cannell, Mrs. Glasscock, Gloire de Lyon, Mrs. Gladstone, James Cocker, Lord Chelmsford, Hugh Austen, Prince of Denmark, Harrison Weir, Henry Walton, Defiance, Georgina, Prince Bismarck, Constancy, Joseph Ashby, Colonist, Rebecca, Mrs. Harris, Mrs. John Laing, Thomas Goodwin, Rev. J. B. Camm, Mrs. Foreman, Royal Queen, Seraph, Thomas Hobbs, Henry Glasscock, Illuminator, Mrs. Jefford, and Rosy Morn. The varieties staged by Mr. C. Turner were: John Wyatt, Mrs. W. Slack, Georgina, Statesman, Sunbeam, James Service Prince of Denmark, Mrs. Hodgson, Henry Keith, Flag of Truce, John Bennett, Mrs. Kendal, Joseph Stephens, Ethel Britton, Imperial, Bendigo, George Rawlings, J. T. Saltmarsh, Joseph Ashby, Mrs. Langtry, Thomas Hobbs, Mrs. Hibberd, Prince Bismarck, J. N. Keynes, Rosetta, Seraph, Burgundy, H. W. Ward, Herbert Turner, Mr. G. Harris, Constancy, Champion Rollo, John Standish, James Cocker, Hon. Mrs. P. Wyndham, Mrs. Jefford, Clara, Rev. J. Godday, Hope, William Rawlings, Ovid, Cecila, Mrs. H. Glasscock, and several seedlings. Mr. W. Boston, Manor Farm Nurseries, Cawthorpe, Bedale, was third with a stand of very fine flowers, and Messrs. Heath and Son, Cheltenham, were fourth with good flowers.

Very spirited also was the contest in the class for twenty-four, in which Mr. J. Walker, Thame, was first with a stand containing probably the finest flowers in the exhibition. The varieties with which Mr. Walker scored first were Seraph, J. W. Lord, Goldfinder, John Standish, selected as the premier show flower in the exhibition, Countess of Ravensworth, John Wyatt, Earl of Ravensworth, Harrison Weir, Mr. Gladstone, James Cocker, Mrs. Langtry, Charles Wyatt, Hon. Mrs. P. Wyndham, Joseph Ashby, Mrs. Hodgson, George Rawlings, Annie Neville, Flora Wyatt, Vice-President, Mrs. Foreman. Mrs. Hibberd, J. N. Keynes, and Mrs. Rawlings. The remaining prizes for twenty-four were awarded to Messrs. C. Kimberley and Son, Stoke, near Coventry, Messrs. Harkness and Son, Bedale, and Messrs. Saltmarsh and Son, all of whom had flowers of high quality. In competition for the prizes for twelve Mr. G. Humphries, Langley, Chippenham, was first with capital blooms of James Stevens, Mrs. Langtry, Aurora, General Gordon, G. Smith, Mrs. Harris, James Cocker, Vice President, Burgundy, Goldfinder, Henry Walton, and Mrs. Gladstone; Messrs. Rawlings Brothers, Romford, were second; Messrs. J. Burrell and Co. third; and Messrs. J. Cheal and Son fourth.

FANCIES were staged in considerable numbers and their attractive colours were evidently much appreciated by the visitors. Messrs. Keynes, Williams, and Co., were successful in taking the first prize in the class for twenty-four with finely-developed blooms of James Oliver, Fanny Sturt, Rebecca, Hercules, Duchess of Albany, Adventure, John Forbes, Annie Pritchard, George Barnes, Gaiety, Salamander, Pelican, Rev. J. B. Camm, Mrs. Saunders, General Grant, Henry Eckford, Henry Glasscock, Gaiety (Sport), Mrs. Friselton, Professor Fawcett, Miss Lillie Large, Charles Wyatt, and General Gordon; Mr. Charles Turner was second, with good blooms of Grand Sultan, Professor Fawcett, Hugh Austen, Miss Browning, Peacock, Pelican, Miss L. Large, Neptune, Gaiety, John Lamont, J. O'Brien, Mandarin, Laura Haslam, J. B. Camm, Henry Glasscock, Mrs. Saunders, Rebecca, Eric Fisher, Duchess of Albany, John Lord, and Henry Eckford; Mr. W. Boston was third, with a stand of flowers in a high state of development, and Mr. H. Clark, Rodley, near Leeds, fourth. In the class for twelve, Mr. J. Walker was first with superb blooms of Charles Wyatt, John Forbes, Peacock, John Salter, Professor Fawcett, Mrs. Browning, Fanny Sturt, Tippy Bobby, Florence Slack, Flora Wyatt, Chorister, and Prospero; Mr. G. Humphries occupied the second place; Mr. M. Campbell Blantyre, was third; and Messrs. Paul and Son, fourth.

AMATEURS' DIVISION.

SHOW FLOWERS were contributed in large numbers and in fine condition by the amateur cultivators who took part in the competition. At the head of the exhibitors in the leading class, which was for twenty-four blooms, was Mr. R. Petfield, gardener to A. J. Thornhill, Esq., Diddington, Buckden, Huntingdon. The blooms were of high quality, and the varieties represented comprised: Miss Cannell, Joseph Ashby, Seraph, George Rawlings, Constancy, James Stephens, Mrs. Langtry, Prince Bismarck, Primrose Perfection, Imperial, Flag of Truce, J. W. Lord, T. J. Saltmarsh, James Cocker. Mrs. Gladstone, Shirley Hibberd, Earl Ravensworth, James Vick, Harrison Weir, William Rawlings, Mrs. G. Rawlings, John Standish, Royal Queen, and John Wyatt; Mr. H. Glasscock, Bishops Stortford, was a close second; Mr. Thomas Hobbs, Lower Easton, Bristol, third; and Mr. T. Garratt, Bishops Stortford, fourth. There was a sharp contest for the Turner Memorial Cup, and in the result it was awarded to Mr. J. G. West, Cornwallis, Brentwood, who had a stand in which the following varieties were well represented: Goldfinder, Georgiana, William Rawlings, Mrs. Langtry, Mrs. Cannell, T. J. Saltmarsh, J. W. Lord, Mrs. Harris, Prince Bismarck, Mrs. Gladstone, Henry Eckford, Chorister, Mrs. N. Halls, Pelican, Hugh Austen, and Gaiety. The prizetakers for twelve were Mr. C. Holkney, Greenfield House, Stokesley, Mr. J. Tranter, Mr. W. H. Apethorpe, Cambridge, and in the class for six the awards were made in favour of Mr. J. Perkins, Chippenham; Mr. A. Tunbridge, Chelmsford; Mr. H. Steer, New Eltham; and Mr. T. W. Girdlestone, Sunningdale.

FANCIES were presented in capital condition by amateur cultivators, and in the class for twelve the first place was occupied by Mr. C. Hockney with good blooms of Rebecca, Henry Glasscock, Prospero, Mrs. Saunders, Pollie Perkins, Flora Wyatt, Mrs. N. Halls, Miss Lillie Large, Peacock, Gaiety, Fanny Sturt, and George Barnes; Mr. R. Petfield, Mr. H. Vincent Keymer, and Mr. Glasscock were second, third, and fourth respectively. For six the prizes were awarded to Mr. A. Whitton, Askiew, Mr. J. Perkins, Mr. J. G. West, and Mr. Apethorpe, in the order of their names.

OPEN CLASSES.

POMPONES were contributed in large numbers, and presented a very effective appearance. For twenty-four varieties, ten blooms of each, Mr. C. Turner was first with a collection remarkable alike for the high quality of the blooms and the taste evinced in their arrangements. The varieties were Dora Amelie, Barbiere, Golden Gem, Favourite, Little Arthur, Princess Sophia, Thomas Moore, Darkness, White Aster, J. F. Junker, Isabel, Louis Rodani, Comtesse Von Sternberg, Butterfly, Gem, Titania, Fanny Werner, Rosetta, Ernest, Rosalie, and Fair Helen; Messrs. Keynes, Williams, and Co. were second; Messrs. J. Cheal and Co. third; and Messrs. J. Gilbert and Son, Ipswich, fourth. For twelve Messrs. Paul and Son were first with a superb stand of blooms, and the remaining prizes in the class were awarded to Mr. J. Henshaw, Harpenden; Messrs. J. Burrell and Co., Cambridge; and Mr. Apethorpe. The successful competitors in the class for six were Mr. Glasscock, Mr. West, Mr. J. Tunbridge, and Mr. J. Bullard, Norwich.

SINGLE VARIETIES were contributed in sufficient numbers to produce a very bright display of colour. Mr. C. Turner occupied the first place with good blooms, which, as in the case of the pompons, were very tastefully arranged. The varieties were Yellow Queen, Harlequin, Rupert, Paragon, Mrs. Bowman, Mary Anderson, Dorothy, Ellen Terry, Juno, Duchess of Westminster, Negress, and Defiance. Messrs. Keynes, Williams, and Co., Messrs. J. Cheal and Sons, and Messrs. Paul and Son were also successful in the class. For six T. W. Girdlestone, Mr. H. Vincent, and Mr. R. Spinks Horley were the prizetakers. Mr. Girdlestone's flowers were of good quality, but much too formally arranged, and amongst them was a new and extremely beatiful variety raised by the exhibitor under the name of Calico. The flowers are of good size and form, and are of a delicate rose mauve hue, with well-defined white margin.

SEEDLINGS were shown rather largely, and the under-mentioned first-class certificates were granted.

To Mr. J. Tranter, Upper Assenden, for

Nellie Tranter.—A fine show flower with high centre and fine outline; colour canary yellow; an excellent addition to the yellow flowers.

To Mr. C. Turner, Slough, for

Florence.—An excellent show flower, the blooms large and of fine form; the colour bright yellow.

Bendigo.—A superb show flower, remarkable for its large size and perfect finish; colour brilliant magenta crimson.

Don Juan.—An excellent pompon, of good form, and a deep marone colour.

Dandy.—A distinct and effective pompon; the flowers perfect in form; the colour bright magenta crimson.

To Messrs. Keynes, Williams, and Co., Salisbury, for

Defiance.—A very fine show flower; the blooms large and of good outline and finish; the colour brilliant scarlet.

Colonist.—An attractively coloured show flower; the blooms large and of good form; the colour buff shaded rose purple.

To Messrs. Rawlings Bros., Romford, for

R. T. Rawlings.—A show flower remarkable for its large size and fine form; colour, deep yellow.

Mrs. Theobald.—A very distinct and beautiful show variety; the blooms large with good outline and high centre, the colour bright rosy pink.

To Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for

Mrs. Conick.—A beautiful single variety; the flowers of average size and good form, the colour bright rose with white belt round the disk.

Amos Perry.—A distinct single variety, the flowers large and of superb form; the colour marone, the ray florets margined with crimson.

To Messrs. H. Cannell and Sons, Swanley, for

Charming Bride.—A cactus or decorative variety with large flowers attractively coloured rose and white.

Black Knight.—A distinct and handsome cactus variety with flowers of a dark marone hue.

To Messrs. J. Burrell and Co., Cambridge, for

Alice.—A beautiful pompon or bouquet variety; the flowers perfect in form, the colour crimson, tipped light red.

To Messrs. Cannell and Sons and Mr. T. S. Ware for

Chilwell Beauty.—An attractive single variety; the flowers of good form and a bright buff colour, the florets margined with red.

Miscellaneous Contributions included a very large and attractive collection of decorative pompon and single dahlias, from Mr. T. S. Ware, chief amongst the decorative varieties being William Pearce, a fine yellow variety, which was certificated at South Kensington at the second of the two August meetings. Messrs. H. Cannell and Sons, Swanley, exhibited a large representitive collection of dahlias, the show and fancy varieties being especially good.

The judges were: Messrs. J. Downie, Shirley Hibberd, H. Glasscock, R. Dean, J. Kirtland, J. Walker, J. Wyatt, T. J. Saltmarsh, and J. Henshaw.

ROYAL HORTICULTURAL SOCIETY, September 7 and 8.

Exhibition of Grapes, Dahlias, &c.

The exhibition of grapes and dahlias held by the Royal Horticultural Society on Tuesday and Wednesday was immensely successful, and may be safely described as one of the very best of the many excellent gatherings during the current season. The competition was very severe in the whole of the classes, and both grapes and dahlias were presented in a condition that did credit to the exhibitors and could not have failed to give satisfaction to the visitors. In addition to the contributions to the competitive classes, several large and highly-interesting collections of flowers and fruits were staged by trade cultivators, which very materially enhanced both the interest and the attractiveness of the meeting. Novelties were not, perhaps, quite so numerous as at the second of the two August meetings, but those submitted to the Floral Committee included several of much importance. The arrangements were as usual admirably carried out under the direction of Mr. Barron, and the beautiful display produced was thoroughly appreciated by the visitors who thronged the conservatory throughout both days the exhibition was open.

Exhibition of Grapes.

The display of grapes was interesting, instructive, and extensive, and provided a rich treat for the visitors. There were nineteen classes, the bunches in several instances being of grand development, indeed surprising. Inferior exhibits were not absent, but happily few in number, and the only variety that was what we may call shown in thoroughly bad condition was the famous Black Hamburgh, for not a well-finished bunch was to be seen, a rather remarkable fact to record.

Alicante was seen to advantage, and in the class devoted to this popular variety, there was keen competition. The bunches put up by Mr. W. Taylor, gardener to James Chaffin, Esq., Bath, were models of perfection. They were well finished, heavy, and covered with the deep bloom characteristic of this grape. The first prize was deservedly awarded to this exhibit. Mr. J. Hollingworth, gardener to J. F. Campbell, Esq., Woodseat, Uttoxeter, was a good second, his examples being nicely finished, though somewhat loose; the third award was made in favour of Mr. W. Howe, gardener to Henry Tate, Esq., Park Hill, Streatham Common, who also exhibited satisfactory clusters.

Alnwick Seedling was exhibited in superb condition, and there are few grapes to equal it in appearance, as seen by the two splendid clusters put up by Mr. W. Taylor, who was accorded the first place. The bunches were perfect in finish, heavy, and suffused with a deep bloom. Mr. J. Drinkwater, gardener to C. Bill, Esq., Farley Hall, Cheadle, Stoke-on-Trent, also exhibited highly satisfactory examples, being medium in size and nicely finished; the third place was occupied by Mr. J. H. Goodacre, gardener to Earl of Harrington, Elvaston Castle, Derby. There were eight competitors in this class.

Black Hamburgh, usually exhibited in fine condition, was, as mentioned above, very poorly represented. Mr. J. Roberts, gardener to Messrs. Rothschild, Gunnersbury Park, Acton, headed the prize list; Mr. J. Hudson, gardener to H. J. Atkinson, Esq., M.P., Gunnersbury House, Acton, came second; and Mr. T. Spencer, gardener to H. C. Moffatt, Esq., Goodrich Court, Ross, third. There were six competitors.

Black Prince is evidently not in high favour, as there were only two competitors in the class devoted to this variety, but the exhibits were decidedly superior. Mr. C. Goldsmith, gardener to Mrs. C. A. Hoare, Kelsing Manor, Beckenham, was deservedly placed first; the second award was made in favour of Mr. J. Baird, gardener to C. A. Daw, Esq., Homefrela, Ealing.

Buckland Sweetwater, one of the most popular of white grapes, was well shown by Mr. T. Lockie, Oakley Court Gardens, Windsor, Berks. The bunches were remarkably fine in finish, heavy, and with large berries. Mr. J. Roberts exhibited medium-sized clusters, and was placed second; the third prize going to Mr. H. W. Ward, gardener to Earl of Radnor, Longford Castle, Salisbury.

Duke of Buccleuch is an unsatisfactory grape to deal with, owing to its difficult culture, and is seldom shown in condition, but the examples put up by Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, proved an exception to the general rule, as the berries were large, nicely coloured, and the bunches well developed. Mr. John Wallis, gardener to the Rev. Walter Sneyd, Keele Hall, Newcastle, Staffordshire, was second; and Mr. J. H. Goodacre, third.

Foster's Seedling was well represented, the competitors being eight in number. Mr. Roberts was placed first for well-coloured, symmetrical, heavy bunches; and the second prize went to Mr. G. T. Miles, Wycombe Abbey Gardens, High Wycombe, who also had well finished clusters; Mr. H. W. Ward was third, his clusters being nicely finished.

Gros Colmar was seen to advantage, although there were only three competitors. Mr. W. Elphinstone, Shipley Hall Gardens, Derby, was well to the front with clusters that exhibited great skill in cultivation. The bunches were heavy, good in outline, and the berries large and well-shaped; a close second was Mr. G. T. Miles, who had medium-sized clusters; the third prize went to Mr. S. T. Wright, gardener to C. Lee Campbell, Esq., Ross.

Gros Guillaume, or Barbarossa, is, when exhibited in condition, extremely handsome, the bunches developing to an immense size. On this occasion, however, it was not well shown, although the clusters put up by Mr. H. W. Ward, who was awarded the first prize, were large in size, but they wanted finish and colour; Mr. T. Spencer showed small but well-coloured bunches, and was placed second; the third prize going to Mr. G. T. Miles. There were four competitors.

Gros Maroo was exhibited in grand condition by Mr. W. Taylor, who won the premier prize; the bunches were heavy, well shaped, and the large berries carried a deep bloom. Mr. John Wallis was a good second; and the third place was occupied by Mr. W. Elphinstone, who also exhibited satisfactory examples.

Lady Downes appeared to be a favourite, as there were nine competitors in the class for this grape. Compact, shapely, well-coloured bunches were exhibited by Mr. T. Osman, gardener to L. J. Baker, Esq., Ottershaw Park, Chertsey; the second prize went to Mr. J. Hollingworth, who had well-coloured bunches, but wanting in finish; Mr. John Wallis third.

Madresfield Court made a good figure, the first prize bunches, shown by Mr. W. Taylor, being heavy, and especially well-coloured; Mr. J. Bury, gardener to A. Richards, Esq., Tewkesbury Lodge, Forest Hill, was second; and Mr. J. H. Goodacre, third. Mr. J. Roberts put up medium-sized, neatly-finished bunches, with large, shapely berries, but failed to obtain a prize, although well deserving a position.

Mrs. Pearson was not largely represented, but the bunches were creditable. Mr. T. Osman occupied the first place, the second prize going to Mr. J. Roberts, and the third to Mr. John Wallis.

Mrs. Pince was shown in good condition by Mr. W. Pratt, Longleat Gardens, Warminster, the clusters being compact, large in berry, and well-coloured. The premier place was occupied by this exhibitor; and the second prize went to Mr. J. Horsfield, who had well-ripened clusters; the third award being made in favour of Mr. A. Miller, gardener to W. H. Long, Esq., M.P., Rood Aston Court, Trowbridge.

Muscat Hamburgh was satisfactorily shown by Mr. J. H. Goodacre, who was placed first; the second prize going to Mr. J. Cooper, and the third to Mr. J. Horsfield.

Muscat of Alexandria, the finest of all the muscats, made the best figure, for there were nine competitors, and with but one or two exceptions the bunches were grandly developed, especially in the first prize lot staged by Mr. W. Pratt, the two clusters weighing ten and a-half pounds; they were heavily shouldered and the berries large, and of the clear golden-yellow colour characteristic of the variety. Mr. R. Gray, gardener to Earl Stanhope, Chevening, Sevenoaks, came second, and Mr. J. Roberts third.

In the class for any variety except those specified in the schedule there was a good competition. Mr. T. Spencer came to the front with Pearson's Golden Queen; Mr. John Wells, gardener to B. Ravenhill, Esq., Fernhill, Windsor Forest, occupying the second position with small bunches of Cooper's Black, a variety remarkable for the large size of the berries, which are covered with a heavy bloom; Mr. J. Hollingworth was third, showing Trebbiano in fair condition.

Miscellaneous Contributions of grapes were of great interest. Messrs. H. Lane and Son, The Nurseries, Berkhampstead, exhibited a collection of pot vines, comprising Gros Colmar, bunches large, well-coloured; Foster's Seedling, medium-sized clusters, berries small; Black Hamburgh, carrying a good crop; and Alicante, which is evidently well suited for this mode of culture, as the vine carried large, well-finished bunches. The grapes shown by Mr. J. Roupell, Harvey Lodge, Roupell Park, S.W., were full of interest, as there were several varieties in the collection seldom seen. Pot vines were well shown, the varieties including Strawberry, Raspberry, La Bruxelloise, Dr. Hogg, and Trebbiano. Madresfield Court and Muscat of Alexandria were represented by several well-finished bunches, evincing considerable skill in cultivation. Baskets of grapes were also exhibited, containing the following kinds, viz.: White Frontignan, Purple Constantine, Grizzly Frontignan, Primavis Frontignan, Chasselas Musque, Black Monukka, and Troveren Muscat, all of which possess delicious flavour; but the small berries and general appearance of the bunches render them unpopular for the table, and, as a result, they are but little grown. They are not, however, to be despised, as the flavour is luscious, aromatic, and distinct.

Show of Dahlias.

Although there were only three classes devoted to dahlias the display was bright and effective, as the competition was good, and the flowers, especially of the singles, grandly developed.

Show dahlias were well exhibited by Mr. Charles Turner, of Slough, who was first in the class for twenty-four, staging fine fresh flowers of Julia Wyatt, Imperial, Mrs. Gladstone, Henry Keith, Constancy, Bendigo, H. Walton, Hugh Austin, Royal Queen, Prince Bismarck, Gaiety, Sunbeam, Mrs. Formao, James Cocker, Herbert Turner, Duchess of Albany, Mrs. Foster, Charles Wyatt, Hon. Mrs. P. Wyndham, J. N. Keynes, Mrs. Langtry, Mrs. Rawlings, John Standish, and Clara. Mr. John Walker, The Nurseries, Thame, Oxon, was a good second; and the third prize went to Messrs. Rawlings Brothers, Old Church, Romford.

Pompone varieties were effectively arranged, and made a pleasing display. Mr. C. Turner was again the most successful, and in his stand were the following varieties, viz.: Fanny Werner, Titania, Favourite, Isabel, Lady Blanche, Little Princess, Nymph, Gem, Golden Gem, The Khedive, Dora, Rosetta, Cupid (very fine), Ernest, Eccentric, Thos. Moore, White Aster, Comtesse Von Sternberg, Rosalie, Hedwig Polwig, Fair Helen, Darkness, Louis Rodani, and E. F. Junker. Messrs. Keynes, Williams, and Co., Salisbury, and Messrs. Paul and Son, Cheshunt, were second and third respectively.

Single dahlias were shown in splendid condition by Messrs. J. Cheal and Sons, Crawley, who exhibited Dorothy Fell, Brutus, Sunset, Alfonso, Amos Perry, Hugo, Beauty of Uplands, Silver King, Thos. Laws, Alba perfecta, Henry Irving, Mrs. Bowman, Negress, Helena, Mrs. Kennett, White Queen, Rosalind, Mrs. Linaker, Primrose, Formosa, Paragon, Mrs. Walker, Edith, and Juno. Mr. C. Turner occupied the second place, and the third prize went to Messrs. Paul and Son, Cheshunt.

Special Prizes.

Special prizes were offered by Messrs. J. Carter and Co., High Holborn, for nine tomatoes, and by Messrs. Sutton and Sons, Reading, for six carrots and twelve tomatoes. In the class for nine tomatoes, Mr. T. A. Beckett,

Cole Hatch Farm, Penn, Beckenham, came to the front, Mr. C. J. Waite, gardener to Colonel the Hon. W. P. Talbot, Glenhurst, Esher, coming second; and Mr. L. Harris, Bradenham, High Wycombe, third. For six carrots, the post of honour was occupied by Mr. G. H. Richards, Somerly, Ringwood, who had very fine roots; Mr. W. Mead, Shrivenham, second; and Mr. R. Lye, gardener to W. H. Kingsmill, Esq., Lydmonton Court, Newbury, third. In the class for twelve tomatoes, Mr. T. Lockie, Oakley Hall Gardens, Windsor, was placed first, Mr. C. J. Waite second, and Mr. T. A. Beckett third.

Miscellaneous Collections.

As on previous occasions, the miscellaneous collections were so large and varied as to be sufficient of themselves to form an extremely beautiful exhibition. Foremost amongst the exhibitors in the miscellaneous class were Messrs. Kelway and Son, Langport, who staged a magnificent collection of gladioli, comprising about two hundred and fifty spikes in a very high state of development, and several stands of delphiniums, asters, and miscellaneous cut flowers. Conspicuous in the collection of gladioli, which presented a very bright appearance, were the spikes of Beatrice Kelway, Earl of Morley, Baron Ferdinand de Rothschild, Leonard Kelway, Dr. Masters, Sir J. Hooker, Agrius, Dr. Woodford, Gorgo, Sir Percy Herbert, Maori Chief, and Sir T. Symonds, all of which are remarkably good in their several lines of colour. The delphiniums included Prince of Wales, brilliant blue, with large pure white centre; Princess Mary of Cambridge, pale blue, shaded rose; Lord Rothschild, purple-blue, distinct and good; Her Majesty, brilliant blue; Agnes Mary Kelway, blue and rose, large and very fine. The asters comprised about two hundred blooms, very highly finished, and representing an excellent strain of quilled flowers. The miscellaneous subjects included several fine varieties of Gaillardia grandiflora, and bouquets of the Belladonna and Scarborough lilies.

Messrs. William Paul and Son, Waltham Cross, Herts, contributed ten boxes of roses, which were in capital condition for so late in the summer, and proved very attractive. The Noisette and tea-scented varieties that were exceptionally well represented, included: Sunset, Niphetos, Comtesse de Nadaillac, Marie Van Houtte, Rêve d'Or, Madame de Watteville, Gloire de Dijon, Souvenir d'Elise Vardon, Marechal Niel, and William Allan Richardson. The hybrid perpetuals included: Louis Van Houtte, Reine du Midi, Merveille de Lyon, Triomphe de Caen, Florence Paul, a new variety with globular flowers of a brilliant purple crimson, Dupuy Jamain, Mdlle. Annie Wood, and Victor Hugo. Messrs. W. Paul and Son exhibited also a basket of flowers and fruits of Rosa rugosa. Mr. George Prince, Oxford, staged a box of good blooms of Hon. Edith Gifford, and a box of flowers, in which were blooms of Rubens, Marie Van Houtte, Niphetos, Catherine Mermet, Jean Ducher, and Souvenir d'Un Ami.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, exhibited an extensive and beautiful collection of cut flowers, in which both lilies and dahlias were very strongly represented. The lilies comprised several hundred spikes of Lilium auratum, L. speciosum, L. speciosum album, and L. tigrinum. The single dahlias included good bouquets of Mrs. Conick, Chilwell Beauty, Thetis, white striped rose; John Cowan, crimson and scarlet; and John Downie, bright vermilion, with broad sharply-defined margin of clear yellow. Amongst the decorative dahlias were Mr. A. W. Waite, pure white; Fascination, rose-pink tipped white; Picta formosissima, William Pearce, rich yellow; and Mrs. Hawkins, all of which possess much beauty. Mr. Ware contributed also a gathering of Tigridia conchiflora Warei, a very distinct variety, with deep golden-yellow flowers profusely spotted in the centre with crimson. The Iceland poppy and its varieties were represented in the collection, which included large specimens of Veronica pinguifolia, V. buxifolia, V. epacridea, and V. Chathamica, four prostrate species, said to be perfectly hardy and to be well adapted for rockery gardens.

From Messrs. Paul and Son, Chesbunt, came a large collection of cut flowers, comprising show, fancy, pompon, and decorative dahlias in great variety; ten boxes of tea-scented and hybrid perpetual roses, all of which were more or less good, and cut specimens of a large number of hardy shrubs and trees, with variegated golden and purple leaved trees and shrubs. Messrs. Paul and Son also exhibited a basket of flowers of Hypericum oblongifolium, a free flowering and very effective species, and wreaths of the brilliantly-coloured Tropæolum speciosam, which grows freely and blooms profusely in their High Beech nurseries.

Messrs. H. Cannell and Son, Swanley, exhibited a large and very attractive collection of dahlias and begonias. The dahlias included a large number of excellent blooms of the best show and fancy flowers at present in cultivation and several stands of decorative varieties, in which the Swanley collection is particularly rich. Chief amongst the decorative varieties were Lady E. Dyke, a very effective variety with lemon-yellow flowers; Charming Bride, white, suffused with rose; Our Leader, semi-double, bright crimson, with golden disk; Black Knight, rich marone; Fascination, rose-pink tipped white, distinct and attractive; Picta formosissima, crimson, scarlet, and buff; Parrot, semi-double, scarlet; Maid of Kent, rose-mauve, very distinct and beautiful; and Glare of the Garden Improved, deep crimson. Conspicuous in the boxes of single varieties were Chilwell Beauty and Mr. Rose, both of which are distinguished by their distinctness and effective colouring. From the firm came also a box of finely-developed blooms of Dahlia Mont Blanc, a white self of noble proportions.

Messrs. Charles Lee and Son, Hammersmith, contributed a collection of evergreen and deciduous trees and shrubs with variegated and dark coloured leafage, which possessed much interest, and received a full share of attention.

Lilium auratum was represented by a considerable number of well-flowered examples from Mr. W. Gordon, Twickenham. All the varieties in the collection were remarkably good, and amongst others especially deserving of notice was the exquisitely beautiful L. auratum platypbyllum.

Floral Committee.

Present: George F. Wilson, Esq., in the chair: Major Lendy, Dr. Masters, and Messrs. H. Bennett, W. Bealby, T. Baines, H. Herbst, J. Hudson, R. Dean, J. O'Brien, J. Dominy, C. Noble, H. Turner, G. Paul, J. Douglas, W. B. Kellock.

The orchids shown on this occasion were few in number, chief amongst them being the beautiful Vanda Dearei from Baron Schroder's collection. F. Sander and Co., St. Albans, exhibited a basket of well-flowered plants of Galeandra Baueri, a very distinct species, the flowers comparatively large, the sepals and petals pale yellow, and the labellum dull rose-purple. A vote of thanks was accorded the firm, and a like compliment was paid to Messrs. Heath and Son, Cheltenham, for well-flowered examples of Odontoglossum mirandum and Dendrobium ciliatum, two interesting species.

G. F. Wilson, Esq., Weybridge, exhibited a superbly developed spike of Lilium auratum platypbyllum to show its characteristics, and was accorded a vote of thanks. Messrs. J. Veitch and Son, Chelsea, exhibited several new plants, amongst them being Nephrolepis rufescens tripinnatifida, a very distinct and beautiful variety, certificated at a previous meeting; and Selaginella gracilis, a strong growing species of the most elegant character. From the New Plant Company, Colchester, came General Chanzy and Dracocephalus gladioli, two distinct and beautiful hybrids. Mr. King, Aylesbury, sent, under the name of Her Majesty, a handsome coleus, evidently well adapted for specimen culture. The habit is good, and the leaves are rich bronze with narrow green margin and bright magenta centre. Mr. R. Dean, Ealing and Bedfont, exhibited a large gathering of seedling pentstemons, the flowers of which were very bright and of good form. Messrs. Laing and Mather, The Nurseries, Kelso, sent cut blooms of an unnamed but very beautiful yellow ground carnation. Mr. Mortimer, Farnham, submitted a stand of excellent blooms of George Wermig chrysanthemum, a fine yellow sport from Madame Desgranges. Mr. Bannister, Cote House, Westbury-on-Trym, contributed examples of a good strain of mignonette. Mr. J. Walker, Thame, sent a stand of remarkably fine quilled asters. Messrs. Keynes, Williams, and Co., Salisbury, submitted Grevillea robusta stricta, a form with leaves finely divided and more rigid than those of the type. Messrs. Hooper and Co., Covent Garden, exhibited a specimen of Dasylirion glaucum, in bloom, the flower spike finely developed and about fifteen feet in height. A cultural commendation was awarded the firm. New dahlias were shown by Mr. C. Turner, Messrs. Keynes, Williams, and Co., Messrs. H. Cannell and Sons, Mr. Humphries, and Messrs. Rawlings Bros.; and several were selected for certificates.

Fruit Committee.

Present: Mr. J. E. Lane in the chair, and Messrs. J. Burnett, T. J. Saltmarsh, G. T. Miles, J. Roberts, W. Warren, W. Paul, G. Goldsmith, George Norman, J. Willard, P. Crowley, R. D. Blackmore, and G. Bunyard.

The duties of the Fruit Committee were rather heavier than usual, the contributions being numerous and of considerable importance.

Chief among the contributions to the meeting of the committee, were the large collections of apples from Messrs. Paul and Son and Messrs. Veitch and Sons, both of which were remarkably alike for their thoroughly representative character and the large size of the individual fruits. Messrs. H. Lane and Son, Great Berkhampstead, exhibited a collection of plums, comprising about twenty-five varieties. Messrs. J. Cheal and Son, Crawley, had a good collection of apples and plums, and several cordon apple trees carrying good crops. Messrs. J. Veitch and Sons exhibited a collection of fruit trees in pots which included apples, pears, and figs.

Excellent melons were shown by Mr. C. J. Goldsmith, Beckenham, and Mr. Mortimer, the first-mentioned exhibiting eighteen and the latter twenty-four well-ripened fruits; Mr. Lockie, Oakley Court, Windsor, submitted good fruits of Oakley Court Greenflesh, a handsome fruit of good flavour.

From Messrs. J. Veitch and Sons came a collection of carrots, comprising the several types in cultivation, in which Veitch's Scarlet Model, Early Nantes, Half-long Carenton, and Half-long Luc, four types of great excellence, were conspicuous.

Messrs. Thomson and Son, Clovenfords, exhibited a fine basket of Duke of Buccleuch grapes, the berries large and richly-coloured. Mr. Bannister submitted a very promising white grape, with rich Muscat flavour, said to have been obtained from a cross effected between Muscat of Alexandria and Black Hamburgh. Mr. Miles contributed a good dish of President strawberry, and the Commissioners of Western Australia sent a collection of dried fruits, for which a high commendation was voted.

Novelties.

First-class certificates were granted as under:

To Messrs. J. Veitch and Sons, for

Davallia retusa.—A very distinct and elegant species, the fronds light green with cuneate pinnules and rose-coloured rachis.

Phrynium jucundum.—An elegant stove plant, similar in character to the small-growing marantas, and with oblong leaves freely variegated with pure white.

To Baron Schroder, The Dell, Egham, for

Vanda Dearei.—A distinct species of rather robust growth, and bearing racemes of comparatively large flowers, the sepals and petals creamy white, shading to sulphur; the labellum bright yellow, with traces of crimson at the base.

To Messrs. Keynes, Williams, and Co. for

Dahlia Colonist.—A finely-formed and distinctly-coloured show flower, described in report of National Dahlia Show.

To Messrs. H. Cannell and Sons for

Dahlia Black Knight.—A handsome decorative variety, the flowers of medium size, and a blackish marone colour.

Dahlia Lady E. Dyke.—An effective decorative variety, with flowers of a bright lemon-yellow colour, and remarkable for its freedom of flowering.

Dahlia Charming Bride.—A decorative variety; the flowers large, and suffused with rose on a white ground. An exquisitely-coloured flower, and of much value for its distinctness.

To Messrs. J. Cheal and Son for

Dahlia Mrs. Kennett.—A beautiful single flower; the blooms of large size and grand form, and freely striped and flaked with red on a yellow ground.

To Messrs. Rawlings for

Dahlia Mrs. Theobald.—A medium-sized self of superb form; the colour a lovely shade of rose pink; a fine front row flower.

ROYAL OXFORDSHIRE HORTICULTURAL SOCIETY, September 1.

This society completed its fifty-seventh year by holding its third show for the season on the above date, when the bright weather enabled a large number of subscribers, their friends, and the public to witness one of the largest September shows the society has ever held. The number of entries received by the secretary reached 1,024, fully a hundred more than the highest record, and to stage so large a number a considerable amount of tabling had to be provided. The plants, blooms, and fruit were ranged around the entire length of the colonnade, the back quadrangle being furnished with sufficient tabling to have formed a square nearly the dimensions of the quad; this extensive range barely sufficing to hold the whole of the cottagers' production, and the peas, beans, celery, marrows, carrots, and other roots in the two principal divisions, tables being erected in the front quad abutting the south front of the chapel and dining hall, on which were placed the onions and potatoes of the professionals and amateurs, this arrangement allowing the two grass plots

to be used as resting places for visitors, a large number of chairs being thoughtfully provided.

In the class for six stove and greenhouse plants G. H. Morrell, Esq., led the way with neat fresh specimens; Mr. G. Jacob, of Witney, second; Mr. R. Price, third. The best stove specimen was Eucharis amazonica from the Warden of Wadham, second, G. H. Morrell, Esq., with Corypha australis; third, W. Wootten-Wootten, Esq., with Rondeletia speciosa. The best greenhouse specimen came from Mr. E. Thorne; it was Fuchsia Charming; second, W. Wootten-Wootten, Esq., with Erica Fairreana; third, Mr. R. Price, with a tuberous begonia. A gigantic Sedum fabaria was put up by Mr. John Walker in the hardy class, and second to it was a huge hydrangea in beautiful condition from Mr. G. A. Tomkins; third, a golden-rayed lily from Mr. C. R. Ridley.

Cut flowers were abundant and fine, and especially noticeable were Mr. Walker's dahlias. The varieties were: Rebecca, Royal Queen, James Vick, Julia Wyatt, Prince of Denmark, Vice President, Prince Bismark, Ruby Gem Hon. Mrs. P. Wyndham, H. W. Ward, Burgundy, Mrs. Gladstone, James Cocker, Flag of Truce, Champion Rollo, Geo. Rawlings, Harrison Weir, Lizzie Leicester, Wm. Pringle Laird, Henry Walton, Mrs. Langtry, Mrs. Shirley Hibberd, John Bennet, Wm. Rawlings, Hope, John Wyatt, Countess of Ravensworth, John W. Lord, Grand Sultan, Peacock, John Forbes, Hercules, Flora Wyatt, Mandarin, Professor Fawcett, and Charles Wyatt.

The classes for fruit were well filled with dishes of pines, melons, apricots, peaches, nectarines, plums, and greengages, the white and black grapes being represented by a large number of handsome clusters. Culinary and dessert apples were an average show, but of pears there was scarcely one good dish—either hard or too far gone. Tomatoes were fine indeed; the exhibits of Morella cherries being a shade under the average for weight.

Honey was a very interesting display, though somewhat limited, the exhibit of Mr. W. Payne, Holywell Meadows, Oxford, in the open class, possessing good all-round points of merit.

In vegetables the keenest competition existed through all the classes, all kinds of roots being large and handsome, carrots and parsnips being specially noticeable. The peas were excellent for colour and flavour, while runner beans, large and handsome though they were, did not reach the standard of last year, the past fortnight of broiling sunshine being against this particular family of valuable esculents; the best dishes were Neal's Ne Plus Ultra, nine inches long, and very straight and of good colour. Potatoes were shown in fine condition; the following names of winning varieties will interest many: Gardeners' classes—*red round*—first, second, and fifth, Reading Russet; third and fourth, Vicar of Laleham; *white round*—first, second, third, and fourth, Schoolmaster; fifth, Fidler's Prolific; *white kidney*—first and fifth, Snowflake; second and third, Cosmopolitan; third, International; *red kidney*—first, Queen of the Valley; second and fifth, Mr. Bresee; fourth, Prizetaker; and third, Edgecote Purple. Amateurs—*white kidney*—first, International; second, Snowflake; third and fifth, Chancellor; fourth, Sutton's Seedling; *white round*—first, second, third, and fifth, Schoolmaster; fourth, Rector of Woodstock; *red kidney*—first, fourth, and fifth, Mr. Bresee; second, Beauty of Hebron; third, Trophy; *red round*—Reading Russet throughout the five prizes. Cottagers—*red round*—first, second, third, and fourth, Vicar of Laleham; fifth, Reading Russet; *red kidney*—first, second, and fourth, Mr. Bresee; third, Edgecote Purple; fifth, Trophy; *white round*—Schoolmaster throughout; *white kidney*—first and second, Chancellor; third, Snowdrop; third and fourth, International. Onions were in plenty, and good in quality in point of ripeness and size, but as compared with the past two seasons smaller in circumference. Mr. James Gough, Buckland Park Gardens, Faringdon, was head and shoulders above any other exhibitor, his bulbs being large and handsome, but scarcely ripe; average circumference, sixteen inches.

The judges were: Plants, blooms, and fruit (gardeners' classes) Messrs. Turner and Daniels; cottagers—Messrs. Hill and Harris; amateurs' fruit and vegetables—Messrs. Neal, Wingrove, and Hovell—assistance being rendered by Messrs. Bates and Patey in the gardeners' vegetables classes.

SHREWSBURY FLOWER SHOW.

The exhibition of the Shropshire Horticultural Society recently held in The Quarrey was not less successful than the gatherings of previous years, the display of horticultural produce being very large and the financial results highly satisfactory.

Stove and Greenhouse Plants in bloom and remarkable for the beauty of their foliage had the most liberal provision made for them, and were exceedingly well shown. Mr. J. Cypher, Cheltenham, was successful in taking the first prize of £25 and the third of £15 in the great class for twenty plants, of which not less than ten were to be in bloom. Allamandas, ixoras, and heaths were well represented amongst the plants in bloom, and the subjects grown for their foliage comprised several splendidly coloured crotons. Mr. C. Roberts, gardener to A. Nicholson, Esq., Highfield Hall, was second with a group comprising specimens of medium size and well finished. In competition for the prizes for nine plants, Mr. C. Rolfe, gardener to H. Lovatt, Esq., Low Hill, Wolverhampton, scored a good first, and Messrs. Pritchard and Son, Frankwell Nurseries, Shrewsbury, and Mr. Juson, Abbey Forgate, followed close for second and third places. In other classes for stove and greenhouse plants Mr. C. Roberts was well to the front, taking two firsts.

Softwooded Plants in bloom were plentiful and good, and produced a very bright effect. Especially noteworthy in this section were the double and single zonal pelargoniums and the fuchsias from Messrs. Pritchard and Sons. The fuchsias shown by this firm were pyramidal in form, and about six feet in height and five feet in diameter at the base.

Groups arranged for effect were, as in previous years, remarkably good, and formed a feature which proved very attractive to the immense concourse of visitors. The post of honour in the principal class for groups was occupied by Messrs. Pritchard and Sons, whose arrangement was exceedingly tasteful, and Messrs. Jones and Sons were a good second, with a charming group.

Fruit was staged in considerable quantities, and on the whole was remarkably good. The class for twelve kinds was a very strong one, there being no less than seven collections, all of which were such as to do credit to the skill of the cultivators. The premier prize in the class was awarded to Mr. J. Roberts, Gunnersbury Park, Acton, whose collection consisted of Muscat of Alexandria, Madresfield Court, Gros Maroc, and Buckland Sweetwater grapes, Sea Eagle peach, Lord Napier nectarine, La Grosse Sucree strawberry, Brown Turkey fig, Golden Perfection melon, Lady Beatrice Lambton pine, and Morello cherry. Mr. E. Gilman, gardener to the Earl of Shrewsbury, Ingestre Hall, Stafford, was second; Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, was third; and Mr. Parker, Impney, was fourth. There was a severe contest in the class for six bunches of black grapes to comprise three varieties, and in the result the first prize of £10 was awarded to Mr. Pratt, gardener to the Marquis of Bath, Longleat, Warminster, who had magnificent bunches of Alicante, Mrs. Pince, and Black Hamburgh; Mr. Stevenson, gardener to Colonel Prescot, was a capital second, staging excellent clusters of Madresfield Court, Black Hamburgh, and Alicante; Mr. Goodacre occupied the third place with nicely-finished bunches of Alnwick Seedling, Madresfield Court, and Muscat of Alexandria. There were eighteen entries in the class for three bunches of black grapes, and the premier award was made in favour of Mr. Barker, gardener to Alderman Baynes, Birkenhead, who staged Madresfield Court in prime condition; Mr. Bennett, gardener to the Hon. C. W. Wynne, Rhug, Corwen, was second with Alnwick Seedling; and Mr. Brownhill, who was third with Black Hamburgh. Mr. Roberts was successful in taking the first place in the class for four bunches of white grapes, staging well-finished clusters of Foster's Seedling and Muscat of Alexandria. In the class for the grape last mentioned, Mr. Pratt was first with large well-coloured bunches.

Cut Flowers comprised dahlias, gladioli, and other seasonable subjects and bouquets. The first prize for thirty-six dahlias was awarded to Messrs. Heath and Son, Cheltenham, who had a stand of good blooms. Messrs. Burrell and Co., Cambridge, occupied the first place in the class set apart for gladioli.

Vegetables are invariably well shown at Shrewsbury, and on this occasion they formed a very important part of the show, if less attractive than other sections of the exhibition. Collections were particularly good, and in the class for twelve kinds the successful competitors were Messrs. Lambert, Milner, and Purser.

RYDE HORTICULTURAL SHOW.

The second horticultural show under the auspices of the Ryde Sport and Amusement Society was held recently in the beautiful grounds of the Isle of Wight College, and was even more successful than that of last year. The open classes attracted exhibitors from all parts of the island, and the result was an excellent and varied display. The show was opened by the Mayor, who was supported by Professor Simonds, the chairman of the committee, J. O. Brook, Esq., W. Gibbs, Esq., and the popular secretary, Mr. J. Ely.

Cut Flowers formed a fine feature. There was keen competition in the class for six baskets of cut flowers, and the judges must have experienced considerable difficulty in making the awards. Mr. Rayner, Shanklin, was first, Mr. Attril second, and Mr. H. Butcher and Mr. H. Tolly equal thirds. Gladioli were well shown, the premier award being made in favour of Mr. Attril, the second prize going to Mr. G. Spragg. Mr. W. Mathews was first in the class for dahlias, and Mr. H. Butcher was also successful in the classes devoted to these flowers. Mr. Williams, florist, Ryde, was first for cut roses, and Mr. E. Pack second. In the classes set apart for hand bouquets and zonal pelargoniums, the most successful exhibitors were Mr. Banting, Shanklin, Mr. E. Brading, and Mr. James, Ryde.

Classes were also devoted to specimen foliage and flowering plants, ferns, coleus, lilies, balsams, and other plants, while prizes were offered for fruit and vegetables.

Messrs. W. and G. Drover, florists, Fareham, exhibited some very fine bouquets and sprays not for competition.

NATIONAL CHRYSANTHEMUM SOCIETY, September 9 and 10.

The exhibition of early flowering chrysanthemums, dahlias, and gladioli, held by the National Chrysanthemum Society, at the Royal Aquarium, on Thursday and Friday last, proved a brilliant success, and did credit to both the executive and the exhibitors. Chrysanthemums were admirably represented for so early in the season, and of dahlias and gladioli there were remarkably fine displays. The various subjects were indeed sufficient to fill the whole of the available space within the building, and as they were of a high quality throughout, the effect produced was highly satisfactory.

Chrysanthemums had eleven classes set apart for them, and in the majority the competition was very keen. There was a very sharp contest in the class for a group of plants to occupy a space not exceeding sixty square feet, and the several collections contributed much to the attractions of the exhibition. The first place was occupied by Mr. N. Davis, Lilford Road Nursery, Camberwell, with a collection of great excellence. Amongst other good varieties in the group were William Holmes, a new large-flowered variety, producing blooms of a brilliant crimson colour; Alice Butcher, a fine orange-coloured sport from Lyon, Pynaert Van Geert, a handsome tasseled variety with yellow flowers; Madame Desgrange, and George Wermig. Mr. J. Wright, Middle Temple, was second with a group consisting chiefly of exceedingly well-grown plants of Madame Desgrange. Mr. G. Stevens, Putney, was a close third, his best plants being those of George Wermig and Madame Desgrange. Mr. W. Piercy, Forest Hill, contributed a group of exceedingly well-grown plants, and Mr. H. James, West Norwood, contributed a group of Madame Desgrange, for which he was awarded an extra prize.

To the class for a collection of forty-eight plants as grown for market, Mr. W. Holmes, Frampton Park Nurseries, contributed an excellent group, in which the more popular of the early-flowering pompons were well represent d. In competition for six untrained plants of Madame Desgrange, Mr. J. Wright was first with well-grown examples, each bearing six finely-developed blooms; Mr. Stevens was a good second, the plants being in capital condition and the flowers of good quality.

In competition for the prizes for a collection of cut flowers Mr. Stevens was first, staging excellent blooms of Madame Desgrange, Lyon, Madame Piccol, Toulousaine, Frederick Marronet, La Bien Amiee, and Madame Jolivart; Mr. N. Davis was second with a well-varied collection, in which were well represented Mrs. Cullingford, Mrs. Pitcher, a fine new white variety, Pynaert Van Geert, Margot, Fiberta, Boquet d'Estival, Blushing Bride, and Alice Butcher. Mr. Davis was successful in occupying the first place in the class for twelve pompons, staging a very attractive collection. The varieties included: Blushing Bride, Flora, Lyon, Alice Butcher, Madame Piccol, Fiberta, and Precocite (Pertuze); Mr. W. Holmes was a close second. For twelve bloooms, Mr. Sadler, Streatham, was first with a fine stand of blooms, prominent amongst them being those of Mons. Astorg, Orphée, Madame de Sevin, Mdlle. Lacroix, and Isodore Feral; Mr. Davis was second with good blooms, the varieties comprising Boule d'Argent, George Wermig, Margot, and Mdlle. Lacroix. There was a sharp contest for the prizes for

twelve blooms of Madame Desgrange, and the premier award was made in favour of Mr. J. Wright, whose flowers were large and of good quality; Mr. G. Stevens and Mr. Sadler were second and third with excellent stands. For six bunches of Madame Desgrange, Mr. G. Stevens was first.

DAHLIAS were contributed in large numbers and in a high state of development. There were five entries in the great open class for forty-eight, and the blooms in the several stands were very closely matched in point of quality. In the result Messrs. Keynes, Williams, and Co., Salisbury, had the premier award made in their favour, their flowers being large, fresh, and well finished. Especially good were the blooms of Thomas Hobbs, Henry Eckford, Mrs. Hibberd. Henry Walton, Flora Wyatt, R. Dean, Lizzie Leicester, Henry Keith, General Gordon, Seraph, Rev. J. B. Camm, Gaiety, Rebecca, Royal Queen, J. B. Stephens, Mr. Jeffard, Bessie, Spitfire, Mrs. Langtry, Mrs. H. Glasscock, Lady Golightly, Miss Cannell, Mrs. Gladstone, and George Barnes. Mr. C. Turner, Slough, was second with rather small, but fresh and well-finished blooms; and Mr. W. Boston, Cawthorpe, Bedale, was a very close third, his flowers being only two or three points behind those staged by Mr. Turner.

The two classes for twenty-four were exceedingly well filled, and in that for twenty-four show flowers there were ten entries, Mr. C. Turner was first with good blooms of George Rawlings, Hon. Mrs. Percy Wyndham, Sunbeam, J. N. Keynes, Mr. G. Harris, Julia Wyatt, Rev. J. Goodday, Mrs. Langtry, Joseph Ashby, Constancy, James Cocker, Mrs. S. Hibberd, Mrs. Harris, Prince of Denmark, Henry Walton. T. J. Saltmarsh, Prince Bismarck, Charles Wyatt, James Stevens, Mrs. Foster, James Vick, and Ethel Brittan. Messrs. Saltmarsh and Son, Chelmsford, were second, and Messrs. Keynes, Williams, and Co. third with excellent blooms. Messrs. Paul and Son, Cheshunt, and Messrs. Rawlings Bros. also exhibited remarkably well in this class. For 24 fancies Messrs. Keynes, Williams, and Co. were first with splendidly-developed blooms of Gaiety, Henry Eckford, Flora Wyatt, General Gordon, Rev. J. B. Camm, John Forbes, Gaiety (sport), Fanny Sturt, Frederick Smith, Rebecca, Hercules, John Lamont, Mons. Chauvier, Miss Lily Large, Mrs. Saunders, Adventurer, George Barnes, Salamander, and Edward Reed. Mr. W. Boston was a good second with a remarkably fine stand of blooms, and Messrs. Rawlings Brothers, Romford, were third.

In the amateurs' classes the competition was equally as severe as in those open to both trade and private growers. For twelve show flowers Mr. H. Glasscock, Saffron Walden, was first with magnificent blooms; and Mr. C. Hockney, Greenfield House, Stokesley, and Mr. J. T. West, Brentwood, who were second and third respectively, also staged flowers large in size and high in finish, Mr. Glasscock was first also in the class for twelve fancies with excellent flowers; Mr. Hockney was second; and Mr. H. Vincent, Keymer was third.

The single and pompon varieties were very largely shown, and proved highly attractive to the visitors. There were four entries in the class for twenty-four singles, and the first place was occupied by Messrs. J. Cheal and Son, Crawley, with a very telling collection, the blooms being well developed and very tastefully arranged; Mr. C. Turner was a good second; and Messrs. Keynes, Williams, and Co. were a close third. In the corresponding class for pompon varieties Messrs. J. Cheal and Son were again first, staging a very beautiful collection of flowers; Mr. C. Turner was second with a very fine collection; and Messrs. J. Burrell and Co., Cambridge, were third. For twelve pompons Mr. West was first; and in the class for twelve single varieties, Mr. T. W. Girdlestone, Sunningdale, had the premier award made in his favour.

GLADIOLI were so largely shown as to form one of the most attractive features of the exhibition. Messrs. Kelway and Son, Langport, staged, not for competition, a collection consisting of about two hundred and fifty finely-developed spikes. Messrs. J. Burrell and Co., who were first in the class for a collection, staged about one hundred and fifty spikes. Rev. H. H. D'Ombrain, Westwell Vicarage, was first for twelve spikes with a capital stand.

MISCELLANEOUS COLLECTIONS contributed much to the attractions of the exhibition. Mr. T. S. Ware, Tottenham, exhibited an extensive and beautiful collection of single, pompon and decorative varieties. Messrs. H. Cannell and Sons, Swanley, staged a very large and beautiful collection of dahlias, in which all the types were well represented, and also several beautiful stands of zinnias. Messrs. J. Laing and Co. had a fine group of begonias. Mr. J. Blundell, The Nurseries, Martell Road, Dulwich, staged a fine lot of bollybocks.

NOVELTIES were numerous, and the undermentioned first-class certificates were granted: To Mr. T. S. Ware for single dahlias, *Miss Linaker* and *Mrs. Conick*; to Messrs. Kelway and Sons for gladioli, *Ormonde* and *Duchess of Westminster*; to Messrs. Rawlings Bros. for show dahlias, *R. T. Rawlings* and *Mrs. Theobald*; to Messrs. Keynes, Williams, and Co. for show dahlia, *King of the Purples*; to Messrs. J. Burrell and Co. for gladioli, *Cantab* and *The Mikado*; to Mr. Munday for decorative dahlia, *Empress of India*; and to Mr. Garratt for show dahlia, *W. Garratt*.

The judges were Messrs. H. Cannell, Richard Dean, George Gordon, C. Gibson, J. P. Kendall, and G. Gilbey.

PEAS FOR SUCCESSION.

IN the garden, for home supplies, William I. still holds its own amongst the early varieties. Sutton's Satisfaction is a good main crop variety, but those we trust to for successional supplies are G. F. Wilson, Dr. Maclean, Best of All, and Ne Plus Ultra. Peas have been very unsatisfactory in this neighbourhood this season, scores of acres not affording even a single gathering.

Croome Court, Severn-Stoke. WALTER CHILDS.

CEDAR.—A correspondent of *Notes and Queries* states that the name cedar has been given very indiscriminately to cedars, cypresses, and junipers. It ought to be confined to that noble tree the cedar of Lebanon, to which it was first given. This genus has but one true species for the B. atlantica, C. taurica and C. deodora, are mere varieties of the C. libani. Their cones are indistinguishable. This I learned from the late Sir W. Hooker, and his son, Sir Joseph Hooker, has confirmed it. There is no higher authority. The timber is of extraordinary durability, but it is quite devoid of fragrance. The sweet-smelling wood of which so-called cedar pencils are made is juniper, commonly called the Bermudar cedar. There is a boudoir in Warwick Castle entirely wainscoted with it.

APPLES FOR LOVE AND APPLES FOR MONEY.

A LEGEND, still current in the Western States of America, tells that on the occasion of her Majesty's marriage to the late Prince Consort a simple-hearted Wisconsin farmer sent to Windsor Castle, as a wedding present, a barrel containing five bushels of magnificent apples, which the donor had grown in his own orchard. The Prince Consort is reported to have been so gratified by this evidence of kindly feeling on the part of an unknown stranger, and also by the delicious flavour of the fruit itself, that he gave instructions for a large portrait of the Queen and himself, standing side by side, to be despatched to a little place called Appleton, in Wisconsin, close to which the generous farmer lived. Whether the word "Appleton" is derived from the abundance of apples found in its neighbourhood, or from that great publishing firm in New York, a member of which gave his daughter's hand in marriage to the poet Longfellow, we have no means of ascertaining. It is certain, however, that about forty years ago the States of Wisconsin, Michigan, and Ohio were supposed to be unapproachable in the excellence of the golden fruit produced by them. Since then, the dwellers upon the Pacific Slope, and especially in the State of Oregon, claim that their apples are larger, more full of flavour, and more delightful to the palate than any other specimens grown in the United States. In a good season multitudes of barrels of apples, mostly of the variety called Baldwins, are poured into Washington Market at New York, previous to their transportation to Europe. The result is that upon this side of the Atlantic we are beginning, with an alacrity and easy credulity which do little credit to our farmers and gardeners, to believe that it is impossible for Englishmen to raise specimens of that favourite and almost universal fruit which are capable of competing with the bountiful products of North America. If we are to believe a letter addressed by an anonymous correspondent to one of our weekly contemporaries, there is no reason why an inhabitant of these islands should not at any time be able to send a barrel of apples to Windsor Castle which are more than equal to those shipped by the Wisconsin farmer to her Majesty six-and-forty years ago. The correspondent in question tells us that this country is at least as well adapted as any other for the growth of apples, and that all we require is a knowledge how best to assort and to pack them for market. The apple varies in size from that of a walnut to that of a little child's head, and runs as to colour from green, light red, dark red, streaked, and yellow, down to an almost black variety. In rind it varies as much as in hue, being, "sometimes downy, sometimes glabrous or smooth, sometimes thickish, and sometimes very thin, waxy, and transparent." The fruit succeeds best in the colder regions of the temperate zone; but it is to be met with on the coasts of the Mediterranean, in Arabia, Persia, the West Indies, and China, where, however, it is as small and worthless as in high northern latitudes. New varieties are constantly produced, and, as they are chiefly propagated by grafting or from layers and cuttings, the old ones gradually die out.

British farmers cannot complain of a scarcity of advice given to them by well-meaning, if sometimes ignorant, friends; and it will, perhaps, be a surprise to them to learn that the correspondent to whom we have just alluded accuses both our horticultural and agricultural societies of neglect in failing to devote more of their time and attention to bringing out new varieties of apples. "A good sample of 'Lady Henniker,'" he adds, "would equal in symmetry any American favourite; so, too, would a wisely-chosen specimen of 'Blenheim Orange' or of 'Peasgood's Nonsuch.' If a man were to put a handsome lot of 'Tom Putt' side by side with the very best obtainable of 'King of Tomkins'' county, I know that the King would have to yield to the commoner for richness of colouring. The great objection to the beautiful and excellent 'Golden Noble' is that these very delicate yellow apples will not, when their colour is fully developed, bear the light for many hours without losing their freshness. The red apples, which an undiscerning public values so greatly, owe much of their beauty and their success for decorative purposes to very coarse and thick skins." We lately adverted to the deterioration of prime Cheshire cheese and to the scarcity of the best sort of Stilton. In like manner it might be asked, with good reason, "Why has the Ribston Pippin—the most delicious apple ever served upon a board—been allowed to fall into almost total decay?" No American variety exceeds the Ribston Pippin in varied excellence, and it has already been forgotten that it takes its name from Ribston Park, the Yorkshire seat of Mr. J. Dent-Dent, one of the most honoured members of the Royal Agricultural Society. Why, again, was it that at the meeting of "the Royal" at Reading the exhibition of farm fruit was an utter failure "for want of knowledge on the part of promoters how to frame a schedule, and on the part of exhibitors how to pack the few apples which in July can be shown to advantage"? It is suggested that the society in question should offer a prize for the best box or barrel containing a quarter or half a hundredweight of good keeping apples, the care shown in selecting and packing them to be taken into account no less than the choice of the best variety. The best English apples are said to be small in size and rich in flavour, and no country could possibly supply choicer fruit than "English Nonpareils." "If these were to be shown in boxes, arranged with the same care as early greengages from France, they would win plenty of customers away from the showier American kinds." The same authority insists upon the lamentable indisposition betrayed by modern Englishmen to take the trouble necessary to do small and common things well. He tells us that, despite the extraordinarily low prices at which apples were lately being sold in the West of England, he was himself offered one-and-ninepence per stone by a local market-dealer for his own samples, simply because they were of good kinds, carefully gathered, sorted, and packed. He winds up by saying, "A man can hardly go wrong in this country when he grows apples wisely. If, however, people will persist in producing poor sorts, and take no pains in gathering, marketing, and manufacturing them, they must not complain if they only get poor prices for orchard fruit and cider."

It is the almost universal fashion at present for farmers to abuse "England's variable climate" as being utterly unfit to compare with that of the Continent, of the United States, and of Australia. Yet it is certain that all over the world agriculturists are feeling the pinch of hard times quite as sorely as their congeners in Yorkshire and Somersetshire, and that in many respects there is no such growing climate anywhere as that of the British Islands. What is wanted—we see glaring illustrations of the sad and humiliating truth upon all sides—is increased knowledge in turning our undoubted advantages to good account, and greater industry in utilising them. Not only are the French, the Belgians, and the Germans extending their area of fruit land, and improving their methods of cultivation, but with characteristic zeal and aptitude the Americans are studying to ameliorate their systems of packing and of cultivation. According to the "Annual Report of the United States Commissioner for Agriculture" there were more than two millions of acres under cultivation o

in the Great Republic as apple orchards, and the value of their products has increased to more than ten millions of pounds per annum. "We have allowed," says Mr. Charles Whitehead, of Barming House, Maidstone, "foreign fruit cultivators to steal a march upon us. Though our importations of fresh fruit have quadrupled since 1871, the increase in the acreage of English fruit land during this period is equal only to about 16 per cent. Some years back foreign producers discovered that there is a practically unlimited market for fruits in this country. Their specimens of all kinds have improved vastly in appearance and quality during the last ten years, though they are not equal to those grown, or which might be grown, in England, of which the soil and climate are suitable for the raising of fine-flavoured and good-sized fruits." Is the British cultivator always to be distanced by his foreign rivals? Is it from want of energy, enterprise, or capital that he is left behind in the race? Why is he so easily daunted by low prices from which the fruit-growers of France, Belgium, Holland, and the United States are annually gaining a livelihood, and in some cases reaping golden harvests? It is to be hoped that before long the fruit orchards lately planted by Lord Sudeley, Lord Warwick, and Lord Suffield will exhibit results of a nature to inspirit—perhaps we might add, to shame—their fellow-agriculturists in other parts of England.—*Daily Telegraph.*

A GARDENERS' BEAN FEAST.

It is quite within the range of possibility that the now popular institution of a bean feast owes its origin to those who follow the "gentle art." It may be assumed—that is to say, it is not very "far fetched"—that the first "bean feasters" were gardeners. They had a feast of beans on the auspicious day, hence the time-honoured title to these convivial gatherings.

With this explanatory introduction—probably an erroneous one, although it looks like the "real thing"—we proceed to say a few words about the "bean feast," which took place on Wednesday, September 1, the "feasters" being the men employed in the Royal Horticultural Society's Gardens at Chiswick, their rendezvous being Cobham, Surrey.

A spacious waggonette, drawn by two noble steeds, seemed to say to us, as if catching up the spirit of that fine old song, "Come out, 'tis now September."

It was a glorious day that 1st of September, 1886, blazing hot—a day to bring joy to everything animate, particularly in the harvest fields, those "happy autumn fields" of which the laureate sings. All being ready, the driver having taken "the ribbons" in hand, and mounted the "box," and Adam's sons seated with "sweet smiling faces," a start was made. Soon we were "rattling along" in fine style. We rush past Kew, that vast treasure house of the noble science of horticulture. Soon we are at aristocratic Richmond. There is an air of refinement and "gentility" about the place, "a-take-things-easy" sort of style that is noticeable, and how much to be desired in these days of "wear and tear."

Our thoughts naturally turned to the fine "Buccleuch estate," and the discussion consequent upon it, which has caused some little commotion lately, but no time for "sentiment," for we are outrageously hilarious. We pass through Ham, a noble common here, splendid stretches of green sward, fine trees; how refreshing to the eyes of the pent-up jaded Londoner to "drink in," as it were, nature to the full.

Through Kingston, or "King's Stone." Here was to be seen the identical stone (religiously preserved by an iron railing) from which the place takes its name. No time, though, to inquire into the (probably) interesting little history connected with it. Made a memo that the thing must be "looked up." Kingston possesses an attraction for gardeners. Here are the old nurseries of Thomas Jackson and Son, of heath-growing fame.

We are next admiring the pretty little picturesque village of Esher—some noted garden establishments in the neighbourhood. Near is the race-course of Sandown, but as we are not "horsey" individuals; we give it the "cold shoulder." On through the beautiful Surrey lanes, so charming on this bright summer's day, admiring ever and anon some effective landscape "bit," hill and dale, beautifully diversified with rich tree growth, until at length we arrive at our destination.

After a game at the manly sport of cricket, in which not a few showed their prowess, while others, in their handling of the willow, contributed to the "fun of the fair." A substantial dinner was done full justice to, a little speechifying was indulged in, and the afternoon given up to boating.

An enjoyable ride home in the "dewy shades of even," interspersed with songs and general merry-making, concluded what one and all unanimously declared to be a "happy day." B.

PEACHES BY THE MILLION.

From Kent county, Maryland, U.S., which is the greatest peach-producing territory of its size in the world, it is reported that, while this has been a bad year for peaches generally, there has been an extraordinary yield in Maryland. The estimated output of the Maryland peninsula section is 3,000,000 baskets. Of this amount, which does not seem to be exaggerated, Kent county alone will furnish 1,500,000 baskets; while the contribution of Still Pond Neck alone is 450,000 baskets. Within a tract six miles long and three miles wide, forming Still Pond Neck, fourteen crops of over 10,000 baskets each were gathered, while on all sides of them can be found men who will market from one thousand to five thousand baskets of excellent fruit.

The inquiry naturally follows, what is there in Kent county, Maryland, that guarantees such remarkable crops of a fruit that fails in almost every climate and section? To this question the only answer received by a *Philadelphia Times* commissioner was: "The climate is not so mild, for the thermometer went below zero here last winter, but the orchards facing the Chesapeake Bay did not suffer from frost. We believe that the high bluffs and deep water protect the tracts near the bay from the severe frosts of the winter and the late frosts in the spring, and thus make this a favoured section for peach-raising. Experience has taught us this, and it is a good teacher in the fruit business. The soil is a sandy loam, with a clay bottom, which is also favourable for successful peach-raising. But the secret of our great crops has been that, in addition to soil and location, we have thoroughgoing fruit-growers, who have made the peach a study and have cultivated it with the same care and industry as the thoughtful and thrifty farmer looks after his wheat or corn. Our orchards are fertilised and tilled as a model gardener attends to his most delicate plants, and we are handsomely remunerated for the expense and trouble at the end of the season. This year the crop is extraordinarily large, the prices high, and we shall be rewarded accordingly. But it always pays to raise peaches in this section. We seldom fail to get an average crop and a fair price."

Replies to Queries.

Cactus Dahlia.—R. H. M., Basingstoke, send blooms of a seedling which he proposes to call Empress of India. The flowers are large, rough, and as judged by samples before us, wanting in form; the colour is deep velvety crimson with marone stripe. If the colour will carry it, good, but we should like a better style of flower for the name it is to bear.

Grapes.—W. H.—The vinery in which you have a crop of Black Hamburgh hanging should be freely ventilated, and the atmosphere be maintained in as dry a state as possible. As you are desirous of keeping the grapes as long as you possibly can, it will be advisable to remove the plants growing underneath the vines to another structure.

W. P. A.—It is impossible to draw a sharp line between an amateur and a commercial cultivator. If you sell habitually there will certainly be engendered a prejudice against you, and it will have some justification in common sense. As we cannot in any case determine if an amateur has overpassed the line of moderation; we adopt the rule that the publication of a printed list of plants or flowers on sale is sufficient to remove a man from the amateur to the nurserymen's classes.

Seedling Dahlias.—A. H. sends a nice lot of seedling single dahlias, asking if we consider any of them worth naming. After a journey in a loose box they are not in a condition to enable us to speak of their quality. It seems to be a prevailing opinion that flowers may be sent anyhow and anywhere with a reasonable prospect of being as fresh at the end of the story as at the beginning. We really cannot with any propriety say if these dahlias are good or bad.

Spikes of Stocks.—"At a flower show a prize was given for three spikes of stocks, and the judges held that a stock spike was a plant in its entirety, with the exception that the root be cut off. Will you kindly give your opinion, and oblige, W. J. H. R."—The rule of the judges may be variously stated, but in substance it amounts to this, that the flowers should be accompanied with their own leaves, and the only way to accomplish that end is to show the whole of the plant minus the root. The prudent exhibitor will, of course, cut just enough of stem with leaves to show off his flowers, for every rule requires to be intelligently carried out. With such considerations in view our opinion is that the judges were right.—Ed.

Crotons.—W.S.—The chief points in the cultivation of crotons are a sandy compost, a position near the glass, and uninterrupted light, excepting during brilliant weather. They should be potted in a mixture of fibrous peat and sand, and be placed near the glass. When grown in a house by themselves shade should be applied in the very hottest weather only, and then it should be very light. With but little, if any, shading, free ventilation will be necessary in sunny weather. The temperature should range between 60 deg. and 70 deg. in winter, and between 70 deg. and 80 deg in summer. The water supply must be liberal without being excessive. The following will form a good representative collection: Andreanus, Aurens interruptus, Angustifolius, Comte de Germiny, Hawkeri, Majesticus, Prince of Wales, Princess of Waldeck, Queen Victoria, Sunset, and Warreni.

Double Primulas.—K.—In the cultivation of the double varieties of the Chinese primula it is necesssary to provide them with a light and rather rich compost and pots efficiently drained. A light and airy position is the most suitable throughout the year, and in the winter they require the assistance of a little artificial heat during cold damp weather, as well as during periods of frost. The supply of water must be carefully regulated, especially during the winter, as they are very susceptible to injury from an excess of moisture at the roots. Propagation is effected by means of the offsets, which are not difficult to strike with the aid of a hotbed. The following comprise the best of the varieties at present in cultivation: Alba plena fimbriata, Annie Hellier, Atro-rosea plena, Blushing Bride, Earl of Beaconsfield, Emperor, King of the Purples, Marchioness of Exeter, Miss Eva Fish, Mrs. Eyre Crabbe, Princess of Wales, and Rubra grandiflora.

Tulips.—W. Johnson.—The showy colours afforded by the early-flowering tulips render them of much value for the flower garden and conservatory. To ensure a really satisfactory display of colour in the flower garden, the bulbs should be planted from five to six inches apart, with the exception of those of the Van Thols, the distance between which should not exceed four inches. When grown for the decoration of the conservatory, put the bulbs in five or six inch pots, three in each, and employ a light rich compost consisting of turfy loam, well rotted manure or leafmould, and silver sand. The Van Thols may be grown in boxes or pans until they are coming into bloom, when they can be lifted and put in pots or fancy receptacles. The undermentioned have large, finely-formed, and effectively-coloured flowers, and can be specially recommended for pot culture: Belle Alliance, Bride of Haarlem, Chrysolora, Duc Van Thol in variety, Globe de Rigaut, Joost Van Vondel, Keizer's Kroon, Le Matelas, Ophir d'Or, Proserpine, Roi Pepin, Vermilion Brilliant, Wouverman, and White Joost Van Vondel. The mosteffective in the flower garden are single: Bacchus, Crimson King, Couronne Pourpre, La Reine, Thomas Moore, and Yellow Prince. Double: Couronne des Roses, Imperator Rubrorum, La Candeur, Rex Rubrorum, Tournesol, and Yellow Tournesol.

Camellias.—M.B.—Camellias require for their successful cultivation a substantial soil, well-drained pots, and rather liberal supplies of water at all seasons of the year, the quantity being regulated by the season of the year and the requirements of the plants. A very excellent compost for camellias is formed with equal parts of turfy loam and fibrous peat, with a liberal addition of sharp silver-sand. Camellias may be repotted either when they are making new growth in the spring or at the end of the summer after they have set their buds, but, unless the roots are in an unhealthy state or the plants much pot-bound, it is preferable to defer the repotting until the summer. A dry atmosphere is decidedly injurious, especially when the stock is brought indoors at the beginning of the summer, and should be avoided as far as is possible, consistent with the health of the plants associated with them. The undermentioned will form an excellent collection: Alba plena (Old Double White), Archiduchesse Augusta, Auguste Delfosse superba, Beali rosea, Bonomiana, C. H. Hovey, C. M. Hovey, Carlotta Papudoff, Countess of Ellesmere, Countess of Orkney, Conspicua, Chandleri elegans, Cup of Beauty, De la Reine, Donckelaari, Duchesse de Nassau, Eximea, Halleyi, Imbricata, Innocenza, Jubilee, Lavinia Maggi, Lady Hume's Blush, Leeana superba, Lucrezia Gazzarrina, Madame Lebois, Manara, Mathotiana, Mons. d'Offoy, Ninfa Egeria, Princess Bacchiocci, Rafia, Reine des Fleurs, Romaniensis, Rose de la Reine, Saccoiana, Souvenir d'Emile Defresne, Targioni, Thomas Moore, and Vallevareda.

New Plants, Flowers, and Fruits.

BEFARIA GLAUCA (*Botanical Magazine*, 6,893).—A beautiful ericaceous plant of the Andos, allied to Ledum; flowers in a free panicle, pale pink.

IRIS STATELLÆ (*B.M.*, 6,849).—An interesting novelty, nearly allied to *I. lutescens*; flowers pale yellow.

TULIPA OSTROWSKIANA (*B.M.*, 6,895).—A new tulip from Central Asia, flowers smallish scarlet or crimson.

CORYDALIS SEWERZOVI (*B.M.*, 6,896).—A handsome species allied to *C. bulbosa*, but with fewer flowers of much greater size.

GLADIOLUS KOTSCHYANUS (*B.M.*, 6,897).—Quite a curiosity; a blue gladiolus from Afghanistan.

PHAIUS HUMBLOTI (*G.C.*, 1886, ii., 294).—A scarce orchid, sepals and petals a fine purple, labellum striped white and brown.

CYRTOPERA REGNIERI (*G.C.*, 1886, ii., 294).—A stately rival of *C. flava*, bearing a raceme of large flowers of a chrome yellow colour.

OLEARIA (EURYBIA) MACRODONTA (*G.C.*, 1886, ii., 305).—A handsome hardy shrub bearing white flowers.

HYPERICUM OBLONGIFOLIUM (*G.*, 560).—A very handsome but not quite hardy St. John's wort; flowers yellow.

ARDISIA JAPONICA (*G.C.*, 1886, II., 232).—A compact-growing shrub, nearly hardy, with ovate-lanceolate leaves, and smallish clusters of scarlet berries.

BULBOPHYLLUM SAUROCEPHALUM (*G.C.*, 1886, II., 262).—A curiosity from the Phillipines.

EPIDENDRUM PRISTES (*G.C.*, 1886, II., 262).—A slender plant, with the habit of *E. ellipticum*, but with larger flowers.

CŒLOGYNE FOERSTERMANNI (*G.C.*, 1886, II., 262).—A gorgeous plant, the flowers snow white, with yellowish brown on the disc of the lip.

LÆLIA BATEMANIANA (*G.C.*, 1886, II., 263).—A hybrid from *Sophronitis grandiflora* and *Cattleya intermedia*, obtained by Messrs. Veitch and Sons.

HABERLEA RHODOPENSIS (*G.*, 559).—A beautiful alpine herb with light blue flowers.

POTATOES GROWN AT CHISWICK.

AT a meeting of the Fruit and Vegetable Committee of the Royal Horticultural Society held at Chiswick, September 2—present: John E. Lane, Esq., in the chair; Messrs. Woodbridge, Norman Smith, Saltmarsh, Paul, Burnett, Silverlock, and Miles—the collection of potatoes growing in the Garden was examined, and the new varieties obtained special attention, samples of each being cooked and tasted. First-class certificates were awarded to the following varieties:—

Fyvie Flower (R. Farquhar, Aberdeen).—White Kidney, rough skin, yellow flesh, medium size; heavy cropper.

Seedling A 1 (A. Harris, Woburn, Beds).—Large white kidney, smooth skin, white flesh; good cropper.

Bouncer (T. Laxton, Bedford).—White round, smooth skin, white flesh, very handsome; moderate cropper.

Maggie (J. Murdoch, Rothieway, N.B.)—Large white round, smooth skin, white flesh, deep eye; very heavy cropper.

Markets.

COVENT GARDEN.

FRUIT.			
Apples	per ½ sieve	1s. 6d.	to 3s. 6d.
Figs	per doz.	0s. 6d.	,, 1s. 0d.
Filberts	per lb.	0s. 6d.	,, 0s. 9d.
Grapes	per lb.	0s. 6d.	,, 2s. 0d.
Lemons	per case	15s. 0d.	,, 30s. 0d.
Melons	each	1s. 0d.	,, 2s. 0d.
Peaches	per doz.	2s. 0d.	,, 6s. 0d.
Pears	per doz.	1s. 0d.	,, 1s. 6d.
Pine-apples, English, per lb.		2s. 0d.	,, 3s. 0d.
Plums	per ½ sieve	1s. 0d.	,, 2s. 6d.
VEGETABLES.			
Artichokes, Globe, per dz.		3s. 0d.	,, 4s. 0d.
Aubergines	per doz.	2s. 0d.	,, 3s. 0d.
Beans, French	per lb.	0s. 2d.	,, 0s. 4d.
Beet	per doz.	1s. 0d.	,, 2s. 0d.
Beans, Runners, per sieve		4s. 0d.	,, 5s. 0d.
Cabbages	per doz.	1s. 6d.	,, 2s. 0d.
Carrots	per bun.	0s. 4d.	,, 0s. 6d.
Cauliflowers	per doz.	2s. 0d.	,, 3s. 0d.
Celery	per bun.	1s. 6d.	,, 2s. 6d.
Cucumbers	each	0s. 4d.	,, 0s. 8d.
Endive	per doz.	1s. 0d.	,, 1s. 6d.
Herbs	per bunch	0s. 3d.	,, 0s. 4d.
Horse-radish	per bun.	3s. 0d.	,, 4s. 0d.
Lettuces, Cabbage, per doz.		0s. 8d.	,, 1s. 0d.
Lettuce, Cos	per doz.	0s. 9d.	,, 1s. 0d.
Mint, Green	per bun.	0s. 2d.	,, 0s. 3d.
Mushrooms	per basket	1s. 0d.	,, 1s. 6d.
Onions	per bunch	0s. 4d.	,, 0s. 6d.
Onions	per bushel	3s. 6d.	,, 4s. 0d.
Parsley	per bun.	0s. 3d.	,, 0s. 4d.
Peas	per quart	1s. 6d.	,, 2s. 0d.
Radishes	per doz. bunch	0s. 9d.	,, 1s. 0d.
Shallots	per lb.	0s. 3d.	,, 0s. 6d.
Small Salading	per pun.	0s. 3d.	,, 0s. 4d.

VEGETABLES.			
Spinach	per bushel	4s. 0d.	to 5s. 0d.
Tomatoes	per lb.	0s. 4d.	,, 0s. 8d.
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Gardenias, per doz. blooms		2s. 0d.	,, 3s. 6d.
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Lavender	per doz. bun.	3s. 0d.	,, 4s. 0d.
Lilies	per doz. blooms	2s. 0d.	,, 2s. 6d.
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Pelargoniums, Zonal, per doz. trusses		0s. 6d.	,, 0s. 8d.
Pelargoniums, per doz. trusses		0s. 8d.	,, 1s. 0d.
Roses	per doz. blms.	0s. 9d.	,, 1s. 0d.
Roses, Tea	per doz. blms.	0s. 8d.	,, 1s. 6d.
Stephanotis, per doz. sprays		1s. 6d.	,, 3s. 0d.
Stocks	per doz. bun.	3s. 0d.	,, 4s. 0d.
Sweet Peas	per doz. bun.	4s. 0d.	,, 5s. 0d.
Tropæolum	per doz. bun.	0s. 8d.	,, 1s. 0d.
Tuberoses	per doz.	0s. 4d.	,, 0s. 9d.

BOROUGH AND SPITALFIELDS.

POTATOES.			
Magnum Bonum	per ton	60s.	to 80s.
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Kent Regents	per ton	60s.	,, 80s.
Early Rose	per ton	50s.	,, 70s.
Essex Shaw	per ton	50s.	,, 70s.
Jersey Kidneys	per ton	80s.	,, 95s.

TRADE CATALOGUES.

CHARLES TURNER, SLOUGH.—*Hyacinths, Narcissus, Tulips, &c.*

B. SODDY, 243, WALWORTH ROAD.—*Hyacinth, Tulip, Crocus, and other Roots.*

SUTTON AND SONS, READING.—*Autumn Catalogue of Bulbous Flower Roots.*

CARTER AND CO., 237, HIGH HOLBORN, W.C.—*Bulb Catalogue*, 1886.

FISHER, SON, AND SIBRAY, 4, MARKET STREET, SHEFFIELD.—*Dutch Flower Roots.*

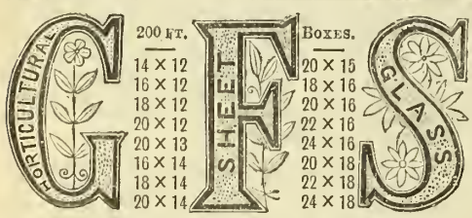
WEBB AND SONS, WORDSLEY, STOURBRIDGE.—*Bulb Catalogue*, 1886.

DOBIE AND MASON, 66, DEANSGATE, MANCHESTER.—*Flower Roots for Winter, Spring, and Summer.*

Obituary.

ON the 5th instant, at 34, Grosvenor Street, Mr. SAMUEL MORLEY, the eminent Nonconformist, aged 76. As a City trader, a member of Parliament, and a working philanthropist, the name of Morley will long have honourable remembrance.

ON the 3rd inst., at Lincoln Lodge, Totteridge, ROBERT WILKINSON, Esq., in his 82nd year.



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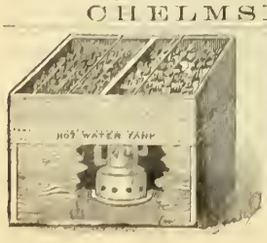

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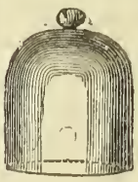

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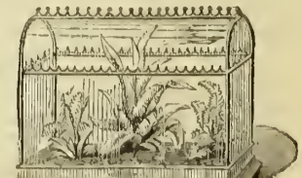

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D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.temp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
19	S	**13th Sunday after Trinity.**	5 42	6 17	6 5	9 18	11 42	5 4	5 22	2 14	2 29	57·1	Dendrobium biglibbum	India.	262
20	M	Peace Congress of Brussels, 1848.	5 43	6 39	6 2	10 2	After.	5 42	6 3	2 47	3 7	56·9	Dendrobium chrysanthum	India.	263
21	Tu	☾ Last Quarter, 5h. 56m. Morn. *St. Matthew.*	5 45	7 0	6 0	10 54	1 46	6 27	6 55	3 28	3 52	56·7	Miltonia candida	Brazil.	264
22	W	Lord Denman died, 1854.	5 46	7 21	5 58	11 54	2 41	7 26	8 2	4 20	4 51	56·6	Miltonia candida grandiflora	Brazil.	265
23	Th	Battle of Assaye, 1803.	5 48	7 41	5 56	Morn.	3 29	8 40	9 27	5 27	6 5	56·3	Miltonia Clowesi major	Brazil.	266
24	F	Butler (poet) died, 1680.	5 49	8 2	5 54	1 5	4 11	10 10	10 52	6 52	7 35	56·1	Oncidium bicolor	Guatemala.	267
25	S	Porson died, 1808.	5 51	8 23	5 52	2 21	4 49	11 30	—	8 17	8 55	55·9	Oncidium crispum grandiflorum	Oregon.	268

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at Eleven a.m., in the Conservatory, on TUESDAY next, SEPTEMBER 21.

N.B.—Open to Fellows at Twelve o'clock, and the Public at One o'clock.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, SEPTEMBER 21.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.

Auction Sales for the Ensuing Week.

MONDAY, THURSDAY, AND SATURDAY, SEPTEMBER 20, 23, AND 25.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.

TUESDAY, SEPTEMBER 21.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

FRIDAY, SEPTEMBER 24.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

SATURDAY, SEPTEMBER 25.—Messrs. Protheroe and Morris, at Preston's Nursery, Walthamstow; Greenhouse Plants.

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Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, SEPTEMBER 18, 1886.

GRAPES HAVE ACQUIRED NEW FEATURES within the past ten or twelve years, and a comparison of the grape-growing of to-day with that of half a-century, or less, gone by, will suggest that the difference represents substantial improvement. Of the many new varieties introduced of late years, a fair proportion have not only held their ground, but have acquired importance both in the market and on the exhibition table. It is in the nature of a shock to learn, as we do occasionally, that the once-upon-a-time sheet anchor of the grape grower, the renowned Black Hamburgh, is in process of removal from many vineries to make room for such newer varieties as Gros Colmar and Alnwick Seedling, both more difficult to manage when perfection is aimed at, than the well-tried and useful friend they are apparently displacing. There are not wanting observant critics who contend that the changes in progress mark a decided retrogression, an argument we are by no means disposed to admit even when the final test of merit is the table quality. Of the popular Gros Colmar, it may be said, that its highest qualities are not often developed, for it is commonly finished in too low a temperature; while as regards Alnwick Seedling, which on the table is undoubtedly inferior to Black Hamburgh, there is compensation in higher beauty and longer keeping, qualities that tell in the market and outweigh many other considerations. As regards the selection of varieties and the preference to be given to this or that, we have nothing to say now, for our excellent friends who are "up to their chins" in the business, take care to keep our readers well informed on such matters. We have to note that while the growing of grapes for the private table is in some repects a different business to growing for the public market, the table quality is not intentionally ignored by any, for were that the case we should see the Muscat of Alexandria pushed aside in favour of something like it in outward appearance, and needing less care to ensure a handsome crop. But while Black Hamburgh may be said to be in less favour than formerly, the white muscat that ranks as the finest of all known table grapes is advancing in popularity, and is, therefore, more freely planted both for commercial and domestic purposes. The three varieties that appear at this moment to stand before Black Hamburgh agree in one important particular, and that is in keeping well, while our excellent old friend requires extra good management to keep it beyond Christmas. There have been occasional indications that Mrs. Pince's Muscat would acquire a lead on account of its long keeping, but, like Madresfield Court, and a few other very choice things, it appears to need conditions that cannot be described as universal; in other words, these excellent varieties are less accommodating than others that for the present outrun them in the race. These last-named grapes are, however, advancing in public favour; they grow upon us in the exhibitions, and the beauty and high quality of Madresfield Court must soon establish it in the front rank of general favourites. It is, moreover, of special importance among the muscats by reason of its earliness, and requiring even less heat than the Black Hamburgh. We rarely hear now of its deficiency of colour or tendency to crack, because its requirements are better understood, and they all tend in the direction of universality, for instead of being one of the most difficult it is, in reality, one of the most easy to manage.

The necessity for perseverance and pegging away in the pleasant paths of grape culture has been instructively illustrated in one of the best grape gardens in the west of England, that of J. Chaffin, Esq., The Grange, Charlcombe, Bath. At the judges luncheon on the occasion of the recent Bath show, Mr. Chaffin stated that, during a run of five-and-twenty years, he had striven to attain the highest position in grape-growing, and had only now, as the result of unflagging effort, attained to the realization of his heart's desire. The grapes from Charlcombe have long been famous, and, therefore, some special interest attaches to the confession of their spirited proprietor, who has justified his words by his splendid exhibitions at Bath, at Crystal Palace, and at South Kensington, as our reports of the exhibitions testify. It may be said, moreover, that not only has Mr. Chaffin—by the aid of his talented gardener, Mr. Taylor (formerly of Longleat)—achieved his success, but he has displayed what may be termed a new style of grape-growing, for instead of presenting bunches of immense size, so thinned as to display the stalks as well as the berries, the bunches from Charlcombe were less in size than others that competed with them, but were remarkable for symmetry; not less remarkable in being so crowded that the stalks were invisible, and yet the berries were fully developed; while, to crown the catalogue of perfections, the colour was everywhere perfect, and on the black varieties the bloom had unwonted depth and unsullied perfection. When reporting on Mr. Chaffin's vineries we have taken care to note Mr. Taylor's system of thinning, which may be embodied in the familiar phrase, "little and often;" for instead of thinning once, and for all, and so making an end of it, Mr. Taylor thins and thins from the beginning to the end of the story. The novice, hoping to take a lesson from the bunches that have now declared the realization, by Mr. Chaffin, of his long-cherished ambition, would probably suggest that to attain to perfection in grape-growing there should be no thinning at all. But that would be a grave mistake, and the nice point to be observed is that the work is done so dexterously that the art conceals the art, and the bunches appear crowded as nature always intended they should—for that is *her* way in grape-growing—while they are, nevertheless, so far thinned that the berries are fully and finely developed throughout, and no trace of a defect is to be seen.

Every point connected with grape-growing is of importance, not merely to the exhibitor and the eater of grapes, but to the men who are engaged in the development of commercial horticulture, which is one of the most promising of our newer industries, and needs all

the help that observation and science can afford it. There is no subject in which the commercial fruit grower has a deeper concern than the one now before us. His work is submitted to a severer test than that of the connoisseur's table or the exhibition. His goods must find their level in the market, and general usefulness will more often take precedence there than any special quality that requires a cultivated taste for its appreciation. The world is wise, and being so, it avoids the intricacies of minute criticism, and rests its hopes of happiness in the exercise of common sense.

Sutton Chrysanthemum Show will be held November 20, in connection with the Sutton Rose Society.

Kettering Chrysanthemum Society will hold its annual exhibition November 20.

Bury and West Suffolk Horticultural Society will hold an exhibition of chrysanthemums, November 11 and 12.

Mr. J. Weavers has been engaged as gardener at Glyndebourne, Lewes, the residence of W. L. Lewis, Esq.

Mr. G. W. Maie has been engaged as gardener at The Rookery, Edington, the residence of W. E. Willings, Esq.

Ascot and Sunninghill Chrysanthemum Show will take place November 17 and 18.

Chiswick Grapes are supplied to Fellows of R.H.S. at reasonable prices and by convenient methods. The Hamburghs in the great vinery are now ready; at the end of the month Gros Colmar and Muscats will be ripe. For the first the charge is 1s. 6d. per lb.; for the others 2s. 6d. and 3s. respectively. A small extra charge is made when sent by parcels post to cover cost of packing, &c.

Parrottia Persica is now in its first stage of autumnal splendour. This fine tree is not only a wonder in respect of colour when the summer is declining, but is peculiarly beautiful from the first appearance of its leaves in spring, for in the leafy month of June it is a distinct and attractive object in the shrubbery. In the nurseries of Messrs. W. Paul and Son, Waltham Cross, it may be seen in a fine state of development.

Deep Pots for Bulbs are in use in many gardens, and are often recommended by writers on bulb culture. Seeing the advantage of a deep root hold for hyacinths especially, Mr. Crute has produced a series of tall pots expressly for bulbs, with the advantages peculiar to his system of construction. These new contrivances may be suspended if needful, as they are perforated for the purpose. And they may be made to supply the bulbs with water from below, by means of saucers, which allow of a lodgment of only half an inch of water at any one time. These new bulb pots may be seen at 14, Knightrider Street, a few yards southward from St. Paul's Cathedral.

Rural Scenes that are in a special manner interesting for beauty or historical associations are confessedly as much worth preserving as are rare plants and other natural curiosities. In defence of rural scenes that are in favour with artists, certain painters have agreed that in future when these scenes are depicted by them the names of the localities will not be announced. This is a self-denying resolve to save beautiful sites from devastation by tourists, and if the painters are content to act upon it, we can have no right to complain. But there is a very interesting question in the very centre of the subject, and it is this—Will the public value equally a picture (say) of a waterfall at Glen Cognom, and a picture of the same thing without a hint of its whereabouts?

New Books.—Amongst the announcents of the coming publishing season are the following: The Clarendon Press will publish "An Anglo-Saxon Dictionary, based on the MS. collections of the late Dr. Bosworth, by T. N. Toller, M.A., part iii., "A Selection of Anglo-Saxon Documents," edited by the Rev. John Earle, M.A.; "The Vision of William concerning Piers the Plowman, in three parallel texts; together with Richard the Redeless, by William Langland (about 1362-1399 A.D.)," edited by W. W. Skeat, LL.D., in two vols.; "Select Works of Sir Thomas Browne," edited by W. A. Greenhill, M.D.; "Geology: Chemical, Physical, and Stratigraphical," by Joseph Prestwich, F.R.S., vol. ii.; "A Catalogue of British Fossils," by R. Etheridge, F.G.S.; "Forms of Animal Life," by the late George Rolleston, F.R.S., new edition by W. Hatchett Jackson, M.A.; "Select Biological Memoirs," translated under the superintendence of J. Burdon Sanderson, F.R.S.; Ecker's "Anatomy of the Frog," authorized English translation; De Bary's "Morphologie der Pflanzen" and "Vorlesungen über Bacterien," translated by H. E. F. Garnsey, M.A.; and Sachs's "Vorlesungen über Pflanzenphysiologie," translated by J. Marshall Ward, M.A. The Religious Tract Society have in preparation "Australian Pictures," drawn with pen and pencil by Howard Willoughby, of the "Melbourne Argus," with illustrations engraved by E. Whymper and others; "The Handy Natural History," by the Rev. J. G. Wood; "Madagascar of To-day," by George Shaw, F.Z.S., London Mission, Tamatave. The Society for Promoting Christian Knowledge will publish "Post-Norman Britain," by H. G. Hewlett; "Mazarin," by Gustave Masson; "Physicists," by William Garnett; "Household Health," by Dr. B. W. Richardson; "Two Years in the Regions of Icebergs," by the Rev. F. E. G. Lloyd. Messrs. Remington and Co. will publish "The Ploblems of a Great City," by Mr. Arnold White. Messrs. Field and Tuer announce: "Old Lombard Street Signs," by F. G. Hilton Price, F.S.A., with illustrations by James West; Gray's "Elegy," illustrated by Norman Prescott Davies; "The Curiosities of Ale and Beer," illustrated by John Bickerdyke.

Dr. Masters's Treatise on Vegetable Teratology (Ray Society) has been translated into German by Herr Udo Dammer for M. Haessel, of Leipzig.

The Hessian Fly appears to have produced as great a scare amongst growers of wheat as the potato beetle whilom made amongst growers of the noble tuber. Amidst heaps of rubbish on the subject we have dug out the following from Mr. Charles Whitehead, of Barming, Maidstone. It is of special value for its facts and its practical proposals. As a practised observer and a careful critic, we do not fear Mr. Whitehead, but we confess we do fear a certain class of writers, who appear to be labouring to get up a new scare as though to add to the discouragements of wheat growing. Here is the letter—"The Hessian fly has just been seen to emerge in the perfect *imago*, or fly form, from the pupal—'flaxseed'—state, and that it appears to resemble in every particular the insect described by the American entomologists Riley, Fitch, and Packard as the *Ceeidomyia destructor*? It is like a tiny gnat and is of a brown colour, with the head and fore body rather darker. The wings are grayish, or smoke-coloured, and have long fine fringes round them. Its long pale brown antennæ are like rows of beads with tufts of hair upon them. It is about the tenth of an inch in length. This appearance removes all doubts as to the Hessian fly being established in England; and shows, moreover, that it has the same double-brooded habit here as in America. It may, therefore, be expected that it will deposit eggs upon the plants of wheat sown in this autumn, and that the larvæ, or maggots, which come from the eggs will attack and continue to injure the plants until they assume the pupal form for hibernation. These pupæ will become flies in the spring, which will lay eggs upon wheat and barley plants, and the larvæ from these eggs will cause serious mischief like that which was recently observed near Hertford, in Essex, and elsewhere. Farmers, and especially those who are in or near infested districts, should closely watch their young wheat plants. If larvæ are found, dressings of soot, or of lime and soot, or guano, might check their operations. As soon as possible in the earliest spring-time wheat plants upon which pupæ are found should be fed down by sheep. Much rolling, with ring or ordinary rollers, would prove of some advantage. Dressings at this stage would hardly affect the hard-skinned pupæ, but they would help the plants to recover more quickly from the autumn attack, and to resist better that which is threatened in the summer.

LIFTING AND POTTING PLANTS FOR WINTER DECORATION.

The present is a good time to lift and pot all such plants as Poinsettias, Bouvardias, Eupatoriums, Salvias, Richardias, Abutilons, Solanums, &c., that have been planted out of doors during the summer months. We have already lifted our stock of Poinsettias, which were planted out on a warm border about the second week in June, or as soon as we could get time after the planting of the flower garden was completed. Holes were dug out on the border aforesaid at a good distance apart, and the ball of each plant was surrounded by a good shovelful of prepared compost, and we have now, to all appearance, one of the best lots of Poinsettias we ever had. They are dwarf and stout in stem, and we expect, by lifting them early, and getting them started in pots under a north wall, they will do much better than when lifted later in the season and started in pits or houses, at least that is our experience of all kinds of plants put out during the summer months. Our stock of the other plants named will be followed on with as time admits, and will be placed in a like situation to the Poinsettias, and receive similar treatment, viz., they will have one thorough soaking of water through a rose watering can, sufficiently heavy to go down to the drainage, after which they will be kept without until the soil in the pots well approaches the side of dryness, by which time they will have healed the damaged roots, and, generally speaking, will have commenced root action. But on the day they are lifted, and each day onwards until flagging ceases, they must be well syringed at least two or three times a day, wet days excepted.

I ought to have mentioned that prior to the plants being lifted they are dug round with a sharp spade at a distance a little beyond that which will be wanted to form the ball of earth in the pots they are to be placed in. This should be done two or three days before they are to be lifted, and should the soil about their roots be at all dry they must be watered several times so as to moisten that about the roots, or in all probability when the plants are lifted the soil will fall from among them, which is very undesirable, and every endeavour should be made to prevent it. After the plants have taken root in their new soil and have ceased flagging, they should be gradually inured to more light until they are thoroughly exposed to the same before it becomes necessary to place them under glass, which must be attended to some time during the last week in September or the first week in October. This does not mean that they should be kept close in such quarters; on the contrary, I only hope we may experience such weather as wil render it necessary to throw the places in which such plants are placed wide open, for compulsory shutting up in any case will occur quite soon enough.

C. Warden

Lapageria and Slugs.—Can any of your correspondents inform me of the best way to protect a Lapageria from slugs? The plant in question was planted out against a brick wall in a cool greenhouse this summer, and has not yet commenced to grow though flowering well, and I am anxious to protect the young shoots which it will probably send up from the ravages of these pests, which in this house are numerous. Learner.

TUBEROUS BEGONIAS.

These plants contribute to the psychological study of the nineteenth century. The age treated colour as treacherously as an autocrat might treat a noble prince who was half-beloved by a people just budding into independent nationality, but yet not strong enough to rise to a fine point of honour. Colour was king of the gardenesque, and reigned gloriously for a time, but a movement called æstheticism undermined his throne, robbed him of the bed on which he had reposed, and set up in his stead an indefinable nothing at all that gave conspicuousness to the absence of the glowing chief. Prince Pelargonium was the chancellor in the court of King Colour, and he had to surrender his seals. But the traitors hungered for the power they had deposed, and made way for a substitute, and thus the Begonia came quickly to the topmost place and restored the ancient power under another name, the new chancellor being, like his predecessor, a candidate for popularity. The advance of the begonia in public estimation proves that flowers are of some importance still, and, as regards the primary principles of garden decoration, we are now not far away from the position we occupied in the very height of the mania for strong chromatic parterres. The difference is, that a quieter display suffices, and leaf plants make a change from the former round of positive reds, blues, and yellows.

What has been lost in power and positivism is compensated for in the softness, combined with richness and variety, in these new candidates for a leading place in the summer display. We have, perhaps, gained in actual variety of characters, and we have certainly enlarged our catalogue of materials, and the wise man will take advantage of Nature's bounty and keep his prejudices under some reasonable degree of control.

The range of variety is at once delightful and wonderful. Between the lovely *B. Boliviensis*, with its blue-toned leaves and ruddy flowers, and the delicate *B. Pearcei*, with its veined leaves and yellow flowers, and the newest of the "floppers," with flowers imitating the hat of the Beautiful Duchess, what a difference! And the difference makes for usefulness. In the doubles we have the perfection of tassels and rosettes for the conservatory; in the small Ascot variety we have the type of a bedder; in all, large and small, we have a most manageable lot of plants, that are so far peculiar that a fool is not likely to succeed with any one of them. The best soil for all the lot is a sort of spongy mixture of all that's good, such as loam, leafmould, very much decayed hotbed manure, old turf, sweepings from a peat stack, cocoanut fibre refuse, or earthworm-casts, if you could but collect them, and add sand as needful to ensure porosity. But a stiff clay that a strong tree would strike into, and a limestone that would grow a fine turf suitable for mountain mutton, or a hot sand on which the common broom would make mountains of gold,—such soils are of no use for tuberous begonias, and, when all is said and done, they want nothing better than a kind of yellow loam, such as, being free and rich, you would select for early potatoes, kidney beans, spinach, cauliflowers, and calceolarias. But in every garden it will be well to save up what we may suppose a plant would regard as toothsome sweepings, and make these the basis of a compost for begonias, whether to be grown in pots or baskets or beds, and it is just possible, and I for one would bet upon it if betting were not so desperately immoral, that they would grow in moss without any special aid whatever, save and except water.

Now thereby hangs a tale, for begonias are thirsty, and love heavy wet, not only to-day and to-morrow, but the day after. When you see a poor lot of tuberous begonias you may moralize as in the way of a sanitarian, saying the food is not of such consequence as the soap and water. It matters not what the particular soil may be, but the nearer it approaches a good fuchsia compost the better; but it does matter that the plants have water in plenty, for, in fact, during high summer they should have it twice a day, and the hose is not so good as the rose; therefore, instead of using the water company's pressure it is better to trust to hand work with the watering pot, for when that is conscientiously carried out every plant gets enough, and the feast for the eye is as much as it can desire.

To do pelargoniums without glass is impossible, but it is a quite easy matter to do begonias with the aid of a cellar for wintering. And the cooler the culture the better from first to last, for these are the very last plants in the world that a truly practical man would subject to any forcing kind of treatment. A little warmth in starting the growth is certainly desirable, but that can be obtained without the cost of one ounce of coal, because in a frame or cool plant house the advancing warmth of the season combined with complete protection against frost will accomplish all that is required, for the growth is rapid in the open ground, and a mere beginning is enough to insure the display that is desired in the fulness of time, as the summer sun puts a new face on everything.

There is no plant in cultivation that can be placed on a level with the tuberous begonia in respect either of the rapidity of its transformations or the range over which those run. One happy result is the adaptation of the plants to innumerable purposes, and the establishment of a kind of permanent interest in its vagaries. Amongst the flowers of this season, not one is likely to prove more interesting than the singular semi-double flower lately shown and certificated at South Kensington, a faithful portrait of which accompanies these hasty notes. In this case the stamens and stigmas appear to retain their normal characters, although supplementary petals are produced, and we have what may be called a flower within a flower. The effect is most pleasing, and yet it suggests a trick, such a trick as we have seen sometimes accomplished by placing flowers in juxtaposition. But in this case Nature shows us how to do, and the success is complete. W.

A NOTE ON POPPIES.

The specimens of corn poppy, Papaver rhœas, presented by Rev. W. Wilks at a recent meeting of R.H.S., aroused some curiosity in respect of poppies generally, and of our two annual species in particular. We say "our two" advisedly, for while Papaver somniferum is doubtless of oriental origin, it is so completely naturalized here that in some parts of the country it is as frequent in the shape of a weed as our undoubted native, the hispid corn poppy. The question has been raised of late whether the P. somniferum of gardens is the true thing. To that question many answers may be given, but one of the answers must include the possible range of variation that may give rise to the question itself. It will be noticed that all wild poppies, especially such as occur as weeds in gardens, revolve around two distinct types, never giving a hint of a third, however diverse the individual characters may be. In one group the whole plant is glaucous and glabrous, the leaves amplexicaul. This is the opium poppy, *Papaver somniferum*, of most various character as regards its flowers, the favourite garden form being the group known as "French pæony poppies" which have double flowers, more or less fringed, and of every shade of colour with the exception of blue. In another group the whole plant is hispid and of a dull green, the leaves pinnatifid, and the flowers scarlet, varying therefrom to rose and white, but never showing the bronzy, purple, and black tones of the other. This hispid poppy is *Papaver rhœas*, of which there are many garden forms, single and double.

Comparing the two, and remembering the lovely flowers shown by Mr. Wilks, it may be proper to note that the glaucous poppy is much more sportive, and will in one season reward any patient operator with a splendid series of novelties. These may be of no value, but that is not always a matter of great importance. The writer of this note has raised thousands of curious flowers of the glaucous poppy by selection merely, without at any time taking the trouble to cross fertilize. Some of these present single flowers of noble goblet form and deep rose, purple, and marone tints, with great black blotches at the base, and would deserve to be designated "tulip poppies." The great point is to destroy, as well as save, for on the appearance of the first flower on any plant it should be rooted out and destroyed, unless it has a fine character and is likely to give a decided tone to the strain.

Experiences in seed growing tend directly to confirm the old adage that "like produces like," although the tendency to variation compels us to adopt various methods to secure the thing we want. In the growth of trees, and more especially of fruit trees, we keep our sorts true by grafting, although many would come true from seed, but with a touch of sportiveness, as we see in the various shades of difference in the local forms of Blenheim Pippin raised from seed in various parts of the country. In the seed ground "rogueing" is the life of the business; if this were not persisted in, the distinctive characters of varieties would be lost, and in their place the characters of species would be asserted. Thus, if a flower be typically red, and we secure a white variety, we must keep the white true by destroying every plant that fails to show the required colour. Neglect this, and in the course of a few generations the variety will be merged in the species; the white flower will have disappeared, but the specific form with red flowers will remain, for nature will take care of that.

These matters are of great importance to the practical gardener. He may sometimes be bold with advantage, and trust to seed of his own saving; and he may sometimes be cautious with advantage, and prefer the merchant's seed in the faith of the careful practice of the seed grower, who, as a matter of course, can manage seed-growing better than many who trust over much to their own limited knowledge of the matter. The figure accompanying this note represents a variety of opium poppy that has been "fixed" in its characters by the seedsman. There are thousands of garden varieties "fixed" in the same way, and because of the care taken to raise pure stocks and to rogue unmercifully we can grow these from seed with the certainty that the variations will be practically of no importance whatever.

W.

The New Agricultural Hall at Kensington, which is to be denominated "National," is so nearly completed that arrangements for opening are in progress. The main hall is 440 feet long by 250 feet wide, roofed in three spans, of which the centre one is 170 feet wide and 100 feet high to the soffit of the crown of the main arched ribs. The roofing is glazed on Helliwell's principle (described in G. M., Dec. 25, 1881). The superficial area of the ground floor is 100,000 feet.

Newcastle Industrial Exhibition, 1887, is organized for the illustration of mining, engineering, and colonial industries. It is important that this exhibition should prove a complete success, and we note with pleasure that, while the several subjects of mining, engineering, building, fisheries, hygiene, food, art, and education are included in the several sections, there is also a considerable section devoted to Agriculture, Horticulture, and Arboriculture. We make mention of this point as indicative of the breadth of spirit on which the thing is planned, and we do not forget that in Newcastle-on-Tyne horticulture has of late years obtained brilliant vindication. Division 9 of the scheme contains five classes for Agriculture, Horticulture, and Arboriculture, with Manure, Implements, and Carts and Stable appliances. The chairman of this section is Mr. Jacob Wilson, and the gentlemen at present appointed in a presidential capacity over the several departments are Messrs. Joseph Snowball, Clement Stephenson, Thomas Gray, W. Fell, J. Moult, J. Morrison, and D. Greig. There are sections for Food, a sub-section for Tobacco, and a large section for Art Industries, in which class D is for pictures.

Notes of Observation.

HARDINESS OF CARNATION.

As it is a matter of some importance to determine the degrees of cold and wet the carnation will bear without injury, I have read with interest the notes of Mr. Clarke and "M. R." bearing on the subject. I agree with "M. R." that the safest course is to put the layers in small pots, and winter them in a cold frame with plenty of air. But I must dissent from his "claim" to consider "our florists' carnations as hardy as can reasonably be expected." I am fully prepared to admit that both the show varieties and selfs are hardy enough to pass safely through a winter that is not particularly wet or cold If my experience is worth anything, they are unable to bear either very severe frosts or an excess of moisture during the winter. Certainly not a combination of the two such as that experienced in the last winter; and those who are prudent will place their plants where they can protect them when the weather is such as to render protection necessary. As stated in my notes at page 464, I made the experiment last winter of leaving out (not "growing") the whole of my collection of selfs, and the outcome was the loss of about five hundred plants. One portion of the layers were taken off and planted elsewhere, and the others were allowed to remain attached to the old stools and were undisturbed, and in both cases they perished wholesale. My garden lies high, and is well-sheltered, and the soil is rather light and decidedly dry. Moreover as the collection was not grown for the production of exhibition flowers and the plants had not been supplied with stimulants, they were in fairly good condition for passing through the winter. That "M. R.'s" passed through the winter safely and bloomed satisfactorily, I fully believe, but if carnations will succumb to a severe winter, under conditions so favourable as in my case, I contend that it is an act of folly to expose a single plant required for the embellishment of the garden in the summer following.

GEORGE GORDON.

SUCCESSIONAL PEAS.

Notwithstanding the fact that we have had several periods of dry weather, peas have been very satisfactory with us, and we have gathered a continuous supply. The varieties we grow are Dickson's First and Best, Sangster's No. 1, Prizetaker, Veitch's Perfection, and a variety sent me for trial under the name of New Market Garden. The last mentioned I find to be an excellent cropper, the produce being well flavoured. The height is two and a half feet. Sown on the same date as Prizetaker and Veitch's Perfection, it was ten days earlier.

Chief Secretary's Lodge, Dublin. R. MCKENNA.

Peas were a fortnight later this year than usual. We began to gather Veitch's Earliest on June 10, which was remarkably good. This was followed by Day's Early Sunrise, another excellent variety. We had also abundant crops of Telegraph, Telephone, Laxton's Supreme, Veitch's Perfection, and British Queen. All the varieties are profitable, and the two last mentioned are delicious in flavour.

Iwerne Minster Gardens. P. DAVIDSON.

CAULIFLOWER VEITCH'S EARLY FORCING.

This is an excellent variety, and of great service where it is desired to obtain supplies on the earliest possible date from the time of sowing the seed. Here it has been especially good. We sowed the seed in heat early in the year, and put out the plants on April 1. Early in June we cut medium-sized heads, which were as white as snow and extremely delicate in flavour. P. DAVIDSON.

Iwerne Minster Gardens.

FINEST FLAVOURED TOMATOES.

We hear so much about the size and appearance of tomatoes, that the importance of high flavour is in danger of being overlooked. Therefore I should like to say that Orangefield, Dedham Favourite, and Green Gage are the three best flavoured tomatoes of those I have grown.

Tyninghame, East Lothian. R. P. BROTHERSTON.

CABBAGES.

Of the several varieties of cabbage grown here, Early Warwick is the first to furnish supplies for the table in the spring. Ellam's Early Dwarf is a good variety for early supplies. The best sort for main crops is a local variety known as Cooks, which is very productive and especially good in flavour.

Alnwick Castle Gardens. G. HARRIS.

PEAS.

We have found Chelsea Gem the very best dwarf pea; but unfortunately we could not obtain it this year. American Wonder is a good early kind, and for forming a succession to it the following can be recommended: Sutton's Ringleader, William I., Criterion, Dr. McLean, Veitch's Perfection, Ne Plus Ultra, Best of All, and Sutton's Latest of All. From the variety last mentioned we gather until November, when the weather will permit. It is the very best late pea I know, but Veitch's Perfection is a splendid late kind.

POTATO DUKE OF ALBANY.

In the interest of cultivators, I should like to again say a few words in favour of Sharpe's Duke of Albany potato, for it is a most valuable variety for early supplies. It is a second early white kidney, and might be well called an early Magnum Bonum. It is a heavy cropper, and ripens about the same time as Early Rose, thus giving time for another crop on the land. Not the least of its good qualities is its excellent quality. C. ORCHARD.

The Leigh Gardens, Coombe Warren, Kingston, S.W.

LATE PEAS.

In the report of the Chiswick trials of peas on page 93 of the magazine for 1873, Williams' Emperor of the Marrows is stated to be a form of British Queen. At the latter end of May this year I sowed three rows each of peas purchased from a leading seedsman under the above names, side by side, on well-manured ground, but without the aid of watering or mulching; soil a medium loam resting on a clay bottom. They, in common with most varieties I have sown this year, have done well, and now are in full bearing with plenty of bloom on the tops, which will keep up a picking of pods until the frost cuts them off. Now as regards the foliage and habit of growth I can see no difference, but there the similiarity ends, for whilst the Emperor has reached a height of 7 feet British Queen is 18 inches higher; the pods of the Emperor are better filled, although the other is very good; and lastly, whilst I have been gathering from the Emperor for 14 days, I could not commence on the Queen till three days ago. This latter point is of great consequence as in gardens that are limited in extent it might interfere seriously with the rotation. I may add here that Veitch's Perfection has done better this season than for some years past, but I have made up my mind to discard it as the pods are so indifferently filled, although the flavour is, in my opinion, unapproached by that of any other variety. WM. SMITH.

FREESIAS.

Those who have to maintain a liberal supply of cut flowers for indoor decorations should not fail to grow a rather large stock of these lovely Cape bulbs. Their flowers are exquisitely beautiful, and very sweetly scented, and they are equally suitable for hand bouquets and for vases. To grow in quantities for the supply of cut flowers, the best is perhaps F. refracta alba, which has pure white flowers, and is rather earlier. F. Leichtlini, which has primrose-yellow flowers, is however, hardly less desirable. They both succeed under precisely the same conditions, and may be grown in either pots or deep pans with an equal degree of success. The soil should be light and moderately rich, and the drainage be sufficient to carry off the superfluous moisture. In potting the bulbs, put them rather close together, and deep enough to hide the neck. By commencing to pot in August and starting fresh batches at intervals until spring, sucessional supplies of flowers may be had from January until the following June. The Freesias simply require protection from frost, but the plants intended for flowering during the winter and the early part of the spring must be assisted with a little artificial heat from the time they begin to grow freely, till they are in full bloom. W. J.

PEAS IN 1886.

Our crops of peas were later than usual, and the hot weather seriously affected the early and late crops. The early dwarf varieties of the American Wonder type were very good in every respect, as was also that deservedly popular pea, William I. Telephone, Criterion, Gladiator, and Ne Plus Ultra have all done us good service, as usual. Of newer sorts, I can speak most favourably of Laxton's Charmer. Several of the large-podded sorts, notably Duke of Albany and Giant Marrow, suffered severely from mildew, and are no favourites with us. W. IGGULDEN.

Marston House, Frome.

NEW PEAS.

Peas have done well where the ground was trenched, and the roots able to push sufficiently below the surface to be unaffected by the dry weather. With us Veitch's Selected Early came in first. It was followed by William I. and Early Kenilworth, the colour and flavour of the last mentioned being superb. Kinver Marrow and Webb's Wordsley Wonder have proved very productive and decidedly first-class.

Madresfield Court, Malvern. WILLIAM CRUMP.

PEN-Y-BYD VEGETABLE MARROW.

Our most obstinate crop is the vegetable marrow, Pen-y-byd. It grows well, and produces an abundance of female flowers, but none set We thin the shoots and fertilise the flowers, all to no purpose. This, my second, will be the last year I shall attempt the growth of this ungrateful Cambrian.

Eastnor Castle, Ledbury. WILLIAM COLEMAN.

A GOOD CABBAGE LETTUCE.

That excellent little cabbage lettuce, Sutton's Commodore Nutt, is to my mind a decided acquisition. Sown in boxes and planted out in cold frames and outside, six inches apart, it comes in very early and is nearly all heart, there being but little waste. The variety has also the great merit of standing a long time without running to seed. Hammersmith Hardy Green cannot be compared with it.

Alnwick Castle. GEORGE HARRIS.

PRODIGY PEA.

I find the pea recently distributed under the name of Prodigy a very good variety. It is much in the way of Telegraph, has a strong constitution, bears freely, and is of good quality. Gladiator is an excellent dwarf variety, and a useful addition to its class.

Cole Orton Hall, Ashby-de-la-Zouch. G. E. MAYNARD.

Prodigy is a grand new pea, which I intend to grow more of next season, and cultivators will consult their interest in giving it a trial.

Mentmore, Leighton Buzzard. J. SMITH.

LAXTON'S SUPREME PEA.

This year, as usual, Laxton's Supreme has produced an extraordinary heavy crop. On heavy ground it is undoubtedly the best "general crop" pea grown.

Kimbolton Castle, Huntingdonshire. THOMAS COWBURN.

NOTES ON ORCHIDS.

Odontoglossum aspersum is figured in the current number of the "Orchid Album," plate 245. It is best described as a sulphur-coloured form of *O. Rossi*, and is a supposed natural hybrid between that species and *O. maculatum*. We find this and the varieties of O. Rossi most useful to furnish flowers during the winter and spring months. The plants are suspended in teak baskets close to the roof glass of the cool house, and the open flowers will remain in good condition for three months: they are always there when wanted.

Cattleya mossiæ is the next plate, an ordinary form of the species, but the editor promises to figure a series of the best forms of it: this is a good idea, as many persons are not aware of the large number of distinct and good forms of this gorgeous species there are in cultivation. Thirty-four distinct forms are named and described in the "Orchid Growers' Manual," and the variety Wagneri is omitted, but described in another place as a species. It is now generally admitted that *C. Wagneri* is merely a pure white form of C. mossiæ, with the exception of a yellow blotch in the centre of the lip, which is white. *C. Reincikiana* is also a form of mossiæ, but the lip is lilac rose or purplish rose, with orange throat. If these two white forms of Mossiæ were figured in one number, or at least, in one volume, they could be referred to by country growers who have not the advantage of those of us who are near London, and have most of the varieties in our "mind's eye" by being so frequently in contact with them. Both varieties were exhibited by Messrs. Low, of Clapton, at the May show in the Royal Botanic Gardens, London, in the present season.

Cælogyne Dayana is also figured. It is a lovely species, producing pendulous spikes of pale ochre-coloured flowers marked with dark brown. The flowers are not so large as those of C. massangeana, which they resemble, but the spikes have the same pendulous habit.

Vanda Denisoniana.—Plate 248 is a representation of a very distinct form of Vanda Denisoniana, with yellow flowers marked with short transverse lines on the inner surface. This form has been named *hebraica* from the supposed resemblance of the lines or bars to Hebrew characters. It requires some stretch of the imagination to realise the resemblance; nevertheless, this is a very distinct and interesting form of the species, which has greenish-white flowers, and is a very desirable species to cultivate.

Orchids at Messrs. Veitch's Nurseries, Chelsea.—A few years ago one did not expect to find many orchids in flower during the month of September. Cattleya exoniensis and the autumn flowering form of C. labiata used to be recorded because of the great value of the plants and also for their extreme beauty. There are now many beautiful cattleyas and Lælias in flower.

A very remarkable hybrid has been raised in the exotic nursery, and it has flowered for the first time this autumn. It is a bi-generic hybrid undoubtedly, as it is a cross between Sophronitis grandiflora and Cattleya intermedia. The first plant to flower was a very small one, and the flowers were described by Dr. Reichenbach in the "Gardeners' Chronicle," and named, in honour of Mr. James Bateman (*Lælia Batemaniana*), one of the oldest orchid cultivators in England. A second plant has flowered, and is much larger than the first. The flowers at the time of my visit were on the point of fading, and the colour was not so bright as it had been. The plant and flowers are midway between the two parents. The bulbs are three inches long, leaves 3¼ in. long by 1⅜ in. across; the flowers, of which there were two on one spike, are 2¾ in. across, the sepals and petals of a bright salmon rose, the lip lively purple, and the throat white. The flowers were open during the whole of the hot weather in August, and were in good condition for an entire month, and even in this respect the flowers are intermediate, as S. grandiflora lasts longer than that, and Cattleya intermedia not so long.

Lælia elegans Turneri is also in flower. This is, perhaps, the most distinct and handsome variety of this species; the dull rosy-purple sepals and petals, and the deep magenta-purple lip with the white throat form a beautiful contrast. The large Cattleya house contains some beautiful varieties of *Lælia elegans* in flower; also the variety alba. The true *alba* has pure white sepals and petals, with richly coloured lip, and forms a beautiful contrast to the varieties with rosy-purple sepals and petals of various shades.

The Cattleyas in flower at present are represented by *C. Gaskelliana*, a very useful addition to the C. labiata group, as plants of it are to be found in flower during August and September in most collections. We have five plants, and three of them are now (September 9) in full beauty. The plants are also the most vigorous growers of all the Cattleyas. Some of the varieties have very pale blush, almost white, sepals and petals, but they vary much in this respect. *C. gigas* is also in flower; this is a much more troublesome species to manage; the plants have a tendency to start into growth at this season of the year, and they are seldom strong enough to flower, and the efforts to make a growth now robs the plant of its vigour, and it refuses to flower from the next growth. The only way is to keep the roots as dry as possible. *C. Dowiana* was also very gorgeous in crimson and gold; the large crimson-purpled lip, undulated and streaked with gold offers a contrast to the yellowish sepals and petals; one spike had three very large flowers. *C. Eldorado* is also a very distinct and pleasing species, which varies much in the colour of the sepals and petals; but nearly the whole of them are remarkable for the rich orange blotch in the centre of the lip; the pure white form was also in flower. This is grown under several different names. *C. Eldorado alba* would be the best designation; the flowers are pure white, with the exception of the orange blotch in the centre of the lip. It is also grown as C. Wallisi, and C. virginalis. Another rather distinct and pretty species for September is *C. bicolor*. Of this there were quite a number of handsome specimens flowering freely; it is a tall growing plant; the sepals and petals are a brownish green, but the lip is of a rich purplish colour; numerous flowers are produced on one spike. It is figured in Bot. Mag., tab. 4,909; the flowers of that plate are larger than any I have ever seen; the spike is two-flowered.

The Ladies Slippers also produce an endless round of their quaint, and withal beautiful flowers. *Cypripedium selligerum* is in flower every month in the year. It is beautiful now; and the major form is very valuable. It is a cross between C. barbatum and C. lævigatum, but requires a cattleya house temperature only; whereas *C. grande*, which would be expected to be more of a cattleya house plant, seems to like a warmer house. This is a noble species, and is a hybrid from C. Roezli crossed with C. caudatum. The very handsome *C. Spicerianum* is also coming into flower, and a most handsome autumn and winter flowering plant it is.

James Douglas.

HYACINTHS.

In discussing the cultivation of hyacinths for the embellishment of the conservatory, and for placing on the exhibition stage, there are several points requiring special attention, but the one to which, in my opinion, the most prominence should be given is early potting, because it is the one which is the most generally overlooked. It has perplexed me not a little, when thinking the matter over, why both amateurs and practical men should so persistently neglect one of the principal essentials in the production of first-class spikes. The bulbs suffer less from exposure than was at one time considered to be the case, but that they do receive injury, even when the greatest care is taken of them, there can be no doubt whatever. Apart from the deterioration consequent on their exposure to atmospheric influences, there are two decided advantages in beginning early. One is the certainty of obtaining good bulbs of the selected varieties, and the other is the increased length of time the plants have for becoming established before they are placed in the forcing pit, or other structure in which they will be subjected to the influences of artificial heat. With reference to the purchase of the bulbs, it is not necessary to say much. When intended for the decoration of the conservatory, the bulbs obtainable at ordinary rates will suffice. But when required for competitive purposes, selected bulbs should be purchased, as it is practically impossible to produce large massive spikes that will tell well in a close competition, otherwise than from the very finest bulbs of the respective varieties. Upon this point I can speak with some degree of confidence, for my experience in the cultivation on a rather large scale extends over nearly thirty years.

In determining the size of pot in which to put the bulbs the cultivator must be guided by his requirements. If the bulbs are of an ordinary description and are likely to be wanted for placing in fancy receptacles such as vases and baskets, it will be advisable to use five-inch pots, and if with rather straight sides and no rim it will be a decided advantage. But for selected bulbs, especially when required for exhibition, six-inch pots should be used, those of which the depth is proportionate to the diameter being in all cases selected when there is any choice in the matter, as the hyacinth makes the most satisfactory growth in pots that are comparatively deep. In preparing the pots place a large crock in the bottom, and sufficient crocks, broken to the size of filberts, over it to form a layer about one inch in thickness. A greater depth of drainage is not necessary; it is, in fact, undesirable, as the additional crocks will occupy space that can with greater advantage to the plants be devoted to the soil. The usual practice of covering the crocks with some loose material must be followed, and probably partially-decayed leaves are unsurpassed for the purpose. The compost for hyacinths must, to ensure the full development of the spikes, be moderately open and thoroughly rich. I have tried many mixtures in the course of my practice, but the best results have been obtained from one consisting of fibrous loam four parts, and old hot-bed manure, leaf mould, and silver sand one part each. The loam should be used in a rather rough state, and have the manure, leaf mould, and sand well mixed with it.

The simplest course of procedure in potting the bulbs is to fill the pots to about two-thirds of their depth with the prepared compost, pressing it moderately firm; then place the bulb on the surface, and pack the soil about it. This is very much better than filling the pot rather loosely with soil, and then pressing the bulb into it, because when the latter course is taken there is a risk of the bulbs becoming loosened when making new roots. The bulbs should be buried deep enough for the neck to be just above the surface, which, to facilitate the watering, should be about three-quarters of an inch below the upper edge of the rim of the pot. As the bulbs are potted stand them on a bed of coal ashes or a hard surface in a sheltered position out of doors, and cover to a depth of eight or ten inches with some loose material, such as cocoa-nut fibre refuse, leaf mould, and spent hops, the first-mentioned being decidedly the best. The bulbs should remain in the plunge bed until they are well provided with roots and are commencing to make new growth. On reaching this stage it will be necessary to remove them from the bed to a cold pit, for if much of the growth is made in the dark the leaves will become drawn, and the appearance of the plants be more or less spoilt. For exhibition purposes they will be quite worthless if the foliage is drawn during the earlier stages, as neat, dark green foliage is regarded by experienced judges as hardly less important than massive spikes. When from an oversight they remain so long in the plunge bed that the leaves become blanched, it will be advisable to place them for a short time where the light is somewhat subdued for a week or ten days. If they are put in a pit, lay a strip of very thin canvas over the glass until the leaves begin to assume a green colour, as a sudden exposure is decidedly hurtful.

The varieties differ so much in relative value that the greatest care is necessary in making a selection, especially when required for exhibition. For home decoration it will suffice to select the best of the varieties obtainable at prices ranging from six to twelve shillings per dozen; but for exhibition the best varieties in the several shades of colour should be obtained, without reference to price, as it is impossible to take a high place in a close competition with varieties that are otherwise than first class. It will not, however, be necessary to pay extravagant rates for these, as the best are not in all cases the highest priced, as difficulty of propagation has as much to do in determining the commercial value of the bulbs as the size of the spikes and the quality of the flowers. Some of the very finest of the varieties of recent introduction have, in consequence of the facility with which they can be multiplied, been considerably reduced in price, a fact which should not be overlooked by those who grow them simply for the embellishment of the conservatory. The selections made in many gardens might be revised with great advantage, and some of the older varieties be replaced with others of more recent introduction. The under-mentioned comprises the very best in the several sections that are at present obtainable :—

Alba Maxima.—Pure white, the bells large, and the spike stout.

Baron Van Tuyll.—Dark blue ; a fine variety, equally suitable for exhibition and the conservatory.

Bird of Paradise.—Bright primrose-yellow ; flowers rather small but spike good.

Charles Dickens.—Cream-suffused rose, and marked with a carmine stripe on each segment ; the spike long and finely formed.

Charles Dickens.—Lilac-blue ; an old and exceedingly useful variety for conservatory decoration.

Czar Peter.—Lavender-tinted mauve : bells and spike of large size and good form.

De Candolle.—Lilac, with blue stripe along each segment ; very distinct and attractive.

Duc de Malakoff.—Yellowish buff striped with red ; distinct and very attractive.

Fabiola.—Delicate flesh colour, striped with carmine ; exquisitely beautiful.

Garibaldi.—Bright crimson, the spike very fine ; one of the best of its colour.

General Havelock.—Deep purple ; one of the best of its colour.

General Pellissier.—Bright crimson ; spike of medium size, but of good shape.

Grandeur à Merveille.—Blush-white ; a bold and handsome variety.

Grand Maitre.—Azure blue, shaded bright blue ; spike and flowers very large.

Ida.—Primrose-yellow ; one of the best of its section.

King of the Blues.—Dark blue ; flowers and spike large and finely formed ; the best of its colour.

Koh-i-Noor.—Deep salmon pink, a semi-double variety of great excellence.

La Grandesse.—Pure white ; spike very large and finely formed.

Laurens Koster.—Dark blue ; a very fine double variety.

Linnæus.—Brilliant crimson ; flowers and spike rather small, but desirable for its effective colouring.

Lord Derby—Azure blue ; flowers and spike large ; one of the best of this beautiful shade.

Macaulay.—Bright rose striped with carmine ; an excellent variety, and unsurpassed for exhibition in its shade of colour.

Madame Van der Hoop.—Pure white ; distinct and good.

Madame Hodgson.—Light pink ; not equal in quality to some others, but fairly good, and desirable for its pleasing colour.

Masterpiece.—Blackish violet ; a very distinct and handsome variety.

Miss Nightingale.—Pure white, the flowers large and well-arranged on the spike.

Mont Blanc.—Pure white, a fine variety, but rather too short in the spike.

Obelisk.—Bright yellow, neat and good.

Princess Helena.—Bright rosy carmine, with white centre ; flowers of good form and neatly arranged.

Princess Mary of Cambridge.—Delicate porcelain blue ; the flowers and spike large in size and fine in form ; a superb new variety.

Queen of Hyacinths.—Brilliant carmine red, valuable for its effective colouring.

Solfaterre.—Bright orange red ; flowers and spike of medium size.

Souv de J. H. Veen.—Purple blue, flowers of large size, spike compact and symetrical.

The Shah.—Lilac shaded mauve ; truss very fine.

The Sultan.—Rich purple ; spike large and finely formed.

Von Schiller.—Bright salmon pink ; spike of medium size and well arranged.

Vuurbaak.—Bright rich crimson ; the finest of its colour, and indespensable in an exhibition group. C.

TEA IN OUR COLONIES.—The common idea that the people of England consume (per head) more tea than any other country in the world is erroneous. The Australians drink on an average 7½ pounds each person, and New Zealand 7¼ pounds yearly ; whilst the consumption in Great Britain is under five pounds per head. The system of direct supply from tea-growing districts to the Colonies ensures a pure article at moderate cost ; precisely as Horniman's system in England guarantees at a fixed price the best tea the world produces. Those who appreciate full rich flavour, amazing strength, and perfect freedom from all adulteration, use Horniman's Pure Tea. Sold by agents, chemists, confectioners, &c., advertised in all papers and at railway stations.—[Advt.]

PLANTING EVERGREENS.

By Thomas Baines.

The time is now at hand when those who have evergreen trees or shrubs to plant will have to make up their minds whether they set about the work at once or defer it until spring. For, though all are not agreed as to which of the two seasons is the best for carrying out such operations, there is a unanimity of expression against the planting of evergreens in winter. Time was when the best season to plant trees and shrubs of this character was hotly discussed ; those who held that the latter end of summer and the early part of autumn gave the best chance of success were met by others, who urged that the spring, just as growth is about to commence, is the best. And although the advocates of autumn planting have been able to bring an amount of evidence to bear in support of their views, still there are those who yet maintain that the opposite season has advantages which so far weigh in its favour as to entitle it to the preference. In most matters connected with gardening that come in for discussion the absence of unanimity is traceable to one side or other resting their opinions on experience, or observation, that is too limited to be reliable, and it is more than likely that those who express themselves in favour of spring for the planting of evergreens of all kinds, do so under the impression that by reason of a particular section being found to grow as well, or better, if moved in spring than in autumn—such, for instance, as some of the conifers—that spring is consequently the best for all, a conclusion which a general view of the question does not by any means warrant.

It is not needful to say that the subject is important, inasmuch that most people connected with gardening pursuits, at some time or other, find themselves engaged in work of the kind. Size and condition, as well as the distance the trees or shrubs to be moved have to be taken, are matters of consequences that need to be taken into account. For instance, moving a holly or a yew that has reached a height, say eight or ten feet, or even the thinning out of evergreens from a shrubbery that has been planted some eight or ten years, where the plants as they are taken up are generally at once replanted within a short distance of where they have been growing, is a very different affair to the planting of ordinary stock of these things such as generally used in the formation of a hedge, or a shrubbery border. In the case of the latter, the plants, if they have been rightly managed, will have been kept moved, the result of which will be that they have a compact body of roots near home, which, with the absence of gross top growth consequent on the periodical transplanting they have been subjected to, will admit of their being taken up with little soil attached, whereas if the large plants named, that in all probability have not had their roots interfered with from the time of planting, were to be taken up with a like small amount of soil, they would suffer severely, and would not be in a state to bear moving a long distance, with the consequent greater length of time that would elapse between their being taken up and replanted. Hollies, yews, and the generality of evergreens that have reached a size such as indicated are best moved from the beginning of August up to the middle of October, and the earlier within this time the less check they will feel if the work is properly done. That is if a sufficient body of earth is moved with them, and they are well supplied with water as soon as planted. Hollies that have reached a height of from twelve to eighteen feet will scarcely show the effects of moving, especially when moved in August (further than that they will make shorter growth for a year or two after), as then there is enough time for them to make plenty of new roots to support the plants through the dry, harsh winds the following spring, during which evergreens that have been transplanted feel the effects of removal, particularly when they have not sufficient feeding roots to supply the drain that the parching winds exert on the leaves, and through which so many succumb.

One of the advantages attending the removal of evergreens thus early in the season is that where the soil is of a heavy nature it is usually so dry at this time that there is no difficulty in moving them with a ball of earth attached that holds together in a solid block, and which, as soon as the planting is effected, should be thoroughly soaked with water, so as to moisten it right through. The effect of this is, that, combined with the warmth of the air and that present in the earth, the roots are set in motion to an extent that would not occur even if the plants had not been moved. As a matter of course, smaller evergreens may, with the best results, be transplanted thus early in the season from one part of a garden to another, or any short distance that does not necessitate their being kept out of the ground ; but when to be taken a distance that necessitates their being out of the ground many days, unless there is more than ordinary precaution taken to keep the roots in plenty of damp packing material, it is better to defer the planting until, say, the middle of September.

Next to actual death, the worst consequence of planting evergreens in the way so many are done—too late in autumn to admit of their making any roots—is that a large percentage suffer so much that they are years before they get over the injury. Hollies especially are affected in this way, during which time they get into such a stunted state, out of which no amount of attention will remove them, that their presence is more an eyesore than an ornament. From a lengthened experience in planting of evergreens, from ordinary young stock to others that have grown unmoved for seventy or eighty years, without their roots being prepared, and in a good many parts of the country where the climate and the character of the soil differ much, I am satisfied that autumn is much more reliable than spring for planting the greater part of evergreens. Still there is no question that they will succeed when planted in spring if the removal is delayed until the buds are moving, but the disadvantages attending spring planting are twofold—the very limited time that the plants are then

in a condition to remove, and the great amount of labour they require in watering through the following summer, whereas if the planting is done early enough in autumn so that the roots can get well hold of the new soil, they will support the plants with little or no attention in this way.

I may here remark that evergreen trees and shrubs, as well as the deciduous kinds, can be transplanted successfully at almost any size, but there is one thing that requires to be kept in view, which is that there must be a corresponding amount of labour bestowed on them proportionate to their size, otherwise the proceeding is simply a case of courting failure. A word of advice to those who may not have had much experience in planting, about the selection of trees and shrubs. In the case of all kinds that have to be moved with comparatively little or no soil attached to their roots, there can be no greater mistake than in being led away in the selection of such as are full of vigorous free growth, dense, and taking to the eye. Stock of this description is deceptive to the last degree, the strong, sappy shoots are an unmistakeable sign of the tree or shrub having stood too long without being transplanted, the result of which is that in place of having a compact lot of feeding fibres within a limited distance of the collar of the plant, it has nothing but long straggling roots, the greater portion of which in the operation of taking up will be left behind, through the loss of which the plant, if even it lives, will take years to recover. In the case of evergreens the condition described is worse in its effects than with deciduous kinds. With stock that has been kept transplanted, and is in right condition for planting, the appearance is directly opposite, less strength in top growth, but plenty of fibrous roots that will sustain the plant after its removal, and enable it soon to get over the check.

EARLY CHRYSANTHEMUMS.

The experiment recently made by the National Chrysanthemum Society of holding an exhibition of early chrysanthemums, was so far successful as to fully justify the hope that it may be repeated next year with such modification of plan as the experience of this season may suggest. If we take the exhibition as a whole, it must be regarded as a great success, for the dahlias and gladioli which had a very prominent position in the schedule, were staged as largely and in as good a condition as could have been desired, and there were plenty of miscellaneous contributions to give variety to the display. With the exhibition generally I have now nothing to do, as it has been already fully reported in these pages, and I am desirous of briefly alluding to the chrysanthemums. With reference to the display of these flowers, it may be said that for a first attempt it was a good one. But it was less satisfactory than could be wished, and probably considerably below what might be reasonably expected next year. The dates of the show was, judging from the condition of the plants staged, fully a fortnight too early, and it was not difficult to see that had the show been held about the 22nd instead of the 9th, a much brighter display would have been produced.

It was in this case necessary to consider the dahlias and gladioli and the dates, for which I am prepared to accept my share of responsibility, exactly suited them. But in the future the chrysanthemums should have the first consideration, and a date be selected for the exhibition on which they can be shown in the best possible condition. By having the show later we may not perhaps be able to have such a brilliant display of dahlias or of gladioli, but this so far as the chrysanthemums are concerned would be a decided advantage, for on this occasion they were quite overpowered by the rich colours of these two classes of flowers which completely surrounded them. Moreover, visitors began to ask themselves whether chrysanthemums are really wanted whilst the garden is gay with dahlias, gladioli, begonias, and zinnias, which were contributed in such great plenty. It would hardly do to carry the exhibition over into October, as many growers would probably devote more attention to the production of early blooms of the varieties usually flowering in November than to developing the capacities of those which naturally bloom at the end of September. The matter is undoubtedly full of difficulty, and the best course to take in surmounting it would probably be to hold the show in either the third or fourth week of September.

The exhibition had in my mind, two serious defects apart from its being held rather too early; the plants in the collections were not named and the cut flowers were put up in a very rough manner, with the exception of the blooms of Madame Desgrange, contributed to the classes specially provided for it. One of the principal objects of the exhibition was to give those interested an opportunity of becoming acquainted with the early varieties, and by this suppression of the names, the show was shorn of much of its usefulness. There should be no more difficulty in staging cut blooms in September, with some degree of taste than in November, but tasteful arrangement appears to have been regarded as of secondary importance by several exhibitors, and some of the collections were presented in a very unsatisfactory condition, reminding one of a cottagers' show in a remote village, rather than of the exhibition of a national society in the heart of the metropolis.

The exhibition helped to bring into notice several excellent early varieties, although less prominently so than would have been the case had the trouble been taken to attach the names to the plants. Foremost amongst the pompons was *Alice Butcher*, a variety which cannot fail to acquire a high degree of popularity when it becomes known. It originated as a sport from Lyon, one of the best of the early sorts, and has flowers of a rich orange red hue. To Mr. Butcher, of Hadley, belongs the credit of fixing this fine sport, and to Mr. Davis the credit of presenting it to public notice. *Blushing Bride* was shown in two or three collections, and well merits attention. It is described as a "hybrid" whatever that may mean, but it is simply a pompon with comparatively large flowers. The colour is a delicate rose shading to blush. *Hermine* is a pleasing variety with blush pink flowers, comparatively small in size and produced in great abundance; *Paul et fils* is a desirable addition to the yellow varieties, and should not be overlooked by cultivators; *Rose d'Ete*, also merits attention, for it has an excellent habit, is free in blooming, and the flowers are of a pleasing shade of rose. Chief amongst the older varieties were *Flora*, bright yellow; *Frédéric Marronet*, bright orange, striped red; *La bien Aimée*, white shaded rose; *Lyon*, bright rose, the best of its colour; and *Madame Piccol*, all of which are of great excellence.

The large-flowered varieties shown that are really early were comparatively few in number, but they comprised a few of special excellence. Madame Desgrange, which had three classes set apart for it, was well represented, the plants and cut flowers being alike good. With reference to this variety it will suffice to say that it is still unequalled. *George Wermig*, a golden sport from the foregoing, was not represented very strongly, but there were sufficient blooms to show what a great acquisition it is. *Mrs. Burrell*, a second sport from Madame Desgrange, was represented by a good stand of blooms from Mr. George Miles, Dyke Road Nursery, Brighton, with whom it originated two years since. It may perhaps be best described as exactly intermediate in colour between Madame Desgrange and George Wermig, the flowers being canary yellow in the centre shading to white. The flowers staged on this occasion were not equal to those shown by Mr. Miles at South Kensington a fortnight previously, as owing to the heat experienced at the end of last month the first flowers lost their freshness earlier than was anticipated, and a cutting had to be made from the side shoots. This was unfortunate, as in consequence it failed to receive the recognition it so well merits, and visitors were unable to see it at its best. It is unquestionably a valuable acquisition, and will not fail to be fully appreciated. *William Holmes*, exhibited by Mr. Davis, promises to prove a very valuable addition to the list of varieties flowering in September. The flowers borne by the plant staged were not sufficiently developed to show their true character, but it could be seen that they were of comparatively large size, full, and of a brilliant crimson colour. In the latter respect it bids fair to equal Cullingfordi. It was raised by M.M. Delaux et fils, and has been introduced as a Japanese variety, but its proper place will probably be found in the reflexed section, but upon this point I cannot express any definite opinion until I have seen flowers more fully developed. One other variety that must have special mention is *Mrs. James R. Pitcher*, which was also shown by Mr. Davis. This variety was raised by Messrs. Hallock, Son, and Thorpe, of Queens, New York, and was sent out last year. The flowers are of medium size, somewhat reflexed, and of a pleasing blush colour, shading with age to pure white. Mr. Piercy, who is so well known to readers of the Gardeners' Magazine as one of the best authorities on early chrysanthemums, regards it as a second Madame Desgrange, and believes that it will become equally as popular. *Bouquet Estival* light purple, and *Pynaert van Geert* bright yellow, two comparatively old Japanese varieties, were well shown, and must be mentioned, for they are without rivals in their season and colours.

George Gordon.

OVER-RATED TOMATOES.

Praise has been rather freely lavished on the many new tomatoes that have been introduced to cultivation during the past ten or fifteen years, but of the numerous varieties of recent introduction not one has had its merits so greatly over-rated as Hackwood Park Prolific. When first exhibited at South Kensington it had a certificate conferred upon it by the Fruit Committee, and since then writers have vied with each other in praising it. Until this year I have not grown it, as I have been well satisfied with a form of the Common Red that I have had in my possession; but urged by a friend to do so, I devoted one half of the wall space at my disposal for tomato culture, and the results are not such as give me much satisfaction. I expected the plants to bear a good number of large clusters of fruit, but, instead, the clusters are few in number, and consist of three or four fruits, which will be small in size and late in reaching maturity. The wall against which I grow the tomatoes is about four feet high, and whilst the Common Red had a difficulty in reaching the top Hackwood Park Prolific run up so quickly that a friend suggested that the plants were anxious to make the acquaintance of the inmates of the garden on the other side. It will, perhaps, be said that the soil is too rich, but I am not proposed to accept that view of the case. The border, which is not more than three feet in width, has not to my knowledge had any manure during the past three years, whilst it has been very heavily cropped every season. The plants of the Common Red have not only made a moderate growth, but they are bearing prodigiously, each one being furnished with huge clusters, of which the greater part will ripen very satisfactorily. It may be Hackwood Park Prolific is well suited for indoor culture, and it is just possible that those who have spoken so favourably have referred to its behaviour under glass. I have not grown Chiswick Red, which has also been certificated and very highly praised, but I have had an opportunity of tasting it on several occasions. I have tasted fruit from plants against open walls and under glass, and both cooked and raw, in all cases it has been very inferior. The flesh is soft and woolly, and the pulp is watery. There is only one other of the numerous varieties with which I am acquainted that in point of flavour is inferior, and that is King Humbert, a pear-shaped variety introduced about the same time.

Amateur Cultivator.

SINGLE POPPY, "DANEBROG."

It was a happy thought to bestow upon the poppy here figured the name it bears. The flowers selected for the sketch occurred in one of Mr. Ware's great collections at a meeting of R.H.S., but it should be stated that the variety may be found in many trade collections. It is peculiarly interesting, as illustrating the constancy of the variety, though perpetuated by seed, a circumstance in which it agrees with many more good garden plants that offer us high beauty at a low price. Amongst all the fine poppies there is certainly none that surpass in brilliancy this faithful emblem of the Danish colours.

SINGLE POPPY "DANEBROG."

Messrs. R. Veitch and Sons, of Exeter, have been awarded the first prize of £20 offered by the Corporation of Poole for designs for laying out and planting the thirty-five acres of land recently presented by Lord Wimborne, to be laid out as a public park and recreation ground.

SCARLET WIND FLOWER.

As the roots of the Scarlet Windflower, Anemone fulgens, are now obtainable at such a comparatively low rate I would suggest that in gardens of moderate extent, a comparatively large bed should be devoted to it for the supply of cut flowers. In mild winters plants occupying beds in sheltered situations will commence flowering in February, and continue to produce their brilliantly coloured flowers for a very long period. We have two large beds, one of which is covered with a portable frame, and the number of flowers we obtain from them during the spring is surprisingly large; now is a good time to plant the roots. W. J.

British Association will meet at Manchester in 1887, and in Bath, 1888. In the year 1888 an offshoot of the B.A. will meet at Sydney to assist in the celebration of the centenary of the foundation of the Colony of New South Wales.

BEGONIA IMPERIAL.

The semi-double begonia here figured was presented by Mr. R. Owen, of Maidenhead, at a meeting of R.H.S. Floral Committee, August 10, 1886, and was recognized as especially meritorious by the award of a first-class certificate. It represents a new departure in the decorative features of the tuberous-rooted begonias, being at once curious in construction and of most commanding beauty. The petals are in two whorls, and suggest the insertion of a complete flower within a similarly complete flower of larger size, the flower being in other respects normal. The habit of the plant is excellent, and well grown specimens will have a majestic appearance, these large semi-double, or if we may use the term "hose in hose" flowers being of a rich magenta rose colour borne on erect stout peduncles. The name of this noble novelty is *Imperial*.

SEMI-DOUBLE BEGONIA "IMPERIAL" (Colour rich magenta rose).

ONION MAGGOT.

Spring-sown onions were this year much troubled with maggot. I find dusting with hellebore powder a good preventive of this objectionable pest; it is certainly the best I have yet tried.

Brodie Castle, Morayshire. J. Clarke.

HARDY PLANTS IN FLOWER.

THE most noticeable of gardon flowors now are dahlias and gladioli; but a few lilies remain, pentstemons and hollyhocks are not exhausted, and the perennial asters, though a rustic if not to say a weedy lot, are showing in full force to remind us that Michaelmas is near, and the young geese are in oondition.

GLADIOLI have flowered finely, the copious rains that accompanied the rising of the flower spikes having proved highly beneficial. The named "gandavensis hybrids," as they are absurdly called, are of the utmost value for late summer decoration, but they do not displace in the minds of the eclectics certain species that retain their original characters. The brilliant *G. ignescens*, with flowers of a deep orange or reddish-buff, marked on the lower segments with crescents of white, should be entered in tho list of desiderata by all who value good garden plants. *G. communis* is so hardy that it takes care of itself everywhere. In the south it flowers in June and July, and northward in August and September. *G. natalensis*, a bright form of *G. psittacinus*, gives pure yellow, with delicate shades of buff or cinnamon. It is less hardy than the last named, and should be lifted before winter. *G. cardinalis*, in its original state is a brilliant thing. One that gives us much delight now is *G. draeocephalus*, admirably figured by W. H. Fitch in B.M., 5,884. This is a native of West Natal, and is one of Cooper's findings. The flowers are olive green, overlaid with delicate dark pencillings, and with a few mysterious touches of purple, that bring it within the category of unattractive but truly beautiful beauties. The new and distinct *G. Lemoinei* is a fine garden plant, quite hardy on a sandy soil, and increasing fast by offsets.

COLCHICUMS are ahundant and glorions. They belong to the class of plants that hlunderers destroy, and therefore they often have to be renewed in gardens. It is a good plan to associate them with dwarf spreading plants that they can push through, and that will keep a little green about them when their gay flowers appear. The common meadow saffron, *Colchicum autumnale*, is the one now thriving near London, but the half dozen or so of "choice varieties" will follow qnickly to give new interest to the rockery.

CLERODENDRON has no doubtful place in the hardy garden, for *Clerodendron trichotomum* is a well-established flowering tree in the shrnbbery, and is now in its best trim, the beautiful white flowers and hrown or reddish accompaniments having a most pleasing effect amid the ample leafage. But *C. fœtidum* surpasses it so far that it may be declared the grandest outdoor shrub now in flower. Its large ovate dark green leaves and magnificent spherical heads of rosy or crimson flowers give it a character that impresses one. It stood out during half a-dozen winters at Canterbury, and is certainly hardy as a "Devonshire" plant, which means that, in a general way, it is not safe on a cold soil or in an exposed situation. The delightful *C. fragrans* is fully as hardy, needing only a kind climate to carry it through the winter.

VERBENAS are kept out of the hardy garden because of the reminders they afford of "bedding," and other forms of dreadfulness. But, for all that, *Verbena Aubletia* is a beautiful plant, and *V. venosa* is not despicable; and, in fact, to ignore the genus is to declare deficiency of genius, the declaration being often perfectly just, because a true lover of the garden has no prejudices.

BROWALLIAS are not of great importance, but record must be made of the present flowering of *Browallia viscosa*, which forms a free rustic bush, the flowers light blue with white eye. Others worth growing are *B. elata* and *B. Roezli*. They are obtained from seed sown in March, under glass, the plants put out in May.

PETUNIAS are in the same black book as verbenas, for they have made themselves useful in the bedding system. For all that, *Petunia nyctaginiflora* is a beautiful border plant, with its cloud of white flowers, and *P. violacea* is worth having by such as have eyes to see, and have not yet pledged themselves to curse all bedding plants.

POLYGONUMS of the proper rock garden style are out of flower, but the gigantic *Polygonum sachalinense* and *P. cuspidatum* are in perfection, and where happily placed are full of interest and beauty. A good shrubbery plant is *P. orientale*, rising five feet, rather leafy, the infloresence ruby-red.

CONVOLVULUS and CALYSTEGIA need not for present purposes be separated. Delightful now in a neglected shruhbery is the rampant *Convolvulus sepium*, and a most accomplished strangler if allowed to "have its fling." The hest way to keep it down is to hoe it over all the summer long, and dig out its roots in autumn. The chopping over is sufficient, however, if persevered in through one season only. But what a dereliction of dnty is it to be prescribing modes of destruction in this place. No, let the strangler live to accomplish its destiny, and if you want a finer white convovulus take *C. sylvaticus*, which is really of higher character, and so lovely that it may be pardoned for killing all before it for a place to display itself supremely alone. The hest bit of it we have seen was on either side a halustrade on the ascent to a terrace walk, where it ran riot, having its roots in the gravel walk, and no chance of suffocating anything except the stone steps and the iron railing. The pretty, thongh weedy, *Calystegia pubescens* must still have a place amongst the good veranda and bower plants.

SEA HOLLIES aro conspicuous now by reason of the decline of colour in tho borders generally. How superb in colour is *Eryngium amethystinum*; how stately the greenish *E. gigantcum*; how noble the half-twisted *E. pandanfolium*, which is now showing that it will flower shortly.

Tho following are in tho budget, and will have detailed attention as opportunities occur: *Helychrisums*, the very best of the everlastings; *Xeranthemums*, a little weedy and sprawly, but cheerful everlastings; *Lobelia milleri*, lovely purple; *Erica* (*Calluna*) *vulgaris Serlei*, a lovely white flowered variety; *Rudbeckia speciosa*; *Montbretia crocosmæflora*; *Morina longiflora*, a tip top thistle; *Helenium commutatum*, five feet, splendid yellow; *Helianthus multiflorus*, a giant rising six feet with most heautiful flowers of a clear yellow, the bost variety for gardens; *H. occidentalis*, throe feet, small flowors, orange yellow, good; *Corcopsis tinctoria*, various, and always good; *C. auriculatus*, two feet, weedy, olear yellow; *Gaillardia pulchella*, very showy; *Celsia arcturus*, a lovely little gem, not quite hardy, but easily managed; finally, *Tropæolum speciosum*, now in full splendour, hut depending very much on conditions and surroundings, for the amount of admiration it may command. It needs a cool root hold and a sunny branching space, and then with a good hedge or iviod wall to show it up, and how or with what will you surpass its beauty?

MR. J. WALLACE, late foreman at Wakefield, Northamptonshire, has been engaged as gardener by Mrs. Shakespeare, Langley Priory, Didsworth.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

CONSERVATORY to be ventilated as freely as the weather will permit to promote tho ripening of the new growth of climbers and other permanent occupants. Specimen camellias, rhododendrons, and acacias in the borders may now be arranged, as they can be lifted without any risk of injury provided the work is done with care, and as quickly as possible. The camellias and acacias should be provided with mellow fibrous loam and the rhododendrons with turfy peat and coarse river or silver sand. Fuchsias which have been doing duty in the house for some time past should be removed to a sunny position out of doors, or to one of the frnit houses as soon as they are past their best to promote ripening of the wood. The water supply must at the same time be very materially reduced. Tho structure should now be bright with the early flowering chrysanthemums, of which many are now at tho command of the cultivator.

GREENHOUSE.—Nothing more is to be gained by leaving plants out of doors for the purpose of hardening the new growth; in fact, a little sun heat under glass will ripen the wood of plants that are still in a sappy condition much more effectually now than sunshine out of doors. Defer the use of fires as long as possible; but if any special reason require it let no rnles without reason interfere; set the fires going, dry the houses, and have a change of air while there is no fear of a chill. By good management much may be done now with sun heat. Keep the houses clean and dry, so as to allow of as much ventilation as possible among hard-wooded plants. If the weather is mild and the wind westerly, give air at night to camellias, azaleas, heaths, epacrises, and other subjects of like habit and hardiness.

LACHENALIAS are very easy to grow well, yet too often we see them with thin, drawn, and perhaps bruised leaves, and a few poor spikes of flowers; they should have leaves an inch or more across, very fleshy, a rich deep green colour, and richly spotted, and half a dozen large spikes of flowers in a five-inch pot from half a dozen bulbs, and a few more spikes rising to succeed the first lot.

STOVE AND ORCHID HOUSE.

STOVE PLANTS that have been flowering during the summer must be encouraged to rest, whilst subjects intended for decorative purposes in the winter must be pushed on to have them strong and well established in the pots by the beginning of the winter. Begonias intended for winter flowering must have their final shift at once, if they have not already received it.

ORCHID HOUSE will require special attention for some time hence. As the season declines, the temperature of the house should be reduced, but this mnst be done with great care, because many fine species will soon he showing bloom. In the first place, look to the Cattleyas, and remove them to the coolest end, and let them have a temperature averaging 70 deg. by day and 60 deg. by night, in order to induce a perfect state of rest. If in a higher temperature than this, there will be a further growth of the plants at the expense of the next bloom. With these group Cycnoches, Lycastes, and Catasetums, which are all likely to suffer if kept growing now in too high a temperature.

Orchids now pushing for hloom will reqnire liberal heat and moisture, and these may he grouped with Dendrobiums and Aerides in a temperature of 80 deg. hy day and 70 deg. by night. As soon as any of the Barkerias, Cycnoches, Cyrtopodiums, Phajus alhus, Pleione maculata, P. Wallichiana, and other deciduous orchids, begin to shed their leaves, they should be placed in the cool end of the house in the most sunny position that can be found for them, and there have but little water. This will cause them to ripen their pseudo-bnlbs, and their after-growth and flowering will be more vigorous. On the other hand, Vandas, Angræcums, Aerides, Saccolahinms, and Phalænopsis must not be allowed to become very dry at the roots, even when at rest, as they shrivel and lose their lower leaves. These species, moreover, require but a short period of rest.

Variegated orchids require great care from this time till March; only give enough water to keep them from shrivelling.

FORCING AND ORCHARD HOUSES.

CUCUMBER HOUSE.—Plants intended for winter bearing should not be allowed to produce fruit before sufficiently strong. They must not be stopped too severely. Take a few strong growths along the trellis where they will have full exposure to the light, and maintain a brisk growing temperature for the present. Apply sulphur immediately the first traces of mildew are perceptible, for if allowed to spread serious results will ensue.

PINERY.—A temperature of 80 deg. or 85 deg. must be maintained in the house in which the swelling and ripening of the fruit is in progress. Successional stock must, however, have the temperature lowered five degrees, to prevent the possibility of the foliage being drawn. A proportionate decrease must also he made in the hottom-heat. These remarks will apply with equal force to the suckers, for, like the succession plants, they make a poor growth the following season if kept in a high temperature during the winter. Keeping the young stock in full growth the whole of the winter is one of the principal stumbling-blocks of the young pine-grower.

VINES must have their wood ripened now, if it is not so already, or all sorts of evils will befall them. Cut off the ends of any shoots that are green, and any that continue to grow too luxuriantly may be checked by keeping the roots as dry as possihle. All superfluous shoots to be removed as soon as possible, and the vines in tho early house to be pruned at once, and the border covered to keep it dry and warm; wooden shutters are sometimes used, but we prefer straw hurdles.

FLOWER GARDEN AND PLEASURE GROUNDS.

AURICULAS to be housed for the winter and watered very sparingly. Look over the stock in removing them to the frames; see if slugs are hidden in he hole next the crocks; and if the surface of the soil in the pots has moss or liverworts growing on it you may be sure there is something the matter with the drainage, which see to at once. If aphides are in the hearts of the plants shake a little dry silver sand over them, then take each plant separately and blow the sand out with some force.

BULBS to be potted in successional batches, so as to prolong the blooming season. Pot the early-blooming Gladioli, Sparaxis, Ixias, Narcissus bulbocodium, Jonquils, and Tritonia aurea in a mixture of peat, leaf-mould, and turfy yellow loam, equal parts.

Carnations not yet potted or planted must be disposed of without any more delay, as it is of great importance to have them well established before winter. When potted shut them up close for a week to promote the formation of new roots.

Chrysanthemums require plenty of water, and twice a week liquid manure, but not a drop of the latter to touch the leaves. See to any tying that has been neglected. Pot up at once those grown in the open ground for the purpose, or if to be moved to make beds and ribbons clear the ground, dig it over, and plant them at once in the places where they are to bloom. Plants potted up from the open ground to be kept shaded, and frequently sprinkled till they recover. Of course they must be lifted with good balls, and be potted firm, with plenty of drainage.

KITCHEN GARDEN AND FRAME GROUND.

Artichokes to be cut down as soon as the heads are gathered.

Cabbage.—Plant out at every opportunity; there is plenty of ground now, and there is good time for the plants to grow.

Celery will be growing freely now, and when a good growth has been made begin to earth up, but not before. Generally speaking, all celery not yet earthed should be commenced, as that begun now will not be fit for use much before November. But in the case of that planted out very late another week or two may be allowed for growth, as there is not much growth after the earthing process begins.

Capsicums and Tomatoes that ripen tardily may be cut with a portion of stem attached, and hung up in any warm light place. A lean-to greenhouse is about the best place, but a kitchen window will answer; or if laid on tiles in a frame facing the sun, with the lights on, they will soon ripen.

Cardoons have now done growing, and it is time to blanch them for use. Those that have flower-heads upon them are no use; pull them out. Before earthing tie them loosely, so as to keep the leaves and stems together, and prevent the soil going to the hearts; then bank them up high and firm.

Carrots will not grow much more now, and may as well come up. Store in dry sand in a dry and cool place.

Cauliflowers of the last sowing to be pricked out under hand-glasses, and a few to be potted in 60-sized pots to push on for extra early supply, as they can be planted out early in spring on a warm well-manured border, and have the shelter of old lights, or inverted pots or thatched hurdles, in case of late morning frosts.

Onions must be housed, and if not dead ripe spread them in a dry, sunny place, or put them in an oven after the bread is drawn, and let them have a gentle baking. If well dried at once they will keep well, but if stored soft some will rot and some will grow, and all will very soon be worthless.

Turnips must be thinned in good time, and the rows hoed between. Where broadcast the hoe must do the thinning, weeding, and loosing of the soil; but when in drills it is best to thin them by hand, as the hoe always leaves two or three close together fighting for a place, which is an evil.

Vegetables in Season include aubergines, kidney beans, runner beans, beet, cabbage, cauliflowers, carrots, coleworts, cucumbers, endive, lettuce, marrows, onions, spinach, tomatoes, and turnips.

British Association.

THE CRUST OF THE EARTH.

AS ILLUSTRATED IN THE GEOLOGICAL HISTORY OF THE ATLANTIC OCEAN.

By the President, Sir William Dawson.

(*Concluded from page 539.*)

If we now inquire as to the cause of the Atlantic depression we must go back to a time when the areas occupied by the Atlantic and its bounding coasts were parts of a shoreless sea in which the earliest gneisses or stratified granites of the Laurentian age were being laid down in vastly extended beds. These ancient crystalline rocks have been the subject of much discussion and controversy, and as they constitute the lowest and probably the firmest part of the Atlantic sea-bed, it is necessary to inquire as to their origin and history. Dr. Bonney, the late president of the Geological Society, in his anniversary address, and Dr. Sterry Hunt, in an elaborate paper communicated to the Royal Society of Canada, have ably summed up the hypotheses as to the origin of the oldest Laurentian beds. At the basis of these hypotheses lies the admission that the immensely thick beds of orthoclase gneiss, which are the oldest stratified rocks known to us, are substantially the same in composition with the upper or sileceous magma or layer of the under crust. They are, in short, its materials either in their primitive condition or merely rearranged. One theory considers them as original products of cooling, owing the lamination merely to the successive stages of the process. Another view refers them to the waste and rearrangement of the materials of a previously massive granite. Still another holds that all our granites really arise from the fusion of old gneisses of originally aqueous origin; while a fourth refers the gneisses themselves to molecular changes effected in granite by pressure. It will be observed, in regard to these theories, that none of them supposes that the old gneiss is an ordinary sediment, but that all regard it as formed in exceptional circumstances, these circumstances being the absence of land and of sub-aerial decay of rock, and the presence wholly or principally of the material of the upper surface of the recently hardened crust. This being granted, the question arises, Ought we not to combine these several theories and to believe that the cooling crust has hardened in successive layers from without inward; that at the same time fissures were locally discharging igneous matter to the surface; that matter held in suspension in the ocean and matter held in solution by heated waters rising from beneath the outer crust were mingling their materials in the deposits of the primitive ocean? It would seem that the combination of all these agencies may safely be invoked as causes of the pre-Atlantic deposits.

Let us suppose, then, the floor of old ocean covered with a flat pavement of gneiss, or of that material which is now gneiss, the next question is how and when did this original bed become converted into sea and land? Here we have some things certain, others most debatable. That the cooling mass, especially if it were sending out volumes of softened rocky material, either in the exoplutonic or in the crenitic way, and piling this on the surface, must soon become too small for its shell is apparent; but when and where would the collapse, crushing, and wrinkling inevitable from this cause begin? Where did they begin is indicated by the lines of mountain-chains which traverse the Laurentian districts; but the reason why is less apparent. The more or less unequal cooling, hardening, and conductive power of the outer crust we may readily assume. The driftage unequally of water-borne detritus to the south-west by the bottom currents of the sea is another cause, and, as we shall soon see, most effective. Still another is the great cooling and hardening of the crust in the polar regions, and the tendency to collapse of the equatorial protuberance from the slackening of the earth's rotation. Besides these the internal tides of the earth's substance at the times of solstice would exert an oblique pulling force on the crust, which might tend to crack it along diagonal lines. From whichever of these causes or the combination of the whole, we know that within the Laurentian time folded portions of the earth's crust began to rise above the general surface in broad belts running from north-east to south-west, and from north-west to south-east, where the older mountains of Eastern America and Western Europe now stand, and that the subsidence of the oceanic areas allowed by this crumbling of the crust permitted other areas on both sides of what is now the Atlantic to form limited table-lands. This was the beginning of a process repeated again and again in subsequent times, and which began in the Middle Laurentian, when for the first time we find beds of quartzite, limestone, and iron ore, and graphitic beds, indicating that there were already land and water, and that the sea, and perhaps the land, swarmed with animal and plant life, of forms unknown to us, for the most part, now. Independently of the questions as to the animal nature of Eozoon, I hold that we know, as certainly as we can know anything inferentially, the existence of these primitive forms of life.

If I were to conjecture what were the early forms of plant and animal life, I would suppose that just as in the Palæozic the acrogens culminated in gigantic and complex forest trees, so in the Laurentian the algæ, the lichens, and the mosses grew to dimensions and assumed complexity of structure unexampled in later times, and that in the sea the humbler forms of Protozoa and Hydrozoa were the dominant types, but in gigantic and complex forms. The land of this period was probably limited, for the most part, to high latitudes, and its aspect, though more rugged and abrupt, and of greater elevation, must have been of that character which we still see in the Laurentian hills. The distribution of this ancient land is indicated by the long lines of old Laurentian rock extending from the Labrador coast and the north shore of the St. Lawrence, and along the eastern slopes of the Appalachians in America, and the like rocks of the Hebrides, the Western Highlands, and the Scandinavian mountains. A small but interesting remnant is that in the Malvern hills, so well described by Holl. It will be well to note here and to fix on our minds that these ancient ridges of Eastern America and Western Europe have been greatly denuded and wasted since Laurentian times, and it is along their eastern sides that the greatest sedimentary accumulations have been deposited. From this time dates the introduction of that dominance of existing causes which forms the basis of uniformitarianism in geology, and which had to go on with various and great modifications of detail through the successive stages of the geological history till the land and water of the northern hemisphere attained to their present complex structure.

So soon as we have a circumpolar belt or patches of Eozoic land and ridges running southward from it, we enter on new and more complicated methods of growth of the continents and seas. Here we are indebted to Le Conte for clearly pointing out that our original Eozoic tracts of continent were in the earliest times areas of deposition, and that the first elevations of land out of the primeval ocean must have differed in important points from all that have succeeded them; but they were equally amenable to the ordinary laws of denudation. Portions of these oldest crystalline rocks, raised out of the protecting water, were now eroded by atmospheric agents, and especially by the carbonic acid then existing in the atmosphere, perhaps more abundantly than at present, under whose influence the hardest of the gneissic rocks gradually decay. The Arctic lands were subjected, in addition, to the powerful mechanical force of frost and thaw. Thus every shower of rain and every swollen stream would carry into the sea the products of the waste of land, sorting them into fine clays and coarser sands; and the cold currents which cling to the ocean bottom, now determined in their courses, not merely by the earth's rotation, but also by the lines of folding on both sides of the Atlantic, would carry south-westward, and there pile up in marginal banks of great thickness, the *débris* produced from the rapid waste of the land already existing in the Arctic regions. The Atlantic, opening widely to the north, and having large rivers pouring into it, was especially the ocean characterized, as time advanced, by the prevalence of these phenomena. Thus throughout the geological history it happened that, while the middle of the Atlantic has received merely organic deposits of shells of Foraminifera and similar organisms, and this probably only to a small amount, its margins have had piled upon them beds of detritus of immense thickness. Professor Hall, of Albany, was the first geologist who pointed out the vast cosmic importance of these deposits, and that the mountains of both sides of the Atlantic owe their origin to these great lines of deposition, along with the fact, afterwards more fully insisted on by Rogers, that the portions of the crust which received these masses of the *débris* became thereby weighted down and softened, and were more liable than other parts to lateral crushing. Thus in the later Eozoic and early Palæozoic times which succeeded the first foldings of the oldest Laurentian, great ridges were thrown up, along the edges of which were beds of limestone, and on their summits and sides thick masses of ejected igneous rocks. In the bed of the central Atlantic there are no such accummulations. It must have been a flat, or slightly ridged, plate of the ancient gneiss, hard and resisting, though perhaps with a few cracks, through which igneous matter welled up, as in Iceland and the Azores in more modern times. In this condition of things we have causes tending to perpetuate and extend the distinctions of ocean and continent, mountain and plain, already begun; and of these we may more especially note the continued subsidence of the areas of greatest marine deposition. This has long attracted attention, and affords very convincing evidence of the connection of sedimentary deposit as a cause with the subsidence of the crust. We are indebted to a French physicist, M. Faye, for an important suggestion on this subject. It is that the sediment accumulated along the shores of the ocean presented an obstacle to radiation, and consequently to cooling of the crust, while the ocean floor, unprotected and unweighted, and constantly bathed with currents of cold water, having great power of convection of heat, would be more rapidly cooled, and so would become thicker and stronger. This suggestion is complementary to the theory of Professor Hall, that the areas of greatest deposit on the margins of the ocean are necessarily those of greatest folding and consequent elevation. We have thus a hard, thick, resisting ocean bottom which, as it settles down toward the interior, under the influence of gravity, squeezes upward and folds and plicates all the soft sediments

deposited on its edges. The Atlantic area is almost an unbroken cake of this kind.

If we now turn to the life history of the Atlantic, we are met at the threshold with the question of climate, not as a thing fixed and immutable, but as changing from age to age in harmony with geographical mutations, and producing long cosmic summers and winters of alternate warmth and refrigeration. We can scarcely doubt that the close connection of the Atlantic and Arctic Oceans is one factor in these remarkable vicissitudes of climate experienced by the former, and in which the Pacific area has also shared in connection with the Antartic Sea. No geological facts are indeed at first sight more strange and inexplicable than the changes of climate in the Atlantic area, even in comparatively modern periods. We know that in the early Tertiary perpetual summer reigned as far north as the middle of Greenland, and that in the Pleistocene the Arctic cold advanced until an almost perennial winter prevailed half way to the equator. It is no wonder that nearly every cause available in the heavens and the earth has been invoked to account for these astounding facts. It will, I hope, meet with approval of your veteran glaciologist, Dr. Crosskey, if neglecting most of these theoretical views, I venture to invite your attention in connection with this question chiefly to the old Lyellian doctrine of the modification of climate by geographical changes. Let us, at least, consider how much these are able to account for. The ocean is a great equalizer of extremes of temperature. It does this by its great capacity for heat and by its cooling and heating power when passing from the solid into the liquid and gaseous states, and the reverse. It also acts by its mobility, its currents serving to convey heat to great distances or to cool the air by the movement of cold icy waters. The land, on the other hand, cools or warms rapidly, and can transmit its influence to a distance only by the winds, and the influence so transmitted is rather in the nature of a disturbing than of an equalizing cause. It follows that any change in the distribution of land and water must affect climate, more especially if it changes the character or course of the ocean currents.

At the present time the North Atlantic presents some very peculiar and, in some respects, exceptional features, which are most instructive with reference to its past history. The great internal plateau of the American continent is now dry land; the passage across Central America between the Atlantic and Pacific is blocked; the Atlantic opens very widely to the north; the high mass of Greenland towers in its northern part. The effects are that the great equatorial current running across from Africa and embayed in the Gulf of Mexico is thrown northward and eastward in the Gulf Stream, acting as a hot-water apparatus to heat up to an exceptional degree the western coast of Europe. On the other hand, the cold Arctic current from the polar seas is thrown to the westward, and runs down from Greenland past the American shore. The pilot chart for June of this year shows vast fields of drift ice on the western side of the Atlantic as far south as the latitude of 40 deg. So far, therefore, the glacial age in that part of the Atlantic still extends; this at a time when, on the eastern side of the ocean, the culture of cereals reaches in Norway beyond the Arctic circle. Let us inquire into some of the details of these phenomena. The warm water thrown into the North Atlantic not only increases the temperature of its whole waters, but gives an exceptionally mild climate to Western Europe. Still the countervailing influence of the Arctic currents and the Greenland ice is sufficient to permit icebergs which creep down to the mouth of the Strait of Belle Isle, in the latitude of the south of England, to remain unmelted till the snows of a succeeding winter fall upon them. Now let us suppose that a subsidence of land in tropical America were to allow the equatorial current to pass through into the Pacific. The effect would at once be to reduce the temperature of Norway and Britain to that of Greenland and Labrador at present, while the latter countries would themselves become colder. The northern ice, drifting down into the Atlantic, would not, as now, be melted rapidly by the warm water which it meets in the Gulf Stream. Much larger quantities of it would remain undissolved in summer, and thus an accumulation of permanent ice would take place, along the American coast at first, but probably at length at even on the European side. This would still further chill the atmosphere, glaciers would be established on all the mountains of temperate Europe and America, the summer would be kept cold by melting ice and snow, and at length all Eastern America and Europe might become uninhabitable, except by arctic animals and plants, as far south as, perhaps, 40 deg. of north latitude. This would be simply a return of the Glacial age.

Imagine the whole interior plain of North America submerged, so that the Continent is reduced to two strips on the east and west, connected by a belt of Laurentian land on the north. In the great Mediterranean sea thus produced, the tepid water of the equatorial current circulated, and it swarmed with corals, of which we know no less than 150 species, and with other forms of life appropriate to warm seas. On the islands and coasts of this sea was introduced the Erian flora, appearing first in the north, and with that vitality and colonising power of which, as Hooker has well shown, the Scandinavian flora is the best modern type, spreading itself to the south. A very similar distribution of land and water in the Cretaceous age gave a warm and equable climate in those portions of North America not submerged, and coincided with the appearance of the multitude of broad-leaved trees of modern types introduced in the early and middle Cretaceous, and which prepared the way for the mammalian life of the Eocene. We may take a still later instance from the second continental period of the later Pleistocene or early modern, when there would seem to have been a partial or entire closure of the North Atlantic against the Arctic ice, and wide extensions seaward of the European and American land, with possibly considerable tracts of land in the vicinity of the equator, while the Mediterranean and the Gulf of Mexico were deep inland lakes. The effect of such conditions on the climates of the northern hemisphere must have been prodigious, and their investigation is rendered all the more interesting because it would seem that this continental period of the post-Glacial age was that in which man made his first acquaintance with the coasts of the Atlantic, and, possibly, made his way across its waters. We have in America ancient periods of cold as well as of warmth.

The glacial periods of our old continent occurred in times when the surface of the submerged land was opened up to the northern currents, drifting over it mud and sand and stones, and rendering nugatory, in so far at least as the bottom of the sea was concerned, the effects of the superficial warm streams. Some of these beds are also peculiar to the eastern margin of the continent, and indicate ice-drift along the Atlantic coast in the same manner as at present, while conditions of greater warmth existed in the interior. Even in the more recent Glacial age, while the mountains were covered with snow, and the lowlands submerged under a sea laden with ice, there were interior tracts in somewhat high latitudes of America in which hardy forest trees and herbaceous plants flourished abundantly; and these were by no means exceptional "interglacial" periods. Thus we can show, that while from the remote Huronian period to the Tertiary, the American land occupied the same position as at present, and while its changes were merely changes of relative level as compared with the sea, these have so influenced the ocean currents as to cause great vicissitudes of climate.

Without entering on any detailed discussion of that last and greatest Glacial period which is best known to us, and is more immediately connected with the early history of man and the modern animals, it may be proper to make a few general statements bearing on the relative importance of sea borne and land ice in producing those phenomena attributable to ice action in this period. In considering this question it must be borne in mind that the greater masses of floating ice are produced at the seaward extremities of land glaciers and that the heavy field-ice of the Arctic regions is not so much a result of the direct freezing of the surface of the sea as of the accumulation of snow precipitated on the frozen surface. In reasoning on the extent of ice action, and especially of glaciers in the Pleistocene age, it is necessary to keep this fully in view. Now in the formation of glaciers at present—and it would seem also in any conceivable former state of the earth—it is necessary that extensive evaporation should conspire with great condensation of water in the solid form. Such conditions exist in mountainous regions sufficiently near to the sea, as in Greenland, Norway, the Alps, and the Himalayas; but they do not exist in low arctic lands like Siberia or Grinnel-land, nor in inland mountains. It follows that land glaciation has narrow limits, and that we cannot assume the possibility of great confluent or continental glaciers covering the interior of wide tracts of land. No imaginable increase of cold could render this possible, inasmuch as there could not be a sufficient influx of vapour to produce the necessary condensation; and the greater the cold, the less would be the evaporation. On the other hand any increase of heat would be felt more rapidly in the thawing and evaporation of land ice and snow than on the surface of the sea. Applying these very simple geographical truths to the North Atlantic Continents, it is easy to perceive that no amount of refrigeration could produce a Continental glacier, because there could not be sufficent evaporation and precipitation to afford the necessary snow in the interior. The case of Greenland is often referred to, but this is the case of a high of mass cold land with sea, mostly open, on both sides of it, giving, therefore, the conditions most favourable to precipitation of snow. If Greenland were less elevated, or if there were dry plains around it, the case would be quite different, as Nares has well shown by his observations on the summer verdure of Grinnel-land, which, in the immediate vicinity of North Greenland, presents very different conditions as to glaciation and climate. If the plains were submerged and the Arctic currents allowed free access to the interior of the continent of America, it is conceivable that the mountainous region remaining out of water would be covered with snow and ice, and there is the best evidence that this actually occurred in the Glacial period; but with the plains out of water this would be impossible. We see evidence of this at the present day in the fact that in unusually cold winters the great precipitation of snow takes place south of Canada, leaving the north comparatively bare, while as the temperature becomes milder the area of snow deposit moves farther to the north. Thus a greater extension of the Atlantic, and especially of its cold ice-laden arctic currents, becomes the most potent cause of a glacial age.

The question remains, Has the Atlantic achieved its destiny and finished its course, or are there other changes in store for it in the future? The earth's crust is now thicker and stronger than ever before, and its great ribs of crushed and folded rock are more firm and rigid than in any previous period. The stupendous volcanic phenomena manifested in Mesozoic and early Tertiary times along the borders of the Atlantic have apparently died out. These facts are in so far guarantees of permanence. On the other hand, it is known that movements of elevation along with local depression are in progress in the Arctic regions, and a great weight of new sediment is being deposited along the borders of the Atlantic, especially on its western side, and this is not improbably connected with the earthquake shocks and slight movements of depression which have occurred in North America. It is possible that these slow and secular movements may go on uninteruptedly until considerable changes are produced; but it is quite as likely that they may be retarded or reversed. It is possible, on the other hand, that after the long period of quiescence which has elapsed there may may be a new settlement of the ocean bed, accompanied with foldings of the crust, especially on the western side of the Atlantic, and possibly with renewed volcanic activity on its eastern margin. In either case a long time relatively to our limited human chronology may intervene before the occurrence of any marked change. On the whole, the experience of the past would lead us to expect movements and eruptive discharges in the Pacific rather than in the Atlantic area. It is, therefore, not unlikely that the Atlantic may remain undisturbed, unless secondarily and indirectly, until after the Pacific area shall have attained to a greater degree of quiescence than at present. But this subject is one too much involved in uncertainty to warrant us in following it further. In the meantime the Atlantic is to us a practically permanent ocean, varying only in its tides, its currents, and its winds, which science has already reduced to definite laws, so that we can use if we cannot regulate them. It is ours to take advantage of this precious time of quietude, and to extend the blessings of science and of our Christian civilization from shore to shore until there shall be no more sea, not in the sense of that final drying up of old ocean to which some physicists look forward, but in the higher sense of its ceasing to be the emblem of unrest and disturbance and the cause of isolation.

THE BOTANIC GARDEN that is sometimes spoken of as a myth—the phrase being "if there be such a place"—is the subject of an interesting paper in *Gardeners' Chronicle*, September 11. It was originally known as the Physic Garden of the Apothecaries' Company, and dates from about 1641. It is now known as the Botanic Garden, Chelsea, and it is also known as being, for botanical purposes, a very interesting place. The worthy curator, Mr. Thomas Moore, combines botanist and florist more completely than any other living man, and we are most happy to report as the result of a recent visit to taste the mulberries there, that Mr. Moore is pretty well thank you. In one sense he is still an invalid, because he cannot roam about the world, but he roams about his garden, and the collections are admirably kept together.

Exhibitions and Meetings.

BICESTER FLOWER SHOW, September 7.

For three or four years past the Bicester Agricultural and Horticultural Association have been in low water owing to a succession of wet show days, but on the above date the weather was of the most agreeable kind, and a very large attendance of visitors crowned the endeavour with success.

The exhibition was held in the spacious pleasure grounds of Bicester House, the palatial residence of H. Tubb, Esq., who also entertained the several judges and committees and exhibitors at luncheon.

The productions filled three monster tents, in addition a host of cottagers' vegetables were displayed on the grass in the open, in company with nearly eight hundred farmers' roots, which had been entered in competition for special prizes offered by Sutton and Sons, Reading, and Webb and Sons, Stourbridge. Swedes and turnips were remarkably symmetrical, long red and globe mangels scarcely attaining to the same bulk. One fair-sized tent was devoted to eggs and butter, and a very large marquee was filled with furred and feathered subjects; the show of horses for farming or hunting purposes being a most attractive feature.

Plants.—Of stove and greenhouse there were a number of excellent specimens, the ends of the central stage terminating with a circular group of one hundred plants each, the first prize lot comprising palms, pandanads, caladiums, crotons, ferns, coleus, clerodendrons, geraniums, plumbagos, dracænas, the whole edged with adiantums, lobelias, and the pretty Caladium argyrites. The premier card was awarded to the Earl of Jersey, Middleton Park (gardener Mr. B. Hope); the second prize going to H. Tubb, Esq., Bicester House, for an arrangement of more compact, but smaller specimens, comprising eucharis, cannas, fuchsias, balsams, ixoras, liliums, vincas, and Anracaria excelsa; the outer edging being formed of Tradescantia zebrina. For eight specimens, Earl of Jersey was again placed first with prime large examples of Allamanda Hendersoni, Asparagus plumosus, Ixora Fraseri (furnished with 100 corymbs of salmon-orange scarlet blooms), Alocasia metallica, and Crotons Disraeli, Queen Victoria, Prince of Wales, and Variegatum. Sir T. Peyton, Bart., Swift's House, Bicester, was placed second for Begonia Chelsoni, Alocasia metallica, Vincas alba and rosea, Clerodendron fallax, Allamanda Schotti, and Crotons Undulatum and Johannis. In the class for four plants in flower the last named exhibitors changed places, Sir T. Peyton, leading with grandly bloomed specimens of Allamanda Hendersoni, Plumbago capensis, Bougainvillea glabra, and Statice profusa; Earl of Jersey, second, with Allamanda grandiflora, A. Hendersoni, Plumbago capensis, and Ixora Williamsi, the last carrying about 100 corymbs of bloom, the foliage being somewhat wanting in colour.

Fine Foliage Plants proved a good class: Earl of Jersey, first, with a grand piece of Anthurium crystallanium, and Crotons Johannis, Majesticus, and Weismanni; W. M. Foster-Melliar, Esq., North Aston Hall, second (gardener, Mr. C. Pearce), with Crotons Majesticum, Johannis, and Interruptum; and Alocasia metallica. For one specimen the cards went to the exhibitors in the previous class, in the order of their names, for large towering examples of Latania borbonica. Exotic ferns were specially good, all the plants being full-sized specimens; for six, the premier card was assigned to W. M. Foster-Melliar, Esq., for Adiantum Farleyense, A. amabilis, A. tenerum, Davallia Mooreana, Alsophila excelsa, and A. Nephrolepis; Earl of Jersey second, with Gymnogramma sulphurea, G. ochracea, Adiantum gracillimum, A. cuneatum, A. Farleyense, and Alsophila excelsa; Sir T. Peyton, Bart., third, with Blechnum corcodavense, Gymnogramma chrysophila, Alsophila excelsa, Adiantum formosum, A. cuneatum; and A. Farleyense.

Fuchsias were below the exhibition standard, the best four being put up by H. Tubb, Esq., who had Venus de Medici, Blue Beauty, Rose of Castile, and Dazzler; Sir T. Peyton, second, with Tower of London, Warrior Queen, Rose of Castile, and Lord Beaconsfield. Single and double flowering zonals made a show of colour, but they were not effective, owing to the trusses of bloom needing a little assistance in tying out. For six single Zonals the cards went to Rev. C. D. B. Marsham, Caversfield, and H. Tubb, Esq.; for doubles the same exhibited in reverse order.

Cut Flowers.—In this section there were many stands of roses poorly set up, but asters, quilled and French, as at the other shows, were truly excellent. Dahlias, though not an extensive display, were well-staged, the best eighteen coming from Mr. T. Anstiss, Brill, who had a fine level lot of flowers of good colour and form, in the following varieties, viz., Duke of Connaught, Earl of Beaconsfield, Henry Walton, John Bennett, James Cocker, Mrs. Harris, Hon. Mrs. H. P. Wyndham, Yellow Boy, Richard Dean, Vice-President, Mrs. Langtry, Seraph, Prince Bismarck, Condor, Ovid, John Forbes, Mrs. Gladstone, and Miss Cannell; Mr. W. Godwin, Round Hill, Bicester, second. Mr. Anstiss staged as an "extra" a fine lot of blooms of which the following varieties were noticeable, viz.: Rev. J. B. M. Camm, Lottie Eckford, Peacock, George Barnes, H. W. Ward, General Gordon, and Professor Fawcett. The great feature in this section of the show, was a collection of bunches of flowers in eighteen varieties, Earl of Jersey heading the list, with magnolia grandiflora, Clerodendron fallax, Allamandas nobilis and Hendersoni, Lapagerias alba and rosea, Bougainvillea glabra, Ixoras coccinea, superba and Williamsi, Lilium auratum, Eucharis amazonica, Dipladenia Boliviensis, Cypripedium insigne, Rondeletia speciosa major, Plumbago capensis, Dendrobium formosum and scarlet Begonias, the whole edged with rooted sprays of adiantums, and miniature specimens of the tiny Caladium argyrites; Earl of Effingham, Tusmore Park, second. Bouquets were most beautiful; Mr. P. J. Perry, Banbury, exhibited funeral wreaths, bride's, and other bouquets, and lady's shoulder sprays of exquisite style and arrangement. Messrs. Sutton and Sons, exhibited a collection of blooms representing their fine strain of tuberous begonias, which were much noticed.

Fruit was a very large feature, the premier awards in the first division going to grandly-finished clusters of Madresfield Court, Black Hamburgh, Buckland Sweetwater, and Foster's Seedling grapes; Royal George peaches; and Pine Apple Nectarines; the dishes of apricots, plums, and other fruits being very superior.

Vegetables made an extraordinary display; such carrots, parsnips, turnips, runner-beans, celery, &c., were never before seen at this north Oxon society's shows, there being no less than eight classes for collections of six dishes each and baskets of vegetables.

Potatoes were, as a bulk, large, handsome, and clean; the awards and varieties being as follows: Subscribers classes—*white kidney*—first, Mr. C. Gunthorpe, Buckingham, and second, Rev. T. K. Chittenden, Kirtlington Vicarage, with Snowdrop; *coloured kidney*—the same exhibitors in the same order with Sutton's Prizetaker; *white round*—first, Mr. C. Gunthorpe, and second, Mr. A. Clements, Bicester, with Schoolmaster; and *coloured round*—first, Rev. T. K. Chittenden, and second, Mr. R. H. Liddington, Bicester. In these classes there were handsome dishes of Blanchard, Snowflake, and Royal Norfolk Russet, unplaced. Cottagers' classes—*white round*—first, Idaho; second, Schoolmaster; third, Sutton's Seedling; *coloured round*—first, Vicar of Laleham; second and third, Reading Russet; *white kidney*—first, International; second and third, Snowdrop; and *coloured kidney*—first and second, White Elephant; third, Mr. Breseo. The total number of tubers was 1,400. In addition to the above-mentioned, there was a good show of malting barley. The general arrangements were under the direction of the hon. secretary, Mr. Arnold Cable, St. Edburg's Villa, Bicester.

WOODSTOCK HORTICULTURAL AND ROOT SHOW, September 14.

By kind permission of the Duke of Marlborough, the twenty-ninth annual exhibition of the Horticultural and Agricultural Association of this ancient borough was held in Blenheim Park, in conjunction with a large show of dogs, poultry, and other live stock. The weather was gloriously warm and bright; and a vast concourse of visitors to the show resulted, one special inducement held out being the privilege of visiting the gardens and pleasure grounds attached to Blenheim Palace, wherein are many old gnarled oaks, wide-spreading beeches and cedars. Some idea of the extent of the exhibition may be formed when it is noted that six or seven tents were needed to protect the more valuable exhibits, the bulk of the vegetables being ranged under the grateful shade of the beech trees, while the farmers' roots were displayed on the grass. Of the latter there were some 1,650 specimens, globe mangels, swedes and turnips being specially good, the turnips always coming out well in this part of Oxon in September. The schedule represented nearly 200 classes, one-fourth being allotted to "specials." The entries were large all round, the task of awarding the prizes not being completed till the afternoon had advanced, and the visitors were thick upon the ground.

As the horticultural exhibition was largely augmented by contributions sent as "extras," it will perhaps interest a few by recording the exhibits sent by His Grace the Duke of Marlborough, which entirely occupied one large marquee specially reserved. These included about 200 specimen palms, cycads, yuccas, agaves, anthuriums, eucharis, ferns, dracænas, &c., which formed a central group, the smaller specimens being carried round the sides of the tent. At each end were long tables filled with groups of orchids (120 specimens), in which vandas, cattleyas, epidendrums, oncidiums, cypripediums, odontoglossums, maxillarias, lycastes, dendrobiums, lælias, miltonias, scuticarias, sophronitis, and zygopetalums predominated; these had been selected from about 20,000 examples now under the cultivation of Mr. Bethel, the duke's head gardener. Very showy were plants of Maxillaria venusta (50 flowers each), Oncidium varicosum Rogersi (50 flowers), Miltonia Clowesi (two plants 30 spikes each), Odontoglossum odoratum (35 flowers), a nice piece of Scuticaria Steeli, its large creamy flowers densely spotted with chocolate. Cypripedium Lawrencianum was shown in good style, as were Cattleya Gaskelliana, Zygopetalum Gauteri, Dendrobium speciosum (very floriferous), Cattleya maxima (very dwarf habit), Vanda cærulea, Lycaste Skinneri, Oncidium Jonesianum, Lælia Xanthina, Odontoglossum grande, and two fine examples of Nepenthes Mastersiana, well-furnished with pitchers. There were several small plants of Anthurium Andreanum, and other new forms of anthurium were represented by finely-developed spathes.

Mr. W. Hovell, gardener to G. H. Morrell, Esq., and Mr. Holland, Wingrove, gardener to R. N. Byass, Esq., Rousham Park, each contributed a large group of decorative plants as "extras."

In the competitive classes, the best group of six plants were from W. M. Foster-Melliar, Esq., North Aston Hall (gardener C. Pearce), the varieties being Crotons majesticum and angustifolium, Allamanda Schotti, Vincas alba and rosea and Alocasia metallica; Mr. G. Jacob, Witney, second, with a nice piece of Zygopetalum Gauteri, Pandanus Veitchi, Dracæna Baptisti, Allamanda Chelsoni, Coleus The Queen, and Anassa sativa variegata; H. L. Gaskell, Esq., Kiddington Hall (gardener, Mr. Henpest), third. The other plants noticeable were the fuchsias and zonal geraniums, Mr. E. Thorne, Kingston Road, Oxford, and Mr. Joseph Bates, Blenheim Nursery, Oxford, dividing the honours with good-sized, well-bloomed specimens; Mr. T. G. Fardon, Woodstock, taking third honours in each class. Exotic ferns (in sixes) produced a number of excellent specimens from five competitors; W. M. Foster-Melliar, Esq., first, and H. L. Gaskell second; Mr. Joseph Bates being strong in the hardy class for ferns.

Cut flowers were in plenty, Mr. J. Walker, Thame, aiding the display with a number of boxes of his matchless dahlias (show and fancies, pompon, and single forms) and quilled asters, a "first-class cultural certificate and vote of thanks" being accorded to these extra exhibits. In the competitive section there were any number of good dahlias, asters, zinnias, and verbenas; the roses being fair for the advanced season, each winning box containing a fair percentage of tea-scented varieties. Mr. G. Prince's "special prize for amateurs" was awarded to Mr. E. Thorne. Quite an array of bouquets appeared in the collections of twelve each, Mr. J. Bates heading the list with superb arrangements (he also exhibiting a beautiful bride's bouquet); Mr. C. Jacob, Barton, Headington, second); Mr. George Jacob, Witney, third. In this particular section the amateurs were well to the front with tasteful arrangements.

The fruit was of the choicest, the gardener of the Duke of Marlborough staging a fine dessert of twelve dishes, including two clusters of Syrian white grapes, each weighing 7½ lbs., two of Black Alicante, dishes of Bellegarde, Palmerston, and other peaches, with plums and pears in variety, and two dozen very massive examples of Ecklinville Seedling apple; G. H. Morrell, Esq., also putting up dishes of Cape gooseberries, plums, peaches, currants, gooseberries, two fruits of Monstera deliciosa, Bon Chretien pears (beautifully coloured), and handsome weighty clusters of Black Hamburgh and Buckland Sweetwater grapes; R. V. Byass, Esq., also staging a dozen dishes of premier quality, some Pine-apple nectarines being grand in colour. The collections staged in competition included any number of good things, grapes, peaches, cherries, and figs being specially noticeable in the first division. W. M. Foster-Melliar first, and H. L. Gaskell second. The display of grapes was exceedingly large, H. K. Money, Esq., Woodstock, being premier in the classes for white and black, the hardy and other fruits being in equal abundance.

Vegetables were good all through the show, some grand collections being entered for the seedsmen's special prizes. For Sutton and Sons, six dishes, H. L. Gaskell was truly grand with Sulham Red celery, Rousham Park Hero onions, Giant leeks, Autumn Giant cauliflowers, Jerusalem artichokes, and

tomatoes; the second card going to Mr. W. Henley, Banbury, for Reading Perfection tomatoes (the finest dozen we have seen this season), cauliflowers, Snowdrop potatoes, beet, runner beans, &c.; Mr. R. Porter, Weston-on-Green, Bicester, a good third. For Webb and Sons' prizes C. A. Hanley, Esq., the Mount, Oxford, was placed first; Mr. Geo. Kirtland, Bletchington, second. In the single dishes the onions were truly magnificent, the twelve bulbs of Mr. Henpest, Kiddington Gardens, being handsome, well-ripened specimens of the Rousham Park Hero variety, eighteen inches in circumference; Mr. W. Henley second with the Banbury type, fifteen and a-half inches. Runner beans are always a specialite at Woodstock, the champion of 1885 (Mr. R. J. Johnson, 3, Walton Street, Oxford) again taking the card with three dozen pods of Neal's Ne Plus Ultra, as handsome a dish as ever passed the notice of a judge, each bean nine inches long, five-eighths wide, perfection in form, and of good colour, he beating the former champion of twelve years running (Mr. E. R. Piper, 161, Walton Street, Oxford) by about a couple of points, the latter taking the second card. Carrots, parsnips, celery, turnips, peas, &c., were in profusion and good.

Special notice must be made of the contributions to the potato classes. Of these the tubers numbered 1,100, very smooth, and of good size throughout. In the first division Mr. W. Hanley took the premier award in the four classes, with examples (remarkable for clean, handsome forms and large size) of International (white kidney), Mr. Bresee (red kidney), Bresee's Peerless (white round), and Reading Russet (coloured round)—this last was, without exception, simply a grand dish; Mr. E. Thorne being second with Mr. Bresee and Snowdrop in the kidney classes, and Schoolmaster in the white rounds; Mr. J. Akers, Stanton Harcourt, being second in the coloured rounds with a dish which had secured him prizes at Oxford, Witney, and Ensham shows. In the cottagers' division some fifty-seven dishes of twelve tubers each were staged, the awards going as follows: *White Round*: First and third, Schoolmaster; second to Idalio. *Coloured Round*: First, Vicar of Laleham; second, Reading Russet; third, Adirondack. *White Kidney*: First, International; second, Magnum Bonum; third, Snowdrop; and *Coloured Kidney*: First, Mr. Bresee; second and third, White Elephant. Mr. P. J. Perry, nurseryman, Banbury, put up meritorious dishes of potatoes named Prime Minister, Cole's Favourite, Ellingtonia, The Dean, and Crimson Beauty; Mr. E. Norton, Sandford St. Martin, near Banbury, staging Sutton's Eclipse, Vick's Extra Early, Early Sunbeam (the two last from seed obtained direct from America); and Mr. Geo. Walton, Yarnton, putting up a fine dish of Royal Norfolk Russet; and G. S. Russell, Esq., Woodstock, very handsome Magnum Bonums.

The awards in the horticultural section were made by Mr. C. Hill, Rewley Nursery, Oxford, and Mr. Gonbert, Kilburn, London.

ROYAL NORTHERN HORTICULTURAL SOCIETY OF ABERDEEN

Autumn Show.

The annual autumn exhibition of this society was opened in the Music Hall Buildings, Aberdeen, on Friday, September 10, and continued until the evening of the 11th. The show was the largest the society has yet held, the exhibits numbering over two thousand, and in every department the specimens were in the very best condition. The divisions were four in number—nurserymen, professional gardeners, amateurs, and the working classes. The large hall was occupied with pot plants, the ball-room with cut flowers and table plants, and the square room with fruit. Potatoes were the feature of the exhibition, both as regards quantity and quality, and they had a long table extending the whole length of the hall to themselves. At the last show the season was not sufficiently advanced for the vegetables and the cut flowers to show to advantage. On this occasion, however, the vegetables and the cut flowers carried off the honours, the character of the weather since last exhibition having been almost all that gardeners could wish. There has been a slight frost almost every night of the season, but the vegetable crops did not appear to have suffered at all severely, if we were to judge by the specimens exhibited.

The first division contained the exhibits of professional gardeners, and first in order come the pot plants. There were seven classes, with numerous entries in each. Class I. was for the six best plants suitable for dinner table decoration, and it brought out a capital show of crotons, dracænas, &c. Mr. Grigor, Sunnybank, took the first and third prizes, and Mr. Leiper, Torphins, came in between. The first in this class got the society's silver medal. Class II. comprised nine best plants for table decoration, and Mr. Reid, Stonehaven, with some beautiful specimens, carried off the silver medal. In this class Mr. Alex. Grigor, Fairfield, with two fine dracænas and other well-grown plants, took second place. The liliums were a fine display, but the fuchsias were not so good as they were two months ago. Mr. William Ogg, Cults, took premier position for single fuchsias; and with his begonias, occupied a similar position. Among cut flowers those best worthy of attention were the nurserymen's dahlia exhibits, for which the prizes were presented by the Town Council. James Cocker and Sons, Aberdeen, took the first prize with a magnificent collection of twenty-four double dahlias, and they were closely run by B. Laird and Sons, Edinburgh; and the same thing happened in the class of single dahlias. The best twenty-four rose blooms (open to all) were shown by James Cocker and Sons, who had an easy victory. For the best twelve rose blooms (nurserymen excluded) Mr. James Hunter, Richmond-hill, with a very fair box of roses, carried off the first prize, Mr. James Leiper, Torphins, coming in second. Mr. Reid, gardener to Mr. Baird, of Urie, showed a meritorious collection of hollyhocks.

A very interesting class was that for the best collection of twenty varieties of cut flowers and fine foliage bedding plants, for which the prizes were given by Dr. Moir. A very excellent collection from Urie House took first honours. Among the other exhibits in the professional department may be mentioned some very fine marigolds (French and African), asters, pentstemons, carnations, phloxes, &c.

The best plants from amateurs were the liliums, which were a really grand lot, and well contested. Mr. Mitchell, Aberdeen, took the first prize. In the class for two stove or greenhouse plants Mr. S. Maitland, Woodside, came first. The whole of the exhibits in the amateur classes were very creditable. In the working classes the principal competition was amongst geraniums and ferns. There was a surprising show of the former, and the ferns were also a very deserving lot. Mr. Maitland, Woodside, succeeded in taking first prize for three varieties of ferns. The dwarf hardy ferns were especially well represented. The vegetables were all of superior quality.

In determining the merits of the seven boxes of vegetables shown by professional gardeners the judges had some difficulty, as the collections were all of nearly equal excellence. Ultimately they decided to give the premier place to Mr. G. Ogg, Stralock, Mr. G. Milne, Cluny, ranking second. The boxes shown by market gardeners, though not quite so good as the professional gardeners, were a capital lot. The other exhibits of vegetables were all of fine quality, the potatoes, as already mentioned, making a specially good appearance. The challenge cup for the best collection of potatoes, six varieties, and which is given by Mr. A. Stott, of the Douglas Hotel, having been won twice by Mr. Robert Grigor, it now becomes his own property.

The fruit department naturally attracted a good deal of attention, and the exhibits were all of first-rate quality. The grapes were better represented than they have been for many years. The principal prizes go to Balmedie, from whence Mr. Stratton, the gardener, brought some very fine specimens. Mr. Forrest, gardener to the Earl of Aberdeen (Haddo House) took first prize with a capital single bunch of white grapes of excellent size and general finish. On the whole the white grapes showed a much better finish than the black grapes.

The attractiveness of the show was considerably enhanced by exhibits of cut flowers and plants, not for competition, by two or three well-known nurserymen. Among them were carnations, picotees, chrysanthemums, roses, &c., by Messrs. Cocker and Sons, Aberdeen. This firm showed at least 450 specimens. W. Smith and Son, Kintore and Aberdeen, also exhibited about 200 pot plants of great beauty and variety. The collection included about 150 herbaceous plants, amongst which were some beautiful flowering plants, liliums, &c., and about fifty varieties of gladioli. Messrs. B. Reid and Co., Aberdeen, had a very excellent table of early flowering chrysanthemums, and several handsome specimens of variegated pineapples, crotons, maidenhair ferns, and a large number of other plants. The show, which was opened by Lord Provost Matthews, was a complete success, having been favoured with good weather.

The judges were: For pot plants, Messrs. Stephen and Metcalfe; cut flowers, Messrs. Downie and McLeod; fruit, Messrs. Stephen and Metcalfe; vegetables, Messrs. Kerr and Reid; potatoes, Messrs. Donaldson and Smith. The whole was under the management of the energetic and obliging secretary, Mr. A. M. Byers, C.A., Aberdeen.

Calls at Nurseries.

MESSRS. VEITCH AND SONS, COOMBE WOOD, KINGSTON-ON-THAMES.

Amongst the several nurseries of the Messrs. Veitch and Sons at Chelsea, Langley, Fulham, and elsewhere, those at Coombe Wood, Kingston, have a special importance, by reason of the trials to which novelties are subjected, and the extensive cultivation of all the more useful garden plants of every degree and kind. The situation is peculiar, for it combines soft and severe conditions. The Coombe itself is a sheltered hollow, moist enough for rhododendrons, bamboos, and retinosporas; but on every side the land rises in a series of dry slopes that are breezy and open to all atmospherical conditions, the altitude being probably higher than the cross of St. Paul's Cathedral, and therefore, in a sense, overlooking London, but having a purer air than the average of places equally distant. In some directions a distance of twelve miles is not enough for the purgation of smoke, but here it is all sufficient, for the very good reason that there are no factory chimneys to discount the distance, as happens in many of the green suburbs that are too proximate to industrial centres. The green hills of Surrey make agreeable scenes around, and the nearness of the winding Thames increases the safety of the site as regards the relative purity of the atmosphere. Evidence of the comfortable conditions of vegetation are visible on every hand. Thousands of standard and own root roses are at this time gay with flowers; in fact, the rose quarters are brilliant, and it seems impossible that the Michaelmas goose should have already eaten enough to render it eatable. We could name places at the same distance from London where, after passing a few leaves of hollies or rhododendrons through one's fingers, there would be a fine deep mark of sootiness suggesting the use of soap as preliminary to luncheon, but here you may finger the leaves—as garden gossipers always do, because their brains are in their fingers' ends—and you will not secure soot enough to sully the brow of a saint, or raise a shadow of a doubt as to your own purity of character. The observer who is accustomed to botanical hunting will not fail to observe that many things that are reckoned of doubtful hardiness, are here perfectly hardy on the higher ground, where the soil is a good loam, and the position breezy and, for the geography, rather cold, certainly not warm. This is an old story, but one that is never completely learned, for we all rush to shelter, when oftentimes exposure should be preferred, because of later growth and more perfect ripening. Pinus insignis on a breezy slope here is complete from head to foot, and greener than any new growing grass. Clerodendron dichotomum is not only hardy in a similar position, but is magnificent in its huge growth and immense display of fragrant flowers, which are white with brownish accompaniments, most lovely and, in fact, surprising. For a musa to live out, and to be now as fresh as first love, in a damp hollow where Bambusa metake makes a gigantic growth and forms an impenetrable thicket, may be in the nature of a dream to many, but our business in this report is to declare it a fact, and one that can be verified by the eyes and hands of any unbelievers. A musa from Japan, coming very near in characters to M. onsete, has stood here over twelve months, and the last long and late winter made no mark upon it, and now it waves its fresh green leaves amid surroundings that remind a lover of books of the illustrations in the best edition of "Paul and Virginia," where the scenery of Mauritius is sumptuously pictured from sketches made from nature.

It would be quite a mistake to select any particular section of plants and say these are well done at Coombe Wood, because all things are well done, and we have in this great nursery with its wide range of subjects a capital illustration of the advantages of division and classification in a business of magnitude. There are no fruit trees here, and herbaceous plants are not conspicuous, these things being more exclusively cultivated in other of the firm's nurseries. Such subjects being shunted, the field is free for ornamental trees and shrubs, and one consequence is a glorious growth of roses, rhododendrons, conifers, and miscellaneous plants of all sorts and sizes and characters, from the new beautiful Hypericum oblongifolium to the whole range of Japanese maples, a wondrous lot that are now in the perfection of colour, and loaded with proposals to practical men of the uses to which they may be put in gardens from the colouring of the conservatory with cheap stuff of a resplendent character to the formation of glorious groups of promenade shrubs, of which, happily, there are some good examples in the parks and gardens of London. Never waste your strength on an endeavour after the impossible! That is a good rule

that many good people have not grasped, and so they aim at the impossible and simply waste their powder and shot. Now Messrs. Veitch long ago made note of the fact that the more highly coloured of the Japanese maples would not make satisfactory trees, and taking the hint from nature they gave up the attempt. Now you may see the maples of the polymorphum section, and others that are wonderful for form and colour and equally wonderful perhaps in refusing to be made into trees, treated in the way they deserve, and that they appreciate. They are kept down as bushes, and this plan may be said to kill two birds with one shot, for they make a grand growth as the result of periodical cutting back, and the practice fits them for the front line of the shrubbery where their delightful characters may be advantageously displayed for the delight of all beholders.

To draw the line between novelties and curiosities may not be an easy task, but to seize upon a few interesting subjects where they abound may be a less difficult matter. In the frame ground we have noted the following as possibly of special interest to some of our readers :—

Ardisia Japonica is likely to prove a hardy plant, and for the present certainly requires only greenhouse treatment. It is a free-growing leafy bush, bearing berries in plenty, and a great gain, therefore, to the range of cheap decorative subjects.

Hydrangea Sieboldi (provisionally named), comparable to a free-growing cornus ; and *H. quercifolia*, introduced by the Loddiges about the year 1806, a massive large-leaved plant rarely seen, the flowers sweet-scented, are especially worthy of attention. Both are hardy, and distinctly handsome. The collection of hydrangeas comprehends all that are known as in cultivation, including, of course, the beautiful white-flowered American variety, *Thomas Hogg*.

Escallonias thrive in these nurseries, and the open beds remind one of St. Austell, Ventnor, and other of the "kind climates." A quite interesting plant is *Escallonia Philipiana*, in growth like a small-leaved berberis, the flowers white. The handsome *E. pterocladon* is hardier than *E. floribunda*, and a good plant for the suburbs of London. *E. rubra* and *E. macrantha* flower here as freely as in the West of England.

Teucrium latifolium is an interesting old plant recorded by Aiton, as grown here by the Duchess of Beaufort in the year 1714. It is a free growing shrub, long jointed, the stems whitish, the smallish leaves grey green, the labiate flowers pale blue.

Prunus (*Cerasus*) *illicifolius* is a most interesting shrub here, doing well in open quarters, although we know it only as a cool house plant, and one of the most desirable for its beautiful leafage. *Prunus Pissardi*, which in some Continental gardens is labelled P. Pishardi, has been by writers mixed up with *P. nigra*, but they are as different as can well be for plants in the same genus, though both are of fine character. The first is a solemn purple-leaved tree that produces in spring a lovely show of white flowers that are followed by useful fruits. The second is a leafy green-leaved tree producing a free bloom in the style of an apple, the flowers being white tipped with rosy red.

Garrya elliptica is in great force, male and female, and it is a question which is the most beautiful. In *G.M.*, March 8, 1884, the fruit was figured from specimens supplied for the purpose by Mr. Pochin. The jet black berries are produced in drooping racemes, in a style corresponding to the delicate tassels of the male flowers. It will be all the fault of the planters now if the fruit of the garrya continues, as it is at present, a thing almost unknown.

Garrya macrophylla has enormous leaves ; a grand plant for a sheltered corner.

Pyracantha Lelandi is the name of a cratægus that in every imaginable way surpasses the old pyracantha of gardens. It makes an immense show of fruit, whether as a standard in the open, or on roomy walls, or as a pot plant for furnishing. A group of plants in the open quarters now makes a fine imitation of a house on fire without disturbing any one's peace of mind.

Wistaria (*Glycine*) *sinensis* would not call for remark, but must have a place in the list, because here are stocks of the variety *alba*, the sweetest plant of its class in the world ; and of the common blue there is a double-flowering variety.

Solanum jasminoides may be regarded as scarce, though certainly not new. here in open beds flowering superbly, the white flowers as beautiful as thing of the season, and the plant a model of free elegance.

Abelia triflora is hardy here, and is the best of abelias for general purposes, the flowers are pale yellow, tinged with pink. The one-flowered *A. uniflora* is a finer plant, with large thick and white flowers, but scarcely so hardy. The Mexican *A. floribunda* is the tenderest of the set, and requires a specially snug nest with a dry footing for the winter.

Eucalyptus coccifera may be pronounced quite hardy at Kingston, for the ees that have stood out some years are complete in their furniture, and very distinct in their dark glaucous-toned leafage. The general desire to establish the eucalyptus in gardens may be gratified thus far, this species being as good as any, though far removed from the more tender *E. globulus*, which is in general favour.

Viburnum nudum is an old plant rarely seen, but deserving of attention for its beautiful leafage. It was known to Miller, and was figured in *B. M.* in 1822. Although quite hardy it is well adapted for cool-house culture, because of its handsome foliage. The flowers appear in summer, and are without bracts, and hence the specific designation. A grand plant for walls is *V. macrocephalum*.

Olearia Haasti is one of the freest-flowering shrubs in cultivation, and quite hardy. Good companions for it are *O. macrodonta*, with greyish, strongly-toothed leaves, and *O. Fosteri* ; the last a lively bright green plant.

Indigofera floribuna is reckoned tender, but here it is perfectly hardy, and would be so in thousands of places where the subsoil is dryish. Its distinct and beautiful leafage and lively purplish or rosy flowers are much to be desired, so that as a wall plant it is of some importance.

Corylopsis spicata has not obtained the attention it deserves. When in flower it is one of the most pleasing trees in the shrubbery, while in leafage it is singularly distinct and interesting. The general tone of the hazel-like leafage is a pale blue-toned grey, distinct from all else, and on a hot summer day enjoyable for its suggestion of coolness.

On the walls of the houses, in which pot roses and miscellaneous plants are grown, are fine examples of *Elæagnus macrophyllus*, *Lonicera Japonica*, *Clematis coccinea*, *Eurya latifolia variegata*, which is grown in vast quantities in pots for furnishing ; *Berberis Fremontia* and *B. trifoliata*, two of the most interesting of this important group of plants ; *B. rotundifolia Hervei*, a fine berberis ; *Hydrangea quercifolia* has stood here for years unhurt, it is a wonder in its way ; *Rubus australis*, a quite curious curiosity ; and many species and varieties of Hedera, Vitis, Magnolia, Aristolochia, Paliarus, Ruphiolepis, Viburnum, Berberidopsis, Abutilon, &c.

Coniferous trees make a great feature in the Coombe, and all the groups are illustrated by handsome specimens as well as by young stuff. Very noticeable are such subjects as the brilliant green *Sciadopitys verticillata* and *Juniperus Schotti*, the best of the junipers for general use ; the dwarf-growing and very compact *Cryptomeria elegans nana* ; the very distinct *Abies Sieboldi* ; the best variety of *Thuia gigantea*, known as *gracilis* ; a remarkably fine growth of *Retinospora obtusa aurea*, one of the most useful of garden trees ; the curious and beautiful whip tree *Fitzroya Patagonica*, which may be pronounced a most desirable thing for a special station on a spacious lawn to display its unique characters ; *Cupressus Nutkaensis*, a very great and perfect pyramid of a soft glaucous tone of green, a better thing for clothing a parterre than the golden thuia ; *Picea Veitchi*, in the way of P. amabilis, grass green above, silver below ; *Picea pungens*, intensely glaucous, a glorious thing. The slopes on which the nursery stocks of conifers display their several characters delightfully are supplemented in the upper grounds by an avenue of Wellingtonias and Arancarias, and in the great spaces between are plantations of hollies and rhododendrons, that, by their extent, press upon the old question, "where do they all go to ?" for on every hand now planting is in progress to keep up the supply.

ASTERS AT READING.

When visiting the Reading Show on August 25, I called at the Portland Nursery of Messrs. Sutton and Sons, at Reading, to see the asters there in full bloom, and the various types, covering in the aggregate a large piece of ground, were seen to the best advantage. It was a remarkable contrast to last year, when, owing to the severe and long-continued drought, the plants made but little growth in the light free soil of the Portland Nurseries, and the trial proved a failure. On this occasion it was very different, the plants made a good start, and though later in flowering than usual, were in full bloom. But black grub was sadly despoiling the beds ; this marauder is full of the most iniquitous mischief, he moves just about the surface, and eating round the stem of the plant almost to the centre, quickly causes it to droop and die. Alas ! before his presence is discovered the work of destruction is accomplished.

There were to be seen two remarkably fine strains of exhibition asters, namely, Sutton's Giant French and the Victoria ; the former represents a very fine incurved type with the petals folded over towards the centre like an incurved chrysanthemum ; large, full, very fine, and distinct in point of colours. When well grown this type of aster reaches a height of 18 to 24 inches, and it is quite free ; it can also be seen in eight or nine distinct colours, and it is a type that does well for the centres of beds, where they can be surrounded with other and dwarfer-growing asters or other suitable plants. I think that for exhibition purposes no type of aster can beat the fine incurved flowers of the Giant French when they are presented in their best form. But too often pæony-flowered asters are shown of irregular shape, with cross petals, flatness of substance, and dull in colour. The Reading Victoria asters are a wonderful strain, because of their great size, fullness, and splendid form. I could make out something like fourteen or fifteen distinct varieties, and it would not be difficult to get a stand of twelve or eighteen blooms of different character. The Victoria aster may be termed a tall, aristocratic, and greatly refined form of the tall chrysanthemum-flowered, with large, full, massive, and highly-symmetrical blossoms. They make grand exhibition specimens, and not infrequently beat the incurved varieties ; but this flaw is often discoverable in many stands of Victoria asters, they do not fill up in the centre, and this undoubtedly detracts from their perfect appearance. To have good show blooms the plants should be grown in rich soil, well looked after, and be freely disbudded.

For bedding purposes and general garden decoration the dwarf Pæony Perfection type and the dwarf Victoria are well adapted, and they also make excellent pot plants ; the former grows to a height of about twelve inches, and the latter not quite so tall ; the former is confined to two or three colours only, the latter to five or six. Also well adapted for bedding and pot purposes are the dwarf chrysanthemum-flowered asters. Of these there are as many colours as found in any other type, and the flowers are full, bright, and effective.

I suppose that when the German raisers named these "chrysanthemum-flowered" asters, they had a knowledge only of the reflexed types of the cultivated chrysanthemums, but now that incurved varieties are so much grown, the pæony-flowered asters deserve to be termed chrysanthemum-flowered as much as any other. We certainly might speak of them as incurved asters in opposition to reflexed types ; but these two general descriptions would not cover the whole of the asters, for there are some of an intermediate character, the petals neither quilled nor flat, and the flowers neither incurved nor reflexed.

The intermediate asters just alluded to are found among the Pompone Goliath, Hedgehog, Boltze's Dwarf Bouquet, and others. They are valuable types for cutting from, though for this purpose I put them some way behind a good type of the quilled. But a firm like that of Messrs. Sutton and Sons must of necessity catalogue all the types of asters worthy of a place in the garden, because their numerous customers have such varied fancies.

The Crown-flowered or Cockade Asters are very distinct because of the central discs in the middle of a ring of some other hue ; but the flowers are never very full and strikingly handsome. In some schedules of prizes there are classes set apart for them, but the flowers at their best are never so good as the pæony-flowered or quilled. The usual rule is to have a white disc in the centre of the blossoms.

For beauty in the aster commend me to a fine type of the quilled German. By whatever name it may be known so as to distinguish the strain for delicate beauty and refinement, the quilled aster is unsurpassable among asters. But they must be grown well if they are to be seen in the best form on the exhibition table. They should have rich soil and good culture ; be mulched with manure before the plants are in bloom, and while they are at this stage. To have perfect blooms, clean and bright, to put upon the exhibition table, some shading is necessary from rain and sun, and the quilled asters are well adapted for cutting purposes, and I strongly recommend that they be grown for this purpose, but it is of the first importance to grow them well.

My ideal quilled aster is that of a large-sized flower, perfectly full and symmetrical, clean, without a tint or stain, and with a perfectly developed ring of guard petals at the base. A stand of a dozen flowers should be even in size, and with the colours so well arranged as to be in perfect contrast. I often wish, when judging cut flowers at horticultural shows, that I could re-arrange them before

the prizes are awarded, as good flowers are often spoilt by juxtaposition with others that simply kill them; deep blue and bright crimson flowers tell when properly dispersed among those of paler hues. I like to see the circle of guard petals in the incurved and reflexed types; and in both cases the centres should be well filled up, as in the case of a perfect bloom of Mr. George Rundle chrysanthemum. A little dressing greatly helps the appearance of the paeony-flowered types, when the petals cross each other not only is the symmetry destroyed, but the flowers present a confused outline to view.

I think that the most perfect bedding aster I have ever seen is a brilliant scarlet coloured variety named Sutton's Fire King. It comes nearest to the dwarf chrysanthemum-flowered type; but the flowers take on a more incurved character. Looking over the plantations of asters at Reading, nothing was so bright and effective as a large patch of this striking variety.

There are some miniature asters that are well adapted for pot culture, and they make pretty little bushy plants not more than four or five inches high, and when well grown they are full of flower. It is only dwarf asters that should be grown in pots. Tall ones do not do well for the purpose; nothing above the height of nine inches looks well when grown in this way. But the aster is pre-eminently an open-air plant, and it is for all purposes of outdoor garden decoration that I so strongly recommend it to the notice of your readers. R. DEAN.

Replies to Queries.

R.H.—"Thomson on the Grape Vine" is published by Blackwood and Sons, Edinburgh and London, price 7s. 6d. Mr. Barron's book on the same subject is published at 171, Fleet Street, price 10s. 6d.

Zonal Pelargoniums.—M.—All the Zonal pelargoniums that you require for bedding or potculture next year should be potted up at once to enable the plants to become nicely rooted before the winter. A few of the long shoots may be shortened, but systematic pruning should be deferred until February, because of the risk of the shoots that are cut back decaying. After they are potted the leaves must be removed, as they show signs of decay.

Lobelias.—G. M.—As we have frequently stated in these pages plants of the dwarf bedding lobelias cannot be depended upon to furnish a supply of cuttings in the spring, because of their liability to decay at the base of the stems during the dull and damp weather of November and December. As you have failed to obtain a sufficient supply of cuttings it will be advisable to lift some of the old plants with the chance of their surviving. Small wiry plants will be the most likely to pass through the winter safely, as they are not so susceptible to injury from damp.

Squills.—B.W.—All the squills should be planted in the autumn, but the late flowering kinds may, when more convenient, be planted in the spring. Put the small kinds about two inches apart, as when planted thinly they fail to produce a good effect. The other kinds will require more space. For spring flowering the following are the most useful: Amœna, Bifolia, Bifolia atrocærulea, Siberica, Taurica, and Verna. The best of the summer flowering kinds are Autumnalis, Campanulata, Campanulata corymbosa, Campanulata maximus, Hyacinthoides cærulea, Hyacinthoides alba, and Patula.

Galls on Rose Leaves.—Vistna sends a leaf of wild rose adorned with small round galls, some of which are on the edges others on the backs of the leaves. These are produced by a species of cynips or gall fly, each gall representing the spot where the leaf has been punctured and an egg deposited, the gall being a growth from the leaf itself caused by the irritation set up by the action of the insect. Cynips rosæ is the common gall fly of the rose, the gall of which is a pretty moss-like growth, known as a bedeguar. The galls sent by Vistna are of the size of a small pea, quite spherical and smooth, like those of the smaller galls that infest the willow and the oak.

Names of Plants.—Cilfig, Llanelly.—The green plant is Artemisia campestris, the field southern wood. The red plant is Amaranthus melancholicus ruber. E.H.—Your beautiful plant is Hydrangea Thomas Hogg. It is quite hardy, and therefore if your plant is in a pot, it will be easy to keep it through the winter; the best place for it will be a light airy greenhouse, and it may be moderately supplied with water, as hydrangeas suffer much if kept dry at any time. If it suits you to plant it out, do so in the spring, selecting for it a sunny spot and a rich deep soil. R.P.P.—1, Lotus crassifolius; 2, Eleagnus argentea; 3, Prinos glabea.

Ixoras.—A.B.—To grow ixoras successfully pot them in good fibrous peat, to which a liberal addition of silver sand has been made, and give them the assistance of a brisk temperature. Supply rather liberally with water during the spring and summer, but at other times a moderate amount of moisture will suffice. Ixoras should, as a rule, be shifted annually, preferably just before they commence to make new growth, and in repotting it is essential to provide efficient drainage, and to make the fresh soil quite firm. The temperature most suitable is from 70 deg. to 80 deg. during the summer, and from 60 deg. to 65 deg. in autumn and winter. The finest for exhibition specimens and house decoration are Amboyensis, Coccinea superba, Duffi, Findlayana, Fraseri, Javanica floribunda, Picturata, Pilgrimi, Prince of Orange, Princeps, Westi Williamsi.

Crocuses.—J. H.—To produce a rich display of colour in the flower garden with crocuses it is necessary to plant thickly, three inches being a good distance at which to put the full-sized corms apart each way. Smaller corms should be put rather closer together. The choice autumn and winter flowering species should be arranged in clumps consisting of from four to twelve corms each, according to their rarity or otherwise. In the cultivation of the Dutch varieties in pots use six-inch pots and a light rich compost. Pack the corms rather close together, and cover to a depth of about half an inch with the compost. As they are potted place in a plunge bed, as in the case of hyacinths and tulips, and when they are nicely rooted remove to a cold frame, where they can remain until they are sufficiently advanced to be taken to the conservatory. The most suitable for massing are Baron Von Brunnow, Cloth of Gold, Cloth of Silver, Golden Yellow, Lutcus, and Othello. The finest varieties for pot culture are Alfred Tennyson, Caroline Chisholm, Corregio, General Wolseley, Lady Stanhope, Lord Derby, Mont Blanc, Mr. Thackeray, President Grant, Purpurea grandiflora, Rembrandt, and Sir Walter Scott. Some of the most desirable of the species are Alatavicus, Ancheri, Aureus, Boryanus, Chrysanthus, Dalmaticus violaceus, Imperati, Longiflorus, Nudiflorus, Pusillus, Sieberi, and Speciosus vernus leucostigma.

New Plants, Flowers, and Fruits.

CYPRIPEDIUM CALLOSUM (*G.C.*, 1886, ii., 326).—Like C. argus, the lip like C. superbiens.

ONCIDIUM POLLETTIANUM (*G.C.*, 1886, ii., 326).—Probably a hybrid between O. dasytyle and O. Gardneri.

MILTONIA PRETERSIANA (*G.C.*, 1886, ii., 326).—Bulb and leaf like M. Clowesi, flowers like M. spectabilis Moreliana, but differing in form of lip.

BIGARREAU LEONA QUESNEL (*Bull. d'Arb.*, Aug.)—A cherry, with large fruit, yellow flushed with red, flesh white, juicy.

APPLE, BEAUTY OF BATH (*G.C.*, 1886, ii., 327).—A seedling from Joaneting, of medium size, striped with crimson, ripe in July and August, in flavour piquant. It has been described as resembling Small's Admirable, but Mr. Cooling, of Bath, who grows it largely, describes it as altogether distinct.

VALLOTA PURPUREA MAGNIFICA (*G.*, 561). A fine variety of a fine plant that has been rarely well grown, and though old and cheap is still insufficiently appreciated. This variety is identical with one distributed by Mr. W. Bull fifteen years ago, under the varietal name of *eximia*.

TRADE CATALOGUES.

CORRY, SOPER, FOWLER, AND CO.—*Trade Price List of Nurserymen, Seedsmen, and Florists' Sundries.*

THORBURN AND CO., 15, JOHN STREET, NEW YORK.—*American Seeds for the European Trade only.*

J. CHEAL AND SON, CRAWLEY, SUSSEX.—*Supplementary List of Dahlias.*

PAUL AND SONS, OLD NURSERIES, CHESHUNT.—*Bulbs, Herbaceous Plants, &c.—Roses, Strawberries, and Grape Vines.*

KEYNES, WILLIAMS, AND CO.—*Roses and Grape Vines.—Dahlias, Verbenas, &c.*

W. PIERCY, 89, WEST ROAD, FOREST HILL, S.E.—*Early Summer and Early October Flowering Chrysanthemums.*

N. DAVIS, LILFORD ROAD, CAMBERWELL, S.E.—*Early Flowering Chrysanthemums.*

T. S. WARE, HALE FARM NURSERIES, TOTTENHAM.—*A B C Bulb Guide.—Dahlias and Hardy Florists' Flowers.*

B. FIELD, SWAN PLACE, OLD KENT ROAD, S.E.—*Horticultural Soils, Sundries, Pots, &c.*

W. THOMSON AND SONS, CLOVENFORDS BY GALASHIELS, N.B.—*Improved Vine, Plant, and Vegetable Manure.*

JEAN DE KNEEF, GHENT, BELGIUM.—*Roses, Camellias, Azaleas, Rhododendrons.*

Obituary.

RECENTLY, at The Gardens, Moreton Hall, Whalley, Mr. THOMAS BIRTWELL, who has occupied the position of head gardener at Moreton Hall during the past sixty years, in his 90th year.

RECENTLY, at Brading, Isle of Wight, Mr. JOHN COX, many years head gardener at Redleaf, Penshurst, Kent, in his 72nd year.

ON the 12th inst., Sir JOHN KELK, of Tedworth House, Hants, in his 71st year. The deceased baronet was the youngest and last surviving son of the late Mr. John Kelk, of St. Anne's, Westminster, by his marriage with Martha, daughter of Mr. Jacob Germain, of Bloomsbury, Middlesex, and was born in 1816. He was a magistrate and deputy-lieutenant for the county of Middlesex, a major in the Engineer Volunteer Staff Corps, and sat in the House of Commons in the Conservative interest as member for Harwich from 1865 to 1868. He was created a baronet in 1874. Sir John Kelk had been a contractor for public works on a large scale in London. He served as high sheriff of Hampshire in 1884. He married in 1848, his cousin, Rebecca Anne, third daughter of Mr. George Kelk, of Braehead House, Ayrshire, and is succeeded in the baronetcy by his son, John William, who was born in 1851.

ON the 12th instant, Mr. ROWLAND MASON ORDISH, engineer, in his 62nd year. The deceased gentleman acquired eminence by his skill in the construction of roofs and bridges. He was in the employ of Fox and Henderson when the Exhibition building of 1851 was in progress, and he had charge of the re-construction of that edifice as the Crystal Palace, at Sydenham. The ironwork of the Crystal Palace at Amsterdam was designed by him, and the rigid suspension bridge at Chelsea is another example of his work.

Markets.

COVENT GARDEN.

FRUIT.			
Apples	per ½ sieve	1s. 6d. to	3s. 0d.
Damsons	per ½-sieve	2s. 0d. ,,	3s. 0d.
Figs	per doz.	0s. 6d. ,,	1s. 0d.
Filberts	per lb.	0s. 6d. ,,	0s. 8d.
Grapes	per lb.	0s. 9d. ,,	2s. 6d.
Lemons	per case	15s. 0d. ,,	30s. 0d.
Melons	each	1s. 0d. ,,	2s. 0d.
Peaches	per doz.	2s. 0d. ,,	6s. 0d.
Pears	per ½-sieve	2s. 0d. ,,	3s. 0d.
Pears, Dessert	per doz.	1s. 0d. ,,	1s. 0d.
Pine-apples, English, per lb.		1s. 6d. ,,	3s. 0d.
Plums	per ½ sieve	1s. 6d. ,,	2s. 6d.
VEGETABLES.			
Artichokes, Globe, per dz.		3s. 0d. ,,	4s. 0d.
Aubergines	per doz.	2s. 0d. ,,	3s. 0d.
Beans, French	per lb.	0s. 2d. ,,	0s. 4d.
Beet	per doz.	1s. 0d. ,,	2s. 0d.
Beans, Runners, per sieve		4s. 0d. ,,	4s. 6d.
Cabbages	per doz.	1s. 6d. ,,	2s. 0d.
Carrots	per bun.	0s. 4d. ,,	0s. 6d.
Cauliflowers	per doz.	2s. 0d. ,,	3s. 0d.
Celery	per bun.	1s. 6d. ,,	2s. 6d.
Cucumbers	each	0s. 6d. ,,	1s. 0d.
Endive	per doz.	1s. 0d. ,,	2s. 0d
Herbs	per bunch	0s. 3d. ,,	0s. 4d.
Horse-radish	per bun.	3s. 0d. ,,	4s. 0d.
Lettuces, Cabbage, per doz.		0s. 8d. ,,	1s. 0d.
Lettuce, Cos	per doz.	0s. 9d. ,,	1s. 0d.
Mushrooms	per basket	1s. 0d. ,,	1s. 0d.
Onions	per bunch	0s. 4d. ,,	0s. 6d.
Onions	per bushel	3s. 6d. ,,	4s. 0d.
Parsley	per bun.	0s. 3d. ,,	0s. 4d.
Peas	per quart	1s. 0d. ,,	2s. 0d.
Radishes	per doz. bunch	0s. 9d. ,,	1s. 0d.
Shallots	per lb.	0s. 3d. ,,	0s. 0d.
VEGETABLES.			
Small Salading	per pun.	0s. 3d. to	0s. 4d.
Spinach	per bushel	3s. 6d. ,,	4s. 6d.
Tomatoes	per lb.	0s. 4d. ,,	0s. 8d.
Turnips	per bunch	0s. 4d. ,,	0s. 6d.
Vegetable Marrows, per doz.		1s. 6d. ,,	2s. 0d.
CUT FLOWERS.			
Asters	per doz.	0s. 2d. ,,	0s. 3d.
Bouvardias	per bunch	0s. 6d. ,,	1s. 0d.
Carnations, per doz. blms.		1s. 0d. ,,	1s. 6d.
Eucharis, per doz. blooms		2s. 0d. ,,	3s. 6d.
Gardenias, per doz. blooms		2s. 6d. ,,	3s. 6d.
Gladioli	per doz. spikes	1s. 0d. ,,	1s. 6d.
Heliotropes, per doz. sprays		0s. 4d. ,,	0s. 6d.
Lapageria, per doz. blooms		1s. 0d. ,,	2s. 0d.
Lavender	per doz. bun.	2s. 0d. ,,	4s. 0d.
Lilies	per doz. blooms	2s. 0d. ,,	2s. 0d.
Marguerites, per doz. bun.		3s. 0d. ,,	4s. 0d.
Mignonette, per doz. bun.		1s. 0d. ,,	3s. 0d.
Pelargoniums, Zonal, per doz. trusses		0s. 0d. ,,	0s. 8d.
Pelargoniums, per doz. trusses		0s. 8d. ,,	1s. 0d.
Roses	per doz. blms.	0s. 9d. ,,	1s. 0d.
Roses, Tea	per doz. blms.	0s. 8d. ,,	1s. 0d.
Stephanotis, per doz. sprays		1s. 6d. ,,	3s. 0d.
Stocks	per doz. bun.	3s. 0d. ,,	3s. 0d.
Tropæolum	per doz. bun.	0s. 8d. ,,	1s. 0d.
Tuberoses	per doz. blms.	0s. 4d. ,,	0s. 9d.

BOROUGH AND SPITALFIELDS.

POTATOES.			
Magnum Bonum	per ton	65s. to	80s.
Beauty of Hebron	per ton	65s. ,,	80s.
Kent Regents	per ton	65s. ,,	80s.
Early Rose	per ton	55s. ,,	70s.
Essex Shaw	per ton	50s. ,,	70s.
Jersey Kidneys	per ton	75s. ,,	90s.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
26	S	**14th Sunday after Trinity.**	5 53	8 43	5 50	3 40	5 19	0 8	0 30	9 58	9 55	55·7	Bolbophyllum Carcyanum	Nepaul.	269
27	M	● New Moon, 9h. 19m. After.	5 55	9 3	5 47	5 2	5 50	0 54	1 20	10 19	10 45	55·5	Oncidium leucochilum	Mexico.	270
28	Tu	Metropolitan Police commenced duty, 1829.	5 56	9 23	5 45	6 25	6 19	1 44	2 4	11 9	11 29	55·4	Paphinia cristata	Demerara.	271
29	W	*St. Michael.* Michaelmas Day.	5 58	9 42	5 43	7 45	6 48	2 27	2 50	11 52	—	55·2	Stanhopea oculata	Mexico.	272
30	Th	*St. Jerome.*	5 59	10 2	5 41	9 2	7 20	3 11	3 33	0 15	0 36	55·0	Stanhopea tigrina	Mexico.	273
		OCTOBER.													
1	F	Cambridge Michaelmas Term begins.	6 1	10 21	5 40	10 17	7 56	3 55	4 16	0 58	1 20	54·7	Zygopetalum intermedium	Brazil.	274
2	S	Admiral Keppel died, 1786.	6 3	10 40	5 38	11 25	8 35	4 35	4 56	1 41	2 0	54·5	Zygopetalum maxillare	Brazil.	275

Auction Sales for the Ensuing Week.

MONDAY AND WEDNESDAY, SEPTEMBER 27 AND 29, AND SATURDAY, OCTOBER 2.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Dutch Bulbs.

MONDAY AND THURSDAY, SEPTEMBER 27 AND 30, AND SATURDAY, OCTOBER 2.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.

THURSDAY, SEPTEMBER 30.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

FRIDAY, OCTOBER 1.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

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ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, SEPTEMBER 25, 1886.

THE FUTURE OF THE COLONIAL AND INDIAN EXHIBITION is now provisionally determined, and all classes, and we might almost say all countries, will be interested in the proposals that have been made for reorganizing the affair on an imperial basis, for the widest imaginable ends, and in a form that shall be magnificently monumental. We say "provisionally determined," for when a matter of business has been discussed it still remains to be carried out, and the discussion of the proposals that have been made public is as yet in a preliminary stage. There is a fair prospect, however, that a comprehensive plan will presently appear, and will attract universal attention, and, so far as its aims extend, universal sympathy. There was wanted an idea for a fit celebration of the jubilee of the Queen's reign, and the Prince may be said to have provided it. But in truth the Heir Apparent has done more than that; he has made use of the exhibition as a finger-post to point the way to a great work in aid of the consolidation of the interests of the empire. The idea is to lay the foundations of a federation of colonies and dependencies with the mother country for all commercial, and for some social and intellectual purposes, on the broadest basis possible, and apart from everything that pertains to local politics and purely home affairs.

In a letter to the Lord Mayor of London, the Prince of Wales has proposed the founding of an IMPERIAL INSTITUTE to commemorate the approaching jubilee of the Queen's reign. The letter is probably destined to acquire high historical importance, but it is simple enough in substance, and gives but the most elementary hint of the idea it must be regarded as foreshadowing. His Royal Highness sees the necessity for "an institute which should represent the arts, manufactures, and commerce of the Queen's Colonial and Indian Empire. Such an Institution would, it seems to me, be singularly appropriate to the occasion, for it would illustrate the progress already made during Her Majesty's reign in the Colonial and Indian Dominions, while it would record year by year the development of the empire in the arts of civilization. It would thus be deeply interesting to Her Majesty's subjects, both within and beyond these islands, and would tend to stimulate emigration to those British territories where it is required, to expand the trade between the different British communities, and to draw closer the bonds which unite the Empire." The Lord Mayor responds to the Royal invitation, and will "open a fund at the Mansion House for the receipt of contributions" in aid of the proposed institution, and the next step must be the nomination of trustees to be responsible for the finances, until the organization is completed. The Royal propounder concludes his letter by suggesting "that the Institution should be under the permanent presidency of the Heir Apparent to the Throne." There could be no objection to this were there any guarantee that future Heirs Apparent would prove as good citizens and men of business as the present Prince of Wales. But history tells us in terms that are sometimes painful, and always emphatic, that princes have no monopoly of wisdom, goodness, affability, or even of the qualities of average manliness. The Jubilee of the Queen is singularly favoured by the universal esteem in which the Prince of Wales is held by all sorts and conditions of men, and at this juncture the well deserved popularity of his Royal Highness may be counted as a great feature in the glories of the Queen's reign. But in laying foundations due regard must be paid to the possibilities of the future, and to vest the presidency of the proposed institute in an accident of birth, apart from fitness or ability, would be a grave mistake. We shall hope, therefore, that when the initial letter is made the basis of formal proceedings the Heir Apparent will be appointed President, and that the word "permanent" will be dropped out of the programme.

It will be in the nature of a healthy sedative to the public at large to have this slight foreshadowing of the future of the exhibition. It transcends in interest, as well as in magnificence, all former efforts of the kind, and is well adapted the form the material basis for an organized federation of colonial interests. The difficulties that have arisen between certain producers of Australian wines and the Royal Commission, in respect of the sampling and selling of wines in the exhibition, is just such as might be expected as the result of the narrow basis on which the exhibition rests. These difficulties obtain publicity at a moment when they are likely to be particularly damaging; and yet the moment is favourable for enforcing the lesson they are bound to teach. The anxiety to make the thing pay has jeopardized the original plan; shop-keeping has supplanted commercial equality, and a certain amount of jobbery has crept in between the folds of the canvas. It is possible, moreover, that Australian wines have met with but scant favour with the British public, and this would quicken the sensitiveness of producers in respect of any supposed breach of faith. But colonial feeling will rise above all partial and personal considerations, and if the people of the old country put their hands in their pockets to promote an Imperial Institute, it is not likely that the Greater Britain will be indifferent to proceedings which must affect all our colonies and dependencies more or less, and in a way that may be in great part determined by the colonies themselves.

Amongst the Arts that should be represented in the institute, Horticulture should have a prominent place. It is a matter of immediate importance that the Royal Horticultural Society, at the present time closely associated with colonial work, should exercise a due share of influence in the framing of plans and projects in connexion with the proposed Imperial Institute. The botanical gardens that have done so much for our colonies have admirable headquarters at Kew, but horticulture has no recognized centre, although, for all ordinary purposes, the R.H.S. is generally acknowledged as such tentatively. It is time to push beyond this, and there can be no better means than participation in a work that, however circumscribed in name and location, must eventually become of world-wide importance, for where in the world should we find a civilized people indifferent to the aims or the influences of a federation of British colonies? Every colonial industry and enterprise must be of secondary importance as compared with the industries and enterprises that relate directly to the cultivation of the land. It is for the old country to lead the way in manufactures, while the younger ones supply the larder; and it is in horticultural and

botanical gardens—as evidenced in the cultivation of tea, cinchona, and a thousand other important products of colonial industry—that the first steps are prepared for every new departure in which the subjects of operation belong to the vegetable kingdom. We should have, so at least it appears to us at this moment, as one of the embellishments or appendages of an Imperial Institute some such thing as a Colonial Garden; or, if a larger term is desired, an Imperial Garden, representing in various ways the useful vegetation of the entire range of the British Empire.

"MUSHROOMS FOR THE MILLION" is the title of an admirable treatise by Mr. J. Wright, the fourth edition of which has reached us, and demands respectful recognition. * The author, in the first instance, communicated to the *Journal of Horticulture* (with which he is officially connected) a series of articles on the cultivation of mushrooms in the open ground, and these having attracted more than an average amount of attention, he was encouraged to pursue the subject, the result being the best book on the subject extant. Mushrooms have been mysteries to mankind, but, like many other of nature's productions, the mystery is only the reflection of ignorance, for although no one can pretend to understand a mushroom from head to foot, anyone with an average of mental capacity may soon understand it sufficiently to produce it as a crop or to enjoy it after it has passed the ordeal of the friendly grill. An amusing illustration of the supposed mystery of mushrooms occurred in the case of two rival gardeners, whose gardens were divided only by a wall that had a shallow footing. One made up his bed against the wall at the exact spot where the other heaped up his potting composts. The man who made the bed and inserted the spawn, and hoped to win honours at the local show with very superior mushrooms, never saw any, and, therefore, lost the prizes he had laboured for, and might, but for a cruel fate, have consigned his sorrow to some convenient oblivion. But the other man who had done nothing, as might be supposed, to promote mushrooms had all the crop from what we may call the other man's seed, for the spawn ran under the wall and the crop adorned the kindly heaps of compost. It may be said the prizes went to the wrong man; but on that point turns the moral of the story, for it must be obvious that the mushroom-maker went the wrong way to work, the man who caught the crop may be said to have done at least as much as to make a convenient place for it. When this occurred there was no handy treatise on the subject available. Mr. G. Johnson and Mr. Cuthill had both done something in the small way for mushrooms; but they only skimmed the subject, and each charged half a-crown for his skimmings. Mr. Wright has treated it from every possible point of view, bringing experience as well as learning to bear upon it at every stage; and he gives us a complete essay that we cannot abridge without spoiling it, nor enlarge without making too much of it, and for his science, practice, persuasion, and proportion he charges one shilling, which, it should be noted, is eighteen pence less than tradition requires as the capital necessary for the foundation of a fortune.

And why should we contrast the shilling—that is the price of this book—with the half-crown that is always in the pocket of the adventurous lad who becomes Lord Mayor of London, and of which there is not a word spoken until it is too late to ask if the half-crown was real or counterfeit? For the very good reason that even in these hard times, when growing stuff for the markets is like ordering a reserved seat at the parochial poor-house, mushrooms continue profitable, and are to be properly classed with products that cannot be imported to advantage for either the seller or the buyer. In common with many other products of the garden, mushrooms are supplied to us from the Continent, but they are, in the first instance, of poorer quality than those of average English growth, and they suffer something in transit, two points to their disadvantage in the market competition. In the commercial view of market gardening, and, indeed, of gardening generally, it is of importance to draw a bold line between products that keep and carry well and products that do not keep and carry well. If there be one thing more than another in which freshness is of importance, it is, assuredly, the mushroom. Long keeping not only damages the appearance and the flavour of the toothsome esculent, but affects its wholesomeness also, for while fresh and fairly well cooked, it is at once a delicious morsel and a most wholesome and nutritious food, it is far otherwise when stale or injured by bad packing or ill-treatment in the journey it may have to make from the producer to the consumer. A few good things may be named as of especial importance in view of this consideration of the superiority of fresh over stale productions. Many things suffer but little deterioration in making a long journey or in being kept some time for use, and it scarcely needs be said that many things are improved by keeping. But peas, tomatos, asparagus, and mushrooms do not keep well. It may be said that no man can thoroughly enjoy life—and we will say it without hesitation of the epicure—unless he can eat in season always, and out of season sometimes, these four vegetable delicacies, not simply fresh from the market, but fresh from his own garden; for the truth must be told that the man who has no garden knows of life only at second-hand, for it is impossible to know life properly unless you can frequently eat mushrooms from your own garden. Those who say they cannot grow them must now be referred to Mr. Wright's book, and if that does not make an end of the difficulty, all that remains to be said is that those who do not run do not win the race, and should not expect to enjoy the honours.

Mr. Wright has given especial attention in this treatise to the mushroom as a means of money-making. Now we much want a profitable industry in aid of farmers and gardeners, for, according to all current accounts, there is a loss on every crop at present, the profits being in inverse proportion to the produce; so that the less a man has to sell the more certain is he of making a living, while, as a matter of course, the man who has absolutely nothing to sell will make his fortune rapidly by selling it. It is lamentable to learn that when nature gives of her bounty the producers are, in consequence, started on the high road to ruin; but we have to hear this tale, and there appears but one consolation left to us under the depression that ensues, and it is found in the fact that we are free to believe it or reject it as may suit our tastes and capacities. That the list of profitable cultures admits of expansion there can be no doubt whatever, and Mr. Wright has done well to present the mushroom in its commercial aspects, for, after all, the business that pays those who pursue it is more advantageous to mankind than one that entails a continuous loss or that does not compensate for losses in bad times by extra gains in good times. One advantage of mushroom culture is that it is less dependent on outward circumstances than many cognate undertakings. It is, in fact, very much under the control of the cultivator, and may be advantageously pursued in places where an impure atmosphere and the bustle of human life restrict the range of rural operations. In a smoky place that will not grow roses there may be easily produced the finest mushrooms, while in an extreme case a cellar will serve as well as a garden for this particular crop, though a shed above ground is much to be preferred, however rough it may be or wanting in delicate appliances. For the domestic garden that exists solely for the comfort of a household the mushroom is the finest of all vegetables, and we advise our friends the gardeners to give it all reasonable attention, and if in any doubt or difficulty arise we further advise their immediate appeal to Mr. Wright's book.

* *Mushrooms for the Million* (illustrated). *A Practical Treatise on the cultivation of the most profitable outdoor crop known.* By J. WRIGHT, F.R.H.S. Fourth edition. (171, Fleet Street.)

SHEFFIELD AND HALLAMSHIRE GARDENERS' SOCIETY will hold its Chrysanthemum Show, November 15 and 16.

MR. J. WEBBER has been engaged as gardener at Dunster Castle, Somerset, the residence of G. F. Luttrell, Esq.

MR. F. CAPP has received the appointment of gardener at Cliffs End Hall, Ramsgate, the residence of A. Saunders, Esq.

INTERNATIONAL BEE-KEEPERS' CONGRESS.—The bee-keepers of Great Britain are about to take advantage of the presence of so many representative Canadian bee-keepers in this country, to hold an international congress of the Bee-keepers' Associations at South Kensington early next month. The interest of the congress will be greatly increased by the magnificent display of Canadian honey which has just been installed at the Colonial and Indian Exhibition. A prominent part in the forthcoming congress will be taken by Mr. D. A. Jones, of Ontario, the inventor of many of the most recent bee-keeping appliances, who has several novelties—notably a new hive—to exhibit to the members. The congress will take place in the second week of October.

A BOARD OF AGRICULTURE AND COMMERCE has been many times proposed as a necessary government department, but no sincere effort has been made in furtherance of its establishment. On Tuesday, in the House of Commons, Colonel Hill nibbled at the proposal in the usual way of a question put to the Chancellor of the Exchequer. In 1879 a resolution of the House declared that "it is desirable that those functions of the Executive Government which especially relate to commerce and agriculture should be administered by a distinct department under the direction of a Principal Secretary of State, who shall be a Cabinet Minister." Again, in 1881, a similar resolution was adopted. The Chancellor of the Exchequer holds out no hope of these resolutions being carried into effect at present.

NEW BOOKS ANNOUNCED include the following: From Sampson, Low, and Co.—"Pictorial Arts of Japan," by William Anderson; "The Manufacture of Paper," by C. T. Davis; "The Chalk and Flint Formation," by Rev. W. B. Galloway; "Australiana," by R. Henty, first white native of the first settlement of Victoria; "Pleasures of a Pigeon Fancier," by Rev. J. Lucas; Glossary of "Obscure Words in Shakspere," by Charles Mackay, LL.D.; "Wild Animals Photographed," by J. Fortune Nott; "Cucumber Chronicles," by J. Ashby-Sterry (this *must* be horticultural). Messrs. Crosby, Lockwood, and Co. announce "The Artist's Manual of Pigments," by H. C. Standage; "Painting in Imitation of Woods and Marbles," by A. R. and P. Van der Burg; "Builders' Price Book for 1887," edited by F. T. W. Miller, A.R.I.B.A.

The Value of Land is so much talked about that the sale of the Highden Estate, near Worthing, may be a matter of some interest. This estate comprises an old English mansion and 470 acres, chiefly down land, for many generations the Sussex seat of the Goring family. After a spirited competition between Colonel Godman, of Sussex, and Mr. Hamnett, the land agent, of Pall Mall, it was knocked down to the former gentleman at £30,100. In the opinion of experts this, with regard to price obtained, is the best sale that has been made of landed property for many years past, the farm rental for the entire estate being only about £200 a year.

The Annual Course of Lectures on Agriculture will be given at the City of London College, on Tuesday evenings, at seven p.m., beginning on the 5th of October, by Mr. Bernard Dyer, F.C.S., F.I.C., Consulting Chemist to the Essex Agricultural Society, Devon County Agricultural Association, &c. The lectures will treat of soils, plant-life, manures, tillage operations, live-stock, food, &c. The course will be in connection with the Government Science and Art Department, and will end in May. In addition to the college and other prizes, the Sadlers' Guild will offer a prize of £5 5s. to the student who passes the best examination in chemistry and agriculture.

The Hessian Fly stirs the minds of the agriculturists, and brings forth various proposals. A sensible course of procedure is advised by Mr. Fletcher, of Cheadle. He has urged the importance of at once ploughing up portions of stubble land and sowing on them mustard or winter tares, without manure or other expense. Such stubble land cannot be debited with rent, tithes, rates, or taxes, as these are supposed already to be paid by the corn crops now secured; the land would bring an increased acreage of good green succulent food next May, to be cut and used at once, or to be preserved in silo stacks, with the larvæ of the dreaded Hessian fly, the seed of ergot, and other pests and weeds, destroyed by the silo heating, and the land ready to be spring-ploughed for turnips.

PLANTS OF THE ALPS.

By H. Correvon, Director of the Jardin d'Acclimatation, Geneva.
Translated by R. Irwin Lynch, A.L.S., Curator of the Botanic Garden, Cambridge.

CHAPTER VI.

The Conditions of Existence of the Alpine Flora.

It is important for those who wish to devote themselves to the cultivation of Alpine plants, to know the conditions under which they grow in the natural state. These conditions, without doubt, are not found in our climate, but it is possible in many cases to supply them by artificial means. It is precisely in the search for, and in the application of these means, that rest all the secrets of cultivation. We shall attempt then to seize as well as possible, the nature of these conditions in our Alps, in order to remedy the inconvenience of the very different and sometimes deadly climate that we have for Alpine cultivation.

The first condition of growth for Alpine plants as well as for all other vegetation is the existence of a certain degree of heat. If the thermometer never rises above the freezing point, the sun may inundate the landscape with its light, without producing any movement of vegetable life, even supposing that the soil is free from snow and ice. But whilst a considerable accession of warmth is necessary to cause the plants of our plains to grow and flower, it is not the same with the plants of the Alps, where the smallest degree of heat above the point of congelation, brings the plants into life. The vegetation of the upper zones is subjected to a more severe treatment, and enjoys a summer so short and so cold that it would represent the winter for the plants of our plains. These species, however, accomplish during this short space of time the complete cycle of their annual existence.

They flower and ripen their seeds as well as do the plants of our plains. Their stunted habit, the shortness of their stems, and the smallness of their foliar organs, evidently contribute to quicken and awaken life, by sending to the flower and the reproductive organs all the sap conveyed to the plant by the numerous roots. It is necessary, however, to remember that under the conditions to which the Alpine Flora is subjected, it is able to enjoy an ardent and intense warmth, from the fact that the solar rays shine longer and more continuously upon it, and that the depth of the atmosphere is less considerable than upon the plains. But if during the day and when the sun exercises its influence, this vegetation enjoys an elevated degree of warmth, it has, on the other hand, to endure cold and rigorous nights, during which the thermometer descends sometimes to 18 deg. or 21 deg. Fahr.

A second condition essential to this rapid development of vegetable life is light. After warmth, light is the chief element in which this flora revels. At this altitude nature is prodigal of light to a much greater amount than on the plains. At the commencement of growth the Alpine flora is immediately benefited by the same amount of light that the plants of our plains receive in summer. Spring in the upper zones is retarded three or four months later than ours, or rather, to be more exact, it must be said not to exist at all. In effect, the Alpine vegetation enters upon the advantages of summer immediately after the melting of the snow, and without having to pass an intermediate season. The time of the dispersion of snow in the Alpine regions is generally that of the longest days of the year, and falls on the months of May and June. In a little time, often in a few hours, we may see the fields of snow transformed into verdant pastures jewelled with flowers. After seven or eight months of sleep the plants find themselves suddenly exposed to the most favourable conditions for their growth and development. Light, warmth, and humidity all contribute to accomplish this work, which is only interrupted by very short nights. The plants now enjoy from 12 to 14, and even 16 consecutive hours of always clear and intense light, while in our parts, on the contrary, vegetation enjoys in spring but very short and often cloudy days. Our long and warm nights, our twilights and dawns, scarcely exist up there. The much larger number with us, of dull and cloudy days, during which the light of the sun is intercepted by clouds or fogs, yet diminishes the quantity of light or exposure to sun, and so permits the foliar organs and stems to develop to the detriment of flowers. The more intense and abundant the light, the more numerous and well developed are the flowers; on the contrary, if the days are cloudy, if the light is diffuse and veiled, the secondary organs of plants become more extended and developed. It is this that explains why the Alpine plants we cultivate with us tend generally to lengthen their stems and to increase the number and volume of their leaves, to the detriment of the flowers.

A large amount of light is necessary for those plants from which we wish to obtain many flowers. The plants of the Alps, far from fearing the solar rays, on the contrary require light and exposure to sun. These plants are "reine Kinder des Lichtes" (pure children of light), as a German poet has called them; we find no fungi nor any plant that does not decidedly affect the light. Moreover, the species of our plains which are carried to the heights, are there adorned with much brighter and purer colours than they are with us. See the Myosotis in the Alps! What a delightful tint, what a charming blue! and the Bird's-eye primrose! Compare the corollas of those which grow in our marshes with those of the alpine plant. It might be said that they are absolutely distinct. The same it is with our common Saintfoin (*Onobrychis sativa*), the colour of which is so much brighter in the Alps, that some botanists have made a separate species of it. I could give many examples; but it will suffice to remind cultivators of the many disappointments they have had, when they have seen the pretty flowers of the snowy regions to produce pale and less coloured corollas than they do in their natural home. They have then understood, that the position being much shaded, it was necessary to try the plants in the sun, and they have been surprised the following year, at seeing the bright and brilliant colours of their flowers.

But if warmth and light are necessary for the development of alpine plants, there is a third condition which is indispensable, and should never be wanting in cultivation. The rays of the sun would soon destroy these delicate organs, these slender flowers, and these corollas so fresh and fine, if there were not a protecting agent to prevent the damage. This agent is water, diffused in the air in the form of vapour, and which surrounds the plant as with light gauze, thus preventing the rays of the sun from burning its organs. To prove the importance of the office performed by the moisture of the atmosphere, we may make a very simple experiment, which everyone can try. Take of a delicate species from a warm house two specimens of the same size, which have grown under the same conditions, and place one of them with exposure due south, in a dry place, so that the rays of the sun can reach it in the middle of the day. You will soon see your plant suffer, and its leaves burn under the influence of the dry heat of the sun. On the morrow continue your experiment in the same place with the second plant, but by placing this one over a basin of water, without, however, letting the pot touch the water. The sun will cause the evaporation of the water, and if the air is calm the vapour will be maintained for a certain time above the basin, and about the plant, which it will protect. It is in this manner that, on the Alps, the most delicate corollas are preserved against the injurious influence of the burning rays of the sun by the vapour which hovers over the soil during a considerable part of the day. When summer takes possession of alpine nature the soil is watered by the melting of the snow; the spongy soil holds the water for a long time, and gives it up to the atmosphere as soon as it begins to get dry. Then in the parts dominated by more elevated summits, the snow which melts during all summer on the heights supplies the alpine and sub-alpine regions with the water which is necessary to them for the maintenance of atmospheric moisture. And besides, when it does not rain the nights regularly supply rich and abundant dews, of which the effect is evident in filling the air with vapour. Later, in the months of August and September, the air is drier, as the morning dews are less heavy. It is then that the maturation of the seeds takes place, for which too great humidity would be injurious. The plant enters then upon a period of relative inactivity; it has set aside its brilliant attractions, and seems inactive. It does not the less, however, pursue an incessant work, very interesting to observe. During the period of its life the exterior parts of the plant have no need of humidity, because the seeds, in order to ripen, require to be under the direct influence of the solar rays and of dry warmth. Then, when the use of the sap is no longer required by the seed, which, when once ripe, falls, and is scattered around the mother plant, it returns to the subterranean organs, where a different work is carried on. Roots swell and are filled with nutritive juices, and bulbs store up the nutriment which is necessary for the following spring; in a word, the plant provides for its future needs. Winter is at hand. Before, however, entering upon this period of repose, it seems that alpine vegetation makes a last and supreme effort of life and development. Then are formed the flower buds of the vernal species, which must have all ready that the first sun of spring may expand the flowers.

Take a soldanella or vernal anemone just before winter, and examine the plant carefully. You will find in the centre of the rosette of leaves, well hidden in the heart of the tuft, the buds which will expand in spring. When the snow comes again to cover the soil of the mountain, the buds of the spring flowers are already formed, and are found in a more or less advanced state. It is the same thing which happens with the bulbous plants of the Cape, as well as with the plants of the steppes of Central Asia. These fully-formed buds will not have to suffer changes of temperature like the plants of the plain, because they will be covered with snow so long as winter lasts. As soon as the snow disappears and the sun regains its strength these buds enlarge and the flowers appear. There are even some precocious species, the flowers of which, in order to develop, do not wait the entire disappearance of the snow, and sometimes emerge above the frozen layer when it is thin enough to allow them to pierce it. I have noted the fact with crocuses and soldanellas, and with regard to the last, Dr. Christ* declares to have found soldanellas of which the flowers expanded beneath the snow-layer, in which they had made themselves little cavities. Since the publication of my book in French I have had the opportunity of observing more closely the work which plants accomplish in winter under the snow, and I am now certain that Alpine plants continue growing, and are not inactive as hitherto supposed. It is certainly true that soldanellas have flower buds formed when snow first covers them, but they are then so small as scarcely to be seen. These same buds, however, are ready to open immediately on the disappearance of the snow.

The last effort of growth of the plants of the Alps occasions them sometimes, under the influence of the rains which precede winter, to partly open their corollas. This happens chiefly in the inferior regions, when the winter is too long in coming, and when, in the place of the snow which should cover it, the vegetation is submitted to the influence of autumnal rains and sun. As we have seen it ready to develop in spring under the slightest influence of warmth and light, we are able easily to explain the causes which allow us sometimes to enjoy the spring flora in autumn. Who has not leaped for joy at the sight of the tufts of blue gentians and golden potentillas which, during the months of October, November, and even in winter, often adorn the sunny slopes? It sometimes happens where this phenomenon seems to be produced frequently that the plants of spring flourish during all the winter when there is no snow. Our latter winters have been particularly favourable to this

* La Flore de la Suisse et ses origines, p. 377.

advanced movement of vegetation, which is injurious of course to its flowering in spring.

Moisture is then one of the three conditions essential to the life of Alpine vegetation. It is sometimes objected that such cannot be the case concerning rock species, of which the roots penetrate into the rock, and of which the foliage is exposed to the drying rays of the brightest sun. This objection rests on the entirely mistaken ideas that are sometimes held of the nature of these fissures in the rock, which are not dry as believed. In reality, the roots of this category of plants are highly developed, and penetrate deeply into the rock; the clefts, often very deep, are preserved in a state of constant moisture, which percolates all along their walls and provides the roots of the plant with the water they need. This water escapes in vapour from the exterior opening of the cleft, which is to say, precisely where the foliar organs of the plant are situated. These plants, therefore, are found in the same atmospheric conditions as those of their sisters, which grow in the free and moist soil of the pasture. In the most arid and hottest places there is plenty of moisture in the rock-fissures. The cactuses and the various succulent plants which adorn the rocks of the plateaux of Mexico, or other countries of tropical America, are by no means deprived of moisture, as many travellers think. The roots of these plants travel far through the clefts in search of the moisture which their exterior organs require. It is an error to believe that succulent plants live upon air. A great practitioner in the art of cultivating these plants one day related to me, that, being somewhere in the neighbourhood of Naples, conversing with an amateur not convinced of what I have just said, he proposed to him to dig out a splendid plant of an opuntia, which grew from the cleft of a rock near by, to all appearance very dry. The proposal was carried out, and it was found that in spite of the great dryness of the time, and of all the land round about, the roots of the said opuntia went into a thoroughly moist medium, and penetrated into fissures where water trickled. These fissures are numerous in the calcareous rocks; they are less so in the primitive rocks.

On the subject of their existence, their functions, and of the effects which the fissures produce, Mr. A. Brun, has just given some particulars in "*Echo des Alpes*," * a work of the greatest interest and most deserving of attention. These *diaclases* which form imperceptibly under the influence of freezing and thawing, in the heart of the hardest and least porous rocks, produce considerable effect, and play an important part in the destruction of mountains. Moisture penetrates into all sorts of stone with greater or less facility, according to its nature; but there is no kind of stone that is not subject to this law. While some kinds absorb with the avidity of a piece of sugar, others, on the contrary, allow no moisture to penetrate into their microscopic interstices until after the lapse of a very long time. The rocks then are impregnated with water, and can afford to the roots of the plants they support that moderate moisture they so much require.

The plants which grow on the *pierriers* or fallen ground are equally surrounded with gentle moisture, notwithstanding the arid appearance of their habitation. Their roots, their stolons, and subterranean stems, are found in constant moisture, caused by the presence of stones which prevent evaporation. In a place, to all appearance the driest and most arid, dig up the material which covers the soil of the spot which forms a *pierrier*. If the upper layer exposed to the air and sun, is dry, it is quite otherwise down below. The nearer you get to the soil, the greater the amount of moisture you find among the stones, in short you find that the ground into which the plants thrust their roots is perfectly moist in spite of the dryness of the outside air. Accordingly we find in abundance on these heaps of stone, which appear to repel all kinds of life, the prettiest plants, the most delicate flowers, and the finest examples of development it is possible to meet with. There the freshest, the most graceful, and the sweetest flowers of our Alps delight themselves; and I will especially mention the white poppy of the "perriers," *Papaver alpinum*. Presenting a delightful appearance in the midst of the most desolate nature, this plant, in the eyes of many Alpinists, is the most admirable of all flowers. If you do not know it, reader, you have yet a new delight in store. It is impossibe to describe it to you; even the cleverest pencil cannot give its graceful contour, its snowy corolla, and its centre of golden stamens. It is not common, and is never found in large quantity in the same place. It is found at the Vergys, where you must go to admire it and do your homage. But pray do not dig it up, for that would serve no purpose. I once committed this crime and sadly repented, for none of the pieces I brought away succeeded with me, in spite of the tender care lavished upon them. On the other hand the seeds offer a sure and certain means of securing it. They are very abundant in the capsules, and it is easy to collect them during the summer and autumn. A specimen of this poppy has flowered so abundantly at Fronteney, that it was not possible to count the flowers. It was a perpetual bouquet of alabaster and gold during all the fine part of the season. It was very astonishing, the following year, to find young Alpine poppies in the different parts of the rock-work; the wind had spread the seeds which germinated and gave new plants. It is moreover on these *pierriers* so detestable to the tourist, to whom they have more than once caused bitter experience, that we find the charming *Thlaspi rotundifolium*, *Ranunculus parnassifolius*, *Viola cenisia*, *Senecio Doronicum*, *Linaria alpina*, and so many other plants which are the delights of the traveller. Let us then not speak ill of the perriers; we, who, with justice, are passionately fond of their flowers.

There is further a third case in which the rock presents itself to us as a reservoir of humidity for the benefit of plants, viz., the *lappiaz*. Every Alpinist understands this word, which recalls so many sad recollections, and vexations without end. For the sake of those who do not know it, I will say that the lappiaz may be compared to a glacier of rocks; it is a vast spread of flat rocks, which are always calcareous, and corroded and perforated in all directions by time and atmospheric agency. Never venture there at night, misfortune will happen, for nothing is more dangerous if you go astray in one of these dreadful fields of stone. Holes and clefts abound on all sides, and you cannot take two steps without meeting with these hollows hidden by shrubs and bushes and in which you may twist your foot. In these cavities, more or less deep and of greater or less depth and width, we find a vegetable earth of the best quality. It is porous, spongy, and maintained in a state of constant moisture. Therefore we are not astonished to find in the "lappiaz" of the Pergys, for example, or in others, a marsh vegetation or plants which require great humidity. In that of the Marchairuz are found the most beautiful ferns and the richest species of plants of moist and peaty regions, such indeed as are commonly designated bog plants.

I have spoken of the mould and humus in the cavities of the lappiaz, and how, it is sometimes asked, can this humus, this rich and fertile soil, be formed in these arid and isolated rocks? Many have asked how the mould is formed, which is found in the higher parts of the mountain, in the clefts of rock, on projecting ledges and on the most elevated crests, where all organic life is scarce, and where it is with difficulty that some flowering plants blossom for a few weeks. We here reach the fourth condition of existence for the Alpine flora, that of soil, which is not the least important.

In order to have an exact idea of the manner of formation of the mould on the high mountains in which all this vegetation grows, it will be well to study the subject in a part nearer and more familiar to us, where we can make a succession of excursions and observations. Let us go, for example, to the summit of the Salève, and examine attentively the rocks that are found there. We find great masses of rock, which are split, cracked, and acted upon by water and time. The cracks spread in all directions, and are more or less deep; in some places they have become so great that the stone is divided into two parts. In each of these clefts we find a vegetation perfectly established, and more or less varied. While in the latest and least extended fissures, we find only lichens, mosses, and other cryptogams, the deeper ones afford an asylum to the higher species and even to shrubs and trees. In the small fissures no mould is yet seen; the lichens attach themselves to the rock, where the moisture and some mineral matter suffice to enable them to live. The more highly organised masses, which require more nutriment, take possession of the deeper chinks, living on the detritus left by the decomposition of the lichens. In the larger and older cavities we find the phanerogams, striking their roots into a blackish, turfy humus, and finally in the still larger cavities, we find a mould, rich in nutritive substances, which sustains the life of a great number of plants, sometimes very well developed. If we occasionally visit the same localities, we soon see an increase of the quantity of humus in the clifts under observation.

It is very nearly this which takes place in the Alps, and if we could follow attentively the incessant work going on in these regions, which favours the growth of vegetation, we should observe what is of great interest. First of all, a mass of rock is detached, and goes to join the extensive *débris* in the valley which has accumulated there for centuries. The face of the rock from which it fell is absolutely naked and clean. It seems impossible that a plant can ever come to cling there and live. And yet, after fifty years, if we could return to visit our rock, we should see it ornamented with spots of colour and its irregularities covered with a semblance of verdure. It is yet only some lichens, of which the wind has transported the spores to this place, that under the influence of moisture have grown. But, later, on these lichens will extend further, they will become denser, and form a bed of mould, which will get thicker and thicker, and soon form a light soil. In this soil, some day or other, the seed of a more highly-organized plant will germinate, conveyed by one of the means of dispersal enumerated in a preceding chapter. The plant will grow, its leaves will gradually decompose, its seeds will fall around it, and germinate in their turn, and soon a new station of plants will come to animate this arid block that we formerly saw without life upon it. Thus it is that alpine vegetation extends and instals itself everywhere; thanks to the presence of lichens, which are the precursors and promoters of vegetable life.

The mould of the mountain is black, spongy, always cool and moist, and is mixed with a greater or less quantity of stones and sand. It is a humus of the richest character which furnishes to alpine vegetation all the elements it needs. From a chemical point of view this soil differs in composition. It is always mixed with a certain proportion of mineral matter, the presence of which exercises a more or less evident influence. Its composition from this point of view corresponds always with the nature of the rock predominating in the neighbourhood. The calcareous districts furnish a soil impregnated with lime, whilst in the schistose or granite regions it is the *débris* of these rocks that is found in the soil. The vegetation differs according to the mineral nature of the districts; whilst certain species affect limestone—many of them not being able to live without it—others on the contrary avoid it, and prefer the schists or granites. In our plains the alluvian and the successive convulsions which have succeeded each other, have produced such a mixture of soils, that chemical differences do not generally exist between them.

The alpine flora has then been classed into a lime-stone flora, and a granite or silicious flora. It is probable that the substance which plays the greatest part in the distribution of plants is lime. The presence or absence of calcareous matter in the ground, seems to be the cause which determines the presence or absence of certain species in a given district. By far the greater proportion of Alpine plants either love or tolerate lime-stone, while the number of species which avoid it, and are truly granitic, is comparatively small. A great number of species appear to have been modified by the chemical nature of the soil, and have given birth to varieties or new species. The granite species appear in general to be more difficult to acclimatize than others, and flourish less readily in our gardens. It is well to know, when we wish to devote ourselves to the cultivation of Alpine plants, what the chemical preferences are of the various species. Dr. Kerner, who has succeeded in a marvellous manner in transplanting the flora of the Tyrolean high Alps, to the Botanic Garden of Innspruck, has observed these details very carefully, and appears to have derived much good from so doing. He gives in his "Cultur des Alpenpflanzen" very interesting information upon this subject, and he includes a list of calcareous species corresponding to the granitic species, which have much affinity with each other. It is clearly evident that in the case of the greater number of these plants, it is the chemical nature of the soil which has formed the species. Here, however, from Kerner's list are some of these parallel species:—

Calcarious Soil.	Granite Soil.
Achillea atrata.	*Achillea moschata.*
Alyssum montanum.	*Alyssum Wulfenianum.*
Androsace lactea.	*Androsace carnea.*
Androsace hetvetica.	*Androsace glacialis.*
Anemone Alpina.	*Anemone sulphurea.*
Arenaria ciliata.	*Arenaria multicaulis.*
Dianthus alpinus.	*Dianthus glacialis.*
Draba aizoides.	*Draba Zahlbruckneri.*
Draba tomentosa.	*Draba frigida.*
Epitobium Dodonai.	*Epilobium Fleischeri.*
Gentiana angustifolia.	*Gentiana excisa.*
Hutchinsia alpina.	*Hutchinsia brevicaulis.*
Phyteuma orbiculare.	*Phyteuma hemisphæricum.*
Primula Auricula.	*Primula villosa.*
Rhododendron hirsutum.	*Rhododendron ferrugineum.*
Salix netusa.	*Salix hastata.*
Silene alpestris.	*Silene rupestris.*
Veronica saxatilis	*Veronica fruticulosa.*

* *Destruction des Arêtes des Alpes*, par M. A. Brun. *Echo des Alpes*, 1884, No. 1.

LACHENALIAS.

By W. Bradbury.

For the decoration of the conservatory during the spring months we find the lachenalias exceedingly useful, and accordingly grow a rather large stock. When properly grown they are very attractive, and they differ so materially from the other bulbous plants which may be had in bloom at the same time, that they present a very pleasing contrast to them and afford a welcome variety. Their cultivation is so simple as to be well within the means of the amateur with limited appliances for plant-growing, and they are not very expensive. In taking into consideration their cost it will be well to remember that a beginning may be made with a very few bulbs of the several varieties, as they increase with sufficient rapidity to admit of a moderate stock being raised in a comparatively short time.

The number of species and varieties in cultivation is so small that the cultivator will not be greatly perplexed in making a selection. They are all worth growing by those who have a fair amount of glass accommodation, and those who have only a greenhouse and a few frames may with advantage have half-a-dozen sorts, because of the difference in the season of flowering. If for any reason it is considered necessary to limit the selection to two kinds, preference should be given to L. Nelsoni and L. pendula, which differ widely in the colour of their flowers, but agree in being very free and in producing large and handsome spikes of flowers. The first-mentioned is a comparatively new hybrid with stout spikes of bright golden-yellow flowers, and the second produces bright red flowers tipped with green and yellow. Other good kinds comprise L. aurea, an excellent species, the spikes of moderate height and the flowers bright chrome yellow; L. quadricolor, a very handsome species, with large bright red and yellow flowers and richly spotted foliage; L. rubida, a rather rare species, bearing deep ruby-red flowers and well-marked foliage; L. luteola maculata, flowers yellow shading to green, the foliage freely spotted; not quite equal to either of the other two yellow forms, but well worth growing; L. tigrina, very distinct, the flowers large and sulphur white, very early; L. tigrina Warei, a beautiful variety, with yellow and red flowers, flowering later than the type. From these the cultivator may select according to the colours for which he has a preference without difficulty. There will not be any risk of having one that is indifferent, because they are all more or less good, and differ but little in relative merit.

The cultivation of lachenalias in suspended baskets is sometimes recommended, but I know of no practice in plant-growing that deserves such hearty condemnation. We are told to line wire baskets with moss, and then insert the bulbs in the lining with their crowns outwards, and fill the basket with the prepared compost. This being done, the surface is to be thickly planted with bulbs. In due course the foliage and flower-spikes push through the sides and above the surface, and completely hide the whole of the basket. When so grown and in full bloom, lachenalias, we are assured by the advocates of the practice, produce a striking effect. I am willing to admit that the effect is striking, for I have been much struck, when looking at the basket, with astonishment that anyone could be found to grow these bulbs in so barbarous a manner. If you would enjoy to the full the elegant flowers and the rich glossy-green leaves with their varied markings, you must grow the bulbs in pots or pans, but the former are decidedly the best. When pans are used they ought to be comparatively deep, and not exceed nine inches in diameter. The mention of pans reminds me of the obnoxious pyramids that are occasionally met with in gardens. The grower who believes that the lachenalias appear to greater advantage when in the form of a pyramid proceeds in the following manner:—he takes a pan, say fourteen inches in diameter, and spreads a layer of crocks over the bottom; he then places a twelve-inch pan on the crocks and fills the space between the two pans with soil. The twelve-inch pan, in like manner, has a layer of crocks spread over the bottom, and a ten-inch pan placed in it. This proceess is repeated with eight and six-inch pans, the spaces round the sides being filled with soil. The top pan, after having a few crocks put in it, is also filled with the compost. The bulbs are planted about three inches apart in the several ledges formed, and over the surface of the top pan. By this arrangement a huge pyramidal mass of foliage and flowers is produced, but I must confess to an inability to appreciate the beauty which pyramids are said to possess.

I use five and six inch pots in equal proportion for each of the several kinds, and am well satisfied with the results. The plants appear to the best advantage when grown in these size pots, and they can be readily utilised in small or large groups in the conservatory, and are available for placing in fancy baskets or other receptacles in the drawing-room or other of the indoor apartments. The pots have an inch layer of rather small crocks placed in the bottom, and are then filled to within about half an inch of the rim with a mixture consisting of mellow turfy loam, well-rotted manure, leaf-mould and sand; the proportions being four parts of the loam to one each of the sand, manure, and leaf-mould. The soil is pressed moderately firm, and the bulbs are planted about two inches apart each way, the outer row being almost close to the sides of the pot. The potting may be done at any time during August and September, when the bulbs are at rest. After they are potted, place in a pit or cool house where they will be safe from frost, and keep the soil just moist until the leaves begin to make their appearance. Very little water will suffice for the purpose, and great care must be taken in supplying them with water; but a little moisture is absolutely necessary, as the bulbs will start very slowly indeed, if at all, in soil that is quite dry. After they begin to grow the supply of water must be increased, and when in full growth they require an abundance of moisture. It is, indeed, a very good plan, when they are in bloom, to place the pots in saucers and keep them filled with water. The flowering season may be considerably accelerated by placing the plants as soon as they have commenced to grow freely in a structure in which they will enjoy a temperature somewhat higher than that of the greenhouse. A house in which bouvardias are grown will suit them admirably, and they will make good progress when placed with cyclamens required for early flowering. As well-developed foliage is not less necessary than good flower-spikes, it is essential to place the plants in a light position, and as near the glass as practicable when they are pushed on in warmth during the winter. The plants that are grown in a cool pit or house throughout the winter will make their growth under more favourable conditions as to light, and it will not be necessary to provide them with a place very near the glass at any stage. But they must enjoy uninterrupted light until at least they are coming into bloom, or the foliage will become drawn and the plants lose much of their attractiveness.

COLOUR IN TREE SCENERY.

The weather of the past summer has been well suited to the requirements of deciduous trees with golden and bronzy leaves, and as the result of the favourable conditions under which the growth has been made the foliage has taken on a brilliancy of colouring, which, in the course of a rather long experience, I have not seen surpassed. But if these trees are not in the general run of years so bright in colour as they have been from early in the summer until the present time, they are in the most unfavourable seasons sufficiently well coloured to produce a rich effect and make their mark on the landscape. I have long taken an interest in trees with foliage other than green in colour, and have done much to encourage their planting. Therefore, whilst the impression that has been produced by the rich colouring of their leaves is still fresh, I would like briefly to refer to the claims they have on the attention of planters, and to point out a few of the best. Although the facility with which perfectly distinct and very beautiful effects may be produced by the judicious use of these trees has been again and again pointed out, planters appear to be afraid to step out of the beaten track. In consequence of this fear we see throughout each planting season the commonest of the deciduous trees being planted on all sides to the exclusion, in all but a few instances, of those remarkable for the distinctness in the colour and form of the foliage. It is quite time that something should be done to obtain for the trees having richly coloured leafage the attention they so well deserve, and I would suggest, as one of the best means for accomplishing the desired end, that those who contemplate having alterations made in either shrubbery or plantation should visit some of the nurseries where ornamental trees are largely grown, before the fall of the leaf.

The trees with golden leafage form a comparatively large and very important group. The majority of the kinds present a pleasing appearance planted singly on the lawn, but they are the most effective when arranged in the shrubbery border or planted to form bold masses along the front of ornamental plantations, as a dark green background is required to bring out their distinctive colouring to the best advantage. The Golden Alder, *Alnus glutinosus aureus*, although mentioned first, is by no means the best of the golden leaved trees; but it does well in soil that is naturally moist, and will therefore be found useful in many places. Golden Catalpa, *C. syringæfolia aurea*, does not retain its colour so well as could be desired in dry and hot seasons, nevertheless it is a most desirable tree, and worthy of a place in the choicest position in the garden. Golden Poplar, *Populus canadensis aureus*, combines a vigorus habit with very richly coloured leafage, and is specially adapted for planting in quantities in parks and ornamental paddocks. Golden Oak, *Quercus concordia*, may well be described as the very finest tree of its class, for with the richness of colouring of a croton it combines a neat and surprisingly vigorous habit. Golden Elder, *Sambucus nigra aurea*, is a shrub rather than a tree; but it is so robust in growth and effective in colour that it should be planted rather freely where it is desired to produce rather large masses of golden leafage at a comparatively small cost. It does well in towns and in exposed situations. There are two Golden Elms of great excellence, the scientific names of which are *Ulmus Dampieri aurea* and *U. Roseelli aurea*; both are robust in growth and they have foliage of pleasing shades of lemon-yellow, and are about equal in value.

The purple-leaved trees are more numerous that those with golden foliage, but it will suffice to indicate a few of the best only. Purple Beech, *Fagus sylvatica purpurea*, is too well known to need comment. Purple Birch, *Betula alba purpurea*, is a very handsome form, differing from the type in having leaves of a rich bronzy purple colour. In usefulness it is equal to the beech, as it combines a free growth with rich leaf colouring. Purple Poplar-leaved Birch, *B. populifolia purpurea*, as yet but little known, is a new variety, with leaves large in size, and of good colour, and will be found a useful addition to its class. Purple Plum, *Prunus Pissardi*, which has been introduced during the past two or three years, is proving a tree of great value. It is exceptionally free in growth, and the leaves are of a very rich purplish-crimson colour. It is especially adapted for the shrubbery border. Very effective also is the Purple Peach, *Amygdalus persica purpurea*, which is so freely planted in the shrubbery on the eastern side of Battersea Park. The habit is free, and, like that of the plum, the foliage is very rich in colour. Purple Elm, *Ulmus montana purpurea*, is rather sombre in tone, but it makes so good a companion to the elms with golden leaves, that it has been considered advisable to include it in the selection.

Practical Planter.

TULIPS.

LACKING the delicate hues and the massive appearance of the hyacinths, the tulips make ample amends by their distinct character and brilliancy of colouring, and as the bulbs of all the varieties, with the exception of those recently introduced, are obtainable at a very cheap rate, they should be grown in large quantities for general decorations. As in the case of the hyacinths, it is necessary to begin early, and thus give the bulbs plenty of time in which to become established. An effort should be made to have the whole of the bulbs potted before the middle of October. It will be an advantage to have the work completed by the end of the current month, because every day is now a direct gain. I do not purpose dwelling upon this point, because what was said with reference to the importance of potting the bulbs of hyacinths before the autumn is far advanced applies with equal force to the tulips. But it may be useful to state that first-class examples for exhibition cannot be had when the potting is long delayed, and also that those forced for the supply of early flowers will not bloom satisfactorily unless they are well rooted before they are placed in the forcing pit or other heated structure.

The tulips are especially useful for mid-winter decorations, because of their bright colours and the facility with which they can be had in bloom thus early. The number of varieties adapted for flowering during December and January is extremely limited, the most useful being the several forms of the ever popular Duc Van Thol. The double variety, which has red and yellow flowers, is the cheapest, and should be grown in quantities for flowering in January. For December decorations the single forms are the most suitable, and the best of these are the Crimson, Scarlet, Rose, and Yellow. The White variety is very fine, but the flowers of the rose-coloured form come so very pale in colour that they can be employed for all purposes for which white flowers are required. The White Van Thols which are seen in Covent Garden and other markets at Christmas are the flowers of the rose-coloured form, the price of the bulbs of the white variety being at present so high as to prevent its being grown for market purposes. Vermilion Brilliant (single scarlet) and Tournesol (red and yellow) can alone be recommended for very early flowering.

In the preparation of a display of tulips at mid-winter, the cultivator has two distinct courses open to him. The bulbs can be put in pots in accordance with the practice which prevails in most private gardens, or they can be started in pans or boxes, and be transferred to the pots when in bloom. If the number is small there will not be any great advantage in departing from the beaten track, but where several hundred bulbs are forced, they should, in the first instance, be put into boxes. There is a saving in labour and space when boxes are used, and the made-up pots usually have a more effective appearance than those in which the bulbs have been grown from the first. The bulbs of the Van Thol differ somewhat in the time of flowering, and it occasionally happens that the flowers of one of the plants in a pot will be quite past its best before those of the others have expanded, and it is quite impossible to prevent it. When the pots are made up with plants brought to the flowering stage in boxes, they can be selected according to their stage of development, and each pot be filled with plants that can be depended on to bloom simultaneously. In growing them in pots use those five inches in diameter, and put three bulbs in each. When they are started in boxes or pans, put a thin layer of crocks in the bottom, and after covering the drainage material with a little of the rougher portion of the compost, fill the receptacle to within two inches of the upper edge with the soil, which must be pressed moderately firm. On the surface arrange the bulbs two and a-half inches apart each way, and cover them with sufficient soil to leave the top of the neck just visible above the surface. The market growers usually put the bulbs two inches apart, but as the plants generally become rather drawn when put that distance apart, two and a-half inches should invariably be allowed. To transfer the bulbs from the boxes to pots, baskets, or other receptacles, is a very easy matter, the proper time for moving them being when the flowers are beginning to show their colour. They must be handled with a moderate amount of care, to prevent damage to the flowers or foliage, and be neatly arranged. Any light material that is available may be employed for packing about the roots.

The later and more robust sorts should be grown in pots, the best course, in the majority of cases, being to put them in six-inch pots, three bulbs in each. The compost for these, as indeed for all the tulips, should be the same as advised for the hyacinths, and when required for bulbs that are to be exhibited a little additional care should be bestowed upon its preparation. The pots must be efficiently drained, and the soil be pressed moderately firm about the bulbs, the neck of which should show just above the surface. As they are potted place the pots on a bed of coal ashes or a hard surface, and cover to a depth of about nine inches with some loose material, for, like the hyacinths, the tulips ought to be kept in darkness until the bulbs have partly filled the pots with roots. They must not remain in the plunge bed longer than is necessary to effect the desired end, for leaves that make any considerable proportion of their growth without the aid of light and air are invariably so wanting in substance as to fall about and have a most ungainly appearance when full grown. In forcing the tulips the chief points are to bring them along steadily and to place them where they will enjoy the fullest possible advantage from the light. For those intended for flowering without forcing a rather warm and well ventilated pit will be the most suitable, as they make a short stout growth, and come into bloom considerably in advance of those in the open when placed under the conditions which the pit affords.

The list of varieties need not be a long one, but more pleasure is obtained from a fairly representative collection, than from large numbers of plants of two or three varieties, the selection should not be unduly restricted. The following are the single varieties that can be specially recommended:

Bride of Haarlem, white, beautifully feathered with crimson; flowers large and of fine form, well adapted for exhibition, for which alone it can be recommended, because of the high price of the bulbs.

Chrysolora, rich yellow, the flowers of full size and good shape.

Cottage Maid, pink, shading to white; a useful variety for decorative purposes.

Crown Prince, dark crimson; a bold and handsome flower of considerable value for exhibition.

Fabiola, rose purple and white; flower of good shape.

Joost Van Vondel rose crimson, slightly flaked with white; one of the best both for the exhibition stage and the conservatory.

Keizer's Kroon, crimson scarlet, with clear yellow margin; a grand variety for all purposes.

Ophir d'Or, rich golden yellow; the finest of its colour, and invaluable for exhibition.

Pottebakker, deep scarlet, a large well-formed flower. The white and yellow forms of this variety are remarkably fine and well able to do good service in a close competition.

Proserpine, dark rose, invaluable for exhibition, the flowers being large in size and of grand form.

Rouge Luisant, deep rose, the flowers very large, and finely formed.

Thomas Moore, rich orange, a useful variety for decorative purposes.

Van der Neer, purple, a distinct variety, of considerable excellence.

Vermilion Brilliant, rich scarlet, the flowers of full size and excellent shape; the best of its colour for pot culture, whether intended for exhibition or the conservatory. C.

VERBENAS AS ANNUALS.

I THINK that one of the prettiest floral sights I have seen for some weeks past was a group of seedling verbenas in several distinct colours represented by selected white, blue, and scarlet varieties, and by mixed striped varieties also. The season had suited them, the plants had made a generous growth, and they were masses of colour. The white is pure; the blue definite, deep, and good; the scarlet very bright indeed, it appeared to be a reproduction of Robinson's Scarlet Defiance, a very popular bedding variety many years ago, and one that was grown for many years. Then there were beds of mixed varieties, and really when verbenas are used in this way in beds they are seen to the best advantage, and when one of them is at its best the flower garden presents no more pleasing floral picture.

These verbenas had all been treated as annuals, that is to say the seeds had been sown, and the plants bloomed in one season. The seeds were sown in heat in February; the plants were put out in dull weather during May; the roots soon got active in the light, free soil, and then it was one triumphant progress until they were the beautiful masses of flower I saw. It is, therefore, no longer necessary to treat the verbena as a biennial when it is raised from seed; those having a little heat at their command can raise and bloom plants in less than six months. This saves a great deal of trouble in the way of taking cuttings of verbenas in August and September, striking them, and keeping them through the winter; and then they are scarcely ever so robust, or produce so many flowers, as those raised from seed sown in February. Even those who have a garden but no heat can have no difficulty in getting some gardening friend who has heat at his command to raise a little stock, which is a kindly action gardeners are as ready to do for one another as any other class of workers.

New verbenas are not so numerously produced as they were some years ago, when Charles J. Perry and Henry Eckford made so much progress with them. Mr. Perry, unfortunately, bred so much for size and form of pip and truss, and so little for habit, that he unconsciously did much to rob the flower of its popularity. Later on—say five or six years ago—Mr. J. F. Mould, nurseryman, of Pewsey, Wilts, raised some fine varieties, and used to show them in grand form at some of the exhibitions held in Somersetshire and Wiltshire, but in course of time he ceased to grow them. Meanwhile Mr. W. H. Stacey had made a speciality of the flower; and for a few years past he has obtained some very fine varieties, characterized by great size, stoutness and form of pip, and bold trusses, but as they are only seen in a cut state, it is difficult to say how they are in point of habit—a matter of moment in the case of an out-door plant like the verbena. At one of the early summer meetings of the Royal Horticultural Society in the present year, Mr. W. H. Stacey produced a collection of his own varieties, flowered under glass of course, but very fine and highly developed. I made a note at the time of the following varieties as forming the cream of the collection: Acquisition, clear bright rosy cerise, fine and effective; Purple Queen, clear pale purple, with white eye; Compacta, white tinted with pink; Oracle, Distinction, and Mandarin, three very fine striped varieties that should make excellent exhibition flowers; Orion, carmine and cerise, pink eye; Purple Emperor, deep purple; General Gordon, shaded scarlet, with white eye; Lilacina and Mabel, two charming lilac-coloured varieties; and Ophelia, deep pink, with pale eye, very pretty.

Some of these, or similar fine varieties, are badly wanted in the West of England, where, at some of the leading exhibitions, verbenas are still shown as cut flowers. Take the recent show at Bath, for instance, where there is perhaps one of the finest exhibitions of cut flowers held at that season of the year. Prizes were offered (not very high in amount, it must be acknowledged) for collections of twelve varieties of verbenas, not more than six stems to form a bunch, but as a rule they were very poor, the flowers small; the colours poor, and many of the trusses were faded almost before the stands could be examined by

the judges. One wonders that such inferior varieties are grown, unless they were good varieties badly cultivated. Mr. Stacey and others will cut trusses of verbenas, take them a long distance, then set them up, and they remain fresh for a day; but at Bath, by two o'clock in the afternoon scarcely a truss was fit to be seen. Small as the money prizes were, they were large enough for the flowers shown; and perhaps the knowledge that the prizes will be awarded tends to keep low the level of quality seen in the flowers generally.

But verbenas in pots are well done both in Wiltshire and Somersetshire, and when at their best they make a fine display in an exhibition tent. They are grown in large pots—much larger than one would deem necessary for the purpose—and the plants are trained to sloping oval or circular wire frames, and thus a mass of bloom is presented to a front view. But when foliage and flowers are both good, and the latter plentiful, one can put up with the formal training employed. Verbenas, when well grown and bloomed, are a feature of great interest in an exhibition tent. But they are by no means popular just now. The time may come when they will be to the fore again. Flowers have their periods of decline and revival, and the verbena, now passing through time of decline, may have in store for it, ere long, a season of glorious revival.

R. Dean.

Calls at Nurseries.

MR. T. S. WARE'S HALE FARM NURSERIES, TOTTENHAM.

The delightful weather which has been experienced for some time past has been highly favourable to dahlias, and in consequence they have throughout the current month, as indeed for some time previously, produced their flowers in wonderful profusion. The dahlias in the Hale Farm Nurseries are no exception to the general rule unless it be that they are blooming above the average. They are certainly flowering as abundantly as could be desired, and the immense breadths when we saw them a few days since presented such a brilliant appearance that we should not be surprised to hear the majority of the visitors have been converted into dahlia fanciers. All sections of the flower are grown in large numbers and with a skill beyond all praise, but those to which special attention is paid are the single, pompon, and decorative varieties of which the collections are remarkable for their extent and the number of novelties included in them. The attractions of the nurseries are not at the present time limited to the dahlias, for the large collection of early flowering chrysanthemums is now at its best, and the quarters devoted to the hardy perennials contain much to interest.

Single Dahlias have long received the special attention of Mr. Ware, and the majority of the fine varieties at present in cultivation have been raised in the Hale Farm nurseries. Several acres are devoted to them, for in addition to those in the home nurseries, there are large breadths in the nursery on the east side of the railway. Foremost amongst the varieties that have been selected for distribution next season is

John Downie, a very fine variety, bearing flowers of rather large size, with broad over-lapping florets, and of a brilliant scarlet hue. In perfection of form and richness of colour this quite surpasses the scarlet flowers at present in cultivation, and is indispensable for exhibition.

Mrs. James Daniels is highly attractive, the flowers white, margined with bright scarlet.

Huntsman claims attention for its brilliancy of colour; the flowers are of average size, and of a rich vermilion scarlet hue.

Miss Gordon represents a quite distinct style of colouring, the flowers are of medium size, perfectly circular, and very stout in substance, the colour golden yellow round the disk, and a broad sharply-defined outer band of crimson suffused purple.

Conspicuous amongst those distributed last spring are: Amos Perry, Albert Victor, Mrs. Hewett, Squire Gammie, Mr. Kennett, and Mrs. Coninck, which have been fully described in the reports of the recent exhibitions and meetings. It will suffice to say that they are all as effective in the garden as they are on the exhibition stage. It may be useful to state that Mrs. Coninck, which has pure white flowers shading to mauve, quite supersedes Dorothy Fell, beautiful as that variety unquestionably is, and Lady of the Lake, and is invaluable for contrasting with the dark varieties. Mr. Kennett has large flowers striped with crimson on a golden ground, and is the most effective of all striped varieties. Amongst those distributed in 1885 that well deserve special mention are: Chilwell Beauty, the flowers buff-edged with scarlet, and very freely produced; Marion Hood, white, shading to pink; Miss Linaker, bright cherry red, very free and good; Thereis, white striped with rose.

Decorative Dahlias, of which the well-known Juarezi is the type, have a large area devoted to them, and fully justify the attention they receive. One of the most important novelties in the section is *William Pearce*, which received the distinction of a first-class certificate at South Kensington the other day. The blooms are very similar in size and shape to those of Constance, and are of a rich yellow colour. The flowers are exceedingly attractive in colour, and are produced very profusely, and well above the foliage. In freedom of flowering it surpasses the other varieties in the section. Mrs. Hawkins, of which an illustration was given in our issue of January 9 of the current year, has more than justified expectations, and has already attained to a high degree of popularity. The blooms are very large, elegant in shape, and of a delicate primrose colour, passing into creamy white and delicate rose. In contrast to this is Cochineal, a very handsome and rather dwarf variety, producing rich crimson flowers. Constance and Mr. A. W. Tait must be mentioned as two useful white decorative varieties. Prince Alexander, buff striped crimsom, and King of the Cactuses, crimson, with flat twisted florets, are two novelties that promise to prove useful for their distinctness of character and colour.

Pompons which have a place near the entrance to the nurseries comprise a few novelties, and all the best of the established varieties. Four of the newer sorts were made note of as being especially good, and these were Eli Millard, an exquisitely beautiful variety, the flowers small with fringed florets, and of a delicate blush pink hue; Catherine, bright yellow; Darkness, blackish marone; and Fashion, bright orange. From the general collection eight were selected as of special value for garden decoration, the plants being neat in growth and free in blooming, and the flowers of good shape and effective in colour. The selected varieties were Dora, primrose and white; E. F. Jungker, amber; Favourite, marone; German Favourite, crimson lake; Isabel, bright scarlet; Mdlle. Valentine Faconet, white, striped with rose; Triumph, scarlet; and white Aster, white, with fimbriated florets.

Early-flowering Chrysanthemums are especially interesting, for the collection comprises all that are worth growing, and the several varieties are grown in large numbers, and so arranged that their relative merits can be readily seen. Canari is a comparatively new variety, with bright yellow flowers, which are of good form and very freely produced. Mignon is a dwarf and free variety, with flowers that may be likened to golden buttons; Fiberta and Flora, two yellow forms of comparatively recent introduction, are both good, and must have a high place amongst the yellow pompones flowering early in the year. Especially deserving of attention is Madame Leoni Lassali, a reflexed variety, dense in habit and very free in flowering, the blooms are of medium size, very full, and of good form, the colour white with light yellow centre, which passes with age to creamy white. Hardly less noteworthy is Early Blush, a very free blooming pompon, bearing in huge clusters comparatively large finely-formed flowers of a bright rose colour, changing with age to blush white. Mrs. Cullingford, Mdlle. Jolivart, Nanum, and Perpetual Torlosain are now too well known to require comment, but it must be said that they still hold a high position in their respective shades of colour.

Hardy Flowers are more plentiful than might be expected for so late in the season. The lilies are now limited to the varieties of Lilium speciosum, of which there is a very beautiful display. The varieties of this beautiful lily are very numerous, and the majority are sufficiently distinct and good to justify their being grown by those who have plenty of space at command. There are varying degrees of merit in them, and the best of the high-coloured forms is L. speciosum purpureum, the flowers of which are of a bright ruby-red, with light margin. The finest of the white varieties is L. speciosum album verum, which surpasses all the others in the size, shape, and the purity of the flowers.

Other interesting subjects comprised the Michaelmas Daisies, now in great force; Watsonia rosea, a beautiful species producing tall branched spikes of a rose-coloured flowers, similar in size and shape to those of the early gladioli, Campanula grandiflora, a very handsome species, large flowers; Iceland poppies in variety; Helianthus gigantens, one of the tallest and most elegant of the perennial sunflowers: and Zauschneria Californica and its brilliantly-coloured variety, Splendens.

LIGHT AND WATER COLOURS.

The question of the permanence of water colours, and the consequent influence of exposure on the beauty and value of water-colour drawings, has been discussed at length. The subject *in extenso* does not come properly within our purview, but one contribution to the discussion is of universal interest, and the pith of it will be acceptable to very many of our readers.

Mr. William Simpson, of 19, Church Road, Willesden, reports on a definite experiment, the nature and results of which we shall, by a reproduction of a portion of his letter in the *Times*, of September 13, enable him to state in his own words. He says:—

"Washes of colour have been exposed for 15 years, and portions of the same wash were preserved from the light, and they can now be compared. The list embraces 31 pigments, including the most of those generally used by water-colour artists. The washes were made in stripes upon cards; and the cards afterwards were cut in two, so that the exposed and unexposed tints could be compared exactly where they were separated.

"The exposed slips were pasted on a sheet of paper, and placed in a frame, which was hung on a shutter of a window with an eastern light; and from the position the sun shone—when it chances to shine in this country—on the colours till about ten a.m. During the rest of the day the fullest force of the light which was possible in the room was upon them. Here they remained for 15 years. It will be understood from this that the test has been a very severe one, and one that no water-colour drawings of any value are ever likely to undergo.

Here is the list of colours, and it speaks for itself: Yellow ochre—unchanged. Indian yellow—has faded considerably. Lemon yellow—is not perceptibly affected. Gamboge—has faded. Newman's permanent yellow—unchanged. Cadmium yellow—this has not faded, but has seemingly become of a browner tinge. Chrome yellow—faded considerably; the slip not exposed seems to have become more orange, but, unfortunately, I had not noted at the time which chrome had been used. Brown pink—has faded, but it has stood better than might have been expected from its reputation. Emerald green—scarcely changed. Burnt sienna—unchanged. Vandyke brown—unchanged. Sepia—this shows a very slight tendency to fade. Roman sepia—this may have faded also, but like the common sepia the change is not very perceptible. Burnt umber—unchanged. Bistre—unchanged. Brown madder—this colour has lost a little of its redness. Light red—unchanged. Vermillion—shows no change. Indian red—unchanged. Crimson lake—this colour has all but disappeared from the paper; at one side where the colour was laid on deeper a brown streak still remains. Carmine—this, like the lake, has entirely gone, but where the carmine was laid on deeper, a faint brown streak is still left. Madder lake—this colour has stood well, but it is now a little less red, and more of a purple. Purple Madder—like the other madders this has stood, but seems to be changed very slightly in tone. Cyanine blue—seemingly unchanged. Prussian blue—unchanged. French blue—very slightly faded. Cobalt—I can detect no change in this valuable pigment. Ultramarine—is, of course, unchanged. Newman's azure—is unchanged. Indigo—where there was a rather deep wash of this colour, the exposed slip shows now an exceedingly light tint of grey; in fact, it has nearly left the paper white, but has not vanished so completely as the crimson lake and the carmine. Lamp black—unchanged.

"I may remark that the back of the frame was not pasted up to keep out the air, which in one way has added to the force of the test; but 15 years' smoke and dust have accumulated on the whole surface, and laid a brown tint over all. This now affects the comparison between the exposed and unexposed slips."

TEA IN OUR COLONIES.—The common idea that the people of England consume (per head) more tea than any other country in the world is erroneous. The Australians drink on an average 7½ pounds each person, and New Zealand 7¼ pounds yearly; whilst the consumption in Great Britain is under five pounds per head. The system of direct supply from tea-growing districts to the Colonies ensures a pure article at moderate cost; precisely as Horniman's system in England guarantees at a fixed price the best tea the world produces. Those who appreciate full rich flavour, amazing strength, and perfect freedom from all adulteration, use Horniman's Pure Tea. Sold by agents, chemists, confectioners, &c., advertised in all papers and at railway stations.—[Advt.]

CONGRESS PEARS.

Warden or *Bedford Wardens.*

The figure of the Warden pear that accompanies this note was prepared from samples of true Bedfordshire Wardens shown by Mr. Laxton, of the Girtford Seed Grounds, Bedford, at the Pear Congress of 1885, when four dishes of this variety were presented with ten of Black Worcester. In "Parallels of Peardom," G.M., October 24, 1885, the accepted derivation of the name is founded on a citation of Turner to the effect that "they have theyr name of long keeping, for Warden in Duche, from whence our English name came, is to kepe. Serotina pira, are they that hang upon theyr mother until winter, and were rype with the frost. These are parteley our wardenes, and parteley other long during peares, which are called in Duch winter viren." Much more to the same purport will be found in the "Parallels," but whatever the origin of the name, certain it is, for centuries past the Cistercian Abbey of Warden, in Bedfordshire, has enjoyed the repute of a special property in this pear, and in the warden pies, to which it gives the distinguishing name and quality. Hogg is not averse to the derivation now hinted at, for he says, "the name came to signify any long-keeping cooking pear;" but this puts the Abbey first, while Turner's version would give it a secondary place, or consign it to the chapter of accidents. One thing is certain, that there were many kinds of wardens, and the fact gives to the name a general rather than a specific meaning, and brings Turner to the front again as the safest expositor.

Black Worcester, or Parkinson's Warden, differs from Bedford Warden in trifling particulars only, and in fact a series of Wardens might still be traced out in old gardens in the same way as in modern gardens we may find a series of Blenheim pippins, the consequence of geographical circumstances in part, and in part also the reproduction of the type, with shades of difference from seed, for many seedling apples and pears are produced without man's aid or interference, The Warden, as here presented, is of large size, roundish turbinate, and handsome; the eye set in a wide basin, the stalk inserted without depression, the skin dull green with many patches and lines of russet, and a slight underwash of brownish red on the sunny side. When cooked the flesh is excellent, but is useless in any other form. The tree is of vigorous growth on the pear, but does not thrive on the quince.

CULINARY PEAR WARDEN, OR "BEDFORD WARDENS."

BEAUMONTIA GRANDIFLORA.

On the 27th of April last there appeared at a meeting of R.H.S., South Kensington, a fine heap of leaves and flowers of the noble *Beaumontia grandiflora*, sent up by Mr. R. Ruffett from the gardens at Panshanger, Herts. It would be scarcely an exaggeration to say that no contribution of the present season has aroused so much interest as this, and assuredly a lasting as well as agreeable impression was made on many who—in some instances for the first time—beheld the magnificent production. We secured for our readers a sketch of one of the specimens, and now, by Mr. A. Slocombe's aid, we place it before our readers.

Beaumontia grandiflora is a plant sometimes talked about but rarely seen. Its generic name commemorates Mrs. Beaumont, of Bretton Hall, Haigh, Yorkshire, and the history takes us back, not only to a patroness of horticulture, but to the active days of Mr. Marnock, who, in May, 1832, sent from Bretton Hall the specimen from which was prepared Plate 3,213 of the "Botanical Magazine." It was flowered there in the great stove or dome conservatory under the name of *Beaumontia longifolia*. Sir William Hooker remarked in his description, "On comparing it with the original B. grandiflora, cultivated in the same stove, Mr. Marnock could discover no other difference than the larger size of the leaves of the plant, and its readily flowering, whilst the other never could be made to blossom. I have, too, the authority of Dr. Wallich for saying that this is the *B. grandiflora*, and that no other species is known to exist." The plant was introduced by Dr. Wallich, in 1818, from mountain woods in Eastern Bengal, where it grows at Chittagong and Sylhet; as it does also, at Noakote, in Nepaul. It belongs to the natural order *Apocyneæ*, and is therefore related to the allamandas, vincas, neriums, and dipladenias. It is figured in B.R., 901. By Sprengel it is catalogued as an Echites. It is not figured in Wallich's magnificent work on East Indian Plants.

It is interesting to note that the rare event of the flowering of this plant is apparently attributable to the repressive influence of the knife. As a matter of fact, it is no of use whatever in a small plant house; it must be allowed to run riot, and probably the plant at Bretton, which Mr. Marnock reported on as refusing to flower, was "kept within bounds" for convenience, and was thus prevented making the display it might, if left free, have been disposed to do, such at least is the lesson suggested by Mr. Ruffett's account of his success with the plant. He says: "I purchased a small plant of the Beaumontia about six

LARGE-FLOWERED BEAUMONTIA, *Beaumontia grandiflora* (corolla white, calyx red).

inches in height, and all I could learn about it was that it was a grand thing. I repotted it immediately in a compost of equal parts fibry loam and peat, with a little silver sand, keeping it in active growth. When it had attained the height of three feet it was planted out at the warm end of a large conservatory, where it grew fairly well for three years, but made no sign of flowering. Feeling assured it required more solar heat to develop its growth, I had it removed to the back wall of a banana house, which is a span roof resting on a wall ten feet high. It was now a plant considerably over twenty feet high, and in a place that rendered it difficult of access. The consequence was that it was much mutilated in the process of removal; so much so that I quite despaired of success in the operation. However, the thing was accomplished, and when a year had gone by it began to make rapid growth, and had to be stopped back to prevent it overgrowing everything.

"The use of the knife was evidently not to its liking, for it still made no sign of flowering. I therefore allowed it a space under the north side of the roof to grow as it liked, and then the tables were turned, and I had my reward for humouring its nature. In the following spring, after one year of free growth only, it made a grand display of flowers, and has continued to do so, the present being the third year of its flowering with me.

"I find it a very free flowering plant, not requiring a great amount of fire heat, but all the sun heat and light possible. It is something to know that this magnificent Indian plant is satisfied with our weak sunshine, provided it is left alone to make free growth in its own way."

The Gardens, Panshanger. R. RUFFETT.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

AZALEAS AND CAMELLIAS that are still remaining in the open should be removed to the greenhouse or conservatory with as little delay as possible, as there is considerable risk in exposing the plants after this date. It will be advisable to place them in a light position where they will have a free circulation of air about them, as to subject them to a close atmosphere directly they are removed from the open quarters is bad practice. The watering must be carefully regulated, and, generally speaking, the plants should be supplied with sufficient water to maintain the soil in a nice moist state and no more.

CINERARIAS should be kept growing freely, and be shifted on as may be required according to the season of the year they are required in bloom. At this time of year they are very subject to mildew and green-fly. Use the proper remedies as soon as there are the least signs of such plagues, and keep the plants well aired to induce robustness. Keeping the outsides of the pots clean will do much towards ensuring their health. If the stock is insufficient procure plants nicely established in small sixties or three-inch pots, and shift them into pots five or six inches in diameter. They will cost but little, and will bloom most satisfactorily in the spring.

FUCHSIAS may be kept in bloom till very late in the season by keeping them rather close and warm, but it is seldom that they are wanted long after the end of the current month. Plants going out of bloom that are to be grown another season should be put out of doors to harden them, and left unpruned till they have tasted a very slight frost; then cut them in slightly, and house in any moderately dry place, either light or dark, till they begin to break in the spring.

SHOW AND FANCY PELARGONIUMS for spring exhibition will now require another shift. Transfer them to their blooming pots at once, use good turfy loam and old manure, plenty of drainage, and for a fortnight after shifting give very little water. Zonal and variegated varieties newly struck will require to be kept rather warm to encourage the formation of roots; those which are strong in pots may have plenty of air, and be kept rather dry to check growth. If more zonals are wanted, put in the ripest shoots you can obtain, five or six round the sides of five-inch pots, and place them on a top shelf. They will root in time, though slowly. They must be kept moderately dry.

REVISE the whole stock of plants in pots as opportunities offer to remove worms from pots; renew the drainage where it has become stopped up, and otherwise prepare for the casualties of winter. Greenhouse plants that have been standing out must now be housed, and those to be forced must be repotted if needful.

ORCHID HOUSE.—The temperature of the several structures devoted to orchids will require to be carefully regulated according to the requirements of the plants, and in no case must it be sufficient to unduly stimulate them. The few kinds that are producing their flower spikes or are still making new growth must have the warmest position in the respective houses, and receive moderate supplies of water. But those which have completed their growth, or are rapidly passing into the resting stage, must be kept comparatively cool and dry. It is very important to avoid the maintenance of the phalænopsis, vandas, and saccolabiums in full growth during the autumn and winter, as the leaves produced in these seasons are, in consequence of an insufficiency of light for the proper development of the tissues, invariably wanting in substance, and especially subject to spot and other diseases to which these plants are liable. Concurrently with a lowering of the temperature there must be a diminution in the atmospheric humidity, and a reduction in the supply of water to the roots.

STOVE.—As in the case of the orchid house, it will be necessary to lower the temperature and reduce the water supply as the greater proportion of the occupants will be passing into the resting stage. The plants intended for flowering during the winter must receive the encouragement necessary to maintain them in full growth, and in most cases it will be advisable to place them in the warmest position the house affords.

FORCING AND ORCHARD HOUSES.

CUCUMBER PIT.—Cucumbers to fruit during winter should be grown strong before being allowed to flower. Do not stop them severely, but take a few strong runners along the trellis, with full exposure to the light, and with a liberal moist heat to ensure a luxuriant growth for the present. If any signs of mildew, apply sulphur without loss of time.

PEACH-HOUSES must be freely ventilated, as the trees should now be kept as cool as possible. The border must have due attention, for at no season of the year should the soil be allowed to become dust dry.

VINERY.—Where grapes are desired to be kept hanging, a very dry air must be maintained; hence plants in pots that require frequent watering should not be kept in the same structure till the grapes are off. Prune the vines that are to be started first, and clean the stems. Keep the sashes off till about the 20th of the month, and then put them on, and cover the border with leaves and sloping boards.

FLOWER GARDEN AND PLEASURE GROUNDS.

AURICULAS to have plenty of air, and be protected against damp, which is apt to injure them as the weather becomes chilly.

BULBS of all kinds to be planted in beds and borders. Pot hyacinths in succession, so as to prolong the season of blooming.

CARNATIONS potted early will require to be looked over to remove dead leaves, and to see that mildew is not attacking them. Keep them well aired.

CHRYSANTHEMUMS to be attended to, so that they may have a fair chance of making a good bloom. Give them clear liquid manure, and stake them securely, as their blossoms, being heavy, often weigh down the stems, or cause frail sticks to snap with a gale of wind. Do not house any so long as they are safe from frosts, except those that require forwarding to have them in bloom by a certain date, but plants grown in pots for the production of exhibition flowers or for the decoration of the conservatory, must not be exposed to a sharp frost, which will injure the buds if it does not destroy them.

DAHLIAS require a good deal of care now to keep them trim, and as flowers are becoming scarce, let the dahlias have necessary attention to keep them gay to the last. Make up the list of varieties for next year while they are in bloom, and throw out every one that is second rate. When there are so many good ones it is a folly to tolerate any that are of questionable merit.

EVERGREENS planted now will make better growth next spring than those planted in February and March. Give orders at once for all trees and shrubs required, that there may be no delay in obtaining them as soon as the nurserymen begin to take them up. All small subjects may be taken up at once in full leaf.

HOLLYHOCKS of the best sorts to be propagated to keep up a good stock. They should be renewed by cuttings every year.

TULIPS to be sorted over, and arranged for planting. In arranging varieties be particular as to heights, as it spoils a bed to put first or second row flowers in third or fourth rows. Contrasting the colours is of far less consequence than having the height correct, and some sorts grow taller or dwarfer than they are marked in the catalogues, where any peculiarity of soil affects them. Border and bedding tulips should be ordered in quantity at once.

APPLES and PEARS to be carefully gathered as they ripen, and to be stored at once without wiping them, or indeed handling them more than is absolutely necessary. This is a convenient time to cut out dead wood from standard trees.

PLANTING.—Towards the end of October gooseberries, currants, and raspberries may be moved, and the preparations of the plantations should be commenced at once, that there may be no delay when the season arrives for moving the bushes. New plantations should be made on ground deeply trenched and manured; gooseberries and raspberries need a richer soil than currants; and black currants and raspberries will thrive in more marshy ground than any other of the bush fruits. In all removals, whether of trees, bushes, or herbaceous plants, let the roots be examined, and all diseased or mouldy portions cut clean away. Currant and gooseberry canes may be put in to increase stock, and for this purpose two-year old wood is better than the shoots of the season if disbudded a foot or eighteen inches from the base. Drain and trench the ground where fruit trees are to be planted. Moss on apple trees generally disappears when the ground is drained. In planting fruit-trees, unless the soil is poor and exhausted, use no manure whatever; pure loam is preferable to an enriched soil for all trees intended to bear early and live long.

KITCHEN GARDEN AND FRAME GROUND.

ASPARAGUS to be cut down to the surface of the ground as soon as the stems are matured, the beds well cleaned, and covered with four inches of half-rotton manure. The spade must never be used, either on the beds or in the alleys.

BROCCOLIS in exposed places may be heeled over when growing with excessive vigour to be safe against the first frost; stir the ground between them, but do not earth up the stems.

CABBAGE sown in August to be planted out as soon as ground can be made ready. In sheltered places manure may be used liberally, but in exposed districts it may cause too free a growth before winter for the plants to stand.

CAULIFLOWERS to be planted out under frames and hand-lights, and some potted as previously directed. If there are many plants still left in the seed bed, prick them out on a warm slope, or make up a raised bed for them, so that they can have the protection of mats or hoops during sharp weather.

RHUBARB to be forced early may now be taken up and laid on one side until it is time to put in the boxes or whatever other position it is to occupy when forced.

VACANT PLOTS in kitchen and flower garden to be turned over at once, and, if needful, manured. All heavy land which is to lie unoccupied till spring should be ridged up without breaking the clods. The autumn rains and winter frosts will mellow and fertilize the soil, and in spring every clod will break down into powder at a touch. Heavy land may be manured if convenient now, and very little will be lost; but light soils should not be manured till spring, unless they are at once to be planted, as from those soils the heavy winter rains will wash away much of the manure. Mark out plots intended for rhubarb, seakale, asparagus, &c., so as to have them deeply trenched in good time to be acted on by frost.

SOWING PEAS IN TRENCHES.

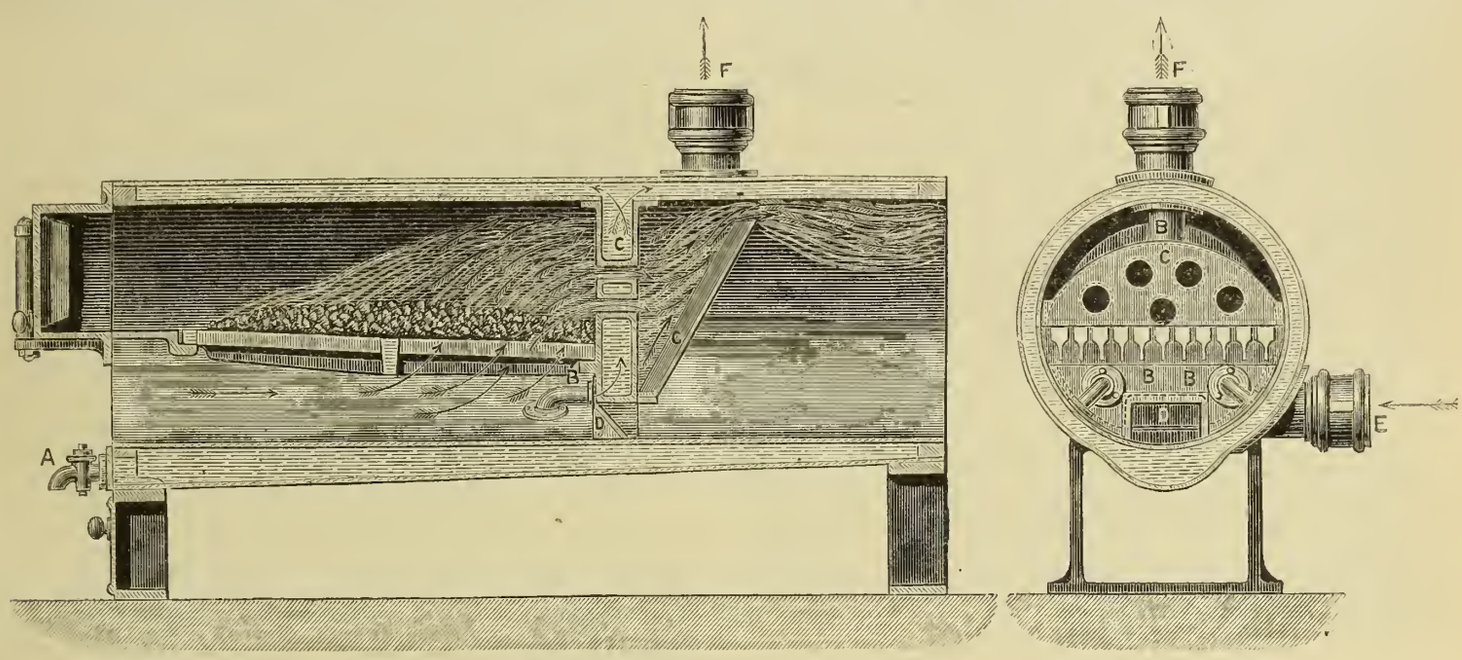
WE have had this year good crops of all the varieties, except the earliest, which were injured by the cold weather in April, and in the early part of May. But it may be useful to mention the fact that our peas are sown in trenches dug deeply, and slightly manured. By this very simple course of procedure we hardly ever fail to secure a good crop.

Crewe Hall. W. WHITAKER.

SILVESTER'S NEW TRENTHAM BOILER.

Enquiries are current as to the position of the Trentham Boiler in connection with recent trials and comparisons which are understood to be both scientific and practical. It is a subject of some importance, for while, on the one hand, there are many boilers embodying but few ideas, the Trentham is founded on an idea that has become more and more vital and forceful with the lapse of time since the idea was embodied by Stevens in one of the best boilers ever invented. "Few ideas" may be taken in this connection to mean that while the fundamental principles are few and of striking character, there may be great diversity of plan in adapting them to working purposes, and every plan may be regarded as an idea. Let us take the saddle boilers to exemplify our meaning. Of these the name is legion, and everybody's saddle is "the best." But there are only three or four distinct ideas in all the variety of saddles, and the primary idea—that of horizontal action—governs even these, and thus discounts their originality. It may appear that the object of these remarks is to assign to Stevens, of Trentham, the origination of a primary plan, but here, as elsewhere, we have not a primary invention, but an adaptation, and one of the greatest importance to horticulture. The Trentham is a modification of the Cornish boiler, the most famous amongst a thousand for combining rapidity of action and lasting power with a severe economy of fuel, for the engineers do testify that a Cornish boiler will extract more heat from a given quantity of fuel than almost any other boiler that has been compared with it. Stevens took this as his model, and adapted it for horticultural purposes, and his own peculiar experiences led him to conduct the heat through the centre of the boiler first, and then over its upper half, where solid matter cannot accumulate, for at Trentham the water is calcareous, and boilers are apt to be troublesome.

The tendency for many years past has been towards saddle boilers of one kind or another. In the recent boiler contests saddles were conspicuous, though various in make. The Trentham boiler is not exactly a saddle, but a cylinder, which is nearly the same thing, and its chief feature is the insertion of a cylinder within a cylinder, the two being rivetted together, the space between forming a water jacket.



SILVESTER'S PATENT STEEL TRENTHAM BOILER.

A Handhole for cleaning out the boiler; a brass tap may be used in conjunction for drawing off hot water, or for flushing out the boiler. B B Two circulating or return pipes. B Top circulating or flow pipe. C Waterway bridge combustion plate. D A loose door which is removed when cleaning out the ashes.

The boiler is carried by two cast-iron chairs, the front forming the frame for the lower flue doors, which can be removed for cleaning out. In its original form there was a plug in front to facilitate cleansing the bottom of the water jacket, a very necessary proceeding at Trentham. This has been improved on in the new make by the insertion of a tap, from which hot water can be drawn, and by means of which the boiler can be flushed out, while by removal of the tap, the interior can be explored, and the bottom cleaned as required. The setting is an important matter; it requires walls to half the depth of the cylinder, then fire lumps brought close to the cylinder, and an arch turned over the top, leaving a space as deep as the top flue doors for an upper flue, while the space below the fire-brick forms a lower flue.

The figures show the interior in front and side sections. The "new Trentham," as manufactured by Messrs. Silvester and Co., of Newcastle, Staffordshire, contains a special feature in the shape of a circulating bridge within the fire box, as shown in the figure, and beyond this is a deflector to assist combustion, and reduce to a minimum the amount of smoke. In connexion with the waterway bridge are fitted tubular furnace bars dividing the flame, perfecting combustion, and ensuring useful appropriation of a maximum of the heat produced. The method of cleaning out now adopted is a great point, and as Messrs. Silvester were the original makers of the Trentham boilers, this improvement may be regarded as a growth consequent on the experience of Mr. Stevens and others in the use of the admirable invention. The setting of this boiler, as above remarked, is an important matter, and indeed it would be difficult to name a boiler that does not require suitable and skilful setting.

Those who are in doubt about this part of the work would do well to throw the burden on the manufacturers, and then there will arise no subsequent question as to whether the setting was adapted to the instrument.

I have endeavoured, in the foregoing notes, to reply to the questions placed before me. Being familiar with what I consider one of the best working boilers extant, it will afford me pleasure should it prove that my remarks convey to those who need it, some useful information. J. R. E.

British Association.

TOWN LIFE AND COUNTRY LIFE—A STATISTICAL COMPARISON.

By Mr. John Biddulph Martin.

In his presidential address to the section of Economic Science and Statistics an important statistical comparison was made between town and country life as affecting human longevity and happiness.

Humanity is many-sided, its units do not lend themselves to grouping or combination with the precision of mathematical symbols, and the experiments of the social philosopher are subject to disturbances unknown in the laboratory of the chemist. It is at this point that the statistical method comes in as an inseparable ally of economic speculation. If the latter has had from time to time, and still has, to assert its position among the sciences, what place shall be assigned to the method which is only too often assumed to be the mere massing and grouping of figures?—It has been said—and the saying is not altogether devoid either of truth or humour—that "statisticians when they meet together devote half their time to discussing the *status* and dignity of their pursuit, and its precedence of, or subservience to, economics." The vulgar misuse of the word "statistics" has no doubt contributed, in many cases, to ambiguity in its use. The extreme instance need perhaps hardly be mentioned when "statistics" are used simply as equivalent to "figures;" one may read or hear even this expression, "You can prove anything by statistics." To say that you can prove anything by figures is intelligible; just so can you prove anything by a syllogism with a faulty premiss, or that might is right by the law of the stronger. But apart from cases in which false figures do not tell the truth—I do not say false statistics, for to speak of false statistics appears to me to be very nearly a contradiction in terms—there is the much more frequent classes of cases in which they do not tell the whole truth. Examples of this class will readily occur to every one. I may refer to one very happily chosen by the president of this section in 1865 (Lord Derby), namely, the error that may be imported into the death-rate by a year of pestilence, not only by its effect on the mortality of the year of its occurrence, but by its clearing away feeble lives, and so lightening the death-rate in years immediately consequent. There is less to be feared from errors arising out of this source if we lay to heart the warning uttered by Mr. Goschen on a recent occasion, "Beware of totals"—if we recognise more fully than we are usually apt to do that a table of figures, even if it be absolutely correct as a statement of fact, is merely raw material, not a finished product. The misfortune is that it is only too frequently treated as the latter. "Orthodox" political economy may be said to be the study of the laws which regulate the acquisition or distribution of wealth; the object of orthodox statistical inquiry to check, as in a balance-sheet, its concentration or diffusion. Unless we enlarge the definition of wealth so as to make it include all things desirable by the well-balanced mind, a deliberate election of the good, under the guidance of rightly-exercised reason, such as Aristotle defined virtue to be, we shall be constrained to admit that the founders of the United States of America were better advised when they laid down as the scope and object of their political system the assurance to every man of "liberty and the pursuit of happiness." If this be so, the "unorthodox" economist of the present day will have to admit to himself that he has to address himself to the problem declared in a well-known passage of Carlyle to be insoluable by "the whole finance ministers and upholsterers and confectioners of modern Europe in joint-stock company, to make one shoeblack happy." It is not surprising that pessimist views should sometimes prevail, and that expressions should pass current such as the one which I quote from the public Press: "Some attempt should be made to strike at the over-pressure of population in London, which is, of course, the root of the evil. . . . It obviously is the evil which we have got to face. The tendency to drift into cities is one of the curses of all civilized communities, of whatever social stock they may be." For myself I am not prepared to admit that a tendency, which is indisputable, and which is displayed in every nation in proportion to its enjoyment of peace at home and abroad, has laid the world under so widespread a curse. It is a tendency that is as well marked in nations that are among the least progressive in point of population as in those

of most rapid growth. In France, whose population is practically stationary, the rural population, which 40 years ago constituted three-fourths of the total inhabitants, is now but two-thirds of the whole, showing a transfer or balance of four million souls (including, however, one million of immigrant foreigners) from the country to the towns. On the other hand, in the United States, whose population is expanding with a rapidity that is proverbial, and whose numbers are doubling themselves every 20 years, as against an estimated period of 271 years in the case of France, the increase of urban population is still more strongly marked. The official figures of 1840 show that in the United States one-twelth of the population lived in cities of 8,000 and over; in 1850, one-eight; in 1860, one-sixth; in 1870, a little over one-fifth; in 1880, not much less than one-fourth. In England the same process has been going on simultaneously with the great stream of emigration which has transferred millions of our population to other countries. The phenomenon is too familiar to be insisted on, though the exact extent to which it has been displayed is less clear. The distinction between an "urban" and a "rural" district is, and perhaps must be, arbitrary, and in many cases unsatisfactory. It is not always easy to decide, officially or otherwise, who is a townsman and who is a peasant; but it is roughly estimated, that whereas 30 years ago the population of England supported by agriculture was about equal in number to that supported by manufacturing industry, the proportions are now approximately as to two-thirds manufacturing, and as to the remaining one-third agricultural. Passing over the fact that in many cases a manufacturing population does not cease to be rural, and bearing in mind that the question is as to the comparative welfare of townsman and peasant respectively, a comparison of the birth-rate and death-rate in town and country does not show so preponderating a balance as is usually imagined to exist. A net normal increase in the English agricultural population of 14·135 per thousand as compared with an increase in the towns of 14·030, or a balance in favour of the former of 1 per thousand, is but a narrow margin of advantage. Nor is it the largest cities that are the most attractive to new immigrants, since we find that the rate of increase varies inversely with their size, and that during the last ten years the population of towns of under 20,000 inhabitants has increased almost exactly as fast again as that of towns of 50,000 and over. On the other hand it is precisely during the evil times of 1841-51, the evil days of "Sybil," of "Mary Barton," of "Sartor Resartus," recently quoted by Mr. Giffen, when the increase of the population was the slowest, that the proportion of the population supported by agriculture reached its highest point. And if we compare the vital statistics as a whole of our present town-dwelling population with the more rural one of 1838-54, as presented to us by Mr. Noel Humphreys in a recent paper read before the Statistical Society, we do not find that the conditions of town life have told adversely on the population of the country as a whole. Mr. Humphreys answers the question, "Do we have a greater enjoyment of life as the result of a decline in the death-rate, or are we only a little slower in dying?" by demonstrating that "although a large proportion of people cease to be dependent before 20, and a large proportion of people do not become dependent at 60, we shall not be far wrong in classing the 40 years from 20 to 60 as the most useful period of man's life. Of the 2,009 years added to the lives of 1,000 males by the reduction of the death-rate in 1876-80 (as compared with 1838-54), no less than 1,407, or 70 per cent. lived at the useful ages of between 20 and 60." Nor did the Anthropometric Committee, appointed on the recommendation of this section in 1875, and which carried on its work until 1883, verify by its observations the generally prevailing notion that the population of the kingdom is degenerating. The observations of the committee were on a comparative small scale, but as far as the opportunities and resources of the committee enabled them to be carried out, they showed that although in average height and weight the peasant in this country is superior to the artizan, as might be expected from the conditions of an outdoor as against a mainly indoor life, the stature and weight of factory children has decidedly increased. "The increase in weight amounts to a whole year's gain, and a child of nine years of age in 1873 weighed as much as one of ten years in 1833, one of ten as much as one of 11, and one of 11 as much as one of 12 years in the two periods respectively."

MESSRS. WEBB AND SONS' KINVER SEED GROUNDS.

MESSRS. WEBB AND SONS' Kinver Trial Grounds and Seed Farms are situated in the midst of a remarkably pleasant country, where there would appear to be a little of the best of everything. Good fishing in a rippling stream immediately underneath a cliff and hillside covered with wood and leafy spray; the seats of noblemen and retired merchants peeping out here and there amid the trees; one of the most magnificent of views on Kinver Edge, and the open rich lands, which forms, not exactly an elevated plain, because they are rolling and undulating—where Messrs. Webb carry out practically their Horticultural studies and labours, of profound interest at all times, but more especially at a period when many of the autumn flowers were blooming, and the kitchen garden crops were displaying their fruit, so as to exemplify their various degrees of perfection. The Kinver Seed Farms and Trial Grounds occupy nearly 1,600 acres; the larger portion of which is Messrs Webb's own property. Still this vast expanse is only devoted to trials and the production of stock seeds to be sent out to other farms in the best districts of England and the Continent for the production of each separate variety.

FLOWERS.—Kinver's floral treasures are exceedingly varied and extensive, and many of its later achievements in valuable varieties of profound interest. No less than 252 different kinds of flowers have been raised during the past season, of which, however, we can only enumerate a few of the choicer specimens. Excelsior seems the motto adopted here, whatever may have been attained. Messrs. Webb appear to have some choice varieties of double and dwarf stocks, their new Imperial having beautifully modelled double flowers on long massive spikes. Their wallflowered-leaved too is noteworthy for the pleasing contrast afforded by the brilliant colours of the flowers, on glossy green foliage. Under the division of the Ten-week Stocks, there are Dwarf German varieties exceedingly floriferous, and of chaste delicate hues; also both Dwarf and Giant Pyramid ones, all growing in great perfection. The Intermediate Stocks, specially adapted for autumn flowering, are also well worthy of great attention, such as Webbs' large flowering perpetual Emperor, the East Lothian, with massive blooms, and the Winter Intermediate for late autumn flowering.

As to asters they are so numerous that space will not admit a description of one-half of those put forward as the Kinver favourites selected after many years of trial. The rule at Kinver is to "prove all things," and "hold fast that which is good," and just because this is carried out so very stringently into every department of plant culture, do we find everything at these seed farms so very interesting and instructive. I was particularly charmed with Webbs' Miniature, having superb chaste flowerets of different colours for edgings. Others are, of course, far more queenly and majestic, such as Webbs' Quilled, with doubled half-globed flowers, Truffaut's Pæony-flowered and Globe Perfection, Webbs' Victoria and Dwarf Chrysanthemum-flowered, are also among those brought to greatest perfection. Messrs. Webb send out what they term the Wordsley collection, being seeds of the five choicest asters, which, after repeated trials, have been found unequalled.

All other varieties of flowers are propagated with similar studious endeavour to adopt only the very best of the old, and to create, by hybridization, superior new varieties.

Among Messrs. Webbs' choice carnations and picotees there are some of striking loveliness, the Fancy, Bizarre, and Flake Carnations. Webbs' Double Mimulus is a magnificent strain, the blooms being beautifully blotched and spotted with brilliant colours on a white ground. Even the modest mignonette has been taken great pains with. Webbs' New Sterling Poppy is also very showy, being a carnation-flowered double variety. Many choice specimens of zinnia are to be found, but Webbs' Exhibition Double Zinnias, with various colours, has the reputation of being a treasure. The Kinver marigolds are also in good number, but their queen is Webbs' Gold-striped French. They have some rare primulas, but Webbs' new primula, "Modesty," is their latest novelty, and one seemingly well worthy of high appreciation, as besides its beautiful chaste appearance, it has produced an entirely fresh colour for primulas, the flowers being flesh-coloured or a delicate pink when fully expanded, making a charming companion to their already established favourites, Scarlet Emperor, Purity, and Rosy Morn primulas. In gloxinias, calceolarias, cyclamens, and other florists flowers, Messrs. Webb have many choice and some entirely new varieties.

VEGETABLES.—Messrs. Webb excel greatly in choice varieties of peas for kitchen and market gardens as well as for the farm. The peas grown at Kinver during the past season comprise no less than 140 kinds, and Messrs. Webb have several new varieties such as Wordsley Wonder, an early blue wrinkled marrow, the pods of which striking from every point on the vines appear marvellously thick indeed, while their beauty of shape and redundance of fruit are equally noteworthy. Still as Messrs. Webbs' Chancellor, which was only offered to the public for the first time this year, is for the main crop considered equally productive, there is no reason for deeming the limit of perfection to have been gained. Webbs' Electric Light, Kinver Gem, Kinver Marrow, and Stourbridge Marrow Peas, also have their favourites, and every one inspecting the Kinver Seed Farms must be struck with the immense labours expended on the different varieties in testing all the best approved one against another, and in the endeavour to produce still more magnificent kinds by selecting the best from the best one season after another, pursuing the arts of hybridization and devoting laborious attention to fixing the types of new superior varieties. From the 82 acres of peas grown at Kinver for stock purposes immense quantities are raised for Messrs. Webb on suitable soils in other districts.

POTATOES.—The same arts are applied and carried out with equally studious endeavour in regard to potatoes, to which esculent 67 acres were devoted at Kinver this year, and the chief varieties which there gain favour are the following: Kinver Hill, Benefactor, Discovery, Reliance, Surprise, Improved Schoolmaster, Early Ashleaf, Improved Magnum Bonum, together with several superior new seedlings to be offered next season, to one of which a first-class certificate has already been awarded.

CABBAGES are well known to be amenable to the cultivating art in an astounding degree, and Webbs' Emperor, a dwarf compact very early cabbage, also affords to view great beauty and solidity of shape. Webbs' new Early Drumhead is also an admirable variety, several others being worthy of mention, as well as of the kindred cauliflower and savoy families. The sorts of cabbages, broccolis, &c., grown this year extended to 172 different kinds. Strange as this may seem to those unacquainted with the marvels of horticulture, the fact of 75 different kinds of onions and over sixty of lettuces having been grown on Messrs. Webbs' farms, may excite still greater surprise. Several of these, as may be supposed, are in high repute. Webbs' new Snowball onion is renowned for rapid growth, early maturity, symmetrical shape, and for a thin silvery white skin, the flesh being of firm, mild, and finest quality. A larger grandly-modelled variety is Webbs' Improved Banbury, having a small neck and extra fine quality, although exceedingly large. The superior varieties of lettuce are of every leading order. Of Cos we have Webbs' Monstrous White, growing to an enormous size, yet very solid and remarkably crisp; and Webbs' Wordsley Gem, highly appreciated far coming so early and being of fine flavour. Cabbage lettuces have among their best Webbs' New Criterion and Webbs' New Model, the former large and handsome in shape, the latter a new desirable dwarf compact variety. Still, the one thought most of for general summer use is Webbs' Summerhill, large, handsome, and remarkably compact, besides being exceedingly crisp and of delicate flavour. In broccoli the specialities are Webbs' Perfection, Webbs' Champion, Webbs' Early Purple Sprouting, and Webbs' Imperial Hardy White, for cutting from January to April, and Webbs' May Queen and Champion for later produce. Amongst cauliflowers there is Webbs' Early Mammoth, the new Kinver Monarch, and Webbs' New Tom Thumb, all very excellent. Webbs' Little Wonder savoy is an exceedingly handsome dwarf variety of recent introduction among savoy cabbages. Of broad beans there are imposing specimens in Webbs' Improved Windsor, for the main crop, and Webbs' Kinver Mammoth Long Pod, a very prolific kind, having pods of eighteen inches, often containing twelve beans in each. The various varieties of French dwarf and runner beans would take some space to describe. The newest, and those reputed to be best, are Webbs' New Golden Queen Butter bean, whose golden yellow pods of fine quality are very productive, and Webbs' Victoria Dwarf, whose pods are of great length, and considered delicate in flavour. Beet is also taken considerable account of, Webbs' Dark Red having been brought to great perfection in uniformity of size, clean growth, and quality. Two Kinver products of other kinds certainly deserve mention. Webbs' Giant Curled Parsley having proved a noted prizewinner; while among the radishes, Webbs' Olive-shaped scarlet is not only chastely modelled, but of quick growth and superior quality. In turnips, Webbs' Early Purple Top has the merit of yielding a handsome model, and is no doubt exceedingly early. Of new carrots there are Webbs' Defiance Intermediate, Webbs' Selected Scarlet Shorthorn, and Webbs' Selected Altrincham, all being favourites. Webbs' Selected Hollow Crown parsnip also maintains its prestige well by winning prizes at horticultural shows.

TOBACCO CULTURE.—Great interest now attaches itself to tobacco culture,

owing to the Government having manifested a disposition to allow it to be grown in England, if carefully-conducted experiments show that it can be rendered of advantage. To the credit of Messrs. Webb and Sons, they have made use of their trial grounds to conduct two distinct sets of experiments this season. First, as to whether tobacco growing can be made remunerative to British farmers; and secondly, the kinds of the tobacco plant likely to promote the object best. As many as twenty varieties will be found growing side by side at Kinver, including Big Frederick, Cau's Seed Leaf, Virginia, Yellow Prior, Broad Leaf, Yellow Orinoco, &c. J. D.

HARVESTING ENGLISH-GROWN TOBACCO.

Probably no experiment of a horticultural character of late years has aroused such a wide interest as the trial of tobaccos, carried out by Messrs. James Carter and Co. in a field lying between Bromley Hill and Plaistow. Here, at the beginning of the summer, they planted a large piece of ground with plants of seventeen of the best tobaccos for commercial purposes which they were able to obtain from the United States. They were a little late in obtaining the seeds; still, when they came to hand, the utmost despatch was used in sowing, raising, and growing in into size as soon as possible the plants obtained from it. The seventeen sorts sown consisted of Big Frederick, Can Seed Leaf, Connecticut, Florida, Glasner, Havannah, Hester Virginia, Island Broad Leaf, Kentucky, Maryland Broad-leaved, One Sucker, Pennsylvania, Virginian, White Burleigh, White Stem, Yellow Orinoco, and Yellow Prior. The seeds were raised in heat, the plants grown on and put out as soon as strong enough; a furrow made by the plough was filled with good manure, and another furrow turned over upon it, and then the tobaccos were planted in lines, and about twenty-seven to thirty inches apart each way. Altogether there were sixty rows and sixty-four plants in a row, and in some cases there were four, in others less rows of the one variety. A mound of soil was drawn up to each plant, and during the summer the ground was kept thoroughly clean. The piece of ground planted sloped away gradually from the south-west to the north-east, and the soil varied considerably; the upper portion was gravelly, the middle a good loam, the lower portion a kind of bog, as if at one time or the other water had lain there. The rows were planted across the ground, so that some plants of each variety were in the different characters of soil. But there was little perceptible difference in the growth of the plants—it was pretty uniform throughout. At a certain stage, the flower stems were cut away to within eighteen inches or so of the soil, leaving from eight to ten large, well-proportioned basal leaves; and when the whole energies of the plants were devoted to the maturation of these, they rapidly increased in size and substance till some of them attained to great dimensions. A plant of each sort was suffered to blossom and seed, and but little difference could be noted in the height of the flower stalk, the time of flowering, and the colour of the blossoms.

In looking over the plants it would be seen that there were two main types, one represented by Big Frederick with somewhat arched or pendent leaves dark green in colour, and waved on the margins; the other resembling a very strong growing form of the Prickley Comfrey, with a semi-erect growth, the leaves acutely pointed, smooth on the whole, and of a pale green colour. The last-named type or group contained the finest varieties, viz., Glasner, Island Broadleaf, Kentucky, Pennsylvania, and White Burleigh. The first-named group included all the rest, the leaves being decidedly thicker and consequently of greater substance.

I may here remark that some of these tobaccos make very handsome plants for the flower garden, and particular mention may be made of Yellow Prior, Big Frederick, Glasner, Kentucky, and White Burleigh.

The occurrence of frost on the mornings of the 17th and 18th insts. led Mr. C. H. Sharman to fear lest the crops should be damaged, and orders were given that a portion of it should be cut on the afternoon of the 18th inst. A dozen hands or so were employed. Garden mats were laid down by the side of the lines of plants, and by means of strong knives the stalks were cut through close to the soil, the operation being expedited by gently bending down the stalk with the left hand while the cut was made with the right; each plant was then carefully laid upon the mats, each sort being kept by itself. About one-fourth of the crop was cut, and the remainder left for the Monday following. The plants were carefully covered up for the night by laying mats over them.

The next process is "curing" or preparing the crop for the manufacturer. To do this properly a neighbouring barn has been hired for the process, and fitted up by light slabs of wood being placed across it at intervals; the plants will be secured to stakes, but hang with the leaves downwards, and the stakes laid across a pair of slabs. This part of the experiment is in the hands of an expert, and it is contemplated to call into use artificial heat to hasten the operation as is done in America. How long the process of curing will last, will, no doubt, depend mainly upon the character of the weather; and upon its successful completion depends in a great measure the value of the experiment as a commercial speculation. A firm of Liverpool manufacturers have agreed to take the whole of the crop after curing. What the probable yield will be remains to be seen, but Mr. Sharman estimates it at one ton per acre.

Whilst the work of harvesting was being performed on the 18th inst, a gentleman, who announced that he had seen a good deal of tobacco culture in Germany, said that the crop at Plaistow was the finest that he had ever seen. So far this is decidedly encouraging. No doubt a great deal depends upon cutting the crop at the right time. It is said the best time to do it is when the leaves begin to turn yellow, and this characteristic could be noticed generally in the crop under notice.

An immense amount of interest has centred round the experiment, as is shown by the visitors' book, and the local residents watch with keen interest the progress of the crop. Great credit is due to Mr. C. H. Sharman, for the success which has so far attended the experiment. He has constantly and actively attended to every detail of the cultural process, and should it prove commercially successful it will be in a large measure owing to his active oversight. The result of the curing process will be watched with as great an interest as the growing crops. R. Dean.

The Garden Oracle for 1887 is in preparation, and will be issued at the usual time. Communications for the new issue may be forwarded to 148, Aldersgate Street, E.C.

Mr. E. Jones, late of Farnham Park, Bury St. Edmunds, has been engaged as gardener at Worcester Court, Worcester Park, Surrey, the residence of H. Cock, Esq.

Exhibitions and Meetings.

THAME HORTICULTURAL SOCIETY, September 16.

This association held its thirty-eighth annual show in conjunction with the Agricultural Society's Ploughing Matches, the latter taking place during the forenoon of the above date. The show was located in the pleasure grounds of Westwood House, by permission of Mr. P. H. Pearce, and proved a good average display. The schedule comprised over one hundred classes, three prizes each; and in addition, there was an exhibition of needlework.

The show of plants contained a large percentage of foliage varieties, stove and greenhouse specimens in flower being few. For eight varieties, Mr. J. Buckerfield, first with full-sized specimens of Kentia Canterburyana, Pandanus Veitchi, Maranta Zebrina, Croton Interruptum and C. Majesticus, Chamærops Fortunei, Ficus Parcelli, and Hibiscus Cooperi; Mr. Thomas Anstiss, Brill, second with Dracæna terminalis, Begonia Weltoniensis, Yucca aloifolia variegata, Vallota purpurea, Chamærops excelsa, Adiantum cuneatum, and a fine Davallia Mooreana. For six, Mrs. S. Johnson, Thame, was first with Phœnix dactylifera, Canna rubro-lutea, Latania borbonica, Begonia lucida, Adiantum concinnum, and Funkia alba; Mr. C. Jacob, Barton Nursery, Headington, second with two richly-coloured coleus, Adiantum Farleyense, and A. cuneatum, Latania borbonica, and Dracæna Baptisti; Mr. Thomas Anstiss third with Adiantum cuneatum, A. formosum, and A. concinnum, Funkia alba, and Agave Americana variegata. Single specimens were but few, the first card going to a large orange tree (in a tub), bearing about eighty golden fruits, exhibited by Aubrey Aubrey, Esq., Dorton House; the second prize card being affixed to a nice Vallota purpurea, exhibited by Mrs. Prosser. Hardy ferns were a good class, Mr. J. Johnson, Garsington, first; and Mrs. S. Johnson second, this lady also securing the card for a group of exotic ferns. Fuchsias and zonal geraniums were well presented by Mr. J. Johnson, who was also very successful in the cut flower department, his twelve triplet trusses of zonals being grand; a remark that applies to the twelve bouquets and a single bouquet staged by him, and which secured the premiers in keen competitions. Asters were good, the best stand of French being exhibited by Mr. A. Harper, Garsington; Mr. J. Stone, Tetsworth, leading in the quilled section. Double zinnias and verbenas were well represented; in the latter class, R. Parsons-Guy, Esq., The Grange, Ickford, being placed first.

Dahlias.—Of these there were a long line of boxes, several "not for competition;" of the latter Mr. John Walker, staged wonderfully well-developed examples of *Fancies*, Grand Sultan, Rev. J. B. M. Camm, Peacock, Hercules, Rebecca, Florence Stark, Maid of Athens, Chorister, Gen. Gordon, Lottie Eckford, and John Forbes; the *show* flowers comprised Henry Walton, Earl of Ravensworth, Hon. Mrs. Percy Wyndham, Acme of Perfection, Flora Wyatt, H. W. Ward, Prince of Denmark, Mrs. Gladstone, Joseph Green, Flag of Truce, Alexander Cramond, Countess of Ravensworth, Vice President, George Rawlings, Lizzie Leicester, John Neville Keynes, Herbert Turner, Senator, Mrs. Shirley Hibberd, Mrs. George Rawlings, Prince Bismarck, James Cooker, Champion Rollo, Charles Wyatt, Harrison Weir, Hope, and James Vick; *Pompons* (in bunches of eight blooms each)—Little Wag, Golden Gem, E. J. Junker, Little Herman, White Aster, Glowworm, Dr. Webb, Titania, Little Duchess, Little Nigger, and White Button; these, with boxes of single and cactus forms, tastefully set up, and a grand collection of quilled asters, formed an edging to a prime half circular group of fuchsias, ferns, geraniums, chrysanthemums in flowers, coleus, petunias, and decorative plants, put up by Mr. J. Walker, to aid the display. In the competing classes Mr. Thos. Anstiss was placed first for twenty-four dahlias, his best blooms being Constancy, Vice President, Ethel Britton, Champion Rollo, Henry Walton, H. W. Ward, Yellow Boy, Harrison Weir, Earl of Ravensworth, Miss Cannell, James Cocker, Goldfinder, John Standish, Mrs. Gladstone, Mrs. Langtry, Maid of Athens, and John Wyatt; Mr. John Tranter, Upper Assenden, Henley, a very close second, with compact blooms of Mrs. Gladstone, Nellie Tranter (a certificated seedling of this year), pure yellow of a soft shade; John Henshaw, Royal Queen, Mrs. F. Foreman, Constancy, James Cocker, Mrs. Dodds, George Barnes, Vice President, Joseph Ashby, J. Neville Keynes, Ethel Britton, Mrs. Langtry, John Bennett, Flora Wyatt, H. W. Ward, and Mrs. Harris; Mr. John Stone, Tetsworth, third, who was also first in the class for twelve blooms, his best specimens were Henry Walton, Burgundy, John Bennett, Royal Queen, Clara, Prince of Denmark, Georgina, Hope, Prince Bismarck, and Mrs. Gladstone.

Model Gardens are often very crude in design, but are always done well at this show. The first prize card went to a design eight feet by six feet, representing a castellated mansion surrounded by a moat, and connecting the terrace gardens by a drawbridge, a flight of steps descending to the flower beds and pleasure grounds; this was beautifully finished. The second card was affixed to an arrangement of equal dimensions to the above, representing a square stone-built modern house, with croquet and lawn tennis grounds.

Designs in Vegetable Substances are immensely interesting, and on this occasion proved quite as attractive and as clever in their execution as ever, the two competitors entering into happy rivalry with models formed with foliage and petals laid on a foundation of plastic clay. The premier design by Mr. Joseph Ives, draper, Thame, represented "Britannia and some of her sons," the subject perhaps suggested after a visit to the Colonial Exhibition. It was in the form of a medallion (concave), two feet in diameter, the frame an ogee bevel formed of four lines of laurel leaves, the inner edge relieved by sprays of Selaginella denticulata. In the background, the central figure represented was the Empress of India wearing the cap of Liberty; she is standing in a war chariot, drawn by two fiery steeds, attending by dusky-skinned footmen in Indian military costume; the Empress holds the British flag, and evidently encourages those around her. On her left hand are seen a body of mounted officers, richly dressed, the cavalcade following appearing as mounted cavalry; on her immediate right an Arab horse, a majestic elephant, and a camel, all mounted and richly caparisoned, the foreground being filled with representations of non-commissioned officers of various Eastern regiments. The fiery steeds were carved out of a common turnip; the loose white robe of the Empress was formed of layers of the petals of funkia; the Union Jack and Britannia's shield were beautifully depicted by coloured petals; the war chariot being overlaid with the golden-yellow petals of Harpalium rigidum. A concensus of opinion declared that Mr. Ives has never yet produced such a model, in which the features of the several principal figures have been so beautifully defined. The second prize design, by Mr. H. Lawrence (a labouring man), was about six feet by four feet. "Deer Shooting in the Alps," the representation showing a narrow stream of water falling precipitously between

two rugged mountain crags, the sloping shelves overgrown with moss and lichen, with miniature ferns peeping out in the crannies. Far up on a dangerous slope is seen an Alpine sportsman, with his rifle just discharged, the smoke still hanging in the air, while across the yawning chasm, on a narrow ledge, the stag is in the act of falling backwards, the fatal bullet having entered its breast, from which blood is trickling. On the higher crags, the frightened deer are seen scampering at full speed, while from a giddy height, a mountaineer looks down on the scene with interest. To imitate the rock-work pieces of cork varnished and coloured had been cleverly utilized, the modelling of animals being simply wonderful. One other special object of interest was a "monster sunflower," forty-one inches in circumference, leaf two feet across, and flower stem seven and a-half inches round, exhibited by Mrs. Reynolds, Notley Abbey.

Fruit was an extensive display, a large muster of grapes, melons, peaches, plums, apricots, gages, pears, &c., being staged in competition; the dessert apples and culinary classes being represented by well-known kinds. With the view of comparing notes with the fruit growers, Mr. Walker staged dishes of the following varieties of apples grown on young trees from three to four years old, viz., Emperor Alexander, Yellow Ingestrie, Nonpariel, Melon, King of the Pippins, Hanwell Souving, Norfolk Beanfin, D. T. Fish, Cat's Head, Golden Russet, Betty Geeson, Old Russet, Cellini Pippin, Cox's Orange Pippin, Prince Albert, Alfriston, Bess Pool, Wellington, Beauty of Kent, Cox's Pomona, Baddow Pippin, Golden Noble, Golden Spire, Counsellor, Stirling Castle, Ecklinville Seedling, Warner's King, Grenadier, Sykehouse Russet, Reinnette du Canada, Lady Henniker, Margil, Northern Spy, American Mother, Blenheim Orange, Manx Codling, Northern Greening, Lord Burleigh, Lord Derby, and Ribston Pippin.

Vegetables as staged by the cottagers were equal in extent and quality to any previous year, the potato classes being represented by about 800 tubers. In the first division the quality of runner beans and celery was decidedly below exhibition quality; there were about 300 potatoes staged. The winning dishes were principally Reading Russet, Schoolmaster, Idaho, Adirondack, and Triumph in the *round* class; International, Snowdrop, Ruby, White Elephant, Magnum Bonum, and Trophy in the *kidney* classes. Carrots and other roots were in plenty, and onions were about the average for size and quality. Royal Norfolk Russet potato was exhibited in fine form, but the colour of its skin does not find favour with the judges in this part of Oxon.

The awards were made by Messrs. W. Daniels, Swyncombe Park Gardens; and Mr. W. Broadfoot, Shotover Gardens, Oxon.

ROYAL HORTICULTURAL SOCIETY, September 21.

Floral Committee.

Present: G. F. Wilson, Esq. (in the chair), Major Lendy, Dr. Masters, Rev. W. Wilks, and Messrs. J. Douglas, T. Baines, George Paul, Shirley Hibberd, W. Holmes, R. Dean, H. Ballantine, J. Dominy, H. M. Pollett, J. O'Brien, H. Turner, Henry Cannell, C. Noble, J. Hudson, H. Bennett, George Duffield, and Amos Perry.

Although no prizes or medals were offered on Tuesday, the contributions from trade cultivators were sufficiently numerous to fill the available space within the conservatory, and form an exhibition at once rich in interest and highly attractive. Novelties were more numerous than usual, and the plants and flowers certificated form a somewhat lengthy list.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, exhibited a very large and exceedingly attractive collection of cut flowers, in which the dahlias predominated. Cactus varieties, of which several hundred blooms were staged, included Cochineal, Constance, William Pearce, Picta formossima, Juarezi, and Mrs. Hawkins, all of which are of great excellence in their several lines of colour. Single varieties were very strongly represented in the collection, chief amongst the numerous varieties being Amos Perry, Chilwell Beauty, Miss Linaker, Albert Victor, William Potten, John Downie, Duchess of Westminster, Mrs. Charles Daniels, and Enchantress. The pompon varieties, in which the Tottenham collection is especially rich, were staged in considerable numbers, and comprised beautiful bouquets of Dora, Rosetta, Darkness, Golden Gem, Cupid, E. F. Junker, Titania, Mdlle. V. Faconet, White Aster, and Fashion. The collection was rich in early-flowering chrysanthemums, which comprised Mrs. Cullingford, George Wermig, Madame Piccol, Flora, and Early Blush. Amongst the miscellaneous flowers were Aster amellus Bessarabicus and A. longifolius formosus, two of the very best of the Michaelmas daisies; Lilium speciosum, L. speciosum album, and Zauschneria californica, one of the most attractive hardy flowers of its season.

Messrs. Paul and Son, Cheshunt, staged a large and very bright collection, comprising tea-scented roses, single, pompon, fancy, and show dahlias, and hardy plants in great variety. Amongst the latter were beautiful bouquets of Cyclamen Græcum, a handsome species with rosy purple flowers; C. Neapolitanum, light rose; C. Neapolitanum album, a beautiful form, the flowers white with crimson base; Rudbeckia speciosa, a handsome species, resembling the well-known R. Newmanni in general character, but with rather large flower-heads, of which the ray florets are bright rose; Crocus speciosus, a beautiful autumn crocus with blue flowers; Phygelius capensis, a neat-growing plant with scarlet flowers; Catananche bicolor, a handsome composite with white and blue flowers; Physostegia speciosa, a very beautiful species producing erect closely-set spikes of rose and lilac flowers; and Aster lævis, a handsome form with lavender-blue flowers, which are produced in great profusion. Messrs. Paul and Son also exhibited plants of Aquilegia Ranwolfi aurea, a handsome form with richly-variegated foliage, and a specimen of a new weeping elm, which received the distinction of a first-class certificate.

Messrs. W. Paul and Son, Waltham Cross, contributed eight boxes of tea-scented and hybrid perpetual roses, which were remarkably fresh for so late in the season, and proved very attractive to the visitors. The tea-scented varieties included The Bride, a new white variety of American origin, Niphetos, Maréchal Niel, Marie Van Houtte, Comtesse de Nadaillac, Catherine Mermet, and Waltham Climber. The most important of the hybrid perpetuals staged was Grand Mogul, a fine dark flower raised by the firm, which has proved not less valuable for autumn flowering than for the production of blooms for the summer exhibitions.

Messrs. Kelway and Son, Langport, sent as usual a collection of gladioli, which was remarkable alike for its extent, the splendid development of the spikes, and the high quality of the varieties represented. The firm contributed also excellent stands of asters and gaillardias.

From Messrs. Rawlings Bros., Old Church, Romford, came a large and excellent collection of show, fancy, and pompon dahlias, in which were several new varieties of great excellence. The novelties included Robert Potfield, a crimson self, distinguished by its depth and finish; R. T. Rawlings, a fine yellow self, which has received the distinction of a first-class certificate; J. T. West, a distinct and effectively coloured show flower; and Queen of the Belgians, a show flower in the way of Mrs. Gladstone, which had a certificate conferred upon it. Mr. G. Harris, Orpington, exhibited several seedling show dahlias, the best being Freedom, a large show flower of considerable promise. Messrs. H. Cannell and Sons, Swanley, Kent, staged a box of new cactus dahlias, comprising finely-developed blooms of Charming Bride, Lady M. Marsham, Prince Albert Victor, Lady Kerrison, and Lady E. Dyke, all of which are important additions to this now popular section. Mr. Charles Turner, Slough, submitted a box of new and exceedingly beautiful pompon dahlias, from which several were selected for certificates. Those not certificated comprised Mignon, a small finely-formed flower of a bright crimson colour; Lothair, rich purple; Lady Jane, light scarlet; Dandy, purple-crimson; Hector, orange-scarlet; and Eccentric, a distinct variety, with well-formed flowers, coloured white, red, and yellow, but wanting in attractiveness.

The orchids shown were comparatively few in numbers, but mostly of great interest. Messrs. J. Veitch and Sons, King's Road, Chelsea, submitted the rare and handsome Cypripedium Sanderianum, which had a first-class certificate conferred upon it. Mr. A. Noakes, gardener to Dr. Duke, The Glen, Lewisham, sent a distinct form of the beautiful Cattleya Gaskelli with large, finely-formed flowers, of which the petals are marked with a broad purple band. Mr. H. Simpkins, gardener to R. J. Measures, Esq., Cambridge Lodge, Camberwell, presented a specimen of Grammatophyllum Ellisi, bearing a finely-developed spike of the richly-coloured flowers. From Mr. W. E. Boyce, Archway Road, Highgate, came a plant of Chrysanthemum Golden Fleece, a reflexed variety of American origin, which will probably prove a welcome addition to its class; the flowers are of medium size, good shape, and a bright yellow colour. Mr. S. Ford, Leonardslee, Horsham, contributed several trusses of the common hydrangea, of which the flowers were of a bright blue colour. Mr. R. Dean presented a well-flowered plant of a fine form of Dianthus Heddewigi; and Mr. C. Hershaw, Stead Dyke Nurseries, Brighouse, submitted Adiantum cuneatum elegans, a pleasing variety of this popular maidenhair.

Fruit Committee.

Present: Mr. T. F. Rivers, in the chair; and Messrs. W. Paul, W. Warren, G. Norman, J. Ellam, James Smith, J. Burnett, G. Bunyard, P. Crowley, S. Ford, R. D. Blackmore, C. Silverlock, Harrison Weir, and T. B. Haywood.

Chief amongst the contributions to the Fruit Committee was the collection of apples from Messrs. W. Paul and Son. The collection comprised about one hundred and fifty dishes, in which all the leading varieties were represented by excellent samples. Messrs. Paul and Son exhibited a collection of apples consisting of about one hundred dishes of large, well-finished fruit. The varieties included the Duchess of Cambridge, a rather large fruit with pale yellow skin, freely striped with rosy red. Messrs. H. Lane and Son, Great Berkhampstead, again exhibited the huge, heavily-cropped vines which attracted so much attention at the previous meeting.

Mr. T. Laxton, Girtford Gardens, Bedford, exhibited plants in bearing and fruit of Open Air tomato, which was referred by the committee to Chiswick for trial; samples of The Czar bean, a large-podded form of the White Runner, and a fruiting tree of the Dartmouth Crab, a very distinct variety, bearing large and very handsome fruit. W. Roupell, Esq., Harvey Lodge, Roupell Park, presented a basket of Madresfield Court grape, the bunches of medium size, the berries large, and the colour and finish perfect; and a pot-tree of Fertility pear, bearing fourteen large and otherwise excellent fruits.

Messrs. Paul and Son sent a basket of plants of Roi Henri strawberry, a perpetual-fruiting variety, bearing medium-sized bright red conical fruit. Mr. J. Burnett, The Deepdene, Dorking, sent fruit of Tyson pear and Belle de Fontenay raspberry. Mr. R. Smith, Yalding, Maidstone, contributed a good dish of Prince of Wales peach; and Messrs. J. Veitch and Son exhibited Clapp's Favourite pear. The Commissioners of New South Wales exhibited two baskets of fruit of the Navel orange, and received the compliment of a high commendation.

Novelties.

First-class certificates were granted as under:—

To Messrs. J. Veitch and Sons for

Rhododendron Rose Perfection.—A beautiful hybrid; the flowers of large size and fine form, the trusses bold, and the colour rich rose pink.

R. Queen of the Yellows.—A distinct and handsome variety, bearing large trusses of bright yellow flowers.

Cypripedium Sanderianum.—A very distinct species of the C. caudatum type; the flowers are of average size; the labellum rather long, decidedly pointed, and of a light brownish blue, the petals long, much twisted, and suffused with purple on a greenish ground; the sepals green, marked with longitudinal bands of purple.

Cratægus Lelandi.—A distinct form of the Pyracantha, and remarkable for the freedom with which it produces its bright coral-red berries at all stages of growth; young and old plants alike bearing heavy crops.

Selaginella gracilis.—An elegant species of robust growth, which will be found of great value for exhibition specimens; the fronds are large, somewhat spreading, and of a rich green colour.

To Mr. W. Bull, King's Road, Chelsea, for

Cepedesia discolor.—A distinct and handsome stove plant, with large, oblong leaves of a light brown colour in a young state, changing with age to a rich bronzy green.

Davallia solida major.—A beautiful stove fern, with large triangular and gracefully-spreading fronds of a dark glossy green hue.

Selaginella tesselata.—A robust-growing species, the fronds large, very elegant, and of a pleasing light green colour.

To Mr. R. H. Munday, Basingstoke, for

Dahlia Empress of India.—A decorative variety, with flowers of average size, and very attractively coloured purple and marone.

To Mr. Humphries, Kington Langley, Chippenham, for

Dahlia Valentine Humphries.—A fancy variety, the flowers large and of good form, the colour rose and yellow, with bright red stripes.

To Messrs. Rawlings Bros. for

Dahlia Queen of the Belgians.—A very beautiful show flower of a delicate rose pink hue, with cream-coloured centre. Similar in style and colour to Mrs. Gladstone, to which it bears so close a resemblance that the two could not well be shown in the same stand.

To Mr. T. S. Ware for

Dahlia Cochineal.—A handsome decorative variety, the flowers of large size, elegant in appearance, and of a rich crimson colour. It has the merit of of being very free in blooming.

To Messrs. Paul and Son for

Dahlia The Quaire.—A handsome single variety the flowers large, and of fine form, the colour rich crimson, shaded marone.

Ulmus Pitcursi pendula.—A fine weeping elm, which must be regarded as a welcome addition to the list of beautiful garden trees of pendulous growth. It has a very elegant habit, and handsome dark green leafage.

To Messrs. H. Cannell and Son for

Dahlia Charming Bride.—A decorative variety, remarkable for its distinctness and exquisite colouring. The flowers are of average size, white, suffused with rose purple.

Dahlia Lady M. Marsham.—A decorative variety; the flowers large, and of a bright vermilion-red colour.

To Mr. C. Turner for the undermentioned pompones, all of which have flowers of the most perfect form.

Gazelle.—Blush, suffused with deep rose.

Don Juan.—Blackish marone, very distinct and good.

Iolanthe.—Yellow and buff, very distinct and pleasing.

Mr. C. Turner was also granted a first-class certificate for

Mrs. Foster.—A beautiful show flower, the blooms large, with fine outline and good centre; the colour buff, suffused and shaded magenta rose.

To Mr. Bain, gardener to Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking, for

Cyrtanthus hybridum roseum.—A pleasing variety, with well-formed flowers of soft rosy-red colour.

Crinum Powelli.—A hardy species, producing tall scapes of large and finely-formed flowers of a delicate blush of pink hue.

NORTH OF SCOTLAND HORTICULTURAL ASSOCIATION.

The annual meeting of the North of Scotland Horticultural Association was held in the Christian Institute Hall, Aberdeen, on Friday evening, 17th inst. Mr. Peter Harper (Duthie Public Park) occupied the chair, and there was a large attendance of members. The annual reports from the secretary and the treasurer showed a satisfactory and prosperous state of affairs. During the past year it appeared that twenty yearly members and one life member had been added to the membership of the society. Three first-class certificates and ten cultural certificates had been granted, and twenty-one papers bearing on horticultural and scientific subjects had been read. The financial statement showed a balance in favour of the society of £32 9s. 10d. Mr. A. Robson, Market Street, Aberdeen, was elected president in room of Mr. Harper for the ensuing year, and Mr. A. Grigor, Fairfield, vice-president. Mr. William Reid, 8, Hadden Street, Aberdeen, was reappointed secretary, and Mr. William Wyllie, 18, Market Street, treasurer. Committees were formed and other formal business transacted. A very hearty vote of thanks to the retiring president ended the proceedings.

Notes of Observation.

HERBACEOUS LOBELIAS.

For some time past the herbaceous lobelias have contributed considerably to the attractions of the mixed border, and at the present time they present a very bright appearance in contrast with the white chrysanthemums and the Michaelmas daisies, which are now at their best. I am rather surprised they are not more grown in gardens, where there is plenty of space, and in which it is a point of some importance that the garden should be gay with flowers during August and September. They are well adapted to the requirements of the amateur, but in the garden of the country house they are invaluable. It is sometimes urged as an objection to their cultivation that they are not quite hardy; but for all practical purposes their not being hardy enough to withstand the cold of an ordinary winter is of no consequence, because a very large stock can be wintered in a two-light box. Taking all points into consideration, that fine old form, Queen Victoria, is the best, but Cardinalis and Prince Arthur are so good that they should both be grown. A rich [soil is essential to the production of fully-developed spikes. W. B.

JAPAN STORAX.

It is a great gain when a beautiful tree reputed tender proves to be hardy, and this may be said of the Japan Storax, or *Styrax Japonicum*, better known, perhaps, as *Styrax serrulatum*, which should be the established garden name, because it is adopted in B.M. 5,950, and we want a definite nomenclature. The gain to the garden of this tree proving hardy is that it affords a lovely example of leafage, and the flowering of the tree is in the nature of an event. This styrax may be likened to a ligustrum for general purposes, though in truth it is very different, but the comparison cannot detract from its merit in the minds of those who are familiar with the ligustrums of China and Japan. The older American species, *S. lævigatum*, is also a most beautiful plant with broader leaves and terminal flowers. The Japan styrax needs a warm dry soil, but the American plant loves a bog, and has been many times lost through being planted in too dry a situation. Both have white flowers that may be likened to those of a Deutzia. W.

The Glories of Versailles, that commemorate "all the glories of France," are fading fast, and it is quite within reasonable expectation that the present generation will see great changes there. The terrace of the orangery is wofully out of repair, the old orange trees and many other old things are perishing from neglect, and the Grand Trianon has become a wilderness. The soul of Versailles does not fit nicely to a republican body; it seems to Frenchmen of the present day the fossilized voice of one saying "I am France." But whatever the feeling prompted by historical and political considerations we shall hope that the palace of Versailles will be kept in decent order so long as it shall be allowed to exist. The town that has lived upon it is of course not in a thriving state.

JAPAN MAPLES.

The scarcity of these lovely trees in gardens is a matter for lamentation, especially at this season of the year, when flowers are scarce, and the colours of leaves are particularly attractive. The splendour of a plantation in which these trees are reasonably plentiful should advertise them so as to ensure immense popularity, but it does not, or we should meet with them in our daily walks, and see them in every good garden. There are possibly two reasons for the exclusion of these beauties from the catalogue of popular subjects. One is the belief that the trees are not hardy, whereas they are thoroughly hardy in all fairly favourable spots, say anywhere within twenty miles of London, for example. Another reason doubtless is they are nowhere seen in tree form, and therefore do not assert themselves. Now I wish this note to be useful, for I want to see people who love their gardens taking an interest in the beautiful Japan maples. Be it known then that these maples make very neat smallish trees, but the best way to have them is in bush form, and to keep them to that form they should be occasionally cut down, the result of which will be a strong and handsome growth of long rods bearing resplendent leafage. Good examples of the kind of trees they make when grown as such may be seen in the plantations that lie between the Temperate House and Marianne North's Picture Gallery in the Royal Gardens, Kew. In the front line of a collection of acers are some neat smallish trees of *Acer Japonicum polymorphum* in variety, and their gorgeous colours proclaim them the perfection of garden trees. Moreover, these beautiful specimens have stood here some years, and the recent hard winters have not harmed them in the least. W.

Literature.

RETROSPECTIONS OF MR. CHARLES ROACH SMITH.

Retrospections, Social and Archæological. By Charles Roach Smith, F.S.A. Vol. II. (Bell and Sons.)—The first volume of this important work was reviewed in G.M., August 11, 1883. This second volume may be more rich in interest for us and our readers than the first; we will not aver that it is so, but assuredly it is a delightful budget of reminiscences, and will grow in value as time softens the light in which the facts are viewed and what is called the "halo" gathers about them. The author has never posed as a horticulturist, and it appears to be a part of our duty, the book being before us, to say that amongst the gentlemen amateurs who have breathed into modern horticulture the very best of its life and beauty Mr. Charles Roach Smith holds a distinguished place, and for one service alone, amongst the many for which we are indebted to him, he has entered within the pale of the most sacred horticultural history. It is scarcely needful to remind our readers of this service, but for the information of the younger ones amongst the observers and critics it should be said that the author of these "Retrospections" has demonstrated at his classic residence, Temple Place, Strood, that in these degenerate days grapes may be grown in this country to a sufficient status of quality to make wines of high merit, from a full-bodied claret to a piquant sauterne, for, as a matter of fact, the homegrown wines at Strood are proper subjects for the study of connoisseurs. But our excellent friend would probably always prefer to be remembered as an archæologist, and thereby hangs a tale that has been told and must not now be repeated. Archæologists differ amongst themselves as other ologists do; but amidst a diversity of gifts and tempers Mr. C. R. Smith must shine by a light of his own, a clear interpreter of the knowable, and a rational speculator on things that appear beyond the range of determinable accuracy. In this second volume of Retrospections is a grand heap of archæological information on Roman London and old French cities; pottery does not escape us; the stage shows its sidelights; and neolithic implements are allowed to speak because the men who used them were not competent to speak for themselves. But, after all, the Retrospections consist for the most part of records and remembrances of men and women; the book is a mirror of humanity enclosed in the golden frame of friendship. Happy man art thou, C. R. S., to have the stuff within that can make such sunny pages.

Turning to the index, we take note that the philosophers, artists, archæologists, and angels who may be associated in the botanico-hortico-persuasion, and of whom our anecdotist has something special to say, include Mr. W. F. Ainsworth, Dr. Allnatt, Dr. W. Bell, Mrs. Sarah Blackett, John Britton, Mr. John Brown, Mr. Tom Burgess, the Rev. Henry Christmas, Mr. George Godwin, Professor Henslowe, Mr. Llewellyn Jewitt, Sir William Lawson, Dr. John Lee, Mr. H. J. Slack, Mr. Joseph Mayer, Mr. Thomas Rivers, Mr. Robert Surtees, and Mr. Yarrell. But be not deceived, dear readers, by the present leaning to the "special" notion, for herein are records of such diverse idiosyncrasies as Mr. William Chaffers, Dr. Diamond, Charles Dickens, Henry Dodd, the golden dustman, Miss Meteyard, Mr. John Gough Nicholls, Mr. William Procter, Mrs. Siddons, Mr. Albert Way, and the keen-eyed J. J. A. Worsaae, who saw many more points of interest in us and our art treasures and antiquities than any other man of the time was competent to see.

To gratify our readers with a little taste of this book we shall make an extract from page 6: "I accompanied from Temple Place the eminent gardener, Mr. Thomas Rivers, to Leeds Castle, by invitation, to inspect a peach border, in which the trees were in a most flourishing condition in respect to foliage and wood; but they did not produce fruit. It was autumn, and this year my peach trees at Temple Place bore abundantly. Mr. Rivers's practised eye enabled him, in a moment, to name the different kinds. Tasting an Early Anne, he remarked: 'Now this is a peach we consider quite second-rate, but here it is in perfection, and very delicious. It is ever the case . fruits in high perfection, though of inferior kinds, will often beat the better sorts when not so well matured.' His knowledge of trees in general was as profound as his pomological learning. When walking with Mr. J. G. Waller to the Pont du Gard I gathered some berries of a stunted tree growing upon barren high ground, and laden with black clusters of fruit. The tree to us was a novelty, and so it was when I had reared it in my garden; but the richer soil caused it to grow full ten feet high, and it never produced a berry. Mr. Rivers, in a moment, detected it in the shrubbery, and naming it, observed

that he had not seen one for a long time. With him there were 'books in the running brooks; sermons in stones;' and his visits to me, and mine to him at Sawbridgeworth, were full of delight and information. We walked from Maidstone, reaching Leeds Castle early in the afternoon. After lunch we were introduced to the peach border. It was of considerable length, and full eight feet wide, stocked with trees of vigorous growth; but totally without fruit. 'I should imagine,' said Mr. Rivers, smiling, 'that this peach border must be a nice little annuity for some Maidstone gardener. I should like you, sir, to see Roach Smith's peach trees. I am not sure they have any borders at all; the roots of the trees are under gravel walks. Your trees are fed by rich earth, which promotes this exuberant growth of wood and causes barrenness in fruit.' He then gave directions that the ground should be laid open; that clay should be laid upon the roots after root pruning, and that a gravel path should be made within a foot from the wall."

It will be a change from the fruit garden to the farm at large, and here is an extract in which Mr. H. J. Slack offers wisdom on the agricultural problem: "Scientific agriculturists complain that the labourer is behind every other instrument they employ. They have improved the horse; introduced the steam-engine, and a host of complicated appliances; but the human instrument is miserably housed, wretchedly taught, indifferently clothed, and badly fed. As a question in moral science it might be affirmed that he has a valid claim to better treatment; and economical science indicates that the way to obtain it is to accelerate the changes which are making his occupation more scientific. The farmer must, then, if he would avoid bankruptcy, exert himself to improve the labourer's position; enable him to be worth much more than his present wages, and give him a larger share in the profits which are made. If the elevation of the working classes in physical comfort could proceed indefinitely, without a corresponding evolution of intelligence, it would be a misfortune and not an advantage."

Replies to Queries.

Begonias.—J.S.—The plants should remain in the beds until the foliage has been touched by the frost, when they must be lifted and placed in a dry structure preparatory to the tubers being placed in their winter quarters.

Endive.—B.W.—The endive that is sufficiently blanched for the salad bowl should be carefully lifted and put in a cold frame. On your cold wet soil it will be difficult to keep the crop now ready for use in good condition late in the autumn without the aid of glass.

Exhibitor.—It is quite allowable to show achimenes in a class for stove and greenhouse plants in flower, but prudent judges would prefer other subjects, and, therefore, to put achimenes in a mixed class is not good policy. As regards a group to fill a measured space, to exceed the space is to be fully entitled to disqualification. A measured space cannot mean any space.

Tree Onion.—W. P. need not doubt the existence of this, but his gardener friend may be excused for ignorance of it, because it is known to very few, and we could not say where the variety could be purchased. It forms a bulb below ground, and a cluster of small bulbs at the top of a tall stem, producing also flowers and seeds, though these occur but rarely. It is a really useful thing, and the small top bulbs make an excellent pickle. It is figured in Hibberd's "Amateur's Kitchen Garden," page 115.

Grapes.—F. G., Leicester.—The vines may have suffered from an insufficiency of moisture at the roots during the summer, but overcropping is undoubtedly the principal cause of the grapes not colouring so satisfactorily as in former years. So far as we can judge from the appearance of the bunch before us the vines have had to carry about one-third more bunches than they were able to finish properly. Nothing can be done to improve the colour of the grapes, but as the vines have had such a heavy tax imposed upon their strength, it will be advisable to apply a liberal top dressing of manure to the border in the course of the winter.

Peach House.—H. B. writes: Having a small structure, for which I have no special use, I propose to convert it into a peach house. As it is only large enough to afford space for two trained trees, and I am anxious to have more than that number of varieties, I should like to know whether trees trained on the U system are as productive as the fan-trained trees, or, in other words, whether they will, in a given space, produce as much fruit as those fan-trained. It will be a great advantage to have the U trained trees, and I should like to know the opinions of experienced cultivators as to the results obtained from the two classes of trees.

[Double cordon peach trees are not largely grown; but under a proper system of management they will yield crops equally as satisfactory as those trained in accordance with the orthodox practice of English cultivators.—ED. *G. M.*]

Fruit Trees in Pots.—Guillaume.—The growth which rises from the base of the young fig trees should be removed at the winter pruning. Peaches, nectarines, cherries, and pears may all be successfully grown in a greenhouse, provided the trees can be placed in a position where they will enjoy uninterrupted light, and a free circulation of air. Peach and nectarine trees will probably give you the greatest satisfaction, as with proper attention they will produce heavy crops of fruit. The pots must be well drained, and strong turfy loam, to which a moderate addition of well rotted manure has been made, be employed. With the aid of rich top dressings and occasional supplies of liquid manure of a moderate degree of strength the trees will not require repotting more frequently than every second or third year.

Names of Plants.—H. H.—Your handsome plant is the Japan Knotweed, Polygonum cuspidatum. Norman.—Your beautiful long-tubed flower is Gloxinia tubiflora. B. P.—Your trees are too many for one parcel. 1, Ceanothus azureus; 2, Cupressus Lawsoniana; 3, Cryptomeria elegans; 4 and 5, Retinospora plumosa aurea; 6, Cryptomeria Japonica; 7, Taxodium sempervirens; 8, Retinospora pisifera; 9, Juniperus Chinensis; 10, Retinospora ericoides; 11, Abies pygmæa. J. Harbor.—1, Erodium glaucophyllum; 2, Geranium pusillum; 3, Linaria cymbalaria; 4, Erysimum firmum. R. Cavendish.—Both are Allium Illyricum, and if grown side by side would agree in all particulars. The specimens sent appear to have been grown under different conditions, one in full sun and the other in shade. The question proposed is of no interest whatever. R. T.—Richardia is correct, but Calla is allowable. The botanists do not always follow their own rules. Guillaume; 2, Lastrea patens; 5, Polystichum angulare; 6, Cystopteris Dickeana; 7, Asplenium trichomanes; 10, Adiantum capillus veneris. The other specimens are not in fruit, and insufficient for identification.

Magnolia not Flowering.—A. D. complains of the non-flowering of magnolias on north, south, and west aspects in a garden at Slough. We assume that the magnolia that is the subject of inquiry is the large-leaved evergreen kind that should produce white flowers, and is known as Magnolia grandiflora. A. D. suspects that the trees require to be grafted, but that is not the solution of the problem. After standing twenty years without producing a single flower, the cause must be sought in climate or soil. It happens that this noble evergreen flowers as well in and around Slough as freely as in other places, but our correspondent may be in some cold windy spot that tells against the success of this tree. Our suspicion is that the soil is too cold and damp, and that in consequence the growth of the season is insufficiently ripened. We shall be glad to hear again on the subject in respect of these two points—is the soil heavy, damp, and undrained, and are the trees overloaded with breast wood; in other words, have they been allowed to form a sort of thicket instead of being kept close to the wall for the advantage of warmth and shelter?

Verbenas.—W. M.—Both for bedding and pot culture spring-struck plants are the best, as they invariably make a more robust growth than those which have been kept over the winter. Therefore, sufficient only should be propagated in the autumn to supply cuttings in the spring, the number of each variety being of course determined by the stock required. Those employed as bedders should be in a vigorous condition when put out, as hard, half-starved plants seldom prove satisfactory. The soil should be rather rich and deeply stirred. For those to be grown in pots provide a rich open compost, and place them in a light and airy position in a pit or small plant house. The following comprise the best of those suitable for bedding: Beethoven, Blue Beauty, Boule de Neige, Crimson King, Geant des Batailles, Hampton Court Crimson, Lady Cowley, Melindres splendens, Purple King, Rev. R. Hole, Venosa, and Wilhelm Prestinari. The most desirable of the many good kinds adapted for exhibition are Apollo, Burns, Ball of Fire, Blue Boy, Ciel d'Azur, Delicata, Edward Perkins, F. Delaux, Flower of Dorset, Faust, Hamlet, Lady Brooke, Lord Brooke, Lord Leigh, Marion Baker, Mesange, Mons. Baco, Mons. Chartier, Mrs. Tait, Ophelia, Parity, Ruby, Simon Kremser, and Uranie.

TRADE CATALOGUES.

HOOPER AND CO., COVENT GARDEN, W.C.—*Bulb Catalogue*, 1886.

JARDIN ALPIN D'ACCLIMATATION, GENEVA.—*Supplementary Catalogue of Plants.*

JAMES COCKER AND SON, ABERDEEN.—*Hyacinths, Tulips, Crocus, and other Roots.*

P. J. KANE, KELLS, MEATH.—*Amateur's List of Dutch Bulbs, &c.*

W. WOOD AND SON, WOOD GREEN, N., AND 3, BISHOPSGATE STREET, E.C.—*Special Manures and Composts, &c.*

WILLIAM RUMSEY, WALTHAM CROSS.—*Roses, Fruit Trees, &c.*

H. CANNELL AND SONS, SWANLEY, KENT.—*Bulbs and other roots for Winter and Spring Flowers.*

JAMES YATES, STOCKPORT.—*Bulbs and other Flowering Roots.*

G. COOLING AND SONS, BATH.—*Hyacinths, Narcissi, and Tulips.*

Obituary.

RECENTLY, MR. A. W. HARRISON, many years secretary of Pennsylvania Horticultural Society.

ON September 12, Mr. WILLIAM STEWART, of the firm of Messrs. John Stewart and Sons, Nurserymen, of Dundee and Broughty Ferry, aged 61.

ON the 17th instant, the Rev. CHARLES PIERREPOINT PEACH, vicar of Appleton-le-Street, aged 57.

ON the 18th instant, at 22, Broad Street, Birmingham, JOSEPH SAMPSON GAMGEE, M.R.C.S., &c., in his 59th year.

Markets.

COVENT GARDEN.

FRUIT.			
Apples ... per ½ sieve	1s. 6d.	to	3s. 6d.
Damsons ... per ½-sieve	1s. 6d.	,,	2s. 6d.
Figs ... per doz.	0s. 6d.	,,	1s. 6d.
Filberts ... per lb.	0s. 6d.	,,	0s. 8d.
Grapes ... per lb.	0s. 9d.	,,	2s. 6d.
Lemons ... per case	15s. 0d.	,,	25s. 0d.
Melons ... each	1s. 0d.	,,	2s. 0d.
Peaches ... per doz.	2s. 0d.	,,	6s. 0d.
Pears ... per ½-sieve	1s. 6d.	,,	3s. 0d.
Pears, Dessert ... per doz.	1s. 0d.	,,	1s. 6d.
Pine-apples, English, per lb.	1s. 6d.	,,	3s. 0d.
Plums ... per ½ sieve	1s. 0d.	,,	2s. 0d.
VEGETABLES.			
Artichokes, Globe, per dz.	3s. 0d.	,,	4s. 0d.
Aubergines ... per doz.	2s. 0d.	,,	2s. 6d.
Beans, French ... per lb.	0s. 2d.	,,	0s. 4d.
Beet ... per doz.	1s. 0d.	,,	2s. 0d.
Beans, Runners, per sieve	4s. 0d.	,,	4s. 6d.
Cabbages ... per doz.	1s. 6d.	,,	2s. 0d.
Carrots ... per bun.	0s. 4d.	,,	0s. 6d.
Cauliflowers ... per doz.	2s. 0d.	,,	3s. 0d.
Celery ... per bun.	1s. 6d.	,,	2s. 0d.
Cucumbers ... each	0s. 6d.	,,	1s. 0d.
Endive ... per doz.	1s. 0d.	,,	2s. 0d.
Herbs ... per bunch	0s. 3d.	,,	0s. 4d.
Horse-radish ... per bun.	3s. 0d.	,,	4s. 0d.
Lettuces, Cabbage, per doz.	0s. 8d.	,,	1s. 0d.
Lettuce, Cos ... per doz.	1s. 0d.	,,	1s. 6d.
Mushrooms ... per basket	1s. 0d.	,,	1s. 6d.
Onions ... per bunch	0s. 4d.	,,	0s. 6d.
Onions ... per bushel	3s. 6d.	,,	4s. 0d.
Parsley ... per bun.	0s. 3d.	,,	0s. 4d.
Peas ... per quart	1s. 0d.	,,	2s. 0d.
Radishes ... per doz. bunch	0s. 8d.	,,	1s. 0d.
Shallots ... per lb.	0s. 3d.	,,	0s. 6d.

VEGETABLES.			
Small Salading ... per pun.	0s. 3d.	to	0s. 4d.
Spinach ... per bushel	3s. 0d.	,,	4s. 0d.
Tomatoes ... per lb.	0s. 4d.	,,	0s. 6d.
Turnips ... per bunch	0s. 4d.	,,	0s. 6d.
Vegetable Marrows, per doz.	1s. 6d.	,,	2s. 0d.
CUT FLOWERS.			
Asters ... per doz.	0s. 2d.	,,	0s. 3d.
Bouvardias ... per bunch	0s. 6d.	,,	1s. 0d.
Carnations, per doz. blms.	1s. 0d.	,,	1s. 6d.
Eucharis, per doz. blooms	2s. 0d.	,,	3s. 0d.
Gardenias, per doz. blooms	2s. 0d.	,,	3s. 0d.
Gladioli ... per doz. spikes	1s. 0d.	,,	1s. 6d.
Heliotropes, per doz. sprays	0s. 4d.	,,	0s. 6d.
Lapageria, per doz. blooms	1s. 0d.	,,	1s. 6d.
Lavender ... per doz. bun.	2s. 0d.	,,	4s. 0d.
Lilies ... per doz. blooms	2s. 0d.	,,	2s. 6d.
Marguerites, per doz. bun.	3s. 0d.	,,	4s. 0d.
Mignonette, per doz. bun.	1s. 0d.	,,	3s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d.	,,	0s. 8d.
Pelargoniums, per doz. trusses	0s. 8d.	,,	1s. 0d.
Roses ... per doz. blms.	0s. 9d.	,,	1s. 0d.
Roses, Tea ... per doz. blms.	0s. 8d.	,,	1s. 0d.
Stephanotis, per doz. sprays	1s. 6d.	,,	3s. 0d.
Tropæolum ... per doz. bun.	0s. 4d.	,,	1s. 0d.
Tuberoses ... per doz. blms.	0s. 4d.	,,	0s. 8d.

BOROUGH AND SPITALFIELDS.

POTATOES.			
Magnum Bonum ... per ton	60s.	to	75s.
Beauty of Hebron ... per ton	65s.	,,	70s.
Kent Regents ... per ton	60s.	,,	75s.
Early Rose ... per ton	50s.	,,	70s.
Essex Shaw ... per ton	50s.	,,	70s.

SILENCING CHANTICLEER.—It is admitted that in the act of crowing a bird stands up, and then stretches his neck to its full extent. A small lath, loosely suspended about eighteen inches above the perch, will obviate this. It in no way interferes with the bird's roosting, but the moment chanticleer contemplates a nuisance, the swinging lath comes gently into contact with his comb, and effectually stops him. I have a dozen birds, and none of them presume to crow till the hour that I let them out.—COCK-CROW.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
3	S	**15th Sunday after Trinity.**	6 5	10 58	5 35	—	9 21	5 15	5 36	2 21	2 40	54·3	Cattleya labiata	Brazil.	276
4	M	☽ First Quarter, 10h. 31m. after.	6 7	11 17	5 32	1 20	10 10	6 0	6 24	3 1	3 25	54·0	Cattleya Percivaliana	South America	277
5	Tu	Kirke White died, 1806.	6 9	11 35	5 30	2 6	11 4	6 49	7 17	3 49	4 14	53·7	Cypripedium Spicerianum	East Indies.	278
6	W	*Faith, Virgin and Martyr.*	6 10	11 52	5 27	2 46	Morn.	7 49	8 27	4 42	5 14	53·4	Epidendrum sceptrum	Colombia.	279
7	Th	Archbishop Laud born, 1573.	6 12	12 9	5 25	3 19	0 2	9 11	9 56	5 52	6 36	53·0	Lælia anceps	Mexico.	280
8	F	Battle of Torres Vedras, 1810.	6 14	12 23	5 22	3 48	1 4	10 36	11 11	7 21	8 1	52·6	Odontoglossum crispum	Colombia.	281
9	S	*St. Denys.*	6 16	12 43	5 20	4 13	2 4	11 42	—	8 36	0 7	52·5	Phalænopsis Sanderiana	East Indies.	282

CRYSTAL PALACE GREAT AUTUMN FRUIT SHOW, October 6, 7, 8, and 9. For Schedules &c., &c., apply to Mr. W. G. Head, Garden Superintendent, Crystal Palace.

RICHMOND (Surrey) CHRYSANTHEMUM SHOW.—The SIXTH AUTUMN EXHIBITION of FLOWERS, FRUIT, and VEGETABLES, will be held at the CASTLE HOTEL, on THURSDAY and FRIDAY, November 11 and 12. Prizes amount to nearly £100. For Schedules, apply to Mr. J. H. Ford, Hon. Sec., 22, George Street, Richmond.

STOKE NEWINGTON AND HIGHBURY CHRYSANTHEMUM SOCIETY.—ANNUAL EXHIBITION, November 4 and 5. Over £100 in Prizes offered. Schedule upon application to the Hon. Sec., Mr. W. Goldsmith, 6, Laurel Terrace, Alkham Road, Stamford Hill, N.

Exhibitions and Meetings for the Ensuing Week.

Wednesday, October 6, to Saturday, October 9.—Crystal Palace.—Autumn Fruit Show.

Auction Sales for the Ensuing Week.

Monday and Saturday, October 4 and 9.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Dutch Bulbs.

Monday, Thursday, and Saturday, October 4, 7, and 9.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.

Monday, October 4.—Messrs. Protheroe and Morris, at Cranston's Nurseries, Hereford; Clearance Sale of Nursery Stock.

Tuesday, October 5.—Messrs. Protheroe and Morris, at the Nursery, Upper Tooting Park; Nursery Stock and Greenhouse Plants.

Wednesday, October 6.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Camellias, Azaleas, Dutch Bulbs, &c.

Wednesday, October 16.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Plants and Bulbs.

Friday, October 8.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, OCTOBER 2, 1886.

The Summer of 1886, which closed its career on the 23rd ultimo., must be counted with the good summers of modern times. Not a few of our readers, perhaps, will be ready to dispute our allegation of its goodness, but the quality of a summer must be measured, chiefly, by the amount of its sunshine, and we certainly have had a sunny season. In a general retrospection it will be found difficult to indicate wherein the summer has failed by what may be called, for conventional purposes, its duty; but there will be no difficulty in pointing to departments of industry in which the summer has, apparently, done too much for the ungrateful monster whose name is Man. For example, many tons of plums have been allowed to fall and rot, because it was said it would not pay to gather them; and large tracts of country on which hops were plentiful will see no harvesting hands, for the plentiful production of hops of good quality has encouraged the abandonment to ruin of crops that were not quite up to the mark of high merit. We shall venture for the present to believe that the plums and the hops that have been left to rot on the ground were really of no great consequence to the general commissariat, and when they are spoken of as indicating the near approach of ruin, we shall call to mind that this poor country has been so often ruined, more especially in the speeches of politicians, that one more ruin can only amount to a small episode in the career we have become accustomed to. It seems not to matter much what may be said about hay crops, or corn crops, or root crops, or fruit crops, or any other crops; those that are not greatly successful are not to be described as failures, and those that are over-abundant are so only by the perversity of man, for in crowded countries nature never provides more food than can be consumed, provided reasonable care is taken for its appropriation. The waste of plums, the waste of hops, the waste of anything that is ordinarily useful, and the production of which has cost nature one whole year of work, must be counted either as a blunder or a crime; and, of course, we must push into the category of blunders the waste that all the world has heard of lately through the newspapers. So long as want is heard of, waste is to be deplored; indeed, it is but the fact of want unsatisfied that makes the fact of waste objectionable, for things there is no use for cannot be wasted; the sooner we have done with them the better, whether plums, hops, or notions founded on the philosophy of what should be in ignorance of what is.

But we do not find the family of men in a state of complacent satisfaction with what is. It appears that nobody makes money by work, and a great many people lose money by all they do, and all that happens to them. The price of wheat is too low to pay for growing it. The same may be said of potatoes, fruits, and—to make short work of the matter—*everything*. The world has sunk into a groove of grumbling; everybody is obtaining a living by labouring for a loss; and the next man you meet has invariably a face somewhat longer than the one you just parted with, so universal is the depression and so dreadful the outlook. It is true that for some years past prices have been low and profits small, and in farming and gardening heavy burdens have had to be endured. But there cannot be a question that complaining has become contagious, and one result is that what may be called the atmosphere of rural industries has become quite thick with doleful utterances, which our fastidious friends may, if they please, regard as simply erroneous or as inventions of the enemy of mankind. In what is called the agricultural world prices have been low, and the course of business has been all uphill. In nearly every department of trade and manufacture it has been the same; the consequence chiefly of our artificial regulation of the values of the precious metals, and the rude refusal of nature to adapt her ways to our ways, the very reverse of this being the proper teaching of a healthy policy. But while all this goes on the mass of mankind is fairly prosperous, the workman has his wages, and the employer does not lose by paying him; while those who are making fortunes, as many are, say nothing about it, and their silence "gives consent" to the tales that are told on the other side.

Some things might be better than they are: it was always so, it will always be so. The seller of home produce finds all the world against him in competition, and he has to fight against better climates, cheaper labour, and lower railway rates than he can command in aid of his own undertakings. The agricultural and horticultural interests have never been directly represented in Parliament, and they have always preferred to grumble instead of putting their shoulders to the wheel as others classes do for securing direct representation. The "friends of agriculture," who say much when out of power, and do nothing when in power, are for the most part too much concerned in keeping things as they are. The many miles of territory purchased at fancy prices for railways must be paid for by charges kept at the highest possible rates, and against these the home trade is powerless; while as regards the foreign trade the competition keeps the rates down, and the home producer, therefore, actually contributes in the charges he pays, to the aggravation of the circumstances that spoil his market. The interests that are chiefly represented in the lower House of Parliament are those of railway companies, lawyers, manufacturers, and merchants; the whole round of rural industries may be said to be unrepresented; there is, in fact, not a single farmer or gardener in either house, but both houses are crowded with professors of friendship for all the concerns of field and garden. By their works ye shall know them; and the crushing effect of railway policy shall testify to the value of their professions.

It is possible, perhaps, for Jupiter to help the waggoner: it is certainly possible for the waggoner to help himself. The manu-

facturing interest has gone far ahead of the agricultural, not solely because of the advantages of coal and iron close at hand, but because of quickness of invention, enterprising spirit, and power of adaptiveness to circumstances. These conditions have always been wanting on the other side. In the old times the landlords were the lawmakers, and took care of themselves. Now the lawyers, manufacturers, and merchants carry all before them, and selfishness blinds them to the fact that they must bear their share of the burden of agricultural adversity, however cautiously they may shape events to suit themselves. Between the producers of raw material, whether wool, wood, fibre, or food, and the operators in workshops and markets, there is and ever has been a great gulf fixed. If blame attaches anywhere, it attaches as much to one side as the other, for the interests are interwoven and the troubles are divided, although, it may be, unequally. The men of the town are less the sport of the elements than the men of the country, and even at the worst they are, in a greater degree, self-sustaining and self-reliant. But the other party is powerless against adverse fortune, and has the double difficulty of contending with nature on the one hand and with fluctuating markets on the other. The merchant goes to all fields and makes his selection, the farmer can but go to his own field and take what nature gives, or grieve for what nature refuses him. The more need for the producer to draw nearer to the manufacturer, and even to take some part in promoting the profitable appropriation of the produce of the land. It is shocking to hear of crops rotting on the ground, not simply because there are poor and hungry people in the world, but because the crops that are wasted have a latent value that suitable arrangements would convert into actual value for the augmentation of the national wealth, and thereby of the advantage of the whole body politic.

The experiments in tobacco cultivation will suggest to the reflective a thousand other experiments that might be entered on with a fair promise of useful results. No one can say at this moment whether it will pay to grow tobacco in any part of this country. Although that is a negative state of the case, it is a great point gained, for it cannot be said that it will not pay, because what appears to be a paying crop has been secured, and the question of its quality, and hence of its money value, has yet to be determined. The routine of agriculture is very much like the laws of the Medes and Persians, and its apparent fixedness makes occasion for us to congratulate the commercial horticulturists on their freedom of action and capability of adapting their operations to the requirements of the market. Severe as the foreign competition may be, there is yet room for British industry in the field of production, and its chief requirements are freedom and a faculty of adaptiveness. It is a common lament that we import this and that while the home production is neglected, but if the producers will walk in the way of the Medes and Persians it must be so, for fixedness of aim in matters of business, save in respect of the moral principles on which all good work must be established, tends to death rather than to life, or, at least, to want much more than to competency.

The Proposed Imperial Institute has obtained a reasonable amount of attention considering that the proposal is, as yet, in the most elementary condition, and those who now subscribe to the fund do so chiefly in the faith that what the Prince of Wales proposes must prove the right thing in the end. It must be owned, not only with haste, but with gladness, that his Royal Highness is a capital man of business, but for all that, when people are asked to assist in building a house they have a right to demand, as the price of their assistance, to be taken into the confidence of the architect. There will be money forthcoming up to a certain point, but in a matter of this sort wisdom is of more importance than money, and the very first thing to be done is to show that the proposal is in no way bound up with the shop-keeping, and what we will call the "cremornism" of the exhibitions that have been running at South Kensington. An Imperial Institute must not be compounded of a restaurant, a drinking bar, a steaming crowd, and a display of waterworks. It must be something more in one way and something less in another. It cannot be doubted, at least for the present, that the royal propounder has a clear idea of the thing that is wanted and the way in which it should be secured. The future of the proposal, however, is beyond the prescience as well as the control of any number of princes, for the world will be the arbiter of its fate, and its best passport to posterity will be its evident usefulness and necessity. The meeting held at the Mansion House on Monday was of the kind usually described as "influential," and it displayed an earnestness of spirit and the kind of loyalty that goes beyond words, and would, at least, attempt great deeds. But it was conducted in the dark, because there was nothing beyond the first bold proposal before it, and the promises given were in favour of a vague something that may prove a brilliant memorial of the present happy reign, or something else, we know not what. As an experiment in feeling the pulse of the public it may prove of great service, and encourage the Prince to unfold his plan, and the sooner that is accomplished the better. There are good people who regard the proposals of princes as beyond criticism, but these good people are soon lost in the crowd, for common sense prevails in the end, and a mere fad can only be kept going by artificial means. The necessity for prompt action is made evident by the prevalent belief that the Prince of Wales intends to make a permanent thing of the present Colonial Exhibition. God forbid that such a thing should be. It is a glorious thing as it is, and as it has been; but one season is enough for any such glory, far the world cannot live for ever on Spiers and Pond's refreshments, nor on the fountains and steam jets and electric lights that have been so liberally provided for the terrifying of the children and the bewilderment of country cousins. The august promoter has in view a better thing than this; and it must be in the nature of a new bulkwark of the state to command in the future the respect it has obtained on the instant, and from this time the world will demand particulars, or collapse must soon follow.

Colonial and Indian Exhibition will be closed November 10.

Mr. A. Bishop has been engaged as gardener at Westley Hall, Bury St. Edmunds, the residence of R. Burrell, Esq.

Mr. George Temple has been engaged as gardener to H. G. Bainbridge, Esq., Malvern Hall, Solihull, Birmingham.

Watford Chrysenthemum Society held its first exhibition in the Corn Exchange, November 16 and 17.

Lewisham Chrysanthemum Show will be held at the Ladywell Public Baths, Lewisham, November 12 and 13.

Newport and County Chrysanthemum Show will be held in the Albert Hall, Newport, November 17 and 18.

Chiswick Horticultural Society's Chrysanthemum Show will be held November 18.

Liverpool Horticultural Association will hold its exhibition of chrysanthemums and fruit in St. George's Hall, November 23 and 24.

National Rose Society's Provincial Exhibition, 1887, will be held at Edinburgh July 13, in connection with the summer show of the Royal Caledonian Horticultural Society.

The Purchase of the Estate of the Duke of Buccleuch by the Richmond vestry has been sanctioned by the Local Government Board. The vestry will borrow for the purpose £15,000 for 50 years.

A curious error occurs in the *Times* report of the meeting of the Metropolitan Board of Works on September 24. Mr. Joseph Beck is made to say that Clissold Park amounts to 3½ acres, and the inhabitants of Stoke Newington propose that it be purchased at a cost of £95,000. What a staggerer!

Essex Field Club.—An ordinary meeting of the Essex Field Club will be held to-day (Saturday), in the Loughton Public Hall, at half-past six p.m., when a lecture will be delivered by Mr. Alfred Wallace on "The Darwinian Theory." The annual cyrptogamic meeting will be held on Friday and Saturday, the 15th and 16th inst., in Epping Forest. The first day will be devoted to collecting and arranging specimens, and on the second day an exhibition will be held of the collected specimens and of microscopical objects, drawings, &c. The exhibition will be held in the ball-room of the Roebuck Inn, Buckhurst Hill, and will be opened at four p.m.

Kew Gardens may be approached, but not entered, by the beautiful "Queen's Gate," exactly opposite the Temperate House and adjoining Miss North's delightful picture gallery. Mr. Plunket says that for the opening of this gate no case has been made out, but "if ever the Lichfield Road is extended to the station, a new gate at the end of that road will, we believe, meet the wants of the public." The entrance from the railway station by way of the Cumberland Gate is altogether convenient, and in our opinion sufficient. The pressure of questions in relation to Kew Gardens with which the Board of Works is oppressed arises from the delusion of the inhabitants of Kew that the Royal Gardens are their property.

Californian Honey is described by Mr. Jabez Hogg as much adulterated. Mr. Edward Berwick, of Carmel Valley, Monterey, California, says, in reply thereto, "that if it be so the sophistication must be practised in Liverpool or London, for it would never pay to adulterate honey in California." "The genuine article," he says, "is so cheap here, 3c. to 4c. per lb. for first-class extracted honey, that adulteration would prove unprofitable. Our apiaries here are on a large scale, and produce honey by the ton. Some neighbours of mine in commencing business took, I believe, four tons of honey in one season from bee trees in their neighbourhood, and thus made an income while engaged in stocking their hives for the home apiary."

Dr. Paterson's Collection of Orchids was sold at Messrs. Protheroe and Morris's rooms on September 21 and 22, when fairly good prices were realized. The more important lots sold were Paterson's variety of Vanda suavis, 32*l.* 11*s.*; Vanda tricolor Patersoni, 16*l.* 16*s.*; Odontoglossum Alexandræ, 12*l.* 1*s.* 6*d.*, 14*l.* 3*s.* 6d., 33*l.* 12*s.*, the last-mentioned being an exceptionally fine variety; Cattleya Trianæ, fine variety, 47*l.* 5*s.*; C. labiata, autumn-flowering variety, 18*l.* 18*s.*; Lælia anceps Dawsoni, 9*l.* 9*s.*; L. Perrini alba, 21*l.*; L. elegans Turneri, 36*l.* 15*s.*; L. superbiens, 9*l.* 9*s.*; Cœlogyne Gardnerianum, 16*l.* 5*s.* 6*d.*; Cymbidium Lowianum, 13*l.* 13*s.*; C. giganteum, 12*l.* 12*s.*; Dendrobium Ainsworthi, 13*l.* 13*s.*

A Monster Bouquet.—On the recent occasion of the anniversary of the accession of the Sultan to the throne Count Abraham Camondo showed his loyalty by offering his Majesty a magnificent bouquet of nearly four yards in height and two and a half in circumference. The structure represented a lemon tree surmounted by a crescent, inscribed with the name of the Sultan on one side in French, and on the other in Turkish. The Sultan was greatly touched by this sign of devotion, and caused the eight men who had carried the monster bouquet to the palace to be adequately rewarded. The construction of the bouquet, it should be added, occupied ten persons for a whole week, and was, no doubt, a triumph of art, casting far into theshade even the marvels which are daily put before the eyes of the London public in the show-windows of the West-end florists.

Hornsey Local Board has followed in the way of Richmond in taking a bold step to secure a scrap of green country before the enterprising builder swallows the last mouthful. At a meeting on Monday a resolution to purchase the Churchyard Bottom Wood from the Ecclesiastical Commissioners for the sum of £25,000 was carried unanimously. It will be necessary to obtain Parliamentary sanction for the scheme, one feature of which is that £10,000 towards the purchase money be granted from the fund of the City of London parochial charities, leaving £15,000 to be borrowed on the security of the rates. Mr. H. R. Williams, the mover of the resolution, has been in the forefront of the battle for some time past, and the next session of Parliament should assure to him a complete conquest, and to Hornsey a great boon at a small price.

The Hessian Fly is reported by Miss Ormerod to have been introduced by means of cheap feeding-corn imported from Russia, and not, as was suspected, by means of the peat moss that is now so much used as stable litter. She says: "The Hessian fly is known on the authority of various scientific observers to do mischief in Central and Southern Russia, and it is stated by M. Köppen, a scientist in entomology and allied studies, that the maggots of the second generation of the year of the Hessian flies go into the chrysalis state at the end of September, 'and hibernate as such.' I see no reason to doubt that as such—that is, as chrysalides, pupæ, or flax seed, as they are popularly termed—they may be imported in feed-corn sent from Russia about this time until spring, and, with the assistance of the secretary of the Chamber of Agriculture of Hertford and a few qualified agriculturists of the neighbourhood, I am now endeavouring to procure the requisite preliminary information."

The Claims of Forestry to a place in a national system of education were made prominent in the presidential address of Sir Spencer Wells at the recent meeting of the Sanitary Institute. He said one of the most potent means of influencing the sanitary condition of a country is the judicious regulation of its forests. In Great Britain the Government all but ignores the subject of forestry. There is no school for teaching the science. Every proprietor is obliged to shift for himself, or to seek foreign help. And yet, by looking at the state of things in Upper India, Palestine, and Russia, we may see what mismanagement leads to. Almost everywhere man's ignorance and recklessness has worked evil by destruction of the forests. He has deteriorated the condition of the climate, taken away the productiveness of the soil, brought on famine and pestilence. We are not suffering to this extent. But negligence and mischief are inseparable, and to urge measures for the preservation of any climatic advantages we may still have, and the restoration of those we have lost, is assuredly work pertaining to a sanitary institute. His friend Dr. Lyons, when in the House of Commons, did good service in pressing the importance of tree-planting, especially in Ireland, upon the attention of the Government. Unfortunately he is no longer a member of Parliament; but he still continues his efforts to prove that by well-directed management the whole of the timber and forest products now obtained from abroad at an annual cost of 32 millions sterling might in time be furnished by our own land and labour, and that this economy would be attended by no less desirable changes in some of our climatic conditions.

COTONEASTERS FOR THE ROCKERY.

The beauty of *Cotoneaster microphylla* is well known, and on a spacious rockery it is singularly effective when allowed to grow in its own way without any interference except, perhaps, when it becomes obtrusive, as it will do in a strong soil, for a deep moist loam or clay suits it admirably. Occasionally in the West of England we may see it growing downwards from a wall or parapet that it has surmounted, and having reached the other side turns over and bites the stone or brick like a drapery, its almost black leafage giving effect to its scarlet berries. A small variety of this called *Cotoneaster thymifolia* is adapted for the smallest rockery, and will spread on level ground or attach itself in the way of ivy to a pinnacle of brick or stone. By "attach" is not meant that it takes hold of the material as an ivy or ampelopsis might; it rather might be said to hug the support, but it does this so neatly and completely that the effect is the same as though there was a real attachment, which there is not. Amateurs who give attention to rockeries often leave out of their catalogue the smaller shrubs, such as this cotoneaster, two or three cistus, more especially the Florentine, one or two hypericums, the laciniated sumach, the Alexandrian ruscus, the skimmia, and the interesting paliurus, which may not only be admired, but talked about for the general edification. W.

SPECIMEN VALLOTAS.

We have few greenhouse plants flowering during August and September which can match that fine old amaryllis, Vallota purpurea, whether grown in small pots for general decorations or in specimen form to embellish the conservatory or take part in a competive gathering, and many cultivators would do well to devote more attention to it than they have yet done. Attractive as are the single bulbs when properly grown, they fail to convey an adequate idea of the splendour of specimens, for it is not until the plants attain a large size that the bold habit characteristic of the vallota, and the richness of the colouring of the flowers, are fully brought out. This being the case, I would suggest that fully developed specimens should be more generally grown both for exhibition and enhancing the attractions of the conservatory during the autumn.

The production of specimen vallotas does not appear to be so well understood as could be wished, for they are by no means common in gardens, and those met with are frequently more or less unsatisfactory. The vallota is grown better in the neighbourhood of Edinburgh than in any other part of the United Kingdom, as proved by the numerous fine examples that are annually contributed to the autumn exhibitions of the Royal Caledonian Horticultural Society. But many of these, good as they usually are, fail to produce so good an effect as they should do, in consequence of their consisting wholly of flowering bulbs. The Scotch cultivators appear to have adopted the practice of annually shaking the whole of the bulbs out of the pots and then selecting those of sufficient strength to produce a stout scape for the formation of specimens. The smaller bulbs are then assorted and potted according to their sizes, to be grown on for flowering in subsequent seasons. By this practice a large and uniform head of bloom is obtained, but the plants present a rather bare appearance, and fail to produce such a pleasing impression as when the large bulbs are partly hidden by the elegant leafage of those of small size. The practice of drying off the bulbs ought to be greatly modified, for it is decidedly injurious to subject them to the drying process, which so many consider essential to an abundant production of flowers. The water supply must, of course, be greatly reduced during the winter, for, in common with other bulbous plants, the vallota must have a thorough season of rest. But it is possible to give the plants all the rest necessary without their being kept so dry that they lose nearly, if not quite, all their leaves.

I have not seen at any time or in any place specimens that surpassed those I grew a few years since, and I do not believe the practice then adopted could be very materially improved. They were of rather large size when they came into my hands, and throughout the whole time I had them the bulbs were not dried off or completely shaken out of the soil. They were repotted annually, the time selected being early in the spring, just before new growth commenced, and, judging from the results, no period could have been more suitable. The plants were turned out of the pots, the crocks removed, and as much of the old soil taken away as could be removed without injury to the roots or incurring the risk of separating the bulbs, the object aimed at being to give them as much new soil as possible without an increase in the size of the pot. At the same time a few of the smaller bulbs were carefully removed from each specimen if there were indications of their becoming overcrowded, but no great number was removed in any one season. The specimens were then returned to pots of the same size as those previously occupied, and the offsets put into small pots, several together. The compost used was prepared with mellow loam, rich in fibrous matter, flaky leaf-mould, manure from the cow byre, and well-nigh rotted to a powder, and silver sand. The loam was used in a comparatively rough state, and the manure, leaf-mould, and sand were added to it in the proportion of one barrowful of each to every four barrowfuls. The pots, which were fifteen inches in diameter, were as a matter of course, perfectly clean, and provided with sufficient drainage to carry off the superfluous moisture. As they were potted they were placed on the greenhouse stage, and supplied very sparingly with water, until it could been seen that they were commencing to grow freely, when it was increased according to their requirements.

There is no necessity to keep vallotas under glass throughout the summer as is so generally done. It is, in fact, an advantage to place them in the open for eight or ten weeks. Or, in other words, from the end of May until the flower scapes are nearly full-grown. An open position was selected for their summer quarters, and a bed of coal ashes formed for the pots to stand upon, as the moisture rising from the ashes was found highly beneficial to the plants. They were supplied liberally with water, and received about once a week liquid manure of a moderate degree of strength. In hot dry weather the leaves were occasionally sprinkled, the evening being invariably selected for overhead waterings.

As soon as the flower buds were seen the plants were removed indoors and placed in a light and airy situation, and every encouragement given them to develop their flower-buds satisfactorily, and complete the growth of the bulbs. Soon after the flowers had lost their freshness and beauty the plants were encouraged to rest by a reduction of the water supply, which was accomplished in a gradual manner. During the winter no more water was supplied them than was absolutely necessary to prevent the shrivelling of the younger leaves, and it was found that very little suffices for the purpose when they are brought to the resting state in a gradual manner.

By this very simple course of procedure the specimens were rich in leafage, and produced such immense scapes as to surprise not a little those who saw them for the first time. G. G.

ROSES AND ROSE STOCKS.

The rose is a universal favourite, for seldom do we hear anyone say they have too many roses, although it is quite possible to have too many plants in a miserable unhealthy condition. I propose to treat this subject as far as possible, with a view to assist those amateur and other lovers of roses who may think of entering the ranks as exhibitors, and have not the courage or the means to purchase a thousand or two roses on their own roots, or even one year old budded plants, the former being very difficult to obtain, so that it will be necessary to speak first of stocks. Notwithstanding what has been said in favour of own root roses, it will be many a long year ere we see them brought extensively into use, either by exhibitors or growers for sale only.

The present time is a good one for commencing in this pleasant branch of gardening, as it is now the time for putting in cuttings of the different kinds of stocks intended to be used for budding, and the best of these, doubtless, is the common English brier. If a commencement has been made with standard briers budded during the summer, a good quantity of brier cuttings may be cut off these without injuring them in the least. But they must not in any case be cut back nearer than four or five joints from where the bud has been placed. The small side shoots taken off with a heel, and shortened to about nine inches, as well as the main shoots cut at a joint and of a similar length, make excellent cuttings. It is important that cuttings of all kinds for budding should be selected from well-ripenened wood; pithy wood is of no use. Failing the briers at home, if the intending grower is situated in a rural district, probably he will be able to obtain what cuttings he will need from the hedgerows. When the briers are cut off no time should be lost in getting them made and planted, as when the cuttings are taken early there is nothing suffers sooner than they do, so that the piece of ground where they are intended to be planted should be previously looked out in a partially shaded situation. The soil should not be stiff clay, but of good working texture. In this the cuttings should be planted as soon as they are made in lines eighteen inches apart, and rather thick in the rows, say a couple of inches apart, as there are sure to be some losses among brier cuttings. I know one grower who has attempted to grow this kind of stock largely, but has failed to get even a small percentage to grow, and has adandoned the attempt on one or two occasions, and this on a light and friable soil. In many cases the non-success may be traced, first, to their not being put in soon enough in the season, from the middle of September to the middle of October being the best time; and secondly, through allowing the cuttings to lay about so as to shrivel the bark and otherwise impair their vitality before being planted. In planting, the cuttings should be placed rather deep, not allowing more than about two or three inches of the tops out of the soil, and they should be made quite firm by treading with the foot after placing a small layer of soil over them.

The Manetti is probably the next best stock to grow, and is doubtless by far the most extensively used by growers in the trade, owing to its free rooting propensities, and the rapidity with which in consequence it grows and forms good stems. Cuttings should be selected from well-ripened wood which can be taken from stocks which were budded during the summer months, and should be of a similar length to those of English brier cuttings. It need hardly be said that the worker among both Manetti and brier cuttings will require gloves; but the one for the left hand is used the most, it not being necessary to have a glove on the hand in which the knife is held. The method of preparing the cuttings of both these and the briers with us is of the simplest kind. They are cut to a joint at the heel end, and are laid together so that when sufficient for a bunch (say fifty), are made, they are tied up with a piece of matting or string to keep them straight, and the odd or long ends are cut off. We never attempt to take out the eyes or remove the lower leaves, but plant just as they are cut off; and we are very well satisfied with our success, as we have invariably had eighty to eighty-five per cent. of briers root in this way, and quite ninety per cent. of the Manettis.

There are two other kinds of stocks we have used, the Griffith and a thornless climbing rose of the old china type. The first-named we do not see much advantage in retaining, but the latter we are well pleased with, as both tea and hybrid perpetuals succeed alike well on it; and it is our intention to increase the stock of the same as fast as possible. It roots quite as freely as the brier cuttings, and would be just the kind of stock for gentleman amateurs, who do not care to have their hands and arms disfigured while budding the briers.

Clarendon Park, Salisbury. C. Warden.

SALPIGLOSSIS.

The great variety of quaint-coloured flowers amongst the Salpiglossus has made them special favourites of mine, as I find them to be very attractive when tastefully arranged in vases of suitable patterns and dimensions. I have used these flowers rather freely during the summer with sprays of sweet briar as greenery, and although they do not last long in a cut state, when lightly arranged they are sure to be admired. I cut them with stems of various lengths, and select the lightest and brightest colours for the centre of the vase, with the dark ones round them. When arranging them I never crowd the flowers. Many people use too many flowers in their arrangements. As a consequence they are so crowded that they never look well. In many cases if only a third of the quantity were used the arrangements would be more effective. I fill my vases three-parts full with clean silver sand, and keep it regularly moist by pouring a little water over it every other day. I prefer sand to filling the receptacles with water only, as the sand enables one to keep the flowers in an erect position, as it is not pleasing to see them tumbling over the sides of the vase.

Laura L——.

HARDY PLANTS IN FLOWER.

In gardens near London a quite autumnal complexion prevails. The summer flowers are gone, and the autumnal flowers are waning. The dahlias have been glorious, but they are no longer so, for although they are green in leaf and put forth well made and richly coloured flowers, their vigour is reduced by continuous cold, the new flowers rise slowly, and the high tide of display is past. Hollyhocks are quite past, gladioli are becoming scarce, pentstemons and lobelias are poor, and bedding plants are coarse and leafy. On the bright side we have a lot of fine phloxes, chrysanthemums, Japan anemones, many bright clumps of gaillardias, a few delphiniums, and any number of American composites, including the perennial asters, the sunflowers, and the sylphiums, the gigantic stems and staring flowers of which are effective only in large half-wild spaces. Amongst all the plants now in flower prominence must be given to one that is conspicuous for exceeding beauty; it is the larger and bluer form of *Aster acris*, of which there are several varieties, a few very dwarf and pale in colour, but the best is two and a-half feet high, and forms a free bush, crowned at this time with a dense head of most beautiful lilac-blue flowers.

Lilies are few, but *L. auratum* has by no means finished its course, for we have great heads of unopened flowers ready to keep us gay far into October, weather permitting. A few degrees of frost do not harm this noble lily, and, in fact, nothing harms it when in the open ground in full sunshine, but with some amount of shelter against high winds. All the varieties of *L. speciosum* are still carrying flowers, but the most effective are those that are high-coloured, such as *rubrum* and *purpureum*. Of *L. tigrinum*, the best variety now is the double, which is full of fire that the first heavy rain will extinguish.

Scabious is a poor genus now, but a few flowers appear on the Caucasian, and, in fact, the best varieties are the most free to flower and last the longest. We have a nice head of bloom now on *Scabiosa gramuntia*, a very dwarf plant, in habit like a thrift, with nice heads of rosy lilac flowers. It is a good rockery plant.

Polygonums of the gigantic section have made a magnificent display this season, showing how much of grandeur in the garden is independent of mere colour, and justifying a rule of general application that *form* is the first quality in the order of beauty. *Polygonum cuspidatum*, *P. sachalinense*, and *P. molle* are still very fine, but past their best. A few of the dwarf relatives of *P. Brunoni* are still gay with beautiful ruddy spikes.

Acanthus of two or three kinds show noble spikes of flowers above an exceedingly rich leafage. *Acanthus spinosus* is the best now, for it is very fresh and is flowering freely. *A. mollis* is holding up its last handful of flowers, and will close accounts with the first serious change of weather. *A. latifolius* has made an immense growth, and, though now flowerless, forms a fine front to some coarse helianths that tower up beyond it.

Geraniums are poor, but where a few flowers appear they attract one by their cheerful colours. Noticeable are those of the variety of *G. sanguineum*, known as *Lancastriense*. This last is quite gay with what may be called a crop of flowers, but all the more robust kinds are absolutely flowerless and more or less shabby.

Marguerites are beautiful and likely to continue gay with flowers and delicate leafage until bad weather works a change. Quite bold in attitude is the leafy *Chrysanthemum pinnatifidum* in the way of the one called in nurseries *C. Halleri*. All the varieties of *C. frutescens* are flowery, and the larger South Europe forms of *C. leucanthemum* are good.

Sunflowers are in full splendour; in fact the perennial kinds are at their very best in London gardens. The most distinct, and perhaps the one that should be first secured, is *Helianthus orgyalis* with its singular leafage and handsome flowers just expanding; the plant all freshness from head to foot. *H. multiflora* has been flowering for some weeks but is still good; it rises to five or six feet, the leaves are broad, the flowers clear yellow; one of the best. A gigantic plant is *H. doronicoides*, seven to ten feet, stout, stiff, leafy, the flowers appearing in neat disks of rich canary yellow. *H. occidentalis* is a dwarf plant not quite three feet high, leafy, with a free head of orange yellow. *H. giganteus* rises six to eight feet, a straggling plant, very free, flowers smallish, full yellow. *H. decapetalus* is a good garden plant, flowers pale yellow. *H. rigidus* rises six feet, has lanceolate leaves of a dull green and a fine head of deep yellow flowers, handsome and gardenish. To these we may add as a sunflower of a sort *Sylphium terebinthifolium*, a giant of six to ten feet, the leaves of great size, long triangular, the tall stems showing a crowd of yellow flowers. For the wild garden this is a grand monster.

Clerodendron claims another word, for the chill of autumn will soon make a change with it. The free-growing and quite hardy *Clerodendron dichotomum* is in full beauty, in fact, better than when we first made note of it, and there is no finer subject for a great mass in an isolated position in the wild garden. Its distinctive leafage and immense head of flowers, white, mingled with chocolate colour, having a splendid appearance in the autumnal sunshine. Very different is the large-leaved *C. fœtidum*, a most noble plant, with a sort of "put me in the stove" expression, the flowers in large heads, deep crimson before expansion, afterwards a curious pucy tone of crimson, pleasing, and very distinct. This needs a sheltered corner on a dry soil, for rough conditions would kill it.

Snakeroot is the "familiar" name, with which few are familiar, of Liatris, of which *Liatris spicata* and *L. cylindracea* are flowering freely, and quite welcome. The beautiful feathery heads of rosy-purple flowers illustrate the wide range of structure in the composites, for on a first acquaintance with it one might be excused for doubting its relationships with the asters. *L. pumila* is a nice rock plant, as good as any on a dry shelf of sandy soil.

Statices are going downhill, but *Statice limoneum* and a few forms of *S. latifolium* are still good. The beautiful *S. Suworowi* has had its day, but it ran out to extravagant lengths, and suggested a model for the knout, which is said to be out of fashion now in Russia.

Golden Rods have been looked down upon, but we propose to look up to them and begin with *Solidago serotinum*, six to eight feet, the best perhaps of the golden-crowned grenadiers. This has large drooping lanceolate leaves, and flowers in branching racemes, bright yellow. And the best of the dwarf golden rods, perhaps, is *S. Californica*, a neat and nice plant two feet high, the leafage dark greyish green, the flowers in feathery drooping racemes, brilliant yellow; *S. Chicensis* rises three feet, leaves at base large, ovate-lanceolate, flowers on stems sparely leafy, yellow, like those of a senecio; *S. ulmifolia*, four to five feet, is a stout bush with ovate-lanceolate leaves, not at all like those of an elm, the flowers in ample heads full yellow; *S. pubens* is a neat dwarf plant, not more than three feet, densely leafy, light green, with a

fair head of compact racemes, sulphur-toned yellow; *S. speciosa* is under three feet, a neat bush with dull green leafage, and a neat head of bright yellow flowers in loose racemes; *S. Booti* rises only two feet, basal leaves lobed, stem leaves entire, flowers in spare racemes; this plant reminds us of the agrimony, although it is miles removed; *S. rigida* is a fine plant, three feet, leaves large, coarsely toothed, corymbose racemes of orange-yellow flowers, extra showy.

Asters are too many for a paragraph, therefore we shall here make short work with them. Of *Aster acris* note is made above; it is sumptuously beautiful. *Xanthocephalum gymnospermoides* is a finer plant than its ugly name would suggest. It grows five or six feet with lanceolate leaves, full green, and a great head of brilliant orange flowers; a grand plant for the wild garden.

growing, half-twining, herbaceous plants, with slender racemes of smallish purple papilionaceous flowers.

Clematis are no longer plentiful, but the fragrant *Clematis flammula* is with us quite fresh and lovely in a north-west aspect, though in an opposite aspect it went out of flower three weeks since. But for colour we can name a splendid variety of the Jackmani section, but better than the type of that series, which is saying a great word for it. This beauty is named *Gipsy Queen*; it grows freely, flowers abundantly; the flowers are of a rich, reddish-purple colour, and will continue in full splendour for about a fortnight yet, unless severe frost should close their career. A slight frost they have tasted, and are none the worse for it.

Poppies have nearly run their course for the season, but we have a few

ICELAND POPPY, *Papaver nudicaule.* (Colours red, white, yellow, and orange.)

Boltonia incisa is a strong plant four feet, the leaves lanceolate, coarsely serrate, flowers in full heads, but scattered, starch tinted white. *Aster linosyris* is the "goldilocks" of the old fashioned garden, a very distinct and handsome though weedy thing. It is fine now with its deep green leafage and dazzling head of yellow flowers.

Potentillas make but little show now, but *Potentilla pyrenaica* is adorned with a few deep golden yellow flowers, and *P. Nepalensis* has a good sprinkling of flowers of a peculiar reddish carmine colour.

Desmodiums belong to the greenhouse or stove more than the out-door garden, but there are a few good hardy plants amongst them, and of these we have now in flower *Desmodium tiliæfolium* and *D. pendulifolium*, both free-

bright flowers of the French pæony section in sunny corners, and very many of all the several colours of Iceland poppy, *Papaver nudicaule*. It might be unfair to describe this as the most useful of the family, because when the oriental series are flaming in the field it is difficult to see any others, and, in fact, there are not many others then to be found. One thing may be said of this sweet beauty, that it flowers through a longer season than any, for not only is it gay now, but will continue to throw up flowers until actually stopped by frost, an event that must be near at hand if we may judge by our present feelings. Although so useful, and more especially as a model rock plant, this poppy is not well-known amongst amateur gardeners, many of whom doubtless will be glad to see a figure of it.

NOTES ON ORCHIDS.

Dendrobium Wardianum.—This is one of the most splendid dendrobes in cultivation, and has been introduced in large quantities during the last few years. An ordinary form of it is given in *Reichenbachia*, Tab. 9, where it is stated that "it is not a difficult orchid to import. Collectors go first to Rangoon, then by steamer up the Irrawaddy to Bhamo, which town they make their headquarters." It is also stated that the collectors were not allowed to go outside Bhamo themselves, but had to trust entirely to the natives to collect the plants in the mountains for them. The editor further states in his cultural remarks that the temperature during the resting period "should range within a few degrees of 50 deg., but not lower." I may say in reference to this that we winter the plants in an average of 40 deg., which of course falls below this figure sometimes. I have exhibited well-flowered plants in the end of May in London of this species, which could not have been done unless the plants had been kept in a low temperature until March. The plants are placed in a cool house in August, or earlier, if the growths are ripened earlier. A high, moist atmosphere is best to grow them in, and basket is better than pot culture for them.

Lælia autumnalis xanthotropis is the subject of Tab. 10, a distinct and very pretty form of the species, which ought to have had a pretty English varietal name instead of the cumbersome one given to it by Dr. Reichenbach. The flowers are stated to be very fragrant, so are those of the variety named atrorubens, but the perfume resembles an insect detested by cleanly housewives, and which is not uncommon in the bed-rooms of some old London houses. The cultural instructions given will produce the best results if carefully followed, as I can testify from experience. The plants require scarcely any shade, and they ought to be kept quite dry and cool during winter. I keep them quite close to the glass during summer and winter.

Phalænopsis grandiflora, Tab. 11, is a very artistic one of a very fine variety of the species known as *Aurea*, which is not yet plentiful in cultivation. Dr. Lindley named this species, and also P. amabilis, which for garden purposes are sufficiently distinct. Lindley's nomenclature, Dr. Reichenbach does not consider correct, and says, "I stated the case fully in 1862 in the *Hamburger Gartenzeitung*, p. 38, where I named Lindley's P. amabilis for botanical purposes *P. aphrodite*. Lindley's P. grandiflora is Blume's P. amabilis." Blume's P. amabilis is figured in the Bot. Reg. 1838, T. 34, from a specimen that flowered with Messrs. Rollisson's, of Tooting. "Dr. Blume met with it on the wooded coast of Nusa Kambanga. Rumph, who first noticed it, found it growing in Amboyna, on short thick trees covered with moss." Phalænopsids have the repute of being difficult to cultivate, but this is not so. When the requisite degree of temperature can be obtained the plants will grow freely in a moist atmosphere, and in the warmest house. They are suspended in teak baskets from the roof in preference to any other arrangement. The mistake is often made of keeping both the plants and the atmosphere of the house too moist in winter. In summer they like plenty of heat and moisture, with more shade than the usual run of orchidaceous plants.

Cattleya Lawrenciana, Tab. 12, is a good illustration of this distinct and very handsome species introduced by Messrs. Sander, from British Guiana. It is very nearly allied to C. Skinneri, but the flowers are larger, and, as a rule, more highly coloured. The editor says, "It succeeds best at the warmest end of the Cattleya house during active growth. The plants should be exposed to full light and sun, and must not be shaded except during excessively bright days." The letterpress accompanying the various plates is the more valuable because of the analytical drawings of the various parts of the flowers prepared by Dr. Reichenbach.

James Douglas.

DAFFODILS FOR THE CONSERVATORY.

For associating with the hyacinths, tulips, and other subjects flowering in spring, the Polyanthus daffodils are of special value, because of their distinct characters and colours, and a selection from the numerous varieties in commerce should invariably be grown. A few of the varieties from two or three of the other sections may be employed to advantage in the decoration of the conservatory; but as many of those recommended for pot culture are quite unsuitable for the purpose, it is necessary to be careful in making a selection. Those who require a limited number only of daffodils for the embellishment of the conservatory and drawing-room should confine their attention to the Polyanthus varieties. It is only by growing them under glass that their beauty can be fully enjoyed, whilst the trumpet and other of the large-flowered daffodils can be had in perfection in the open beds and borders, where they really appear to greater advantage than when grown in pots.

As in the case of the hyacinths and tulips, certain of the varieties are especially adapted for flowering at midwinter, and to these it will perhaps be well to first briefly refer. The best of the early sorts are the Paper White, which has small and very elegant white flowers, and the Double Roman, the flowers of which are double, pure white, and admirably adapted for choice bouquets, as indeed are those of the first mentioned. When grown in rather large quantities for the supply of cut flowers during December and January, the best course is to put the bulbs rather thickly in pans or boxes, because of the saving in time and space as compared with pot culture. The boxes or pans should be from four to six inches in depth, and be efficiently drained, that no injury may arise from stagnant moisture about the roots. In preparing the bulbs for flowering at midwinter it is necessary to begin early in the autumn, that they may have plenty of time to become well rooted before they are placed in the forcing pit, as an abundance of roots is essential to their flowering satisfactorily. In putting them in the boxes fill the latter to about two-thirds of their depth with a compost consisting of loam, leaf-mould, or manure and silver sand. On the surface of the soil arrange the bulbs about two and a-half inches apart, and then cover them with sufficient soil to fill the box or pan to within about one-third of its upper edge. In growing them in pots for the decoration of the conservatory use those five inches in diameter, and put three bulbs in each. They should be potted low enough for the upper part of the neck to be just visible above the surface. The compost for these should be prepared in the same manner as for the boxes.

In the cultivation of the varieties, such as Bazelman Major, which are rather later in flowering and more robust in growth, a substantial compost and plenty of root space must be provided. Specimens of medium size are the most suitable for decorative purposes, and the preferable course is to grow them in threes in pots six inches in diameter. In the production, on the other hand, of specimens for exhibition, pots one size larger than the foregoing must be used, and five bulbs be put in each pot. In both cases the pots must be well drained and a rich soil be used. A compost admirably adapted to the requirements of this section of the daffodils is one prepared with fibrous loam, thoroughly decayed manure, such as that from an old hot-bed, leaf-mould, and silver sand. The proportions to be one part each of the manure, leaf-mould, and sand, to every four parts of the loam. Where there is a difficulty in obtaining the leaf-mould a double quantity of manure can be used instead, and in a like manner a second part of the leaf-mould may be substituted for the manure. The bulbs should in all cases be potted low enough for the tips only to be shown above the soil, as the shallow potting, which finds favour with many cultivators, is decidedly objectionable.

As the bulbs are potted they should be placed where the light can be excluded, and there is no better plan than to place them in the open and cover the pots with some loose material. The pots must be stood either on a hard surface, or a bed of coal ashes, to prevent the worms entering them, and either cocoanut-fibre refuse, leaves, or coal ashes may be used for covering the pots, the ashes being the least desirable. They should remain in the plunge bed until the pots are nicely filled with roots, and be placed in a pit from which the frost can be readily excluded. Here they can remain until they are taken to the forcing pit, or come into bloom according to the time they are wanted in flower. All the daffodils are liable to become drawn, and the plants present a very unsatisfactory appearance when the leaves are so long and so weak as to fall about over the sides of the pots. Therefore, care must be taken to place them near to the glass, both in the forcing and the cold pit, and to ventilate freely according to the season and the weather; but those in the latter should enjoy a moderate circulation of air about them during the day, excepting in frosty weather.

The miscellaneous daffodils suitable for pot culture include all the forms of Narcissus bulbocodium, which bloom satisfactorily under glass, grown in five-inch pots, five or six bulbs in each, they present an extremely beautiful appearance. They bloom naturally so early that with the protection of a cold pit they begin to produce their delicately-coloured flowers early in February. The Jonquils are admirably adapted for pot culture, and produce a charming effect when grown in five-inch pots, each containing four bulbs. The forms of N. moschatus, when potted in the same way as the Polyanthus varieties, and allowed to come into bloom without being subjected to much artificial heat, are very beautiful, and the elegant appearance and soft colouring of the flowers seldom fail to secure for them a full share of attention.

The varieties in the several classes which can be specially recommended are as under:—

Polyanthus Narcissi.

Bathurst.—Perianth primrose, cup deep yellow; an excellent variety of dwarf growth.

Bazelman major.—White, cup yellow, flowers large and very fragrant.

Double Roman.—White, flowers double and very useful in a cut state; should be grown rather largely where cut flowers are in request at mid-winter.

Early Paper White.—White; exceedingly useful for early flowering.

Grand Monarque.—White, cup citron; a fine variety, both for exhibition and the conservatory.

Her Majesty.—White, cup yellow, flowers rather large and of fine form; a good exhibition variety.

Jaune Supreme.—Perianth and cup bright yellow; one of the very best of the self-coloured varieties, and especially useful for exhibition.

Newton.—Yellow, cup orange; distinct and effective.

States General.—Creamy white, cup yellow; a distinct and handsome variety.

White Pearl.—Perianth and cup white; flowers of medium size, but very beautiful, and of considerable utility for bouquets.

Miscellaneous Narcissi.

Bulbocodium conspicuus.—Flowers rich yellow; distinct in character and pleasing in appearance.

Bulbocodium citrinus.—Similar to the preceeding, but with lemon-coloured flowers.

Bulbocodium monophyllus.—A very chaste variety with pure white flowers.

Moschatus (Albicans).—Perianth white, trumpet primrose shading to white; very beautiful grown in pots.

Moschatus cernuus.—Similar in colour to the species immediately preceeding, but the flowers have longer perianth segments.

Odorus.—This species, which is known as the Campernelle Jonquil, has large bright yellow and very fragrant flowers.

Odorus minor plenus.—This form is popularly known as Queen Anne's Double Jonquil, and produces double flowers of a rich golden hue.

Poeticus plenus.—The flowers of this form of the Poet's Narcise are comparatively large in size, pure white, and so deliciously fragrant, that it should be grown rather largely where there is a brisk demand for cut flowers. By growing the bulbs in an unheated frame the plants will bloom quite a month in advance of those in the open, and with the aid of a very little artificial heat the flowers can be obtained fully two months earlier. C.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Azaleas must now be put into the coolest places, to have a perfect rest before being again started into growth. Put a mark on those selected for the first bloom in order that they may have special attention. It is too early, however, to begin forcing any of them yet, excepting it be the Double White.

Bedding Plants lately housed must have water enough to prevent their flagging till they become somewhat established in their pots, but everything possible must be done to discourage growth. Avoid as far as possible all pruning in of soft shoots, and keep the plants as far as is convenient their full length; this will promote the perfect ripening of the lower parts, whereas severe cutting in, combined with the shelter they are now enjoying, would cause them to start into new growth at the bottom, which at this time of the year is undesirable.

Camellias that have been out of doors must be housed. Do not allow any of them to go very dry, or the buds will drop, or the blooms fall before they have fully expanded. Thin them of the medium-sized buds, if very thickly set, leaving the forwardest and the smallest to give a long continuance of bloom.

Herbaceous Calceolarias will be infested with green fly now unless kept scrupulously clean. Attend to them carefully. Give them plenty of air, but keep them warm, and always growing near the glass.

Orange Trees to be put into winter quarters, and have a thorough cleansing, and the surface soil in the tubs or pots to be renewed with a rich compost consisting of turfy loam and well-rotted manure.

STOVE AND ORCHID HOUSE.

Begonias for winter flowering deserve the little attention they require now. A nice free soil, containing some proportion of loam—say at least a third—and a warm moist position are their chief requisites. They never flower freely unless they first grow freely, in which they resemble nearly all other plants under the sun.

Orchids generally are resting, but where growth is proceeding vigorously it must not be checked, or spot will be the result. Keep the house scrupulously clean, and be particularly careful in the use of the syringe and water-pot. Do not allow anything to go dust-dry; it is a most unnatural condition for any orchids. Cattleyas and Stanhopeas must have but small supplies of water now, and the temperature must be reduced.

Climbers may be slightly cut in for the sake of tidiness, and to favour a free circulation of air; and it would be well to tie and train in pretty close all the well-ripened wood of the season.

Shading, watering, and ventilation must have careful attention. Shading should have been taken down some weeks ago. If any remains up now it is certainly doing mischief, except in the case of newly-imported orchids and other such special cases. Generally speaking, stove plants do not need much water now, but they must not go dust dry. Be not afraid to use fire to keep up a circulation of air in the house, and to prevent damp and mildew, but do not push things into growth by heat; rather promote a resting state as much as possible.

FORCING AND ORCHARD HOUSES.

Figs that have ripened off their fruit must be allowed to go rather dry at the root, to promote a perfect ripening of the wood; but where the trees are still swelling their fruit they must have the aid of manure water.

Pinery.—Suckers that are nicely rooted and successional plants for fruiting next summer must not be pushed into growth, or they will be more or less injured. There should, indeed, be a slight lowering of the temperature, and a little reduction in the water supply. They must not be syringed overhead, as the accumulation of the water in the axils of the leaves will be decidedly injurious. Vines that have properly lost their leaves, and that have nice hard brown canes, may be pruned, but otherwise wait another week or two. Grapes not yet ripe must be ripened off at once. It will not do to delay the process. Let them hang after they are ripe if you like, but do not allow them to ripen at a pace so slow that rotting will occur instead. Nor can any grapes be expected to ripen now without fire-heat and plenty of fresh air; give them both, and the result will be perfect finishing and a good flavour.

FLOWER GARDEN AND PLEASURE GROUNDS.

Auriculas to be placed in their winter quarters without delay. Water sparingly, and give plenty of air.

Evergreen Shrubs will move now better than in spring; the earth is warm and the air moist, and they will make fresh roots at once. This is the best time of the whole year to form American beds, and to make alterations in shrubberies and wildernesses. Not the least occasion to wait for trees to be quite at rest before moving them. Hollies will move now with safety, as also will aucubas, laurels, thujas, and all kinds of conifers.

Pansies to be protected against slugs, and the ground trodden firm between them.

Carnations to be smoked if any fly is about them, and to have full exposure to all weathers for the present.

Rhododendrons, Azaleas, Kalmias, and other peat plants should be planted at once. They can be selected now with bloom-buds perfected, so that a display next season is ensured. Let there be no stint of proper stuff to plant them in; they are expensive in the first instance, and it is absurd to plant them in such a way that in a few years they are sure to perish.

Tulip Beds to be prepared for planting that there may be no unnecessary delay.

FRUIT GARDEN AND ORCHARD.

Planting of Fruit Trees must soon be proceeded with, and it is therefore advisable to commence the preparation of the ground. It will, in fact, be well to make stations ready at once for all trees to be planted. A deep hole opened at the time of planting is a mere mockery; the ground should be deeply stirred now, and left in a very rough condition, but the holes should not be made till wanted, as by that time they might happen to be full of water. It is a good plan when about to purchase trees to make the selection at the nursery while they are in leaf, and mark all the trees selected with the purchaser's name.

Strawberries.—To promote the maturation of the crowns in the open ground, let the plantations be carefully weeded and all the runners removed, and odd plants between the rows be spudded out as weeds; and, lastly, give a light sprinkling of lime, to make an end of the myriads of slugs that now infest the plants.

KITCHEN GARDEN AND FRAME GROUND.

Cauliflower plants to be put out under hand-lights and in frames; some to be potted for early growth. None of these must be far from the glass, however they are kept, and the more often the glass is taken off them the better.

Mushroom Beds to be spawned. It will be loss of time to hurry the operation by inserting the spawn while the heat is too high. The safe temperature is 60 deg. to 70 deg.; if the bed is some degrees above that wait a few days without disturbing it, for any disturbance will give a fresh start to the fermentation and run it up again to a high pitch; and besides, the more solid the bed the better, so long as it is not quite as hard as a brick. It is a pity this delicious esculent is not more commonly grown. Every amateur should have a mushroom bed; the whole culture is nearly as simple and certain as growing mustard and cress.

Root Crops.—In storing potatoes, be sure they are dry first. If taken up in wet weather, spread them out in a shed or hothouse, but do not expose them to the light more than can be helped. Parsnips keep best in the ground, to be dug as wanted. Beet to be taken up at once; cut off the leaves an inch above the crown, and avoid bruising or cutting the roots. Carrots treat the same: store both in sand or dry earth. Earth up cardoons; take up scorzonera and salsify, and preserve in sand.

Spinach.—Thinnings of the winter crop will make very acceptable dishes on the table now. Early-sown spinach is becoming rather luxuriant; probably the latest sown will be the best next February.

Vegetables in Season comprise French and runner beans, beet, brussels sprouts, cabbages, carrots, cauliflowers, celery, cucumbers, endive, lettuce, mushrooms, onions, spinach, tomatoes, turnips, and vegetable marrows.

TREE CARNATIONS AT CLAPTON.

Messrs. Low, of the Clapton Nurseries, have grown a very large quantity of these delightfully fragrant and beautiful flowers this year. Hundreds of large flowering specimens have been arranged out of doors, which is the best position in which to place them during the summer and autumn months. A keen amateur cultivator of these plants said to me the other day, "How do you manage to keep your plants so dwarf?" "Grow them out of doors in an open position," was the answer. The right way to obtain these large specimens in flower during the months of September and October is to start very early in the year, getting in the cuttings as early as January and February. The cuttings put in during March, April, and May, will succeed the earlier batches. The plants are potted on as they require it, using good rich compost, and as a matter of prudence, they are placed in a favourable position under glass where they are kept growing until the end of May; at that time they must be gradually inured to stand out of doors. Some may be inclined to remark "that the Carnation is a hardy plant, and does not require any special treatment for out of doors culture." Upon this I would remark that the tree carnation is not only quite hardy, but it is so in a greater degree than the summer flowering flakes and bizarres; but no plant, however hardy it is, can safely be taken from a warm greenhouse and be placed fully exposed in the open. The right way is to take them from a warm greenhouse temperature and place them in an ordinary garden frame. Keep the glass lights over them for a few days, only admitting a little air at the back by tilting the lights an inch or two; the ventilation must be gradually increased, and on fine days the lights may be removed altogether, replacing them at night. Gardeners define this process by the expressive term "hardening off." The plants, of course, must be potted on as they require it. Those alluded to above are in six-inch pots. They require plenty of space between the plants to develop themselves; if they are close together the side growths will be weakly, and these are expected to produce flowers as well as the leading growths, but this they will not do unless they are freely exposed to sun-light. Do not give the plants too much water, but see that they get enough; place a stick to the centre growth of each plant, to which the other growths must be loosely tied, and leave the rest to nature. I never water the ordinary type of carnation or picotee with liquid manure; but as soon as these robust tree varieties have well filled their pots with roots, a little weak manure water is a good thing for them. I had merely intended to make a few remarks about Messrs. Low's plants, and must apologise for running off into minute cultural details. The reason of this is that I believe perfection is reached only by attention to trifles. A little more care in the mixing of compost, or in potting or watering the plants, will make all the difference between success and comparative failure. I may now remark on the best varieties grown in quantity at Messrs. Low's. Andalusia is the only yellow variety; it is a primrose yellow, and very prettily fringed (a stiff old florist would describe it as that fringed mop, Andalusia); the plants were very dwarf. This variety under glass has a decided tendency to run up, but it is the best yellow tree; yet there we must not rest, but be thankful for what we have at present, and try to improve from it. A distinct and desirable variety is Herman Stanghan, it is a salmon ground colour with a rosy flush; Seraph is a very dwarf rose-coloured variety, a dwarf habit naturally must be a decided point to the good; Magnifica is a lovely pale pink variety. The best white for flowering in winter is Purity, and it is also very sweetly scented; this is another great point in a carnation. I do not grow Pride of Penshurst at all because it lacks this essential property. Amongst scarlet varieties Alegatiere still holds its own, the plant dwarf and free-flowering, and the colour of the flowers a bright rich scarlet, are qualities which cannot be overlooked. Mr. H. G. Wood, Whipper-in, and Rufus are good varieties with scarlet flowers. Ruby is the best purple; this colour is not popular, but those who like purple flowers may safely obtain this variety. The flowers are large and of good form. Vulcan is dwarf and free, with rich crimson-scarlet flowers peculiarly mottled. J. Douglas.

DECORATIVE DAHLIAS.

Since the distribution seven years ago of the brilliantly-coloured Juarezi a considerable number of dahlias, bearing flowers remarkable for their quaintness of form and attractiveness of colouring, have been introduced; and the majority have found so much favour as to attain to a high degree of popularity. Some of these, such, for example, as Fire King and Picta formosissima, are old varieties that were practically lost to cultivation. Others are seedlings raised by those who have been careful to note the change which public taste has in some degree undergone during the past few years, and to shape their course accordingly. To the latter class belongs the fine variety of which an illustration is here given. *Lady E. Dyke* is one of a series of new decorative dahlias introduced last spring by Messrs. H. Cannell and Sons, and both in the border and on the exhibition stage it has fully asserted its claims to consideration. Unlike some of the decorative varieties previously introduced it has an excellent habit, and is very free in blooming. The flowers, which are of a bright lemon colour, are of medium size, and have long pointed and rather flat florets. They present a very attractive appearance on the exhibition stage, as well as in the garden, and when the variety was submitted to the Floral Committee of R.H.S. a first-class certificate was conferred upon it. A like distinction was conferred at the second of the September meetings of R.H.S. on *Lady M. Marsham*, which formed part of the same series, and is not less desirable in its shade of colour. The flowers are rather larger than those of Lady E. Dyke, and have flat twisted florets, reminding one of Juarezi, and are of a bright salmon red. *Lady Kerrison*, introduced at the same time as the foregoing, has flowers of a bright amber yellow, the florets edged with bright red. *Lady Brassey*, bright scarlet, and *Lady Thomson*, cerise scarlet shading to purple, are also very distinct, and remarkable for their great beauty.

DAHLIA LADY E. DYKE (Colour lemon yellow).

SIEBOLD'S PRIMROSE.

Cultivators of the attractively-coloured Primula Sieboldi have hardly kept pace with the raisers, and what they have accomplished cannot be regarded with much satisfaction by those who are anxious to see the primrose occupy the high position to which it is entitled. Whilst so much attention has been paid to the production of new forms that distinct and exceedingly beautiful varieties are continually making their appearance, but little improvement has been effected in the character of the plants. Occasionally specimens evincing cultural skill of a high order, like that of which an illustration is given herewith, are met with in the conservatory and on the exhibition stage. But the plants that usually come under notice have their much drawn foliage and flower stems so tall and weak as to appear to be wanting in sufficient strength to support the umbels of light and elegant flowers by which they are surmounted. This unsatisfactory state of things is all the more remarkable because Siebold's primrose and its varieties respond as readily to the skill brought to bear upon them as any class of plants grown in English gardens. Probably a very considerable improvement might be effected by impressing upon cultivators that the primrose is quite hardy, and suffers more or less from being subjected to artificial heat and a close stifling atmosphere. It is certainly advisable to direct attention to these points, because the miserable examples so frequently seen are the direct result of the coddling which by many is considered an essential point in their practice.

The several forms of Siebold's primrose may be taken in hand for the first time at any season of the year; but there is a decided advantage in commencing in the autumn, as the plants are then at rest, and can be sent any distance at a comparatively small cost, and without any risk of injury. There is yet another advantage, and that is, the whole of the growth will be made under conditions more favourable to the

proper development of the foliage and flowers than they usually enjoy in the nursery quarters. It is not a matter of any consequence whether the plants are obtained in pots or from the open borders. Either can be depended upon to make a satisfactory growth, as those in the borders can be lifted and put into pots without receiving the slightest check. In lifting them from the borders sufficient care must be exercised to avoid injury to the fleshy rhizomes, and also to retain a moderate quantity of soil about the roots. Whether received in small pots or from the open ground they ought to be potted as soon as received, the size of the pots being regulated by that of the crowns. For plants in large or small sixties five or six-inch pots will be the most suitable, and clumps from the open should be put into pots just large enough to receive them with a moderate quantity of new soil. If specimens are required for exhibition eight-inch pots should be used, and when the plants are not large enough to fill the pots put two or more in each. A compost at once light and rich is essential. Mellow turfy loam should form the staple, and to this add old hot-bed manure, leaf-mould, and coarse silver sand in the proportion of one part of each to every six parts of loam.

When the potting has been completed stand the pots close together in a cold pit or frame, or plunge the pots to their rim in a bed of coal ashes or cocoa-nut fibre refuse in a sheltered situation in the open. In either case they must have a covering of some loose material to protect them from frost. They are quite hardy in the open ground, but in common with most other plants they ought not to be fully exposed to a severe frost when in pots. Flaky leaf-mould and cocoa-nut fibre

SPECIMEN SIEBOLD'S PRIMROSE "*Miss Nelly Ware.*"

refuse are the materials best adapted for covering them, but short littery hay or straw will answer very well. The covering may remain until the plants begin to make new growth, and no longer, because leaves that make any considerable progress in the dark present a more or less unsatisfactory appearance when full grown. As it is such a frequent occurrence for the plants to remain in the plunge bed until the leaves begin to push through the covering, a rule should be made to uncover them in February, and at the same time remove those plants that have been wintered in the open in the frame. Immediately the new growth is commencing re-arrange the stock and place the plants far enough apart to prevent overcrowding on the development of the leaves, and within a short distance of the glass. Abundant ventilation is essential to the production of compact leafage and strong flower stems, and if they have a free circulation of air about them from the first the frame may be freely ventilated at all times, excepting in very frosty weather. If it is constantly borne in mind that these primulas are quite hardy, and that they are grown in the frame for the purpose only of accelerating the time of their blooming and protecting the flowers from the adverse influences of winds and rains, the mistake so generally made of coddling the plants will be avoided.

During the winter, when they are at rest, very little moisture in the soil will suffice, but they ought not to be kept dust dry. After they have begun to make new growth an increase in the moisture will be necessary, and when growing freely they require, in common with other primroses, rather liberal supplies of water. After the flowering season they can either have the pots plunged in a bed of coal ashes or other loose material in a shady position, or be turned out of the pots and planted in a border, of which the soil is rather rich, and where they will be screened from the sun. There is not, perhaps, any better place for them during the summer than a border on the north side of a rather tall hedge. Whether in pots or planted out, watering will be necessary at intervals according to the weather, but those in the borders will not require such frequent attention as the stock in pots, a point of some importance to the majority of cultivators.

The following comprise the best of the varieties in general cultivation, *Clarkiæflora*, rich magenta, the flowers large and finely fringed; *Grandiflora alba*, pure white flowers, large and of fine form; *Étoile*, deep rose with large white centre, very beautiful; *Intermedia*, magenta, flowers rather small, but produced in great abundance, useful for the supply of cut flowers; *Intermedia alba*, white, flowers small, but valuable in the cut state; *Lilacina*, bright lilac-blue flowers, large and beautifully fringed; *Lilacina marginata*, white shading to lavender, flowers large and nearly circular in form; *Miss Nelly Ware*, an exquisitely beautiful light variety raised by Mr. T. S. Ware, by whom the specimen figured was shown at the Primula Conference; *Ophelia*, lavender, flowers large and of good shape; *Sirius*, carmine rose shading to purple, centre white, a full sized flower of good shape; *Ruby*, deep red, distinct and good; *Sieboldi* (*Amœna*), rich magenta; *Violacea laciniata*, purplish rose, the flowers rather large and with deeply cut segments.

George Gordon.

ONLY ONE RHUBARB.

In looking round my place a friend said he was reminded of the lament of the French cook who noted that the English had a great variety of foods, but only one sauce. This friend had seen a row of twenty sorts of rhubarb in the garden a few years before, and asked for the names of a few good sorts. There was one in the collection that was never noticed by anyone but myself, and I noticed it because, being so exceedingly good, it was reserved for special purposes, but, being a mean thing to look at, was quite out of the running in respect of general consideration. Year by year this particular rhubarb asserted itself more and more strongly, and year by year I thought less and less of my fine stools of noted sorts, some of them making sticks long enough and stout enough for clothes' posts, although for that purpose we certainly have not tried them. At last a crisis came; there was wanted half a ton or so of rhubarb sticks, in the month of August, for preserving, and I made the resolve to finish up my plantation by stripping every one save *the* one, of which we had a fine stock and could feel no distress by the operation. I stripped the stools to the last stick, the immense crop was boiled down without removing the skins, and, in consequence, had a fine colour; it was declared by a thousand witnesses that there never had been seen or tasted such a sample of rhubarb jam; it was, in fact, better than some people's plum and apricot, the result, perhaps, of the rhubarb being ripe and the cooking being thorough. Very well, there was an end of the rhubarbs, as I thought, but before the stools could be lifted, a new and nice crop of young shoots appeared, and through September and October the house was supplied with "spring rhubarb," and our consumption of such things being considerable, the supply was a great advantage. Even then the story was not ended, for the roots were lifted in November and carted to the rubbish yard and forgotten. In the following February it was discovered that they had been half buried in litter, and were in free growth; in fact, there was a vast production of tender shoots encouraged by the shelter and warmth of the rubbish yard, and we took the trouble to pack them carefully, and we pulled and pulled until far into the month of April, when the roots appeared exhausted, and there was at last an end of the story. Our mean looking sort that we kept in reserve is pronounced by all who taste it the perfection of rhubarb, and it is as early as any and also as late. The stalks are not thicker than a man's thumb, they are coloured throughout, very tender, not very juicy, and far before any and every other rhubarb we have tried at any time. The name of this treasure is Hawke's Champagne.

W.

Literature.

GREELY'S FARTHEST NORTH IN THE ARCTIC CIRCLE.

Three years of Arctic Service, an account of the Lady Franklin Bay Expedition. By Adolphus W. Greely (Bentley).—The two noble volumes in which Lieutenant Greely records his experiences in the ill-fated expedition of 1881 to 1884 must have a place of honour in the library of arctic adventure; in fact this must be pronounced a monumental work, and marking an epoch in geographical discovery. In the G. M. of Dec. 19, 1885, is a review of Professor Soley's "Rescue of Greely," the fullest account then attainable of the great achievements of the Greely expedition, and the price paid for them in mental and physical suffering; in tests of endurance; in strains of discipline, in want, and agony, and familiarity with death. But now that Greely has told the story in his own way in a work that must be pronounced as beautiful in appearance as it is important in science, we must consider that we have the substance of which Professor Soley's work was but the shadow, although a very good shadow, and one not entirely superseded by the appearance of the substance.

We know of no more proper way of introducing this magnificent work to our readers than in the words of the author, who speaks in his preface thus: "No pen could ever convey to the world an adequate idea of the abject misery and extreme wretchedness to which we were reduced at Cape Sabine, Insufficiently clothed, for months without drinking water, destitute of warmth, our sleeping bags frozen to the ground, our walls, roof, and floor covered with frost and ice, subsisting on *one-fifth* of an arctic ration—almost without clothing, light, heat, or food, yet we were never without courage, faith, and hope. The extraordinary spirit of loyalty, patience, charity, and self-denial—daily and almost universally exhibited by our famished and nearly maddened party—must be read between the lines in the account of our daily life penned under such desperate and untoward circumstances. Such words, written at such a time, I have not the heart to enlarge upon. The tragic experiences of the party excited such a public interest, further intensified by exaggerated and unfounded statements on many points, that I have felt obliged to touch briefly on all disagreeable questions. In doing so I have adhered to the stern facts; while I have modified the acerbity of my judgments, remembering always that I speak of the dead, and being able in comfort and plenty to judge more leniently than when slowly perishing from cold, disease, and starvation."

A glance at the map will show that Baffin's Bay is the high road to Kennedy Channell, with Washington Land on the right and Grinnel Land on the left, and beyond northward the unknown paleocrystic sea. We say "unknown," although Markham made acquaintance with it in the Nares expedition, and Greely here gives us a photo of its awful aspects, for he "beat the record" of Nares by going a few miles farther north. Practically, the sea of ancient ice is unknown, and will remain unknown until the pole is reached, and should that ever be done, and the discoverers live to tell the tale, we shall know something of this paleocrystic sea, which is at present the impassable barrier between the "farthest north" and the goal of all arctic enterprise, the pivot below that corresponds to the Pole Star above, the geographical idea that is called the North Pole.

We refer to Baffin's Bay and Smith's Sound and Kennedy Channel as the course taken by the Greely expedition which came to a halt at Fort Conger, in Lady Franklin Bay, near the winter quarters of Nares's ship, the *Discovery*, on the 12th of August, 1881. They wintered there, understanding clearly that a relief party would be sent to them in the following year. We are now in latitude 82, and the very first object to attract attention is a musk ox, which was, of course, pursued, but to the chagrin of the appointed huntsmen, it fell a prey to the boatswain, who being in better condition to climb the steep cliffs, first succeeded in getting within gunshot. At this place a glacial thermometer set five feet in the ground, recorded a temperature of 26 degrees. "As the unfrozen ground attains its maximum temperature not far from that time of year (August 12), this temperature seems reasonably the maximum of the earth at that depth. Later observations and experiences show that the earth thaws only to a depth of twenty-two to twenty-four inches, remaining eternally frozen below that point." It does not appear a pleasant beginning, in *the height of the arctic summer*, to be on ground that below two feet is eternally frozen, and of course is for only a few weeks in the year in a state of thaw in the top crust, but the party were joyous; they had no prescience of horrors to come, and nature was just as gay as she could possibly be with two feet of unfrozen soil to begin with. Here they not only found musk oxen, but eider ducks and an Arctic Flora! "The adjacent brook slopes and margins were clothed with vegetation, composed of thick beds of *Dryas* or clusters *Saxifragas*, varied with sedges, grasses, and the familiar buttercup (*Ranunculus nivalis*, and *R. affinis*). Higher up, on glacier-drift of clayey nature, countless Arctic poppies (*Papaver nudicaule*) of luxuriant growth, dotted with fair yellow the landscape. Surely this presence of bird and flower and beast were kindly greetings on Nature's part to our new home."

Fort Conger is not a "fort" in any ordinary sense of the term; it is a name, and nothing more, but a name *now* of profound historical and geographical importance. The party lived in tents until a house was built, and on the 25th August they took possession of the shanty, and on the first Sunday afterwards, August 28, they returned thanks for the mercies that had attended them, the Psalms for that day, including the 133rd, which begins with the words, "Behold, how good and joyful a thing it is, brethren, to dwell together in unity!" "The house was 60 by 17 feet in the clear. Its walls were double, the two coverings of half-inch boards being separated by an air space of about a foot. Great reliance was placed on the non-conductivity to heat of these air spaces to contribute to our warmth. The inside lining consisted of well-fitted boards, which were tongued and grooved by our own carpenters, but to ensure freedom from draughts a covering of thin tar-paper was nailed upon the rafters before the covering of boards was fastened. A covering of much heavier tar-paper was placed on the outside of the external boards. The external wood was fastened vertically instead of horizontally, and though there was but a single covering, yet we managed by strong battening to securely fasten the tar-paper and prevent serious draughts. The roof was but the thickness of a single board, and, like the sides, was covered with tar-paper, secured by battening. The paper used for outside covering was of the heaviest character, and, being black, absorbed during the early spring and summer, when external heat was most desired, the rays of the sun to such an extent as to materially contribute to the warmth of the interior. During the winter the external wall and covering of ice and snow prevented any extreme cold from radiation. The house was ceiled with tongued and grooved boards, which not only contributed to our warmth, but added also to our room, by

affording above an excellent storage-place for various kinds of articles which would have been materially injured by exposure to the weather."

There were twenty-five souls to be comforted in this house taken possession of on the 25th of August. We beg of our practical men who have to construct fruit stores, ice-houses, and other structures that bear direct relation to extremes of temperature, to take note of the particulars of the Greely house at Fort Conger, N. latitude 82, as likely to prove of a suggestive if not instructive nature. The great battles of life from the cradle to the grave are with heat and cold, that is with temperature *in extenso* as related to man's frame and man's belongings.

In the course of the autumn four depôts had been established on the Grinnel coast northwards of the hut that made "Fort Conger." The beginning of the long Arctic night found the party in excellent health and spirits, and with firm faith in their ability to meet the hardships of the next season. The birds disappeared, the plants died down, but they had secured six thousand pounds of fresh meat for themselves, and about the same weight of offal for the dogs. On the 13th of September a band of wolves appeared. On the 20th of September, the thermometer fell to — 6 of Fahrenheit or 21 of centigrade. The next day there were brilliant solar halos followed by the first display of the aurora. The mean temperature for September was 10·92, say 11 of Fah., the lowest on record except that of Kane at Van Rensselaer Harbour, 1854, which was a trifle under 10. The minimum was — 11·9, say 12 below zero, the lowest on record, according to Greely's belief. The last day of sunlight was October 15, then the polar day gave way to the long reign of arctic darkness.

The primary object of the Lady Franklin Bay Expedition was to carry out a scientific programme, necessitating, as a matter of course, frequent, regular, and careful observations, followed by no less careful records of results. It is something to be enabled to say, now that the whole story of agony and heroism is known to the world, that the observations were commenced July 1, 1881, on the way up, and were continued until June 21, 1884, when, forty hours preceding the rescue of the survivors, their incapacity brought the work to a stop. The spirit thermometers proved of no use at the extremely low temperatures that had to be recorded, and the tests with frozen mercury had to be corrected by instruments made for the expedition by Professor Waldo, of Yale College observatory. In these thermometers bisulphide of carbon, pure spirits of wine, and ether were used; they were graduated in millimetres arbitrarily, and so served as an excellent check on other instruments. It is a question if the intensity of cold is in itself detrimental to health; but practically it is so, because it compels the breathing of vitiated air, it restricts muscular action, very seriously interferes with the use of the bath, and subjects its victims to a dietary which never can be—so far as we at present know—healthful and nourishing. Greely does not think so much of fresh vegetable food as most other arctic explorers; and he refers to the Danish Eskimos, ten thousand in number, "who eat no pound of vegetable and not a dozen pounds of bread annually. . . . Bread, vegetables, and scurvy are equally wanting among them." Many more such examples may be found, especially amongst the Hudson Bay Indians. "But," he says, "is not the disease owing to previous as well as continued mal-nutrition, in connection with which the abnormal conditions, checked in the patients by certain substances of their normal diet, develop into scurvy when the deteriorated physical condition is aggravated by adopting a diet affording less than usual nutrition? Is not the acknowledged fact that men who have been immoderately addicted to the use of alcohol first succumb a significant one? Its prevalence among men from nations which are accustomed to daily and systematic use of alcoholic drinks may be only a coincidence." This is, perhaps, an ugly way of saying that living on tinned foods tends to mal-nutrition, and, therefore, unless fresh food of some sort, whether bear's flesh, game, or even seal, but better still good beef and bread and potatoes, be obtainable in sufficient quantity, scurvy or something like it must occur, and they will fall first whose constitutions are the weakest. The author says he endeavoured to obtain a supply of cloud berries (*Rubus chamæmorus*), and he lays stress on Nordenskiold's good fortune in escaping sickness in the Vega expedition, as "in a measure due to variety, quantity, and quality of food." To this he adds, "I believe our large supply of fresh meat played a most important rôle—our freedom from scurvy." In the full list of the stores (Vol. I., p. 137) we find apples, peaches, pears, grapes, rhubarb, gooseberries, onions, potatos, beets, tomatoes, &c., as showing considerable faith in such aids to health; a faith rewarded by the fact that scurvy never touched them, even though cold, and depression, and want crushed into the grave not a few of the stontest of the party.

During the winter sledging journies were made and depôts established, and in such work they were aided by a team of Eskimo dogs. The hardiness of these animals is illustrated by an anecdote (I. 150) of a favourite bitch named Gypsy, which, being unfit for the work, was forbidden to take part in it. But the love of wandering was too strong for the Gypsy and she followed the sledge, and on the second day out gave birth to four puppies. These were left in a snow bank near Cape Beechy until the return of the party, and were brought safely back to Conger. Greely is of opinion that sledge parties should not travel far after the sun has disappeared, and this, though a sound opinion founded on experience, tells severely against the policy of wintering "up there" because compulsory idleness is deadly to men so circumstanced. The darkness of midday at Conger was such, that for nearly two months in midwinter, the time could not be told from a watch held up with its face to the south. From this it will be understood that in midwinter the light from the sun at noon is far less than that which is received from the full moon in middle latitudes. There was no twilight at Conger during December, and the practical benefit of the aurora is spoken of as of no account whatever. The stars were a great feast for the eyes of the lonely men, and Greely records with genuine though subdued joyousness the fact that stars of lesser magnitude than are visible in lower latitudes are at Conger plainly seen, and the milky way is so richly defined as to give the impression sometimes of an auroral light. The reader who is disappointed to hear that in a latitude of 82, the aurora is insufficiently bright and frequent to be useful, may be glad of the information that the region most favoured by this phenomenon is in the latitude of 60, over a thousand miles to the southward of the place now reported on. Greely says "Some of our displays were grand and magnificent in the extreme, but in general they were lances of white light, having perhaps a faint tinge of golden or citron colour, which appeared as moving shafts or spears under the formation known as merry dancers. The aurora of Grinnell Land is by no means comparable with those of glowing, burning colours, such as are to be seen in Hudson Bay country and Siberia."

The first sledge journey in the spring anticipated the return of the sun by ten days, Lieutenant Lockwood then leaving with two others on the 19th of February for Cape Beechy and Robeson Channel; the temperature at the time —42; or say 74 degrees of frost. Their way lay along the Greenland coast, and they made acquaintance with the hummocks of the paleocrystic sea. Several stations of former expeditions were visited, and depôts were examined, records were brought away, and new depôts were formed to serve as rallying points in case of emergencies, or to remain for the service of future explorers. They had their troubles and trials, and once were on the verge of ruin, through being unable to obtain a light. They had matches, and tapers, and spirit lamps, and fire arms, but all were rendered useless by the exceeding coldness and humidity of the atmosphere. They were saved from the dilemma —which really meant death to the party—by a loveletter, for this being carried secretly by one of the party, was brought forth warm and dry, and by dexterous handling, was made to catch in the momentary flashing of flame from a match that was incapable of a proper flame on its own account. The story reminds us of the soldier who carried his mother's bible in his breast, and was saved on the field from a bullet that lodged in it on its way to his heart.

An important episode of the year 1882 is Dr. Pavy's journey northward. He left March 19, with a team of dogs, in a temperature, of—40, say 72 of frost. Tracts of bear were met with at Mount Parry, very much to the discomfiture of the party, for Bruin helped himself to seventy pounds of pommican, and opened the bread bags to ascertain the quality of the bread, which proved not good enough for him. After various movements, made necessary for ensuing a safe retreat, Lincoln Bay was finally left April 6, the party selecting night travel, and on this same day the temperature at the home station was the first recorded above zero. On the 10th two of the party slept out of doors, while Dr. Pavy occupied a snow house. On the 11th they reached the winter quarters of the Alert, amid drifting snow, through which they could descry the cairn on the look out, and soon discovered the tomb of Petersen, the interpreter to Nares's party, where sat an arctic hare, as though to illustrate the inscription on the copper plate at the head of the tomb, "He shall wash me, and I shall be as white as snow." A mile and a-half from the coast was the paleocrystic ice on which Markham adventured with grand endurance and bravery, but found progress over the hummocky ice impossible, while scurvy broke out amongst his men. "East of the line of massive cliffs of Cape Joseph Henry the Polar Sea was of such rough appearance that no sledge, even lightly loaded, could have made any progress over its disordered surface. It was nothing but an inextricable maze of huge bergs and enormous hummocks, piled up in a similar manner as when travelled over by Commander Markham." Near here they met with a seal (*Phoca hispida*) "without doubt the most northerly seal ever discovered, the farthest latitude attained was 82° 56′. Dr. Pavy remarks upon the experience of this journey, "I am fully convinced that, but for our misfortune in finding open water, we could, without greatly distancing Commander Markham, have perhaps, reached the latitude of 84°." The open water that stopped them was, perhaps, their best friend, for, after all, to reach 84° would be of no use, the problem is how to attain to 90°. He is firmly persuaded, by what he saw, that Markham was not stopped through want of pluck or skill, but by the nature of the ice, which appears to present an impassable barrier to any advance beyond the northern shores of Greenland.

Another expedition was made into the interior of Grinnell Land, which disclosed physical conditions hitherto unsuspected. There was much vegetation, some amount of animal life, and old willow trees suitable for fuel, the flora wholly Greenlandic, and glaciers very few. In this journey 250 miles were made in twelve days, a rapid rate of travel in such a region.

The journey to the "farthest north" was the achievement of Lieutenant Lockwood, and his best man in the business was Sergeant Brainard. The party numbered eleven in all, and they set out from Conger, April 3, in a temperature of 29 below Zero, each man dragging 78 lbs., a good team of dogs being also engaged in the dragging business. The route lay along the northern coast of Greenland on the track of Markham, making occasion for the cynics to criticize it as a Yankee dodge to outdo Markham and transfer the prize of the "farthest north" from England to America. There is an excellent map of the journey (I. 325), which will show that the rugged coast line was followed within view of the ancient ice that brought Markham to a stop, and made an end of the Nares' expedition. All such journeys may be described as zigzagging; it is much more so than tacking in the teeth of the wind, or the course of an engineers' mountain road. Consequently to make one mile of northing may necessitate twenty or thirty miles this way, that way, and any way but the right way because of the obstacles that have to be circumvented, and the difficulties that arise in respect of food, water, health, storms, refusal of compass to act, and, not least important of all, sudden changes of temperature. Here, for example, is a passage, the parallel of which may be found almost anywhere in these portly volumes. "Ralston, cook; temperature about—40 (40 below Zero Fahr.), his duties very trying on account of having his fingers frozen. Our sleeping bags like iron, sleep out of the question; our teeth chattering and clashing together in a dangerous manner. Connell froze one of his toes in the sleeping bag; it is very sore and considerably swollen, but he, however, intends to retain his place at the dragropes; Henry suffering from rheumatism, and says he cannot proceed, and so has been ordered to return to the station."

On May 13, 1882, they made their "farthest," and they gave names to the new scenes in the usual way of arctic explorers, the actual farthest was named Lockwood Island, the latitude 83° 23·8′ N., the highest ever attained by man. Here, says Sergeant Brainard, "we unfurled the glorious Stars and Stripes to the exhilarating northern breezes with an exultation impossible to describe." Markham's farthest was 83° 20′ 26″ N., and his triumph was accomplished on the bosom of that frozen sea, which seems to have inscribed upon its frowning face, "thus far and no farther," the land, and not the sea, being in these parts the only possible foothold.

The story of suffering and heroism that follows was told in outline in our review of Professor Soley's book (*G.M.*, December 19, 1887), and we shall not again open up the painful subject. The whole of the second volume is occupied with records of the various movements of the party, and contains much of scientific interest, in addition to the romance of horror. In respect of their discoveries and movements it may occur to the reader familiar with the records of arctic adventure, that we have in this work of Greely something like a hint that Greenland, in some way or other, sends forth islets and tongues of land even as far as to the pole itself. From Cape Bismarck to Hazen Land, a distance of about four hundred miles from east to west, we know nothing of the continuation of the map northwards, whether it be land or water. This consideration restores the Greenland route to the repute it has long enjoyed, and that has been somewhat lessened by a growing feeling in favour of the Spitzbergen route. This, however, is a thought and nothing more, but it acquires a sort of sobriety when the admirable Chart of the Arctic Ocean, given in the second volume of this work, is carefully scrutinized. We close this notice with the names of the chief points that mark Lock-

wood's farthest; they are Hazen Land, Cape Kane, Cape Washington, and Lockwood Island, this last position being only some 400 miles distant from the Pole itself.

Notes of Observation.

HARDY FUCHSIAS.

Chief amongst the plants I have now in bloom in my garden are the hardy fuchsias which are flowering so freely and present such an attractive appearance that they come as a pleasant surprise to many of my friends, and afford abundant gratification to myself. As I reside in one of the home counties, our fuchsias do not grow with the luxuriance characteristic of the specimens usually seen in the gardens on the west coast, but they grow very freely and bloom most profusely, the plants at the present time being thickly studded with flowers from the apex to the ground line. Some of my friends suppose the hardy fuchsias to be either rare or difficult to cultivate, as they are seldom seen in gardens other than those which have been long established, and are rich in old-fashioned flowers; but plants costing a shilling each can hardly be said to be rare, and those who have grown the hardy fuchsias will agree with me that there is nothing very difficult in their cultivation. It requires time to produce such large bushes as those we have, but if the soil is well prepared in the first instance, and strong plants are put out, they will practically take care of themselves; the only matters that require attention are to apply a top dressing of half-rotted manure or other fertilizer in the spring; to prune them just before they commence to make new growth, and to heap coal ashes or cocoa-nut fibre refuse about the base of the plants in the autumn to protect them from severe frosts during the winter. The pruning consists in cutting back such kinds as Coccinea to within a few inches of the ground-line, and in shortening the wood of the famous Riccartoni. The kinds we have are Coccinea, Corallina, Globosa, Gracilis, Riccartoni, and Sanguinea, and they are all so attractive that we could not well spare either of them. E. K.

BIRKENHEAD'S BEETLE TRAP.

As stated in the brief notice that has appeared, the Beetle Trap invented by Messrs. Birkenhead is the most effectual contrivance that has yet been introduced for catching those abominable pests, the cockroaches. Upon this point I can speak from personal experience, for I have had some practice in the use of the older traps, and I have had a good opportunity of seeing what can be done with that manufactured by the firm mentioned. The house of a friend, with whom I am very intimate, has been so overrun with beetles during the two years he has occupied it, that they have proved a very great annoyance. They indeed abounded in such large numbers, that on going into the kitchen in the evening with a light, they could be seen crowding the floor and swarming up the walls on all sides. Every effort was made by my friend to clear the house of the pests but without any appreciable success. A few hundreds were caught in various ways, and some were destroyed by the preparations that are provided for the destruction of cockroaches, but no distinct impression was made on their numbers, and it appeared to be a hopeless task to attempt their extermination. In June last, when at the nurseries of Messrs. W. and J. Birkenhead, at Sale, I was much struck with the ingenuity evinced in the contruction of the trap which the firm was then busily engaged in bringing out, and obtained one for my friend. In due course it was set to work and has been fully engaged until quite recently, with the result that if the cockroaches have not been wholly exterminated, they have been so far reduced in numbers that but few remain. When first received the trap was put on the kitchen dresser without being baited, and in the morning there were about a dozen cockroaches in it. Subsequently with a bait consisting of a portion of toasted haddock and a little bread soaked in beer, from fifty to a hundred were caught every night until the greater proportion had been destroyed. With my experience of the older inventions, I was not a little surprised to see how the beetles crowded into the trap night after night. To set the trap is so simple that it is practically impossible to make a mistake, and the ingeniously constructed bottom renders it a very easy matter to destroy the captured beetles. George Gordon.

MEADOW SAFFRONS.

Arranged in large clumps along the front of the mixed border the meadow saffrons produce a display of colour which is particularly acceptable at this season of the year, for owing to the large number of composites in bloom there is a predominance of yellow. The most effective of the several kinds which have a place in our borders are Colchicum speciosum and the varieties of C. autumnale. The first-mentioned is a very handsome species, with large, finely-formed flowers of a rich lilac-purple hue. C. autumnale has rosy lilac flowers; C. autumnale plenum has flowers of the same colour as the type, but they are double and more effective; C. autumnale album is a chaste variety, and very useful for contrasting with the coloured forms; C. autumnale crociflorum merits special attention, for the flowers are larger than those of the species, of finer form, and much richer in colour; the double white variety, C. autumnale album plenum, is very fine, but it is much too expensive for general cultivation. Planted in the grass in the semi-wild parts of the pleasure, the colchicums present a very pleasing appearance, fully equalling the crocuses in spring. The flowers stand remarkably well in a cut state, and have a charming appearance in association with fronds of Adiantum cuneatum and other ferns of similar character. The flowers must be drawn out of the ground rather carefully to obtain them of a sufficient length to admit of their being readily arranged with the fern fronds. W. B.

HARDY GLADIOLI.

The so-called hardy gladioli have with me proved very disappointing, and by no means deserving of the praise so freely lavished upon them. I have failed to see in what way they are hardy, for, according to my experience last winter, the corms of Masque de Fer, Lemoinei, and others of the race are no more able to withstand the effects of a severe winter than those of the finest varieties of Gandavensis. In effectiveness the two types bear no comparison with each other, for whilst the large flowers of the Gandavensis varieties are arranged in massive spikes, and show their colours to the best advantage; the flowers of the Lemoinei hybrids are thinly set on the spikes, and show but little of the colouring of the interior. It is not indeed until the spikes are cut and placed in tall vases, that the quaint colouring characteristic of the type can be seen to advantage. They can be multiplied more rapidly than the hybrids of Gandvensis, but that is not a very great advantage considering they are comparatively unattractive when in the garden. W. S.

LATE PEACHES.

The early peaches have obtained so much attention that there are now but few cultivators who are not more or less acquainted with their names and peculiarities. But the late sorts, to which several important additions have been made during the past few years, have not received so much attention as they deserve. A variety ripening at the end of September is not so generally useful as one attaining maturity in July or early in August; but notwithstanding this it ought not to be overlooked. There are many cultivators to whom the late peaches are exceedingly useful. One of the best is Sea Eagle, which in ordinary seasons is in perfection at the end of September; the fruit is large in size, handsome in appearance, and of excellent flavour, although hardly so luscious as peaches ripening in August and early in September, when the sun has greater power. Golden Eagle is rather later than the foregoing, and forms a good succession to it. The fruit ripens at the end of September or early in October, according to the situation of the garden and the character of the season. It is in season at the same time as Walburton Admirable, to which it is superior both in productiveness and flavour. Princess of Wales, which is now generally known, is also a fine late variety, the fruit being of the largest size and very handsome in appearance, especially when brought to maturity under conditions favourable to the full development of its delicate colouring. To have the late peaches in perfection a cool orchard house is necessary. This year, with the aid of the brilliant sunshine which has been enjoyed during the greater part of September, the late peaches are remarkably good, but in cold seasons the fruit produced by trees on the open walls is not so rich in flavour as could be desired. But under glass they can be depended upon to ripen satisfactorily, as the fruit is protected from the heavy dews and the moist atmosphere to which the fruit outside is exposed. In growing the late kinds under glass, the house must be kept cool by abundant ventilation until the beginning of September, when the admission of air must be reduced and regulated according to the weather and the stage at which the fruit has arrived. But, generally speaking, it will be necessary to maintain a free circulation of air through the house until the fruit is ripe. G. H.

CHIONODOXA LUCILIÆ.

Sufficient has for the present been said in praise of the beauty of this bulb in the flower garden, and I now refer to it for the purpose of suggesting its usefulness for indoor decoration. We had a batch in pots last spring, and the plants when in the conservatory were admired as much as those in sheltered nooks and elsewhere in the open. We had about two dozen pots, one half of which were filled with home-grown and the other with imported roots, and the spikes produced by the former were so much finer that I shall not grow any imported roots in pots again. The pots were five inches in diameter, and six bulbs were put in each, that number being quite sufficient to form a nice specimen when the bulbs are of full size and well ripened. Potted in September and placed in a cold pit for the winter, they come into bloom early in March. The only attention required is to supply them with water as may be required. W. J.

PINK BEDDING PELARGONIUM.

I was asked some time ago to name a pink-flowered bedding pelargonium that is an improvement upon Master Christine, and I mentioned Amaranth. I have since found that Mr. Wildsmith uses this variety at Heckfield, and regards it as the best of its class. But there is one other I should like to mention, namely Lye's Climax, a good, and at the same time a compact grower; plain half-golden foliaged, and large bold nosegay trusses of a lively rosy pink colour. I have a plant of it in a pot in my greenhouse, among others, and it is decidedly the best thing for pot culture I have, and I am sanguine it will make a good bedder also. It was sent out three or four years ago by Mr. James Lye, the fuchsia raiser, of Clyffe Hall, Market Lavington, Wilts; but I doubt if it will go much into cultivation. Of this I am sure, that it is well worth a trial by those who are interested in good bedding pelargoniums. R. D.

PEA GLADIATOR.

This year I have grown Gladiator pea, a new variety introduced by Messrs. J. Veitch and Sons, and it has proved so good as to fully justify the first-class certificate conferred on it by the Fruit Committee of R.H.S., in 1882. It has a vigorous, free-branching habit, and is very productive, the pods being long and curved, and well-filled with medium-sized peas. Both colour and flavour are good when cooked, points of considerable importance in estimating the value of a pea for a gentleman's table. J. Louden.

The Quinta Gardens, Chirk.

AUTUMN CROCUSES.

In the size of their flowers and the richness of their colours the autumn-blooming crocuses cannot compare with the Dutch varieties flowering in the spring. They are, nevertheless, decidedly attractive, and when grown, as we have them, in large masses along the front of the mixed border they produce a good effect. There are about six varieties well worth growing, but the two that are the best adapted for general cultivation are Nudiflorus, which has purple flowers, and is the first to bloom in the autumn; and Speciosus, a very fine species with bright lavender-blue flowers. The last-mentioned is exceedingly effective when planted in rather large masses, and as it is not much more expensive than the common Dutch varieties it should be planted rather extensively. G. W.

The Household.

LIQUID COFFEE.

There are at the command of such as need them several preparations of coffee that are, or should be useful in emergencies, or perhaps even for regular daily use. People who believe in real coffee and know all about the way to obtain it cannot afford to despise these substitutes, for there are times and seasons when coffee is of the utmost value, but cannot be had except through the aid of a ready-prepared and bottled infusion. In cases of illness, and on occasions when making coffee in the usual way cannot be thought of, a bottle of some extract may prove a friend in need and indeed, for not only is it easily made ready with the aid of hot water, but it may be worth having with the aid of cold water only. A man who requires some light refreshment in the course of a morning's work would often find a glass of water with a spoonful of coffee extract added a quite suitable article, and very much better than any alcoholic reviver, more especially as liquid coffee in that form, though wholesome, is not agreeable, and there will be no craving for a repetition of the dose.

Having tried all the preparations of coffee that are in commerce, and used two or three of the number in various ways for fully thirty years past, I shall offer a few observations on their several characters. Dunn's and Smith's are nearly alike; they are syrups, and at one time had a monopoly of the market. They contain a fair proportion of coffee, but they have very little of the true coffee flavour, owing to some feature of the process of preparation that is inimical to the retention of the volatile principles. I should never use either of those while others are to be had. The latest "thing out" in the way of liquid coffee is Etzenberger's Essence, which I can only describe as nasty. It seems impossible to make it even passable by any care whatever. A fairly good article is Clark's Coffee Extract, which I place before the three above-mentioned as a really good article. For a final selection there are two good articles: one is "Walker's Liquid Coffee with Chicory," the other "Branson's Coffee Extract." With boiling water, sugar, and milk—the latter in any reasonable shape, the tinned article being the most convenient—either of these will produce good coffee instanter. Often at hours before the house is awake I find these useful, for a gas ring gives me boiling water in three minutes, and I have the luxury of hot coffee at my desk often at daybreak or earlier, and there is often a day's work done before breakfast, and I am free for the day to explore the world, and worry the people in it. As a cold refresher Branson's Extract is occasionally acceptable, for there are times when one must have something, and must trust to one's own resources. It seems to me that this last-named preparation is as needful to a well-kept household as a teakettle, a broom, and Bryant and May's matches. Kaffekahn.

OPEN SPACES AND PHYSICAL EDUCATION.

By Lord Brabazon.

Contributed to proceedings of Sanitary Institute.

The author said a marked increase had taken place in the number of urban parks, gardens, and playgrounds of the United Kingdom which were accessible to the public. He believed that there were luxuries of a public character, such as museums and art galleries, which the Government of a rich and prosperous nation was justified in providing for the benefit, refinement, and enjoyment of the people committed to its charge. But the question would arise, could parks, gardens, and playgrounds—means for the preservation of the public health—be considered luxuries? Should they not more justly be ranked among public necessities? Health was one of the first of these, and in his opinion no expense should be spared and no opportunity neglected to increase the average standard of a nation's health and strength. It was a well-known and universally recognized axiom of hygienic science that, other things being equal, the health of a population was in inverse ratio to its density; in other words, that the more the people were congregated together the more unhealthy did they become. This being the case, it would be readily seen that unless steps were taken to counteract the operation of the natural law the inhabitants of our towns must degenerate in health, which was as much as to say that it was the destined fate of two-thirds of their population—for at this moment there were in Great Britain two men living in towns for every one living in the country. The obvious step to be taken to counteract that natural tendency of disease to dog the steps of men when crowded together was to open out the population as much as possible, or, if that could not be done, at all events to break up these dense masses of humanity by intercepting them wherever and whenever possible with open spaces. If that were the first remedy, surely it was the duty of those who were the guardians of the public health to provide such open spaces. Individuals could not be expected to buy them for the general good, and in no way, in his opinion, could public money be more legitimately spent than in thus preserving and improving the health of the community. If it were right that the people inhabiting our large towns should be provided at the public expense with parks, gardens, and playgrounds, for similar reasons he thought many would agree with him that, where possible, gymnasia should be attached to elementary schools, and that systematic instruction should be given to the children in gymnastics and calisthenics. The body should be trained as well as the brain. At present our system was an entirely one-sided one—we starved the body and overworked the brain, and the former took its revenge on us by refusing to nourish the latter. The brain, unable to bear the strain, frequently broke down, and this was sometimes followed by insanity and death. A National Physical Recreation Society had lately been established. Such an association should be able to work wonders in the improvement of the physical education of the people, and in the confident hope that at no distant period the bodies of the poorer children of the country would be as well cared for as their brains, he asked those present to assist in forming a public opinion favourable to the maintenance by municipal authorities of open spaces, playgrounds, and gymnasia in towns, and to such alterations of the education code as would bring up a generation of English men and women physically capable of bearing the burden of high civilization and extended empire they had inherited from their forefathers.

LAND'S END VINERIES.

Land reformers who are interested in the question of the reclamation of the waste land of the country should pay a visit to the Land's End, and see what has been accomplished by Mr. J. H. Boddy at his extensive vineries and gardens. Ten years ago the acre and a half of ground was a comparatively worthless piece of bog land. Mr. Boddy, who was at that time a carpenter by trade, thought it might be turned to some account, and he succeeded in obtaining a lease for 99 years, although at a price in excess of its value. The first thing the hardworking and enterprising lessee did was to erect a wooden structure for himself and family to live in, and, in his spare time, he set to work to clear and drain this unpromising swamp, and until he could more profitably utilise the land he started poultry-keeping on an extensive scale, and found it very remunerative. Then he commenced the erection of the present extensive vineries, which now reach to a total length of 800 feet. The site is a very commanding one, and the long lines of glass houses which form three sides of the oblong piece of ground, cannot fail to attract the notice of visitors to the Land's End, and large numbers have paid a visit to the spot during the present season. The first house, 200 feet in length, is devoted to peaches, and until the trees have attained a large growth it is also utilized for tomatoes, mignonette, and fuchsias in pots. Then there is a cucumber house 150 feet in length, in which both the Telegraph and Black Spine varieties are grown during the season; and beyond this forcing houses in which young vines are raised in tubs. A great many of those of the second year's growth have as many as ten pounds of grapes hanging on them, and being of the Allicante variety, which has a beautiful bloom, they present a very tempting appearance. The principal vinery, however, is the great centre of attraction. In the earlier part of the season there were no less than 1,200 bunches of splendid Alicante and Black Hamburgh grapes depending from the numerous vines, and even now there are some seven or eight hundred fine clusters, which form a most inviting picture. Some time since Mr. Boddy conceived the idea of asking Her Majesty's acceptance of some of the grapes, and having obtained the requisite permission he forwarded some splendidly-grown bunches to Balmoral, accompanied by the following letter:—

Land's End Vineries, Near Penzance, Cornwall,
August 27th, 1886.

Most Gracious Sovereign,—May it please your Majesty,—In this very romantic but highly-interesting locality, about mid-way between the "Logan Rock" and Land's End, having within the last six years, with mine own hands, erected vineries and managed the same, I beg to ask most respectfully your acceptance of a sample of grapes, with four photographic views relating to the "First and Last" vineries in England (which I send by this post); and sincerely wish that it may please Almighty God to spare your Majesty's life long to reign over us. I have the honour to remain, with the profoundest veneration, Madam, your Majesty's most faithful subject and dutiful servant,
John Harley Boddy.

To this the following acknowledgment was received per return of post:—

Balmoral Castle,
August 30th, 1886.

Sir,—I am commanded by the Queen to thank you for the grapes grown in your Vineries, and also for the photographs, and I may mention that the grapes were served at Her Majesty's dinner last evening.—I am, sir,
Bridport.

To Mr. John H. Boddy,
Land's End Vineries, Penzance.

Mr. Boddy also forwarded to Lord Bridport a set of the photographs admirably executed by Mr. Preston, of Penzance, for his acceptance. They consisted of a general view of the vineries and grounds from the opposite hill, the vineries themselves on a larger scale, and portraits of Mr. and Mrs. Boddy and their thirteen children. In reply to this the following letter was received:

Balmoral Castle,
September 6th, 1886.

Sir,—Allow me to thank you for the photographs of yourself and family, your residence and vineries, all of which are well executed, and should I ever come to Penzance I should like to visit the Land's End Vineries.—Yours faithfully,
Bridport.

In the grounds themselves quantities of the narcissus and other flowers are grown for Covent Garden Market, and what was once a wilderness has literally been made to "blossom as the rose." The enterprising proprietor is continually extending his borders, and we are informed that Mr. Boddy has it in contemplation to cover in a large area with glass in order to form a winter garden and pleasure grounds for visitors. We wish him every success.

Potatoes.—According to the experiments made at Rothamsted, a summary of which is contained in the Memorandum Sheet for 1886, the yield of potatoes (Champions) in 1885, grown on unmanured land since 1876, amounted to 1 ton 1 cwt. per acre, the average of the five seasons being 1 ton 19¾ cwt. The heaviest crop (4 tons, 9⅞ cwt.) was derived from the plot to which a rich manure, comprising ammonia, superphosphate, sulphate of potash, soda, and magnesia was applied. The average of five seasons on the same plot is 7 tons 13½ cwt., so that there was a great deficiency. The plot to which nitrate of soda is added instead of ammonia, but otherwise the same, produced in 1885, and also on the average of five years, only a little less than the ammonia plot. The percentage of nitrogen in the tubers is also greatest in these highly-manured plots.

British Association.

ALLOTMENTS FOR ARTIZANS AND LABOURERS.

By the Earl of Onslow.

It is unfortunate that this subject should have formed matter for political controversy, and it is astonishing how little appears to be known on the subject by those who are not directly connected with and interested in the land. It is unnecessary to dwell at any length on the advantages accruing to labourers from the occupation of a small plot of ground, as all interested in the question admit this. The supply of land for such purposes appears to be greatly regulated by the demand. In the north, where wages are high, it may be said almost not to exist, while in the purely agricultural counties the practice prevails extensively. The Voluntary Allotments Association, of which I am hon. secretary, has publicly announced its desire to be informed of any unsatisfied demand which may exist, but even including the application of a gentleman who offers to change his opinions from those of a Home Ruler to a Tory if the association will send him three acres of pasture by parcel post these applications may be counted on one's fingers. Even where land is let on lease and, therefore, possession to be obtained only with difficulty, the local committees of the association expect at Michaelmas next in most cases to be able to satisfy the demand. The points chiefly in dispute are (1) whether there is a sufficient supply of land for allotments, (2) what is the size of allotment which a labourer can cultivate without interference with his regular wage-earning hours, and (3) what should be the rent and condition of tenancy. On the first point the recently issued Government return shows that allotments have increased from 242,000 in 1873 to 356,458 in 1886, while the number of labourers has only increased from 764,918 to 766,712. If to these we add the potato grounds, cow runs, and cottage gardens of over one-eighth acre, we find that there are no less than 708,722 plots of land cultivated by labourers, which, if held each by separate men, would leave only 58,000 labourers unprovided. In Wiltshire allotments exceed the number of labourers by 460. Arranging the counties in order—(1) of labouring population, (2) of number of allotments, (3) of number of cottage gardens—we find that the provision is nearly, though not quite, adequate: for instance, Suffolk is fifth both in labourers and allotments and fourth in cottage gardens. Lincoln is first in population, and though only tenth in allotments, is second only to Norfolk in cottage gardens. Wilts, which comes only tenth in labourers, is first in allotments; but Kent shows a bad record. Coming second in population, it is twenty-sixth in allotments and only eighteenth in cottage gardens. As to the size of the allotment, all parties agree with Mr. Arch that it should be in accordance with the ability to stock and cultivate it. The real point to bear in mind is to endeavour to give the labourer an opportunity to rise from his position to something a little above that, as is done by Lord Norton, Lord Henniker, and Mr. Goring, who endeavour to give the industrious labourer a means of adding some other employment to that of a day labourer, and finally to become a small farmer. As to rent, the proper charge appears to be that which the land would fetch if let for other purposes, and it must be borne in mind that to rent must be added all outgoings and also cost of collection, though as compared with land let in farms there are no buildings to be built or kept in repair. Another important point is to afford security to the tenant that he will neither be capriciously evicted nor evicted at all without adequate and complete compensation, so that every inducement may be offered to the occupier to bestow his money and labour on the allotment. What is still sadly lacking in this country is an adequate supply of milk for young children. The efforts of philanthropists might with great advantage be devoted to promoting this consummation. Nothing tends to attach a man so deeply to his country as an interest in the soil of his country, and it should be the object of the statesman and philanthropist alike to do all in their power to give the cultivator of the soil a personal and pecuniary interest in it.

The Rev. H. Selly said that no permament improvement in our agricultural population could be effected unless in giving them the chance of acquiring small portions of land proper precautions were observed so as to insure the land being used to the best advantage. It was desirable that the labourers occupying such allotments should also have some handicraft to supplement the produce of the land.

The Rev. W. Tuckwell gave his experience, as a country parson, of the benefit of allotments. In spite of the bishop (laughter), he had contrived to let 200 acres of neglected glebe in allotments to 72 agricultural labourers with the happiest results. He also advocated the growing of flax, tobacco, and other crops hitherto not cultivated in this country.

Sir Walter Foster thought that voluntary effort had been much stimulated by the establishment of the Allotment and Small Holdings Association. But he could not agree with Lord Onslow that there was no difficulty in labourers obtaining allotments from their landlords. In many cases with which he was acquainted every possible difficulty was thrown in the way. But the fact was that the question would never be satisfactorily settled without the principle of compulsion.

DRAINAGE OF BIRMINGHAM.

By Mr. W. S. Till.

The Birmingham Drainage Board was formed in 1877 by Provisional Order under the powers of the Public Health Act, 1875, the object being to unite certain of the various local authorities of Birmingham and its immediate neighbourhood for the purpose of sewage disposal, and to afford facilities to such authorities for the interception of sewage from the streams of the district and the conveyance of such sewage to outfall works. This district, which comprises the borough of Birmingham and ten other urban or rural sanitary districts, had an area of 47,275 acres, with a population of upwards of 600,000, and was governed by a Board of 24 members, selected by the various constituent authorities. In accordance with the Provisional Order, the Board acquired from the Corporation of Birmingham the sewage works at Saltley, consisting of 262 acres of land, and the extensive system of tanks, plant, stock, &c., and these works being situated at the natural outlet for about nine-tenths of the total population of the drainage districts, arrangements were made as soon as the Drainage Board came into existence for placing the districts of the various constituent authorities in communication with the outfall works so acquired. The principle of purification now adopted was partial precipitation in tanks with subsequent irrigation. The volume of dry weather sewage was about 16,000,000 gallons per day, about 13 tons of lime were used per day for neutralizing the acids contained in the sewage and assisting precipitation, and last year 135,476 cubic yards of mud were arrested in the tanks and dug into the land. The Board itself farmed the land. Mangolds, swedes, kohl rabi, rye grass, and market garden produce are the principal crops grown under sewage; the production and sale of milk is also an important item of the farming operations.

SELECT DAHLIAS.

In compliance with the wishes of several of our readers who take a special interest in dahlias, we give herewith a list of the finest varieties in the several sections that are at present in commerce. The list has been prepared from notes made in the garden and at the various exhibitions during the past season, and does not include a variety that is otherwise than first-class in its section and colour. Due care has been taken to include varieties free in blooming and constant in character, as well as producing blooms of high quality. The pompons have been selected with due regard to their freedom of flowering and effectiveness in the garden, and, as all that have a place in the selection bloom profusely and have flowers of high quality, they are equally adapted for garden decoration and exhibition. The majority of the decorative varieties make such a robust growth that their flowers are more or less hidden by the foliage, and consequently are not so effective in the garden as the show and fancy varieties, but they are exceedingly useful for the supply of cut flowers for the decoration of indoor apartments, and a few should be grown expressly for that purpose in the kitchen garden or in a border in some remote part of the pleasure grounds.

One Hundred Show Varieties.

White, Light Tipped, and Shaded.—Annie Neville, Duchess of Wellington, Emily Edwards, Ethel Britton, Flag of Truce, Georgiana, Herbert Turner, Julia Wyatt, Lonisa Neate, Mrs. Glasscock, Mrs. Gladstone, Mrs. Kendal, Mrs. John Laing, Mrs. George Rawlings, Mrs. John Walker, Seraph.

Lilac and Rose.—Clara, Countess of Lonsdale, Countess of Ravensworth, Criterion, Critic, Harriet Tetterell, Henry Bend, Hope, Lady Wimborne, Mrs. John Downie, Mrs. W. Slack, Rosy Morn, William Pringle Laird.

Yellow and Orange, Tipped and Shaded.—Aurora, Annie Gibbons, Buttercup, Canary, Cecilia, Champion Rollo, Constancy, Cremorne, Ethel Newcombe, Goldfinder, Henry Walton, H. W. Turner, Hon. Mrs. P. Wyndham, John Nevill Keynes, John William Lord, Joseph Ashby, Joseph B. Service, Mrs. Hodgson, Mrs. Stanscomb, Mrs. Langtry, Muriel, T. J. Saltmarsh, Vice-President, William Dodds.

Crimson, Scarlet, and Red.—Cardinal, Chris. Ridley, Duke of Connaught, George Goodall, Hon. Sidney Herbert, James Service, James Stevens, John Bennett, John Greenaway, John Standish, John Wyatt, Joseph Green, Lady G. Herbert, Mrs. Cornwallis West, Mr. Harris, Mrs. Douglas, Spitfire, Walter Weir, Walter H. Williams.

Purple, Marone, and Magenta.—Alexander Cramond, Burgundy, Bugleman, Earl of Radnor, George Rawlings, George Smith, Harry Turner, Imperial, James Cocker, James Vick, Lord Chelmsford, Michael Saunders, Miss Cannell, Mr. Glasscock, Ovid, Pioneer, Prince Bismarck, Prince of Denmark, Rev. J. Goodday, Ruby Gem, Shirley Hibberd, Statesman, Thomas Goodwin, Triumphant, William Rawlings.

Thirty-six Fancy Varieties.

Tipped.—Beauty, Fanny Sturt, Goldfinch, Jessie McIntosh, Maid of Athens, Miss Browning, Miss Annie Melsome, Mrs. Carter, Mrs. Friselton, Mrs. N. Halls, Mrs. Saunders, Polly Sandell, Prospero, Queen Mab.

Striped and Spotted.—Annie Pritchard, A. F. Barron, Adventure, Charles Wyatt, Duchess of Albany, Egyptian Prince, Flora Wyatt, Gaiety, General Gordon, Henry Glasscock, Henry Eckford, Hugh Austin, John Forbes, Madame Soubeyre, Mandarin, Marchioness of Salisbury, Miss Lillie Large, Monsieur Chauviere, Octoroon, Professor Fawcett, Pelican, Rev. J. B. M. Camm, Salamander.

Thirty-six Pompon or Bouquet Variet

Crimson and Purple.—Butterfly, Carl Mendel, Captain Ingram, Darkness, Ernest, Favourite, Gem, German Favourite, Jewel of Koestritz, Prince of Liliputians, Professor Bergeat.

Scarlet and Red.—Dr. Webb, Garnet, Hedwig Polwiz, Isabella, Northern Light, Sunshine, Triumph.

Yellow and Buff.—Burning Coal, Ctaherine, Comtesse von Sternberg, Dora, Fashion, Golden Nugget, E. F. Jungker, Thomas Moore.

Rose and Lilac.—Clementine, Louis Rodani, Mdlle. Valentine Faconet, Model, Reugier Chauvière.

White and Light Tipped.—Cupid, Dove, Eli Millard, Guiding Star, Lady Blanche, White Aster.

Twelve Large-flowered Varieties for Bedding.

Carl Mendel, Cloth of Gold, Crimson Gem, George Thomson, Glare of the Garden, John Wyatt, Marguerite Bruant, Mont Blanc, Royal Purple, Rising Sun, Yellow Pet, Zelinda.

Thirty-six Single Varieties.

Large-flowered for Exhibition.—Albert Victor, Alfred Smith, Amos Perry, B. Barkway, Cetewayo, Chilwell Beauty, Distinction, Eclipse, Faust, Fashion, Formosa, Marion Hood, Miss Linaker, Mr. Harris, Mr. Kennett, Mrs. Bowman, Mrs. Castle, Mrs. Ferguson, Mrs. Jongkindt Coninck, Squire Gammie, Thereis, Victory, White Queen, William Potten.

Small-flowered Varieties for Decorations.—Alma, Bedding Gem, Duchess of Westminster, Elsie, Freedom, Illustration, Ingomar, Little Beauty, Mary Anderson, Midget Improved, Pantaloon Improved, Yellow Boy.

Nine Decorative Varieties.

Cochineal, Constance, Fire King, Juarezi, Lady E. Dyke, Lady M. Marsham, Mrs. Hawkins, Mr. A. W. Tait, Picta formosissima.

Apples as Cattle Food.—Giving apples to milch cows is good. We have used them for many years in the proportion of one peck of apples to four pecks of chaff. The milk and butter are greatly improved in colour and quality. This food also prevents scouring, which we are troubled with on our land. Meal can be added, or not, as desired. The apples are pulped, the same as roots, and should be mixed overnight, as the juice is then absorbed by the chaff more evenly. Possibly if cows got at the heap of apples they would eat them too greedily, and do themselves harm; but I feel sure there can be only good results from their judicious use. We give the same mixture to cattle, horses, sheep, and calves, and all eat it eagerly. Many farmers could give the same testimony; they are getting to use them more and more in this way, as they see the harm done by cider.—F. C. Impey.

"MUSHROOM" POISONING.

By H. Handford, M.D., M.R.C.P., Physician to the Nottingham General Hospital.

At this period of the year, partly because it is the mushroom season, and partly because of the dearth of subjects of general interest, there usually appears an article in the daily papers on the subject of Edible Fungi. Such an article in the *Standard*, a few weeks ago, called attention to the prolific source of food supply that was wasted by the neglect of the people to avail themselves of the more common edible fungi that grow so abundantly in the late summer and autumn months. The writers generally imply, if they do not directly state, that it is easy, by means of the coloured plates which can be readily obtained, to distinguish the edible from the poisonous varieties. Two cases of fatal "mushroom" poisoning show the danger of following this advice. I cannot do better than quote the last paragraph of a letter I received from Kew giving me the name of the variety that caused the fatal result in the two cases referred to. "Edible fungi, though very palatable and nutritious, are unfortunately so similar to poisonous ones that the greatest caution has to be exercised in gathering them, and one has to be very careful unless one knows the various species *well*." Such I find to be the general opinion of those who make fungi the subject of special study. Colour and general appearance are not sufficient to enable one to distinguish between closely allied species, one of which may be poisonous and the other edible. The colour, indeed, is a most unreliable test. Most edible fungi have one or more poisonous varieties closely resembling them, And, further, the colour is very variable in the same species.

Agaricus (amanita) muscarius and Agaracus (amanita) rubescens closely resemble one another in general appearance. The former is virulently poisonous, the latter edible. Muscarius is red, with white spots; rubescens is brown, with white spots. But, *occasionally, muscarius is found with a brown top*, and then the two can only be distinguished by botanical points, more especially the condition of the volva. Marasmius urens, an acrid and poisonous fungus, cannot always be distinguished without some difficulty from Marasmius oreades, the fairy ring champignon, which is edible. Dr. Cooke, the eminent fungologist at Kew, relates an instance in which he suffered severely from mistaking M. urens for M. oreades.

The rule that all fungi with a marked disagreeable odour should be avoided is a good one; but it is not sufficient of itself in all cases to enable one to distinguish edible from poisonous varieties, and a mistake may be fatal.

It should not be forgotten by those who see in fungi an important source of food supply that even the more common edible varieties in some people give rise to alarming symptoms, and by most people require to be eaten in great moderation. Suitable cooking, thorough mastication, an active digestion, and due limitation of the quantity eaten are necessary to render even edible fungi a suitable article of diet.

In the latter end of August a mechanic in Nottingham gathered some "mushrooms" in a wood a few miles from the town. He had been out of work, and consequently short of food, and looked upon these "blue button" mushrooms, as he supposed them to be, as a welcome addition to his diet. Instead, however, of the Agaricus personatus, or Lepiota personata, the purple-stemmed Lepiota, or blue bottom, a variety which is edible, and is sold in very large quantities in the Nottingham market, as well as in Covent Garden, he had gathered the Agaricus (amanita) phalloides, an extremely poisonous variety, most closely allied to Agaricus (amanita) muscarius, and which a few years ago poisoned several people at King's Lynn. The mushrooms were fried in lard, and eaten at eight p.m. on Friday evening. He gave *part of one* to his little daughter, aged three and a-half, and ate about 3 oz. or 4 oz. himself. He rose at five o'clock next morning, and experienced a sense of constriction at the chest, but was able to go to his work as usual. While there he was seized with vomiting, purging, and profuse sweating. He returned home before midday, and, becoming worse, was admitted under my care into the Nottingham General Hospital on the evening of Saturday. He was treated chiefly by stimulants, and I saw him the following morning. The vomiting and purging had continued. He had severe pain in the abdomen. The sweating had ceased, and the pupils were normal. He had suppression of urine; the heart's action was regular but feeble, and the pulse could scarcely be felt at the wrist. He was so drowsy that it was not thought wise to give him opium in any form. In experiments on the lower animals atropine has been shown to be to so large an extent antagonistic to muscarin, which is the most important active principle in the majority of poisonous fungi, that in this case subcutaneous injections of small doses (gr. $\frac{1}{120}$) of atropine were employed. Skiff, however, has been led to believe that poisonous mushrooms contain two active ingredients, one having an opposite and the other a similar action to that of atropine. The result in this case strengthens that view. The benefit, though evident, was slight, and the man died on Monday afternoon, sixty-hours after eating the "mushrooms."

At the necropsy there were signs of gastro-intestinal irritation, but they were not marked, and my opinion that death was due to the action of muscarin on the heart and vascular system, was strengthened.

The child I did not see during life. It was stated at the inquest that she suffered from vomiting and signs of depression. She had only slight diarrhœa and no sweating or suppression of urine. She died twenty-nine hours after eating a *portion of one mushroom*. The result of the *post mortem* examination, which I had an opportunity of making, was almost negative. There were slight signs of irritation in the mucous membrane of the stomach and upper part of the small intestine. The child had always been delicate and was suffering from rickets. The man had previously been strong and in good health.

It has been stated that the action of water is necessary to produce muscarin, which does not exist ready formed in poisonous fungi. The fact of the man having partaken of a full meal only half an-hour previously, together with the absence of water in cooking the "mushrooms," may account for the very late onset of the symptoms of poisoning, the muscarin only being formed gradually as the watery fluids of the stomach slowly penetrated the "mushrooms" which were somewhat protected from the action of water by the fat in which they were fried.

The antagonism of atropine to muscarin in man does not appear to be sufficiently accurately determined to enable one to be given as an antidote in poisoning by the other, with much success. Atropine dilates the pupil, whether applied locally or administered internally. Muscarin given hypodermically contracts the pupil, but, applied locally, widely dilates it; in this respect corresponding in its action with gelseminum, which, administered by the stomach, contracts the pupil, but, applied locally, widely delates it.

Topically applied, the merest trace of muscarin at once arrests the frog's heart, and slows the heart of mammals, reducing the beats from 120 to 60, 40, or even 9 beats per minute. Given to human beings in medicinal doses, muscarin appears to affect the frequency of the pulse very little. In large doses, muscarin produces profuse sweating; given in small doses, it is equally successful with atropine and pilocarpine in checking the night sweats of phthisis.—*Sanitary Record.*

TOBACCO HARVESTING IN KENT.

The summer has not had the effect of hastening the ripening of the tobacco plants at Sharsted Court, the estate of Mr. C. Faunce de Laune, near Sittingbourne. On the half-acre of land devoted to their culture about twelve sorts of tobacco are grown, and the important fact has been established that one sort—the Kentucky—is to all appearance well suited to the climate and soil of East Kent. It is far riper than the other sorts, and yellow in colour, but does not yield so heavy a crop as other kinds. Two of those plants have been allowed to run to seed. They had reached a height of between 6 ft. and 7 ft., and the pink and white blossom at the top is exceedingly pretty. The Kentucky tobacco only forms a small portion of the crop. The bulk of the crop is still in the ground, and a large proportion of the leaves, especially those of the macrophylla variety, do not bear that mottled appearance indicative of ripeness. The persistent greenness is attributable, it is conjectured, to over manuring. Frosts mean death and destruction to tobacco plants, and the in-gathering will have to be completed as soon as possible. The question whether green tobacco can be rendered smokable by any process of drying has yet to be decided. The process of harvesting is interesting. As soon as the ripening has sufficiently advanced, the plants are either removed entire or the leaves are gradually stripped off. The greatest care has to be exercised in order to prevent injury to the leaves. Plants removed entire are attached to nails, protruding from a stick about 6 ft. in length, supported by a sort of tripod at each end, at a height of 5 ft. or 6 ft. from the ground. As soon as a plant has been affixed to each nail the whole can be removed to the drying room. The leaves when removed are threaded on a string extending from one end of a slight wooden frame about 3 ft. in height. The stem was formerly used for the making of snuff. The use of that compound is diminishing year by year, but it is possible that the stem may be made into nicotine, for which there is a considerable demand. It may be mentioned that the weight of an average tobacco plant before drying is about $5\frac{1}{2}$ lb., the leaves alone scaling $3\frac{3}{4}$ lbs. Six thousand plants can be grown on an acre; and assuming the average weight of the leaves and stem to be $5\frac{1}{2}$ lb., the total "raw" weight an acre would be 33,000 lb., or 14 tons. The bulk of the tobacco which has been dried has been subjected to heat in a room adjoining an oast—formerly used for storing apples. Fireplaces have been constructed, and the tobacco suspended at a height of about 10 ft. from the fire. In the hop oast the leaves are suspended about 3 ft. 6 in. above the wooden grating on the second floor; there are two fires below, and the temperature is kept at about 80 degrees. On the top of each plant is a label recording the name of the variety and the time at which it was put in the kiln. Mr. de Laune is of opinion that he has been placed at a disadvantage by having to use fires instead of flues, by means of which the plants could, when required, be enveloped in a volume of heat. To an ordinary observer it would undoubtedly appear that the drying has not proved the experiment a success, except in the case of Kentucky tobacco. Of that sort many leaves have by drying been turned to a beautifully soft yellow, and are apparently fitted for conversion into bird's-eye tobacco. On the other hand, the great majority of the leaves seem uncertain as to what colour they shall take. It may be that this is due to want of knowledge on the part of the driers, and also to the fact that Mr. de Laune was compelled to cut his tobacco too early for any but Kentucky in order to get at the hops. As a proof of the necessity of experience it may be mentioned that out of the first drying one lot of tobacco came out a lead green, and another—cut at the same time and dried in the same room—came out a beautiful golden yellow. The expense of the drying has been enormously increased by the experiments which have been tried. Five times the quantity now dried might have been done with the same expenditure of coal and labour. There seems reason to suppose that the coarse tobacco converted into shag cannot be grown so well in England as the Kentucky bird's-eye tobacco.

An Unpublished Poem of Burns'.—The *Seaforth Sun*, a Canadian paper, says: Dr. Campbell, of this town, has received the following from a native of Maybole parish, Ayrshire, and an admirer of Robert Burns:—Walton, June 10th, 1886. To the author of "The Land of Burns." Dear Sir,—As I see by your book that you are a great admirer of my favourite poet and countryman—immortal Burns—I take the liberty of sending you one of his unpublished poems. I can produce clear proofs of its genuineness at any time, as I have them in my possession, and will be happy to do so if called upon for the same.—Thos. M'Fadzean.

TO THE POTATO.

Guid e'en, my auld acquaintance cronie,
I'm glad to see thee bloom sae bonnie;
Of fruits and flowers there is nae monie
Can match wi' thee;
I question much if there ha'onie,
At least to me.

It's now twa months since ye've been wi' us,
As soon's ye can come in and see us;
Ye'll banish poverty quite frae us
Tho time ye stay;
And troth I hope ye winna lea' us
Till Whitsunday.

I'll mak' my braw young bounoing wencher
Place thee upon a bowl or trencher,
Wi' floods o' milk as deep as Stinchar;
In case I had it;
I'll show thee fairly I'm nae flincher,
When once I said it.

Y'er now the poor folks' bread and scone,
And hungry meals ye gar stan' yon;
Frae me to him that fills the throne
O' happy Britain;
Baith young and auld man, wife and wean,
You baud them eating.

Replies to Queries.

Names of Fruits.—W. Law.—1, Waltham Abbey; 2, Emperor Alexander; 3, Nonsuch; 4, Red Astrachan; 5, Mere de Menage; all smallish samples. C. A. R.—The pear is Napoleon. Defer gathering until the middle of October. It is a good eating pear in November.

Incrustation of Boilers.—I am very anxious to obtain information as to the best way of removing incrustations from boilers, and shall be greatly obliged to any reader of the Gardener's Magazine who will assist me in the matter. I have a small coil boiler, which is so much incrusted, as to be of very little service, and as the cold weather is coming on my obligation will be much increased by those able to give the desired information doing so quickly.
W. G. N.

Colchicums.—M. A.—The proper time to plant the colchicums is in the course of the summer, and as soon after the foliage has died down as possible. To ensure their flowering satisfactorily the bulbs ought to be planted by the end of July. They will succeed in any ordinary garden soil. The finest of the species and varieties are Autumnale, Autumnale fl. pl., Autumnale purpureum pl., Autumnale purpureum, Bertoloni, Byzantinum, Byzantinum fl. pl., Crociflorum, Luteum, Persicum speciosum, Speciosum. and Variegatum.

Names of Plants.—S. G. R.—The pretty weed from Sutherland is the Lady's Mantle, Alchemilla vulgaris. J. Godfrey.—1, Catalpa syringæfolia; 2, Tulip tree, Liriodendron tulipiferum; 3, Chinese juniper, Juniperus Chinensis; 4, Escallonia macrantha. W. Burton.—1, Harpalium rigidum; 2, Bellium minutum, related to, but distinct from the daisy; 3, Lagurus ovatus, the Hare's tail grass; 4, Clematis flammula. H. R.—The leaf sent represents the cut-leaved bramble; it will thrive under trees if in a deep, moist soil, and not much overshaded. Guillaume.—The shrub is the common elder, Sambucus niger, and the other plant is Marchantia polymorpha.

Rose Galls.—The correspondent who sends two sorts of galls in a small paper box need not fear any serious injury to his roses by the occurrence of these things. They are certainly not beneficial, and we do not profess to love them, but observation has convinced us that they do very little harm, and this conclusion is borne out by the continuous appearance of galls on oaks, willows, and other trees, without any visible deterioration of the trees affected. The large woolly or mossy galls are the homes of the grubs of *Cynips rosæ*, or *Cynips Bedegaris*, commonly known as the Bedeguar. The round galls are probably representative of *Cynips quercus foli*, although certainly not the same species.

Liliums.—J. W. S.—As lilies begin to make new roots very soon after the stems have died down, the bulbs should be replanted early in the autumn as the best means of avoiding the check which is invariably received when they are disturbed after having commenced to make new roots. It is always advisable to obtain the bulbs from the trade growers not later than the end of October, and to plant them as quickly as possible after they are received. The majority of the lilies thrive in a rather light loam which has been stirred to a depth of twelve or fifteen inches, and liberally enriched with old hotbed or farmyard manure. Heavy soils in which lilies are to be planted should receive a liberal dressing of leafmould, river sand, road drift or other grit, and charred refuse, in addition to the manure. The following comprise the finest of those of free growth, and adapted to the requirements of the general body of cultivators. For borders, Auratum, Bulbiferum, Canadense, Candidum, Croceum major, Chalcedonicum, Davuricum, Humboldti, Japonicum, Monadelphum Szovitzianum, Pardalinum, Pomponium verum, Speciosum rubrum, Speciosum album, Tenuifolium, Thunbergianum in variety, Tigrinum Fortunei fl. pl., Tigrinum splendens. For pot culture: Auratum, Cordifolium, Longiflorum, Longiflorum eximium, Longiflorum Harrisi, Speciosum album, Speciosum Melpomene, Speciosum rubrum.

ENGLISH GRAPES AND ENGLISH WINES.

The *Standard* of September 14 having discoursed on grapes, our excellent friend Mr. Harrison Weir contributed what may be called a supplementary letter on the subject, the pith of which we subjoin. The letter that follows it is from the pen of Mr. T. F. Rivers, of Sawbridgeworth:—

With a good glass-house, properly heated, a well-made vine border with prolific vines, such as the Black Hamburgh, a man is not a good gardener that does not produce grapes of a fine quality in fair quantity every year. It is only when he has to contend with the vicissitudes of climate and other outdoor influences that there is or should be such variations of produce; but with heat, ventilation, soil, and moisture thoroughly under his control, he should always have a crop of well-finished grapes every season under glass.

As to wine-making grapes, there are two varieties, that nearly if not always ripen well against walls in this country. These are the Black Cluster or Black Burgundy, Early Black, &c., also Miller's Burgundy. Most excellent wine may be and often is made from these, as they generally ripen fully, and so contain the necessary amount of saccharine necessary for proper fermentation.

I have tasted what was termed English champagne, made from the "Black Cluster," and it certainly was most agreeable to the palate. Also for table purposes these varieties, if the berries on the bunches are properly thinned, they grow to a fair size, and are delicious. For white grapes the Dutch Sweet Water holds high place with some, but Stillwards is much better, and the Royal Muscadine best of all, being far richer than the two first.

But what I wish to call attention more particularly to is the very fine grapes, comparatively speaking, that may be grown in ground vineries, which consist merely of a ridge of glass put on movable bricks, allowing space for the air to pass through; the floor is either tiles or slates, and the vines are trained along a horizontal pole. These require but little attention beyond thinning and stopping the shoots. In these ground vineries I have grown twelve to fourteen varieties of grapes with much success; so much so, that I have sold the produce in the market at eighteenpence a pound, besides having the honour of receiving a silver medal "for excellence" from the Royal Horticultural Society.

By the foregoing it will be readily seen that we can make good sound wholesome wine from grapes of our own growing, also nice palatable table fruit from those on our own open walls and in ground vineries. We can grow most delicious Champion Muscats, Hamburghs, and many other sorts without heat, and in our hothouses, with good management, we can always ensure a crop quite equal in quality, if not vastly superior, to any of our foreign importations. And yet we import grapes largely. Why? There is no need—none!—while we can grow so good ourselves at a minimum cost in our cold ground vineries. I have sold my hot-house grapes at six shillings a pound in Covent Garden Market at the very time foreign grapes were only making one shilling and sixpence.

Tunbridge Wells, September 16. Harrison Weir.

Had Mr. Harrison Weir been a resident of a wine-growing monastery in England, he would hardly have written to *The Standard* of the day in praise of the vintage. English wine must have been a penitential drink, and I imagine that if Mr. Harrison Weir were condemned to consume it as a punishment, he would be a very penitent monk indeed.

That grapes may be grown in ground vineries with success is very certain. The design of the simple structures was given to Mr. Rivers, of Sawbridgeworth, more than thirty years since, the designer being sanguine enough to think that a profit of from £200 to £500 per acre could be realised. The cost of covering a large space was, however, found little less than that of glass houses.

The plan was carried out, and for some years very fine crops of grapes were gathered, one cane growing to the length of one hundred and eighteen feet, and giving bunches at every spur, the vine resting on the ground and sending up the shoots, which by the autumn supported the weight of the bunches. The inventor of these pleasant little vineries was a gentleman of Sussex, who gave the invention to the world without any hope of personal reward. My father, I know, was delighted with it.

Wine from English grapes may be good about once in ten years; but unless the autumns are hot, like that of the "Comet" year (1858), it must be largely fortified, and even then I am sure that Mr. Harrison Weir would neither drink it himself nor give it to his guests.—I am, &c.,
September 17. T. F. R.

Obituary.

Recently, at Longton, Mrs. Blair, widow of Mr. Blair of Stamford Hill, the raiser of Blairi No. 2 rose, in her 94th year. Mrs. Blair was a pensioner of the Gardener's Royal Benevolent Institution twenty-one years.

On the 23rd of September, at Cranbrook, Kent, Thomas Webster, R.A., aged 87 years. It must have been the conviction of many that this painter of character, and more especially of schoolboy character, had passed away long since, so many years have elapsed since his charming pictures filled us with surprise and delight. His great age in part explains the far reaching memories his name awakens. His works make a long catalogue; they are thoroughly English, and often sparkle with charming humour. One of his best, the "Village Choir," was reproduced in an excellent engraving that adorned our Christmas number in the year 1881.

On the 28th September, at his residence, Enfield House, Belsize Park Gardens, Cornelius Walford, Esq., Barrister-at-Law, aged 58.

Markets.

COVENT GARDEN.

Fruit.

Apples.....per ½ sieve	2s. 0d. to	3s. 6d.
Damsons .....per ½-sieve	2s. 0d. ,,	3s. 0d.
Figs .....per doz.	0s. 9d. ,,	1s. 0d.
Filberts.....per lb.	0s. 6d. ,,	0s. 8d.
Grapes .....per lb.	0s. 9d. ,,	3s. 0d.
Lemons .....per case	15s. 0d. ,,	25s. 0d.
Melons .....each	1s. 0d. ,,	2s. 0d.
Peaches .....per doz.	2s. 0d. ,,	6s. 0d.
Pears .....per ½-sieve	1s. 6d. ,,	3s. 6d.
Pears, Dessert....per doz.	1s. 0d. ,,	2s. 0d.
Pine-apples, English, per lb.....	1s. 6d. ,,	3s. 0d.
Plums ..... per ½ sieve	2s. 0d. ,,	3s. 0d.

Vegetables.

Artichokes, Globe, per dz.	3s. 0d. ,,	4s. 0d.
Aubergines .....per doz.	2s. 0d. ,,	2s. 6d.
Beans, French ....per lb.	0s. 2d. ,,	0s. 4d.
Beet .....per doz.	1s. 0d. ,,	2s. 0d.
Beans, Runners, per sieve	4s. 0d. ,,	4s. 6d.
Cabbages .....per doz.	1s. 6d. ,,	2s. 0d.
Carrots .....per bun.	0s. 4d. ,,	0s. 6d.
Cauliflowers .....per doz.	2s. 0d. ,,	3s. 0d.
Celery.....per bun.	1s. 6d. ,,	2s. 0d.
Cucumbers .....each	0s. 6d. ,,	1s. 0d.
Endive .....per doz.	1s. 0d. ,,	2s. 0d
Herbs .....per bunch	0s. 3d. ,,	0s. 4d.
Horse-radish .... per bun.	3s. 0d. ,,	4s. 0d.
Lettuces, Cabbage, per doz.	0s. 8d. ,,	1s. 0d.
Lettuce, Cos .....per doz.	1s. 0d. ,,	1s. 6d.
Mushrooms ....per basket	1s. 0d. ,,	1s. 6d.
Onions .....per bunch	0s. 4d. ,,	0s. 6d.
Onions .....per bushel	3s. 6d. ,,	4s. 0d.
Parsley .....per bun.	0s. 3d. ,,	0s. 4d.

Vegetables.

Radishes ..per doz. bunch	0s. 8d. to	1s. 0d.
Shallots .....per lb.	0s. 3d. ,,	0s. 6d.
Small Salading .. per pun.	0s. 3d. ,,	0s. 4d.
Spinach .....per bushel	3s. 6d. ,,	4s. 6d.
Tomatoes .....per lb.	0s. 4d. ,,	0s. 8d.
Turnips .....per bunch	0s. 4d. ,,	0s. 6d.
Vegetable Marrows, per doz.	1s. 6d. ,,	2s. 0d.

Cut Flowers.

Asters.....per doz.	0s 2d. ,,	0s. 3d.
Bouvardias .....per bunch	0s. 6d. ,,	1s. 0d.
Carnations, per doz. blms.	1s 0d. ,,	1s. 6d.
Eucharis, per doz. blooms	2s. 0d. ,,	3s. 0d.
Gardenias, per doz. blooms	2s. 0d. ,,	3s. 0d.
Heliotropes, per doz. sprays	0s. 4d. ,,	0s. 6d.
Lapageria, per doz. blooms	1s. 0d. ,,	1s. 6d.
Lilies ....per doz. blooms	2s. 0d. ,,	2s. 6d.
Marguerites, per doz. bun.	3s. 0d. ,,	4s. 0d.
Mignonette, per doz. bun.	1s. 0d. ,,	3s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d. ,,	0s. 8d.
Roses .....per doz. blms.	1s. 0d. ,,	2s. 0d.
Roses, Tea ..per doz. blms.	1s. 0d. ,,	1s. 6d.
Stephanotis, per doz. spays	1s. 6d. ,,	3s. 0d.
Tropæolum ..per doz. bun.	0s. 8d. ,,	1s. 0d.
Tuberoses ..per doz. blms.	0s. 6d. ,,	0s. 8d.

BOROUGH AND SPITALFIELDS.

Potatoes.

Magnum Bonum .....per ton	65s. to	75s.
Beauty of Hebron.....per ton	65s. ,,	75s.
Essex Regents .....per ton	60s. ,,	70s.
Kent Regents.....per ton	65s. ,,	75s.
Early Rose .....per ton	50s. ,,	70s.

Apple Stealers Sent to Gaol.—At Berkhampstead, recently, three men, named Smith, Edwards, and Martin, were charged before Captain Curtis with stealing apples, the property of Mr. Halsey, M.P., at Gaddesdor Row, and damaging an apple-tree. It appeared that the defendants, with a number of others, all from London, visited Hemel Hempstead, and one man climbed the tree, and shook down some apples to his companions. A son of Mr. Halsey's bailiff was watching, and later in the day the defendants, whom he recognised, were arrested and escorted to the police-station by four constables. The evidence having been taken, Captain Curtis stated that he considered the case of sufficient magnitude to warrant the committal of the men for a month; but as the law does not allow a sentence at an "occasional court" for a longer period than fourteen days, he sentenced the prisoners to that term, with hard labour, without the option of a fine. The defendants, who appeared greatly surprised at the sentence, were then removed. The value of the apples was said to be 1s., and the damage to the tree 2s.

TEA IN OUR COLONIES.—The common idea that the people of England consume (per head) more tea than any other country in the world is erroneous. The Australians drink on an average 7¼ pounds each person, and New Zealand 7½ pounds yearly; whilst the consumption in Great Britain is under five pounds per head. The system of direct supply from tea-growing districts to the Colonies ensures a pure article at moderate cost; precisely as Horniman's system in England guarantees at a fixed price the best tea the world produces. Those who appreciate full rich flavour, amazing strength, and perfect freedom from all adulteration, use Horniman's Pure Tea. Sold by agents, chemists, confectioners, &c., advertised in all papers and at railway stations.—[Advt.]

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. temp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
10	S	**16th Sunday after Trinity.**	6 17	12 59	5 18	4 37	3 8	0 10	0 31	9 35	9 58	52·3	Cypripedium Sanderianum	India.	283
11	M	Oxford Michaelmas Term begins	6 19	13 14	5 15	5 0	4 11	0 53	1 10	10 18	10 35	52·1	Grammatophyllum Ellisi	Madagascar.	284
12	Tu	Columbus discovered America, 1492.	6 20	13 29	5 13	5 21	5 15	1 29	1 45	10 54	11 10	51·7	Odontoglossum grande	Guatemala.	285
13	W	○ Full Moon, 3h. 24m. Morn.	6 22	13 44	5 11	5 46	6 19	2 0	2 15	11 25	11 40	51·4	Odontoglossum Roezli.....	Colombia.	286
14	Th	Fire Insurance due.	6 24	13 57	5 8	6 12	7 25	2 30	2 46	11 55	—	51·3	Oncidium ornithorhynchum	Guatemala.	287
15	F	Murat executed, 1815.	6 25	14 11	5 6	6 41	8 31	3 0	3 16	0 11	0 25	51·0	Pleione humilis	East Indies.	288
16	S	Lord Palmerston died, 1865.	6 27	14 24	5 4	7 15	9 37	3 33	3 50	0 41	0 58	50·7	Vanda cærulea	Khasya.	289

ROYAL HORTICULTURAL SOCIETY.
SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at Eleven a.m., in the Conservatory, on TUESDAY next, OCTOBER 12, and WEDNESDAY, OCTOBER 13.

SHOW OF HARDY FRUITS.

N.B.—Open to Fellows at Twelve o'clock on Tuesday, and the Public at One o'clock; on Wednesday at Ten o'clock a.m.

HULL AND EAST RIDING CHRYSANTHEMUM SOCIETY.—THE ANNUAL GRAND EXHIBITION will be held in the ARTILLERY BARRACKS, HULL, on THURSDAY and FRIDAY, NOVEMBER 18 and 19, 1886, when Prizes to the value of £175 will be offered for Chrysanthemums alone.

1—48 Blooms, 24 to be incurved in not less than 18 varieties, 24 to be Japanese in not less than 18 varieties ... ... £10 £8 £5 £2.

2—24 Blooms, 12 to be incurved in not less than 9 varieties, 12 to be Japanese in not less than 9 varieties ... ... £5 £3 £1 10.

The Silver Challenge Vase, value 15 Guineas, will be offered with the 1st Prize in Class 1. Entries close November 11. Schedules may be obtained from the Hon. Secs., R. FALCONER JAMESON and WM. HAWKESWORTH, Queen's Dock, Hull.

RICHMOND (SURREY) CHRYSANTHEMUM SHOW.—The SIXTH AUTUMN EXHIBITION of FLOWERS, FRUIT, and VEGETABLES, will be held at the CASTLE HOTEL, on THURSDAY and FRIDAY, NOVEMBER 11 and 12. Prizes amount to nearly £100. For Schedules, apply to Mr. J. H. FORD, Hon. Sec., 22, George Street, Richmond.

WATFORD CHRYSANTHEMUM SOCIETY.—President, The Right Hon. the EARL of CLARENDON.—The FIRST ANNUAL SHOW of CHRYSANTHEMUMS and other AUTUMNAL FLOWERS and FRUIT will be held in the AGRICULTURAL HALL, WATFORD, on TUESDAY and WEDNESDAY, NOVEMBER 16 and 17, 1886. Schedules can be obtained on application to the Hon. Sec. and Treasurer, CHAS. R. HUMBERT, Watford. Entries close on November 11.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, OCTOBER 12, AND WEDNESDAY, OCTOBER 13.—ROYAL HORTICULTURAL SOCIETY.—Exhibition of Hardy Fruits; Floral and Fruit Committees, 11 a.m., on first day.

WEDNESDAY, OCTOBER 13.—NATIONAL CHRYSANTHEMUM SOCIETY.—Floral Committee, 1.30 p.m.

Auction Sales for the Ensuing Week.

MONDAY, TUESDAY, WEDNESDAY, AND SATURDAY, OCTOBER 11, 12, 13, AND 16.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Dutch Bulbs.

MONDAY, OCTOBER 11.—Messrs. Protheroe and Morris, at Cranston's Nurseries, Hereford; Continuation of Sale of Stock, until October 14.

MONDAY, OCTOBER 11.—Messrs. Protheroe and Morris, at Castle Nursery, Lower Norwood; Sale of Orchids, &c.

MONDAY, THURSDAY, AND SATURDAY, OCTOBER 11, 14, AND 16.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.

TUESDAY, OCTOBER 12.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Imported and Established Orchids.

WEDNESDAY, OCTOBER 13.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Plants, Bulbs, &c.

WEDNESDAY, OCTOBER 13.—Messrs. Protheroe and Morris, at the Elvaston Nurseries, Borrowash; Nursery Stock. (Two days).

THURSDAY, OCTOBER 14.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

FRIDAY, OCTOBER 15.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

FRIDAY, OCTOBER 15.—Messrs. Protheroe and Morris, at the Wood Lane Nursery, Isleworth; Nursery Stock.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.
SATURDAY, OCTOBER 9, 1886.

PLANTING HAS COMMENCED in many places with the aid of conditions favourable to success. The season has been so happily compounded of rain and sunshine in fair proportions, with but few checks to growth, that in most places the new wood will be fully matured and the trees will lift well. It should be observed, however, that this is a late season; there are at present no signs of approaching winter, and although the almanac declares the autumn to be already ten days old, the country is still very green and the pleasant occupation of pheasant shooting has been much interfered with by the exceeding leafiness of the trees. Autumnal colours will soon give a new glow to the landscape, and tell us that the leaves are coming down, after which winter may quickly change the scene and find, as usual, much of the proper autumn work as yet unfinished. A late autumn should mean for us a late winter, and there is a reasonable prospect that westerly winds will prevail until towards the turn of the year with more or less of warmth with rain rather than of frost with snow. But, as no one knows what a day or an hour may bring forth, the prudent ones will follow the good custom of completing the work of the season with all reasonable speed, delays being especially dangerous at this time of year.

There exists a well founded opinion that deciduous trees should not be lifted until they begin to part with their leaves spontaneously. A little haste, however, may be advised where large operations are in progress, and as regards coniferous trees and evergreens generally, there can be no reason whatever for delaying the necessary operations. The question when the roots will begin to take possession of their new quarters is not the only one that may arise in connection with the consideration of the best season for planting. A holly planted now may be lifted in April next, and may be found to all appearances in precisely the same condition at the roots as when planted. That, however, does not suffice to prove that spring planting is preferable to autumn planting, for many charges take place in trees both below and above ground that are not obvious to the casual eye. Experience teaches that, generally speaking, autumn planting is the safer course, and is followed by more substantial successes and a smaller proportion of losses than planting in the spring; and one reason amongst many is that in the course of the winter the ground becomes consolidated and the wounds sufficiently healed, so that in the event of a dry bright month of May or a roasting time in the month of June the newly-planted trees are less distressed, in proportion to the length of time they have had to settle themselves in their new situations. Many nurserymen will wait until the leaves come down before lifting roses, fruit trees, and other deciduous subjects, and the practice may be commended for its safety; but where trees have to be moved to new places on the same property the case is different, and there is less need for waiting for what is regarded as the "proper time." But when the pleasant autumn days are past and wintry weather interrupts the work it is best to discontinue planting, for while the trees are apt to suffer by exposure of their roots to frost the work cannot be so well done, and thus two circumstance unfavourable to success have to be reckoned with.

This is a golden time for planters, for trees are cheap; and beautiful specimens of the more valuable of ornamental subjects may be found in plenty and secured at very moderate prices. It is a question if at any time for fully thirty years past, a buyer of first-class subjects could do so well as now in obtaining a grand assortment for what is called "immediate effect." The prices of first-class trees have been, in common with many other products of rural industry, very considerably depreciated within the past few years. In large undertakings the size of the trees is a matter of great importance, and well-made specimens have a value beyond mere size, for they represent long-continued skill and care amid suitable conditions, as well as long years of growth with the accompanying guarantee of capability of endurance. But, although of "great importance," the size of trees is not of the first importance. The matter of the first importance is that they should thrive from the first without a struggle, or, as we customarily say, "without feeling the move." If fine specimens are not in a proper form for lifting, it is best to do without them. Small stuff is better than large when there are no reasonable guarantees of fitness. Trees that have

occupied the same spot for a series of years without being lifted are likely to be dear at any price; and hence it is that in all well-managed nurseries periodical lifting is practised, to promote the formations of roots "close home" and prevent the descent of tap roots, the severing of which might endanger the life of the tree We have seen magnificent hollies purchased from old gardens that perished in the course of the season following their removal to a new place, while properly-prepared nursery trees of considerable dimensions were scarcely distressed by removal to the same place, the only result being a smaller growth than usual in the season immediately following. This is a matter of great importance that our heads of departments are not always as mindful of as they should be. We have in our "mind's eye" at this moment a great public garden that has been seriously damaged by the removal to "more suitable situations" of big trees that, for the purpose, were made hideous because it was necessary to cut them back severely. They will have to be cut back again because of the dead wood that now encumbers them, and eventually they will go to the rubbish yard to tell of labour wasted in the disfigurement of a promenade. If it is good sometimes to plant trees, it must be good sometimes to fell trees, and often destruction would be better than mere removal; for there comes a time when to move a tree is to kill it, and the business of the practical man is to make a fair estimate of the probabilities in any particular case, for which no general rule can be provided. In the selection of fine specimens, therefore, it is of the utmost importance to know somewhat of their history as regards their fitness for removal, for very much depends on their having been periodically lifted with a view to their sale as safe subjects for final planting.

Planting trees with a crowbar is almost as bad as opening a bank with the same instrument. It is much practised in hill planting, the principal subjects of the operation being larch and fir in a small state, and cheap enough to allow a large margin for losses. Something very like this dibbing process is practised in gardens too often, with results illustrative of the "penny wise and pound foolish" policy that many persons keep at hand as a check on their own ambition. A young tree is like a baby in this respect, that it needs coaxing and comforting to obtain a hold on life; but the term of infancy past it can take care of itself, for it is not much we can do to help trees that have become established, although it is in our power to do very much to hinder them. In parks and gardens planting must be well done, for carelessness is costly, and every necessary attention should be given to ensure a healthy and vigorous growth from the first. Trees that only live never display their proper beauty; never produce their flowers and fruits in a satisfactory manner; never justify their cost, but disgrace the place and the planter. Generally speaking, planting is a simple business, but needs a certain earnestness of action: the ground to be deeply stirred and well broken up, the holes to be large enough to allow the roots to be spread without cramping, and the filling-in to be done with care that neither lumps nor hollows prevent complete contact of the soil with the roots from the stem to the circumference. Cases will occur in which manure may be largely used for enriching the soil, for trees require substantial food and often fail to find it. But there is scarcely any tree known to cultivation that will thrive with its roots in contact with recent manure, and the prudent planter will, in any extreme case of having to plant in a poor soil, prepare it at least a year in advance, or will do his best for the trees without adding manure, and make amends by top-dressing. Every tree has its peculiarities, but every place that will suit trees of any kind will suit trees of many kinds, so nearly alike in their requirements are certain of the more useful groups, while nature is generous in appointing the conditions.

Mr. William Fry, foreman at the gardens, Lowther Castle, has taken charge of the gardens of C. L. Salkeld, Esq., Holme Hill, Dalston, Cumberland.

Mr. Walter Vincent, formerly at Cecil Lodge, Abbotts Langley, has been appointed head gardener to Thomas Bevan, Esq., Stone Park, Dartford.

A Permanent Fruit Show, at Willesden, is contemplated as a means of introducing to the London market Colonial fruits and other vegetable produce. The promoters propose to construct a Horticultural Palace and Colonial Exhibition.

Messrs. Follows and Bate, manufacturers of lawn mowers, garden engines, &c., &c., have removed from the premises they have long occupied to their new works, where all kinds of agricultural and horticultural implements will be produced in the most economical manner. The new address is, Gorton, Manchester.

The Weather has furnished a special theme for conversation lately, but many times when London has been bathed in sunshine, northern towns have been bathed in rain or fog. The great heat experienced in the south has certainly not been general, and now that the south is becoming damp and dull, the far north is brightening with the proper pleasantness of autumn. The outlook now is of a mixed character, but there is no present prospect of frost.

Horticultural Club will resume activities on Tuesday next, Oct. 12, with a meeting at 1, Henrietta Street, Covent Garden. Dinner at 6, after which Mr. J. G. Baker, of the Herbarium, Kew, will lead a discussion on the Botany of the British possessions.

National Chrysanthemum Society.—A general meeting will be held on Monday next, Oct. 11, at the Old Four Swans, Bishopsgate Street, for the election of new members and other business. The chair will be taken at 7 p.m., by the president of the Society, E. Sanderson, Esq.

Swallows have been scarce, and it does appear that their numbers are continually diminishing. Mr. Ralph Lowe, of Sleaford, writes: "Owing to the unusually backward spring the swallows on their arrival found so little food that quite two-thirds of their number died of famine. The survivors were so emaciated that it was late before they commenced to build their nests, bringing one brood only. To their diminished numbers is chiefly owing, I think, the present pest of flies. 'But for the swallow the air would soon be so filled with flies, that we should be unable to see or breathe, and vegetation would be destroyed,' writes some competent authority. This, I take it, would be an excellent opportunity for impressing upon the minds of your readers the absolute necessity for protecting the nests of these birds in all seasons for the future, upon railway stations, public buildings, and private dwelling-houses. A bracket under each nest at a cost of one shilling is all that cleanliness requires. That it was want of food more than the lowness of the temperature that caused the great loss in these birds is proved by the fact that all that were brought to me were wasted to mere skeletons. Thirty would not weigh a pound.

Canada at the Colonial and Indian Exhibition.—Canada, as the premier colony of the Empire at South Kensington, is becoming more and more the cynosure of all eyes, and there can be no doubt that the effort made by the Dominion to be present in a representative manner on this occasion is making a deep impression on the visiting public. Even to those who are tolerably well posted as to the stage of development which our great colonies have reached, the range covered by the Canadian exhibits, and their uniform excellence, will come as a surprise. The general impression conveyed by an inspection of the contents of this section is that the federated possessions of Her Majesty in British North America form a state that is thoroughly self-sustaining, and that the enterprise and vigour of its population is characteristic of all that is best on the great continent of which they occupy the larger half. Perhaps the finest sight of the whole court is the agricultural trophy, constructed entirely out of the various products which the soil of Canada yields. A noticeable feature of the trophy is the splendid collection of Canadian fruits, preserved in glass jars, which include grapes, peaches, apricots, melons, pears, apples, and a large variety of smaller fruits, all grown in the open air. The trophy is highly instructive as indicating the favourable climatic conditions of the country which yields such produce. Altogether there is much to be learnt from the Dominion exhibit.

The New Sewage System of the Metropolitan Board is beginning to arouse alarm, as we anticipated. Here is a sample of the criticism to which it is subjected: "The plan of treating the London sewage at the outfall by means of chemicals, and then conveying the resulting 850 tons *per diem* of solid matter caused by this process to the German Ocean by a fleet of vessels, seems certain to prove a dismal failure. The chemical plan was tried in Paris, and was a complete failure, and it is now well known that the only way of purifying sewage that is compatible with health and economy is to allow the fluid part of it to pass through permeable soils, such as could easily be found in Essex, Kent, Middlesex, and Surrey. In the Beddington farm at Croydon the solid part of the sewage of 66,000 persons is strained off from the fluid with the greatest ease, and only requires one cart *per diem* to remove it, and the fluid, or truly fertilizing part of it, is allowed to flow over a farm of 600 acres, through the soil of which this fluid passes and enters the river quite pure; as also does the sewage at the Gennevilliers farm at Paris. The fluid sewage of Croydon raises in the summer season crops of 40 tons of mangolds per acre, and four or five cuttings of rye grass; and the crops on the Paris sewage farm are magnificent. The 160 millions of gallons of London sewage could be easily treated in the same way, and the fluid part pumped up, at a very small expense, to two or three hundred feet above the present level, and then by means of pipes allowed to flow over the fields of Essex and Kent. It is estimated that the tank where the chemical process is to be tried will cost at least one million sterling, and I am quite certain that this experiment will prove a failure and have to be abandoned, while I am equally sure that the treatment of London sewage by the agricultural plan will eventually be resorted to.—Charles R. Drysdale, M.D., Senior Physician to the Metropolitan Free Hospital of London."

The following, in reply to the above, is full of importance, and it raises the question, whether anybody in the whole world knows anything of the matter: "In reply to Mr. Drysdale's letter, permit me to say that the Board of Works have arranged for experiments being carried out at Crossness pumping station for treatment of London sewage by means of filtration. This method will—(1) entirely dispense with the 'fleet of vessels' for carrying the solid matter to the ocean; it will (2) permit the effluent being turned into the river freed from all objectionable or noxious matter; and it will (3) convert the solid refuse, in conjunction with the filtering material, into a valuable fertilizer, which can be carried away either in blocks or in a powdered state. The results already achieved at Wimbledon leave no doubt as to the ultimate success of the larger scheme at Crossness, both from an economic and healthful point of view.—W. Chippendale Cotton, 2, Brabant Court, E.C., Oct. 4."

GERMAN IRIS.

In referring to the claims the German iris have on the attention of cultivators of hardy plants, writers frequently over-rate them. At one time their flowers are compared with those of the finest cattleyas and lælias. At another, it is suggested that by the expenditure of a few shillings in the purchase of sufficient plants to fill a bed of medium size, a display of floral beauty may be had that will rival, if not surpass, that within the orchid house, when the two above-mentioned genera are at their best. German iris are marvellously beautiful, but they are so distinct in character and colouring from all the orchids that no good service is done by comparing the two. I shall certainly not institute comparisons, but I would urge the claims of the German iris, and strongly recommend cultivators to plant them more generally, and exercise greater care in the selection of varieties. They are all so accommodating in character that there is hardly a position in the garden in which they will not thrive. There is a remarkable diversity in the colouring of the flowers of the several varieties, and care should be taken to have a representative collection.

These iris are better adapted for mixed borders than for beds, as their season of flowering is comparatively short, and beds wholly occupied with them have a comparatively dull appearance during the greater part of the summer season. But, associated with other subjects, they are immensely attractive when in bloom, and their bold and handsome foliage presents a pleasing contrast to the flowers of the subjects blooming later in the season. As in the case of the majority of the strong-growing hardy herbaceous plants, they rejoice in a deep rich soil, but they are less particular in this respect than the majority of subjects. In proof of this we have only to refer to the admirable manner in which the plants grow and flower that have a place in shrubbery borders, where the soil is generally much impoverished. To have them in perfection they must have the advantage of a decidedly rich soil, and a position where they will enjoy a liberal degree of moisture at the roots throughout the season of growth. In preparing the border for them it will be simply necessary to add to the staple a moderate quantity of partly decayed manure from the frame ground or stable yard, and then dig it over to a depth of not less than twelve inches. The planting should be done rather early in the autumn, to give the plants time to become well rooted before the winter. Strong examples put out now will bloom most satisfactorily next summer, and continue to increase in beauty for three or four years, when they should be taken up and replanted in different positions. They appear to the greatest advantage when arranged about six feet apart in a line between three and four feet from the front edge of the border.

The following varieties are exceedingly beautiful and sufficiently distinct to form a thoroughly good collection, in which the various shades of colour, will be well represented.

Albicans.—Pure white; a very fine variety of much value for contrasting with the dark forms.

Aurea.—Rich yellow; very distinct and effective.

Bridesmaid.—Pale lavender and white; exceedingly pleasing.

Chameleon.—Deep blue, shading to violet purple; a handsome flower, remarkable for its rich colouring.

Gracchus.—Lemon yellow, veined and shaded with purple.

L' Innocence.—White veined, and shaded purple and orange; distinct and good.

Madame Chereau.—White feathered with violet purple; so beautiful that it should have a place in the smallest collection.

Madame Parquette.—Bright purple; a handsome variety.

Mozart.—Purple and bronze; rich and effective.

Othello.—Purple blue; the finest of its shade.

Pallida dalmatica.—Lavender shaded with violet, very beautiful.

Pallida speciosa.—Purplish violet; a rich and effective shade of colour.

Queen of May.—Rose lilac; a beautiful variety.

Rigoletto.—Bright yellow standards and crimson falls.

Victorine.—White, beautifully painted with violet and blue.

C.

WHEN TO POT LAYERS OF CARNATIONS AND PICOTEES.

When I was at the Royal Nursery, Slough, a few days ago, and surveying the large number of pots of layered carnations and picotees—looking as well as one can desire to see them at this season of the year—I said to John Ball, "When shall you pot these off?" John said he hoped to set about it in a week or two, but it would have to be done as soon as possible. I had occasion to submit the question to Mr. E. S. Dodwell a few days ago, and he said, "If I could have four thousand plants potted up in one day, I should choose October 20 for the operation; but that not being possible, we work from the beginning to the end of the month, or even into the first ten days of November." Now as this date may appear late to some fanciers of the carnation and picotee, it is well to state that in his excellent book on "The Carnation and Picotee," Mr. Dodwell gives reasons for delaying this work longer than some persons might think reasonable. On p. 40 he states the operation of potting the layers "should not be commenced before the *end* of the third week of October, say not earlier than from the 20th to the 30th of the month, for necessary as it is to have the plants established for the winter; in my experience grievous evil has always followed premature potting for winter. All that is required is that the plants shall *freely feel* the sides of the pots with their roots, so as to ensure perfect drainage and sweetened soil before going off for their winter's sleep; but on no account should they become pot bound, or the very worst evils may be expected to result." I do not know whether my own experience is general, but layers in the open ground are growing very freely, no doubt owing to the mild open weather. To-day—October 4—it is more like a June day than one in early autumn—a day to sit in the open air, and be thankful for what shade remains. Mr. Dodwell states another point of importance to young beginners, especially, in potting. "Various sized pots should be used, according to the strength of the plants. Over-potting is a great evil. When potted place in a cold frame, and keep close for some days, shading from the bright sun. Water sparingly. Badly-rooting varieties will be greatly aided with a gentle bottom heat, when this can be given and properly watched. Pot every rare variety singly in 3½ inch pots; all will be better for such a practice." It is satisfactory to know that the demand for named carnations and picotees has been a very brisk one for a few years past.

R. D.

HARDY PLANTS IN FLOWER AT WORCESTER.

Our notes on plants in flower usually represent the state of things in gardens near London. Within the past few days we have made notes of many plants in flower in the extensive collections of Messrs. Richard Smith and Co., Worcester, who have given special attention to herbaceous plants to secure the best in every section, and keep them correct to name. Very many good things that have run their race for the season are still quite fresh and bright in these nurseries, and a short list will probably be acceptable to many readers.

Coreopsis is essentially an autumnal-flowering genus, and we have here fresh and beautiful examples of *Coreopsis auriculata*, two feet high, flowers rich yellow; *C. lanceolata*, *C. verticillata*, *C. tenuifolia*, *C. uniflora*, and *C. triptera*, all good, and in shades of yellow, the first in the list being at this time the best. The last is like a Rudbeckia.

Gentians lead off with *Gentiana acaulis*, which may be said to be always in flower, although its season is early summer. The thriving stock of plants making a fine breadth of green turf show a lot of lovely blue flowers. *G. septemfida* and *G. asclepiadea* have but lately finished flowering.

Torch Lilies are not simply showing flowers; they are splendid and in full character. *Tritoma uvaria* takes the lead for colour and style now. *T. Rooperi* comes near it; *T. Burchelli* is good. The olumps of these give a most welcome glow amid the general greenery, and they are certainly of greater value now than in high summer.

Rudbeckias belong to autumn as much as do the asters and helianths. *Rudbeckia speciosa* is now resplendant with its towering head of distinotive flowers. *R. Newmani* is fine, the flowers rich orange yellow, the plant as orderly as a parlour maid. *R. maxima* is useful in the wild garden; if to be kept in order it must be staked. *R. subtomentosa* is of the useful class, making a gay show.

Chrysanthemums and Pyrethrums may be bracketed for the present purpose. Varieties of *Chrysanthemum coronarium* and *C. frutescens* are still flowering. *Pyrethrum serotinum*, a coarse but useful plant; and *P. uliginosum*, a most noble and glorious thing, towering high, and showing a crowd of huge "ox-eye daisy" sort of flowers pure white. *Chrysanthemum lacustre* is a leafy plant, flowers white; *C. lynosyris* is very distinct in its curious leafage and yellow flowers.

Valerian in several forms is flowering freely. Conspicuous on some small rockeries near the business offices are sheets of *Centranthus ruber* in its common red form, a very effective plant of its class; in the nursery quarters the purple and the white varieties are showing flowers. *Valeriana exaltata* is not a grand plant, but useful now for its rosy or white flowers.

Montbretias are gay and useful, their neat leafage being almost as acceptable as their flowers. The best now is *Montbretia Pottsi*, with lively gladiolus-like flowers of a rich red orange colour. *M. crocosmæflora* has larger and deeper coloured flowers; and the near relative *Tritonia aurea* can still boast of its lively colours.

Arums and their kindred do not show flowers now, but a few of them present club-like masses of berries of a dazzling tone of red. As a matter of course the British cuckoo pint, *Arum maculatum*, has its place, and makes its show. But the finest in respect of fruit is *Arum albispathum*, the appearance of which is so splendid that we must recommend it strongly as suitable for groups in the front line of a border to assist in the general autumnal conflagration.

Aconites are not in force, but there are nice heads of flowers on *Aconitum autumnale*, dark blue, and *A. speciosum*, dark blue, and *A. barbatum*, a dwarf plant, the flowers blue. The favourite *A. napellus* does not show a flower, and the beautiful *A. japonicum* is equally out of the running.

Sunflowers of many kinds show their pleasing yellow flowers, and the one conspicuous for high character is our old friend *Helianthus multiflorus*. Other sorts we have lately reported on are still flowering, but they have not the freshness of this head of the family, which perhaps is most useful in its single form, but nevertheless acceptable when double.

Golden Rods are becoming respectable, for we are no longer shut up, as long we were, to *Solidago virgo aurea*, which after all is a better plant than it is commonly reputed. However, here is a beauty; its name is *Solidago cæsia*, a fine plant rising three feet, flowers in free panicles, rich deep yellow. *S. nutans*, *S. multiflora*, and *S. altissima* are good, but quite rustic in character.

Amongst many more good things mention should be made of perennial asters, of which there is a considerable collection; pentstemons and phloxes abound, and are scarcely less bright than in the month of August; the Brenchley gladiolus is very lively, autumnal crocuses and colchioums show sheets of gay flowers, and of odd things there are many in flower we have made no note of.

VEGETABLE MARROW PEN-Y-BYD.

I am sorry to see Mr. Coleman has been so unsuccessful in the culture of by far the best flavoured of all the many varieties of vegetable marrows now in cultivation. Last year we planted it away from other sorts, and I must confess it did not set its fruit at all freely. This season we planted it alternately with Moore's Vegetable Cream, and it has fruited quite as freely as that well-known variety. Before discarding it entirely I would advise Mr. Coleman to give it one more trial as planted here, and if it does with him as well as it has done here, I am quite sure he will always find a place for what I consider to be a grand acquisition to our list of new vegetables.

The Gardens, Aldenham Park, Elstree, Herts. Edwin Beckett.

STOVE AND GREENHOUSE PLANTS IN FLOWER.

The houses are still fairly gay, but the glory of high summer is gone, and to keep up a good show necessitates the employment of subjects that, however useful, are not in the category of greenhouse glories. A few of the best of the early flowering chrysanthemums come in now, and plants that belong to the frame, such as zephyranthus, belladonna lilies, and even longiflora lilies, and perhaps a few of the speciosa section are appreciated. However, there are some good things in season that can nowhere be so well done as in the houses that have always claimed them.

Erythrinas give colour to stove or greenhouse, being equally at home in either house now that a moderate temperature suffices. The two grandest of this genus are *Erythrina poianthes* and *E. velutina*, which are of arborescent habit, gorgeous when in flower, and of commanding appearance at all times. A good plant for a mixed collection is *E. caffra*, with broad triangular leaves and a grand head of velvety crimson flowers. This should be booked as a desideratum by the cultivator of first-class plants.

Thunbergias of the smaller kinds, such as *T. alata* and *T. fragrans*, are flowering in their baskets, but *T. laurifolia* makes a grand show overhead on the rafters of the stove. This rampant grower produces large flowers of a light blue colour, and is only suitable for roomy places. A good example may be seen in the palm house at Kew, where it has been flowering freely for some weeks past.

Crinums in flower include *C. Powelli*, reported hardy, but with us a frame plant that is useful for furnishing. Very distinct and fine now is *C. gigantea*, a plant that may be likened to the Amazonian eucharis, save that the flower has no cup or crown. The flowers are pure white and nodding, the plant leafy and noble in style. *C. flaccidum* is in the style of a pancratium with long narrow segments, but without the cup.

Orchids in good trim include *Vanda suavis*, fresh and fine; *Dendrobium chrysanthum*, golden and glorious; *Zygopetalum Gauteri* and *Z. intermedium* are fine; while the ever-flowering *Odontoglossum crispum* is at least useful if it has ceased to surprise one.

Rondeletia belongs to the range of "good old things." *Rondeletia speciosa* is in full power and freshness, and for some time to come will warm the house with its orange-tinted scarlet flowers. We have *R. speciosa major*, which is larger than the species in both leaf and bloom; and *R. S. brilliantissima*, which is certainly the best of the three in every way, but the "type" plant is so good that one may even be content with it except—yes, except when the brilliant variety might make more points in a close competition.

Centradenia is an interesting genus of melastomads that have no special beauty, but the quality of usefulness on account of the abundance of their small flowers. *Centradenia floribunda*, with pale green leaves, and a profusion of white flowers is not yet in full glory, but has shown a few flowers; while *C. grandifolia* (often absurdly labelled "grandiflora") is in its very best dress. This plant has large leaves of a brilliant green above and deep red beneath; the flowers are white tinged with pink, and are produced in profusion.

Dichorisandra is a genus of the commelyna alliance, and there are several fine plants represented by it, such as *D. leucophthalma*, *D. oxypetala*, *D. picta*, and *D. Saundersi*. The last-named is a very pretty one, with flowers violet and white. We have now in fine flower *D. thyrsiflora* with handsome spikes of flowers of a rich full indigo blue. It is the most useful of the group.

Nerines are as useful as any of the minor decorative plants known to cultivators, for not only are they free and gay and sure, but it scarcely matters what you do with them, for they cannot be killed, and they always flower. Our best now is the rich red *N. Fothergilli*. We have not long since parted with *N. corruscans* and *N. pulchella*, of which we get a late bloom by putting a few pots in a cool place, which they seem to enjoy quite as much as a warm place, and only bloom later in consequence.

Begonias that make a good show now include *B. gracilis*, with rosy pink flowers; *B. Pearcei*, with yellow flowers; and *B. Warcewiczi*, the best amongst many. This plant grows freely, the flower-stems are far-reaching, very red, the flowers pleasing pink, small, lovely, the appearance of a well-grown specimen delightful. A quite good thing is *B. Davisi*, a very dwarf plant with rather large flowers of a brilliant vermilion colour. It might be likened to Sophronites grandiflora, but is, indeed, more showy, and in its way not less choice.

Ericas are once more giving delight, and will, in various ways, enliven us for some time to come. The most "useful," of course, are such as *E. hyemalis*, *E. Wilmoreana*, and *E. gracilis*. But something must be said for *E. Ewerianа*, with brilliant golden-green leafage and narrow-tubed carmine flowers. It is now delightful. *E. grandinosa*, white; *E. margaritacea*, white; *E. Irbyana*, flesh; *E. cerinthoides*, large-tubed red, are severally useful and in the best condition for the season.

Statices are rather stale, and the best specimens have gone from the show house. But a few examples of *Statice arborea* and *S. Bourgiæi* were in condition, with fine heads of blue and white flowers. The last-named is a form of *S. puberula*, but both differ considerably from the first, which is the seed parent of a series of hybrids. Of these *S. Gilberti* is the finest, while *S. Halfordi*, also a fine plant, is the most popular. The best for winter flowering is *S. profusa*, which has not yet made a show, but will soon be ready to succeed those now in full colour.

Isotoma is a section of lobelia counting three good plants. The first is *I. senecioides*, with pale blue or purple flowers; the second *I. hirsuta*, with boldly produced flowers of a soft but intense scarlet colour. *I. longiflora* is a delightful curiosity, the flowers white. For the characters see B. M., 2,072 and 5,073.

Amasonia is a genus of the verbena alliance closely related to Petræa and Callicarpa. A beautiful flowering shrub is *Amasonia punicea*, lately introduced by Messrs. Veitch and Son from British Guiana; one of the best acquisitions of its class in recent years. It is now in perfect colouring, the flowers white, the floral accompaniments full vinous crimson, this colour extending to many of the true leaves as well as the bracts. It is a plant for the universal garden, and must rank with our best standard subjects.

Costos is a genus of the scitamine connexion, and one of the species, *C. afer*, is of importance in Sierra Leon as a remedial agent. It is a noble plant bearing a small crowded head of pale yellow flowers. It makes no seed and no suckers, yet Nature propagates it fast enough, not only for her own purposes, but for those of man, by whom it is valued as a remedy for nausea, a common affliction of that coast. "The flower-head, after shooting out its flowers, and by its weight bending the long stem to the ground, gradually withers, while a new plant rises from its base, and obtains nourishment from it, while forcing its roots into the soil." (*B.M.*, 4,979). *C. malortieanus* is a grand thing, with huge obovate leaves, and flowers yellow striped with red. *C. cupreus* is the best for a small stove; the flowers are of a deep yellow, and compel attention by their striking appearance.

Amongst other good things now in full colour, mention should be made of *Tillandsia Moreliana*, red and yellow; *Tradescantia Warscewiczi*, the purple flowers in woolly-looking lumps; *Mussænda frondosa*, always a pleasing plant, with its yellow flowers and white bracts; *Exacum macranthum*, glorious for its purity of blue; *Pentas Kermesina*, *Stephanophysum brevifolium*, and those good old friends *Hæmanthus coccineus*, and *H. albiflos*.

Flowers of the Double Flowered Horse Chestnut (one-fifth natural size). See page 609.

BEAUTIFUL BULBS FOR THE CONSERVATORY.

By W. Bradbury.

For the embellishment of the conservatory during the early part of the year the hyacinths, tulips, and daffodils must continue to occupy a foremost position amongst bulbous plants. But, rich in colouring and attractive as these three important classes unquestionably are, they are not by any means the only bulbs that should be grown for general decorations. There are a considerable number of subjects that are so distinct in character from the majority of plants that usually have a place in the conservatory, and, moreover, present such a beautiful appearance, that a few bulbs of the more important should be grown for the sake of the variety they give. Some are desirable because of the early date at which they naturally bloom, and the aid they are so well able to give to those who possess but little space for forcing plants into bloom.

Allium Neapolitanum is not, as yet, much grown in private gardens for indoor decorations, although one of the most useful of the many good things at the command of the cultivator. It is, moreover, so cheap as to be within the reach of all who possess the necessary conveniences for the production of a display of flowers early in the year. It is now grown largely in Italy for the production of flowers for the English markets, and thousands of the umbels are sent to Covent Garden annually. The flowers, which are produced in comparatively large umbels, are of the purest white, and free from the objectionable odour common to the other alliums. The bulbs should be potted, several together, in five or six inch pots, using a light rich compost. Place the pots in a pit where the bulbs will not be subjected to artificial heat, or exposed to frost. Keep the soil rather dry until they are rooting freely, and show signs of making new growth, when the water supply must be increased. They can be introduced to the forcing pit, when they have produced a few roots, and as they respond readily to the influence of artificial heat, a moderate temperature will suffice to ensure their flowering early in the year. In the open borders the flowers are produced in May, and, when grown in unheated pits, the plants bloom in April. The flowers are very useful in a cut state.

Chionodoxas are especially useful for the decoration of the conservatory and drawing-room when grown in five or six inch pots. From five to eight bulbs should be put in each pot, and the pots be placed in a pit from which the frost is excluded until the beginning of January. They can then be removed to a structure in which a temperature of about 60 deg. is maintained to accelerate their flowering, or they may remain in the pit until they come into bloom, which will be at the end of February, or early in March, according to the season. *C. Luciliæ* is the best for pots, but *C. Sardensis*, which has dark blue flowers, is very attractive under glass. For pot culture home-grown bulbs should be invariably selected.

Crown Imperials have a decidedly objectionable odour, but they differ so widely from other bulbous plants of their season that a few should be grown where the conservatory is of comparatively large size. They appear to the best advantage when grown singly in five-inch pots, and so arranged that the cluster of pendent flowers is at least six inches above the other plants with which they are associated. *Aurora*, *Lutea*, and *Sulpherine*, which have red, yellow, and sulphur-coloured flowers respectively, are all desirable. *Aureus marginatus*, which has prettily variegated leaves, is well worth growing for the attractiveness of its leaves. They all bloom very early, and a very gentle heat will suffice to ensure their being sufficiently advanced for decorative purposes before the end of February.

Freesias are remarkable both for the fragrance and the beauty of their flowers, and should be grown as largely as circumstances will permit. *F. Leichtlini*, which has primrose-yellow flowers, and *F. refracta alba*, the flowers of which are pure white and delightfully fragrant, are both desirable. The last-mentioned is the best for growing expressly for the supply of cut flowers. When required for the conservatory they should be grown in five-inch pots, three or four bulbs in each. When, on the other hand, they are required simply for the supply of cut flowers, they should be grown in boxes because of the saving in space. By potting the bulbs early in the autumn and assisting them with a gentle heat after they have commenced to make new roots, they may be had in full bloom in January, when their flowers will not fail to be appreciated. Successional supplies of flowers can be maintained by starting the bulbs at intervals of three weeks or so, but at present the bulbs are too expensive to be obtained in sufficient quantities to maintain a succession of flowers over a very lengthy period.

Iris reticulata forms a capital companion to the chionodoxa and the snowdrop, and is especially useful where there is no pit or other structure in which to force flowering plants. With the shelter of a cold pit it commences to bloom in February, and with the aid of artificial heat it can be had in flower considerably earlier. The foliage is grass-like and elegant, and the flowers are of a rich violet blue reticulated with gold, and delightfully fragrant. Good specimens are obtained by putting the bulbs in six-inch pots, five in each. As the bulbs are potted place in a cold pit or frame in which they can remain until they come into bloom, or are removed to a structure in which they will receive the assistance of artificial heat, according to the time the flowers are wanted.

Ornithogalums have not yet attained to a high degree of popularity for the decoration of the conservatory, nevertheless, they comprise several species that might be turned to good account for the purpose, and to these a brief reference will be made. *O. arabicum*, a very distinct species, the flowers about an inch in diameter, and pure white, with black blotch in the centre. *O. lacteum* is a very fine form, producing large umbels of creamy-white flowers on stems ranging from eight to ten inches in height; one of the best to grow in quantities for early forcing. *O. revolutum*, a rather strong-growing species producing large umbels of pure white flowers.

Snowdrops present a very pleasing appearance when grown in five-inch pots. The common single and double forms are both suitable for pot culture, and should be taken advantage of. But the best for culture under glass is Elwes's Giant Snowdrop, *Galanthus Elwesi*, the bulbs of which are now so cheap as to admit of their being grown in large quantities. Whether the common or other forms of this chaste flower are grown the bulbs should be planted rather thickly in the pots.

As the bulbs of the whole of the subjects enumerated will, under good cultivation, materially increase in numbers, they should be potted in a well-prepared compost, and receive such other attention as may be necessary. Proper care must be paid to the watering, and for the whole of the foregoing an abundance of moisture during the season of growth will be necessary. The water supply must also be so regulated as to enable the bulbs to complete their growth after they go out of bloom, and to pass gradually into the resting state.

STORING APPLES.

There is a great deal more trouble taken with keeping apples than is in many cases really necessary. Given a dry room or loft from which frost is excluded and some empty barrels or boxes, and a large quantity may be kept without the need of costly fruit-rooms. All that is wanted is that only one sort should be put into each barrel or box, and that the fruit be quite dry when gathered. Every possible care should be taken so as not to bruise the fruit, either while being gathered or while being placed in the boxes. There must be no emptying of the fruit from the baskets into the barrels. Each one must be handled separately and laid in its place. Barrels or boxes that will hold a couple of bushels may be quite filled, only it is necessary to place them where they are to remain before they are filled, and then there will be no necessity to move them about. If the boxes are quite clean it is not necessary to place anything between the fruits. A layer of clean straw at the bottom is all that is necessary. It is a common mistake when picking apples to take too many small ones to the store, which do not in the end pay for the room they occupy, as all apples shrivel more or less in keeping, and small fruit becomes almost worthless if kept for any length of time. Late-keeping sorts must have especial care taken with them. It is not a matter of great consequence whether there are any top covers to the boxes or barrels, as I have proved that the fruit keeps equally well either way. If covers are used, each box should be properly labelled. Once in the barrel the fruit must not be interfered with until it is wanted for use. There must be no attempt to examine them with the view of picking out those decaying. It is an erroneous idea to suppose that one decaying fruit will cause all others near it to rot; it does nothing of the kind, although I do not mean to say that in the case of fruit laid out on shelves it is not desirable to look over them occasionally. In that case it should be done for the sake of cleanliness; but where fruit is stored in barrels, it will do more harm than good to disturb them. It is very desireable to have a room in which the air is cool and dry for keeping apples, and it is equally desirable that there should be the means of admitting air to the room when the outside temperature is dry and not too cold. A sweet pure air is essential in order to preserve the flavour of the fruit.

Those who have large quantities of fruit to store, may utilize the same class of rooms for storing apples, by making heaps of the fruit on the floor, as they keep as well this way as any other, provided the heaps are not so large as to cause fermentation when first taken to the store. The heaps may be a foot thick at first, and this depth may be increased six or eight inches at the end of a fortnight. No covering of any kind should be put over the fruit for the first month, and air should be admitted three or four days a-week to dry up the moisture. A layer of clean straw should be put on the floor, to prevent the bottom layer from being bruised, and the same kind of material may be used to cover them up. It is quite as well to cover the fruit up at the time above mentioned, for the purpose of excluding the light and air, too much of which, extended over a long time, might cause the apples to shrivel and the flavour to deteriorate.

It must not be supposed for a moment that I am in any way opposed to the use of a properly-constructed fruit room, because I am not; on the contrary, where there is much fruit grown I consider a well-arranged fruit room of much value, especially where pears and choice dessert apples have to be kept for any length of time. In recommending the use of spare rooms or dry lofts, and the placing of apples in barrels and boxes, I have in view the probable circumstances of many readers who may have fruit to store and are perplexed to know what to do with it. To such I would say they need not be afraid to adopt the suggestions which I have made, as they have all been tested by experience, so that I know they will disappoint no one if the fruit is stored under favourable conditions. R. H. B.

A WORD TO WIVES.—*Beware of Spurious Imitations.*—For 50 years Horniman and Co. have advocated the benefits of Pure Tea, rejecting that "artificially coloured" on the surface of the leaf. The difference in quality is so great, and the flavour of genuine tea so superior, that it has become a household word, where "*Horniman's tea is once used it is always used.*" The pleasure of partaking of tea, free from adulteration, facing powder, or foreign admixture, is realized by many thousands of tea drinkers, who annually consume many millions of packets of Horniman's Pure Tea. See list of Agents in all newspapers, and at railway stations, or apply by post to Horniman and Co., 29, 30, 31, 32, and 33, Wormwood Street, City, London.—[Advt.]

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory should now be liberally embellished with the October flowering chrysanthemums, of which there are many beautiful varieties.

Ericas can be better wintered in a spacious and airy pit than in the greenhouse. It is certainly best to let them taste as little as possible of fire-heat, though they must be kept safe from frost. A damp still air, especially if a little warm, to suit the growth of soft-wooded plants, is most injurious to those nearly hardy and free-natured plants. Water only on fine days, and then as early as possible; keep the plants hardy, and if they are exposed to three or four degrees of frost they will take no harm if kept dark till thawed. The result of such treatment will be short joints and a fine bloom.

Mignonette sown now in pots of rich light soil, started with a little bottom-heat, as on a bed of leaves or nearly worn-out manure, and kept in a pit all winter, will bloom early next spring, and a few may be forced. It requires but little skill be flower mignonette at any period of the year; but at this season one important caution must be given, and that is, to grow the winter stock in pots that are extra well drained, and not to wet the leaves.

Verbenas and Petunias from autumn cuttings are best kept with cinerarias and primulas, as the same treatment will serve for all, and they will require fumigating more frequently than other plants. All these things should be grown very slowly now, as the worst times for them are yet to come. Give plenty of air.

FORCING AND ORCHARD HOUSES.

Cucumber Pit.—Cucumber plants to fruit during winter will now be showing signs of fertility, in which they must not be unduly encouraged, unless they are strong. If allowed to bear too early, they will soon cease to be productive, and the fruit will be small and inferior. Keep them carefully trained; take the leaders up their full length before stopping, then stop every side-shoot at the second joint. Pinch off the young fruit till the plants are in a robust state, with plenty of large healthy leaves; if fit to begin bearing, thin the crop moderately. Encourage root action by top-dressing with a mixture of leaf-mould and rotten manure.

Forcing to be prepared for according to the demand for asparagus, seakale, rhubarb, &c. Take up all the roots that are to be used in the first batch, and lay them in by the heels; the roots force better if taken up some little while beforehand, especially for the earlier supplies, for which the plants are still in a somewhat active state, and needing to be artificially rested. Early lifting of the roots is useful in other ways, for it gives an opportunity for trenching the ground at once, as every piece cleared of roots can be deeply stirred, manured, left a little to sweeten and pulverize, and be planted, if necessary, with roots for succession crops.

Mushroom House.—Large beds, well made, retain such a genial heat that, with good manure and good spawn, success is pretty certain. Small beds cool quickly, and in small places the grower is often obliged to use manure that has become too much fermented, and so his best efforts are in vain. The best prospect of success is when the manure can be selected as it comes from the stable, or, better still, in the stable itself. The best place in which to grow mushrooms on a small scale is in a dark, warm, unventilated shed, with a brick wall at the back. The droppings should be raked together in ridges, every day or two, until there are sufficient for a bed. While they are accumulating they should be turned over and drawn up in small heaps or ridges again, every two or three days, to prevent a rapid fermentation. When there are sufficient of these heaps to make a bed, wheel into the shed as much turfy sandy loam as will equal one-third the bulk of the manure, and mix all together, and allow the mixture to remain in one heap for two days, which will cause a gentle fermentation to commence.

Provide for the bed some kind of support in front, such as rough boards or turf-sods; make the bed four feet wide, four feet high at the back next the wall, and sloping to two feet in the front. It should be in a condition of equable moisture throughout—neither wet nor dry—and in the process of making it must be frequently beaten down to render it quite firm. A much-experienced cultivator would know to what temperature, within a degree or two, the bed would rise, and would probably insert the spawn the same day as the bed was made; but for a beginner the safer way is to wait a few days, and then insert a hotbed thermometer, to ascertain what is the heat inside the bed; if it is over or under 80 deg. wait a day or two longer. By that time, if the heat has increased, all is well; you will have a good bed. If it has decreased, you will never obtain mushrooms, and the best way to proceed is to take it to pieces, mix with it a good fourth or fifth part of fresh droppings—you must always be collecting these fresh and fresh, and keeping them under cover—and make up the bed as before. The heat will certainly rise now. When at between 70 and 80 deg. insert the spawn in pieces of the size of hens' eggs, about six inches apart and three inches deep.

Pinery.—Both fruiting and growing plants to have less moisture. Give air every day, if possible, and keep the beds in a sweet and sound condition. Plants ripening their fruits should have a temperature of 60 deg. at night; day temperature to depend on the amount of light; on dull days 70 deg.; bright days 80 deg.

Vinery.—Where fruit is to hang some time, all decaying berries must be cut out from time to time, and the atmosphere keep dry. Cut away all the sappy and softer ends of the rods, without respect to the system of pruning adopted; this will cause the remaining buds on the rods to swell nicely, and promote their ripening. Vines that are indisposed to go to rest may be assisted by keeping the border as dry as possible.

FLOWER GARDEN AND PLEASURE GROUNDS.

Carnations and Picotees not yet rooted from layers must be taken off the stools and planted under hand-glasses; those with a few root fibres may be potted; having begun to root they will soon gain strength. Border Cloves may be propagated to any extent from cuttings in spring.

Chrysanthemums to have less liquid manure as they show colour, and to be discontinued (using plain water only) as soon as a few of the first flowers are open. Thin the flowers on plants from which blooms are to be cut. Large-flowering varieties out of doors are liable to suffer from high winds and drenching rains; give them some rough sort of shelter to prevent the spoiling of the best blooms.

Spring Flowers should now be planted in quantity if the beds have not been already filled. The following are all exquisitely beautiful, and if not in the possession of the cultivator should be secured at once. Any of the species of perennial Iberis, the flowers of which are snow-white, and magnificent in large tufts on rockwork: Aubrietia purpurea and A. grandiflora; Alyssum saxatile, showy yellow, impatient of wet, quite hardy on rockwork, and worth growing in pots; Arabis alpina; Italian Coltsfoot, useful to cover banks, for the sake of its perfume in February; it will flourish in the darkest of town gardens in a mixture of good loam and chalk. Wallflowers, Hepaticas, Primroses, Polyanthuses, and Violets must have a place amongst the best of spring flowers; in fact, the garden will be dreary without them. Of bulbs, secure and plant a good assortment of Jonquils, Snowdrops, Crocuses, Narcissi, early Tulips, Hyacinths, and Dog-tooth Violets.

Strawberries.—Runners well rooted may be planted now in beds to bear next season. Plantations at this late period should be made with carefully sorted plants—the best only of the runners that have rooted farthest away from the parent stools, and these to be taken up with good balls, and planted in the beds directly.

Unfruitful Trees may be improved by commencing at once to root prune, manure, or drain the soil. The nature of the cure must depend upon the cause of barrenness. If the trees have attained a bearing age, and are over-luxuriant, root prune by this simple method: Open the soil three parts round each tree, at a distance from the stem of from three to four feet, according to the size of the tree. The roots must be cut back to a general average of three or three and a-half feet, except the part where the soil was not opened, where the roots will remain of course their original length. The roots cut back to be carefully laid out near the surface, and a little fresh soil used in filling in. Next season open the soil on the side left undisturbed the year before, and then cut the roots to three or three and a-half feet. Old trees that have borne for many years and are becoming weak to have the surface soil thinly paired off, and a layer of new soil laid down over the roots, and above that a layer of dung only slightly rotted.

KITCHEN GARDEN AND FRAME GROUND.

Asparagus Beds should have attention without delay if they have not been cleared of the weeds and old growth, cut the stems down to within a few inches of the surface, carefully remove the weeds and cover the beds with a good layer of manure. Manure from the farm or stable yard that is only partly decayed will be the most suitable. When the manure has been spread over the beds cover to a depth of two or three inches with soil taken from the alleys.

Carrots are soon injured by autumn frost; therefore, those grown in frames from late sowings must be protected, and the main crop must be lifted and stored in dry earth or sand, the tops being removed and the earth rubbed off, but without any attempt to clean them thoroughly, for that should never be done until they are wanted for use.

Parsnips are best left in the ground until wanted for use; but it is advisable to lift a few and store in the root house in dry earth to be in readiness for use during periods of frosty weather when the ground is frozen so hard that to take up the roots is difficult if not practically impossible.

Potatoes that were lifted in a wet state should be removed to an airy and comparatively dark shed or outhouse for a short time, for unless they are stored for the winter in a dry state they will be decidedly inferior in quality.

Salading will now require close attention to ensure a liberal and continuous supply throughout the autumn. Full-grown lettuce and endive should be protected by glass or some portable contrivance, or the wet and frost will do considerable damage. Successional sowings of small salading must be made in accordance with requirements.

NAPOLEON'S FAVOURITE FLOWER.

A pamphlet of the year 1815, which the *Temps* has recently discovered, gives an account of how the violet became the emblem of Imperialism in France. Three days before the embarkation for Elba, Bonaparte, accompanied by the Duke of Bassano and General Bertrand, took a walk in the gardens of Fontainebleau. He was still wavering whether he should quietly resign himself to his banishment. The Duke of Bassano tried to point out to him that the time for withdrawal was past. Greatly excited Napoleon walked on without speaking, trying to divert his thoughts from the subject. Suddenly he saw, close to him, a pretty child of three or four years old, picking violets and tying them into a bunch. "My little friend," said the Prince, "Will you give me your flowers?" "Yes, gladly," said the boy, and handed them gracefully to him. Bonaparte kissed the child, and said after a few minutes to his courtiers: "The accident of this occurrence is a secret hint to me to follow the example of these modest flowers. Yes, gentlemen, henceforth the violet shall be the emblem of my wishes." "Sire," replied Bertrand, "I hope for your Majesty's glory that this resolution will not last longer than the flower from which it takes its origin." The next day Napoleon was seen walking about the gardens with a bunch of violets, which he carried alternately in his mouth and hand. Stopping at a flower-bed he stooped down to pick some flowers. The violets were rather scarce on the spot, and the grenadier Choudieu, who was on guard, said to him, "Sire, in a year's time it will be easier to pick them; they will then be more plentiful." Bonaparte, greatly astonished, looked at him. "You think, then, that next year I shall be back?" "Perhaps sooner; at least we hope so." "Soldier, do you not know that after to-morrow I start for Elba?" "Your Majesty will wait till the clouds roll by." "Do your comrades think like you?" "Almost all." "They may think it but they may not say it. After you are relieved go to Bertrand and let him give you 20 napoleon d'or, but keep silence." Choudieu returned to the barracks, and drew the attention of his comrades to the fact that for the last two days the Emperor had been walking about with a bunch of violets. "We will call him among ourselves Père la Violette." From that day forth Napoleon was only called by that name in the barracks. By degrees the secret reached the public, and in spring the adherents of the ex-monarch carried the flower as a memorial either in their mouth or in their button-hole.

PEA AMERICAN WONDER.

This comparatively new pea has been much the best early variety here, and well deserves the character it has received.

Gogerddan Hall, Aberystwith. James Vearey.

BEAUTIFUL DECIDUOUS TREES FOR PRESENT PLANTING.

By W. Bradbury.

Letters from correspondents that have been handed to me indicate that a short list of beautiful trees adapted for general purposes would be much valued, now that the season has returned for planting such things. There are hundreds of good things that cannot be set forth as adapted for "general purposes," and, moreover, a large proportion of such good things are not at the command of the average of purchasers.

Flowers of *Double-flowering Thorn* (natural size).

It is much to be desired that builders and others who make up gardens in new districts before the houses are let, and consequently are under compulsion to do the work at the lowest possible figure, should take a fair proportion of the good things that will now be named to light up and beautify plantations that, for the most part, because of the money question, will consist of limes, lilacs, privets, and viburnums. Any one familiar with trees will find it easy to add to my list, but it will, I am sure, be a difficult task to select even one that can be considered superfluous. I will take the genera in alphabetical order, and make as few remarks as possible :—

Acer gives us the beautiful series of Japan maples, which are perfect as garden trees. The best are *Acer polymorpha*, and the

Flowers of Japan Quince, *Cydonia (Pyrus) Japonica* (natural size).

varieties *dissectum*, *sanguineum*, and *Atropurpureum*, the well-known "ghost tree," with whitish leafage, is a variety of *Acer* (*Negundo*) *fraxinifolium*, which is a capital shrubbery tree in its green-leaved state. The best large tree of this section is the variegated sycamore, which is a variety of *Acer pseudo platanus*.

Æsculus includes the common and scarlet flowered horse chestnut. The first is *Æsculus hippocastanum*, the second *Æ. rubicunda*. There is a double variety of the common horse chestnut which has the double merit of a superb bloom that is not followed by a crop of fruit. To this section I add *Pavia flava* and *Pavia macrostachya*. The last-named was figured in G. M., 1885, page 692.

Ailanthus is worth a place because, while it is a noble tree when allowed to have its own way, it is a good subject for a border if annually or biennially cut back to keep it as a bush.

Alnus gives us the well-known cut-leaved alder, *Alnus glutinosa laciniata*, which is quite a moderate grower; also the golden-leaved alder, another variety of the same species.

Amelanchier contributes to the list the lovely snowy mespilus, *Amelanchier vulgaris*, one of the sweetest garden trees known; also *A. botryapium*, a good early-flowering tree, but little known.

Amygdalus is the almond, of which there are many varieties. For all ordinary purposes the common *Amygdalus communis* is sufficient, but there is a double flowering variety for such as want the best of everything.

Betula is such a lovely genus that I feel strongly tempted to select freely. But I will name one only as a tree for a special position. It is *Betula alba pendula laciniata*, the cut-leaved weeping birch, one of the loveliest trees in the world, more especially at this moment in its delicious amber colouring.

Cerasus and Prunus should include the double flowering morello cherry *Cerasus acida V. fl. pl.*, the large double-flowering cherry *C. avium* fl. pl., well known for its lovely white rosettes in the merry spring time. The bird cherry, *Prunus padus*, is a favourite garden tree, of which there are two or three varieties.

Cercis is the Judas tree. It grows slowly, flowers freely, and may

Flowers of *Halesia tetraptera* (natural size).

be kept down as a bush if needful; but like many other things it is a much finer thing when left alone than when "regulated."

Cornus is often called the "gunpowder tree" because the common dogwood is used in preparing charcoal for the best quality of gunpowder. The variegated *Cornus mas* is exceedingly hardy, and in its way unique for beauty. Leave it alone and it will acquire most beautiful characters in leaf, flower, and fruit.

Cratægus is a great genus, but we are selecting and shall be short with it. In every garden that affords room for a few trees we should have the tansy-leaved thorn, *Cratægus tanacetifolia*, a most distinct and interesting tree, double scarlet thorn, double white thorn, and single scarlet thorn, these being varieties of our glorious British thorn, *C. oxyacantha*.

Cytisus is the laburnum, of which the best varieties are the *Scotch* and *Waterers*, but if these were not at command the *Common Laburnum* will suffice and bring no shame.

Cydonia is the quince, the best of which is the indispensable *Cydonia* (*Pyrus*) *Japonica*, of which there are half a-dozen varieties, none better than the common crimson, though serviceable where much variety is wanted.

Fraxinus, the ash, might be left out, but the weeping ash, *Fraxinus excelsior pendula*, is one of the most popular of garden trees.

For a spacious border devoted to variegated leaved trees the spotted-leaved American ash, *F. Americana aucubæfolia*, is well adapted.

Halesia, the snowdrop tree, is quite superb, but, unfortunately, scarce. It would be a sin to omit it from this select list. Its botanical name is *Halesia tetraptera*.

Kolreuteria is a splendid subject of very moderate growth. The amateur who loves trees should put this into his very first list of desiderata, say with the scarlet thorn, the Scotch laburnum, and the Wiegela. Its book name is *Kolreuteria paniculata*.

Magnolia belongs to the grand garden, but we must have in this select list *Magnolia conspicua* for its glorious flowers, and *M. speciosa*, a very hardy tree, producing flowers that are white, delicately stained with purple.

Persica, the peach, gives a series of beautiful trees, the best, perhaps, being *Persica vulgaris sanguinea plena*, with double crimson flowers.

Philadelphus, the mock orange, is a large genus, from which we will select as most useful *Philadelphus Gordonianus*, and the Japan *P. Yokohama*, a fine compact tree.

Pyrus, the pear, has many ornamental features that are not recognized, as the fruit garden will declare at this moment. However, put down *Pyrus spectabilis*, *Pyrus malus coronaria*, and *Pyrus aucuparia pendula* as proper and desirable garden trees.

Salix, the willow, has made its name familiar by reason of the beauty of *Salix purpurea pendula*, a favourite weeping tree adapted for small gardens. The Kilmarnock willow, *S. caprea pendula*, is to be desired, but the Babylonian willow cannot be regarded as a tree adapted for general purposes.

Ulmus, the elm, contributes two very pretty garden trees; they are *Ulmus campestris pendula* and *U. c. viminalis*. Both are of small growth, and altogether delicate and dressy.

SHORT NOTES FOR SMALL GARDENS.

By the Vicar's Gardener.

Striking Rose Cuttings.

It may, perhaps, be useful to remind amateurs and those who have charge of gardens of comparatively small size, that this is the best season of the whole year in which to propagate roses by means of cuttings without the aid of glass and artificial heat. Cuttings taken now and inserted in a suitable border will, under ordinary circumstances, strike very readily with but little attention. The percentages of plants obtained will, of course, depend in a large measure on the varieties, as the cuttings of some strike more freely than of others. But there are few kinds so difficult of increase by this method that they will not give a fair return for the time taken up in preparing and inserting the cuttings. As a rule the robust varieties strike the most freely, and those that have produced strong shoots can be depended on to give satisfactory results. In the preparation of the cuttings select stout shoots that are between fifteen and twenty inches in length, and have become moderately hard. Take the cuttings off about five inches from the base, and then shorten them to eight or ten inches by the removal of the upper portion, which is invariably more or less soft. When this has been done, and the leaves from the lower half removed, the cuttings will be ready for insertion, as the lower buds should not be removed because of the great advantage resulting from obtaining new growth from the base. To leave the cuttings lying about for any length of time after they have been taken from the trees is most injurious, as the bark quickly begins to shrivel, and the cuttings do not strike so freely in consequence. Therefore, the bed in which they are to be put should be prepared first. A warm border, such as that on the south side of a wall, is in some respects preferable, but any moderately sheltered position will be suitable. If the soil is moderately light and friable it will suffice to dig it over to a depth of about ten inches. But where the staple is rather heavy a liberal quantity of leaf-mould and coarse grit should be incorporated with it. Having prepared the border, proceed to cut a trench across one end about five inches in depth. Place the cuttings in the trench about two inches apart, fill in the soil about them, and then tread it firmly. There will be no danger of making the soil too firm, but in treading it some caution is necessary, because when very moist it is an easy matter to convert the soil into a paste, in which condition it is most unfavourable to the production of roots. After the soil has been trodden, level the surface, and at a distance of twelve inches from the first cut a second trench, which must be prepared and filled in precisely the same as the first. By having the rows twelve inches apart the young plants have plenty of room the first season, and the weeds can be readily kept down with the hoe. The cuttings are generally loosened by the winter frosts, and it is an excellent practice to well tread the spaces between the rows as early in March as the condition of the surface soil will permit. During April and May it will be necessary to water rather liberally in dry weather, because if the cuttings are allowed to suffer from drought during the spring a large proportion will perish. From my experience in striking rose cuttings in the open border I am persuaded that many of the failures of which we hear are due to the cuttings suffering at intervals from an insufficiency of moisture. Until I paid particular attention to the water supply in this month my losses were considerable every year, but now they are very few. The soil must not, of course, be kept in a saturated state about them.

Bush Fruits.

We have been busy during the past week in thinning-out the the raspberry canes, and in putting in cuttings of the currants and gooseberries, and some reference to this work may prove useful. It is an excellent practice to remove the superfluous canes from raspberry plantations in the course of the summer; but, generally, I have my hands so full that I am not able to commence thinning until the autumn, and I know there are many cultivators in the same position as myself. I do not thin very severely at this season of the year, as the final thinning is deferred until February or March. But by removing the old canes, and reducing those of the current season to about six to each stool, those remaining are sufficiently exposed to be thoroughly hardened in the course of the autumn. Both the old and young canes are cut away close to the surface. In selecting the strong canes for bearing next year due regard is paid to their position, as it is advisable to keep them as near at home as possible to preserve the uniformity of the lines and the spaces between the stools.

We strike a few cuttings of currants and gooseberries every year to maintain a constant succession of young bushes, and to distribute amongst those cottagers who take an interest in their gardens, and appear to be deserving of encouragement. As in the case of the roses, strong shoots are selected, and taken off about six inches from the base. They are then shortened to eight or ten inches, and have all but the three top buds removed. It is essential that bushes of both currants and gooseberries should have a clear stem of six or eight inches, and unless the buds below the surface are removed a crop of suckers will be produced, and give much trouble. The cuttings are inserted to about one-half their depth in trenches, prepared in exactly the same manner as for the rose cutting. The precaution is also taken to tread the soil in the spaces between the rows, as it invariably becomes loosened in the course of the winter by the action of the frost.

Wintering Dahlias.

I have received several letters within the past few days asking for the information as to the wintering of single dahlias, and instead of replying separately to the writers, I will give a few general directions that will be useful to them and other readers. The tubers of the single dahlias are wintered in exactly the same way as those of the show and pompon varieties. The practice we have adopted for many years with much success is to leave the dahlias in the garden until the frost has destroyed the foliage. The stems are then cut over about six inches above the surface, and the roots are lifted with a fork and taken to a peach house, of which the ventilators are kept constantly open excepting during severe frosts. Here they remain until the soil about them has become rather dry, when they are removed to a loft, where they remain during the winter. As soon as a sharp frost is anticipated, the tubers are covered with sufficient littery hay and straw to exclude the frost, the covering remaining until the spring. Cannas, of which we grow considerable numbers, are wintered in the same way as the dahlias, and the roots come out in capital condition in the spring, as proved by the strong growth made when started. The roots of both dahlias and cannas may, when lifted, be taken to a dry shed if more convenient, and they can be safely wintered in a cellar, provided it is not too damp. I have, in the course of my experience, kept some thousands of roots of dahlias in cellars, and have been well satisfied with the results.

Preserving Walnuts and Filberts.

Some people make a great fuss about keeping a few filberts and walnuts, and then fail to have them in good condition for any length of time after they are gathered. I have for several years past adopted a very simple plan which has proved very successful. We have several large earthenware pans with close-fitting lids, and these are filled with the nuts and placed in the fruit room, in which they remain until the supplies are exhausted. The precaution is taken to have both the filberts and the walnuts dry when packed away, for if they are damp at the time the husks and shells become mouldy, and have an unpleasant musty smell. On the other hand, they must not be exposed to the atmosphere too long, or the kernels will shrivel and lose that delicate freshness which is so much appreciated. Some years ago I was advised to sprinkle a little salt over the filberts and cobs as they were placed in the pans, and by way of experiment I salted those in one of them. The salt had a marvellous effect in preserving the freshness of the kernels, but it made the husks and shells so black that the nuts were utterly unfit for the table.

Planting Bulbs.

The soil is now in capital condition for planting spring flowering and other bulbs, and cultivators may be advised to proceed with the work as rapidly as possible. It is quite possible that we may have a spell of wet weather, which would much delay the work, and probably prevent the planting being done under such favourable conditions. Hence the importance of avoiding unnecessary delay. The number of bulbs of either hyacinths, tulips, or crocuses, must be regulated by the taste of the cultivator, and the amount available for their purchase. I will, therefore, simply state that provided the best of the cheap kinds are purchased, they will give an ample return for the expenditure. The tulips and crocuses are the most suitable for those who require a bright display in the garden for a comparatively small outlay. Whether the number of bulbs is large or small, I would strongly advise their being planted thickly. If there are but few, confine them to two or three beds, for when planted very thinly, as is so frequently done, they are so ineffective as to be practically lost. Six inches each way is the greatest distance apart that should be allowed hyacinths and tulips, and the crocus corms should be not farther apart than three inches each way. It is in all cases advisable to carpet the beds devoted to bulbs with plants that are green throughout the winter. They not only present a pleasing appearance before the bulbs make their appearance, but they very materially enhance the general effect in the spring. Daisies, forget-me-nots, silene, arabis, violas and pansies, may be mentioned as in every

way suitable, they are in fact the most useful spring-flowering plants we have for filling beds in which there are no bulbs. In the latter case yellow and crimson wallflowers ought also to be brought into requisition. They are very attractive in colour, and the flowers are so fragrant as to justify their being well grown for their odour alone. It is essential to complete the planting of these as quickly as possible, as they suffer less in severe winters when they are planted early enough to become well-established by the end of the autumn. Strong bushy plants of the wallflowers are the best, as they begin to flower earlier and bloom more profusely than small examples.

MINIATURE ROSE OF CALIFORNIA—ROSA PISOCARPA.

In the arboretum at Kew, one of the prettiest of wild roses is the one named *Rosa pisocarpa*, raised from seed gathered by Sir Joseph D. Hooker in the Upper Sacramento Valley, at an elevation of 4,000 to 6,000 feet, in the year 1877. It is probably not uncommon in North California, and is possibly a minor form of *R. californica*, a larger, coarser, many-flowered species with recurved prickles; this miniature plant having prickles that are never recurved, and smaller, and more globose fruit. Under t. 6,857, of *Botanical Magazine*, Sir J. D. Hooker gives a series of references to Gray, S. Watson, and Crepin, but to Lindley's monograph there is no reference, and we find no clue to it in that work. Its affinities appear to be with *R. rubifolia*.

The tree is of small growth, slender, straggling, with straight or upcurved spines; leaves two or three inches long, leaflets three quarters of an inch long, dark green. The flowers are one inch in diameter, of a pleasing rose colour; the fruit erect, globose, constricted next the calyx lobes, the colour bright red. The plant is much to be desired for the rockery.

MINIATURE ROSE OF CALIFORNIA, *Rosa pisocarpa* (Flowers rosy pink, berries bright red).

ROSE MERVEILLE DE LYON.

This fine rose has proved to be thoroughly perpetual in character this season, for all our plants have bloomed the second time quite as freely as we could expect. The individual flowers have also been as large and equal in form to those produced in July, but the colour has not been so white as during the summer. A deeper tone of pink is noticeable in the centre of the flower, and the outside petals are more deeply stained with bright pink; but, notwithstanding these drawbacks to it, as a white rose, we should not like to loose this famous variety from our collection on account of its perpetual character. Viator.

British Association.

THE HISTORY OF PLANTS.

By Mr. William Carruthers, of the Botanical Department, British Museum, President of Section of Biology.

Herbaria.—The preservation of dried plants as a help in the study of systematic botany was first employed in the middle of the sixteenth century. The earliest herbarium of which we have any record is that of John Falconer, an Englishman who travelled in Italy between 1540 and 1547, and who brought with him to England a collection of dried plants fastened in a book. This was seen by William Turner, our first British botanist, who refers to it in his *Herbal*, published in 1551. Turner may have been already acquainted with this method of preserving plants, for in his enforced absence from England he studied at Bologna under Luca Ghini, the first professor of botany in Europe, who, there is reason to believe, originated the practice of making herbaria. Ghini's pupils, Aldrovandus and Cæsalpinus, formed extensive collections. Caspar Bauhin, whose *Prodomus* was the first attempt to digest the literature of botany, left a considerable herbarium, still preserved at Basle. No collection of English plants is known to exist older than the middle of the seventeenth century; a volume containing some British and many exotic plants collected in the year 1647 was some years ago acquired by the British Museum. Towards the end of that century, great activity was manifested in the collection of plants, not only in our own country, but in every district of the globe visited by travellers. The labours of Ray and Sloane, of Petiver and Plukenet are manifest not only in the works which they published, but in the collections that they made, which were purchased by the country in 1759, when the museum of Sir Hans Sloane became the nucleus of of the now extensive collections of the British Museum. The most important of these collections in regard to British plants, is the herbarium of Adam Buddle, collected nearly two hundred years ago, and containing an extensive series which formed the basis of a British flora, that unhappily for science was never published, though it still exists in manuscript. Other collections of British plants of the same age, but less complete, supplement those of Buddle; these various materials are in such a state of preservation as to permit of the most careful comparison with living plants, and they show that the two centuries which have elapsed since their collection have not modified in any particular the species contained in them. The early collectors contemplated merely the preservation of a single specimen of each species; consequently the data for an exhaustive comparison of the indigenous flora of Britain at the beginning of last century with that of the present are very imperfect as compared with those which we shall hand down to our successors for their use.

The collections made in other regions of the world in the seventeenth century, and included in the extensive herbarium of Sir Hans Sloane, are frequently being examined side by side with plants of our own day, but they do not show any peculiarities that distinguish them from recent collections. If any changes are taking place in plants, it is certain that the three hundred years during which their dried remains have been preserved in herbaria have been too short to exhibit them.

Ancient Vegetation.—Beyond the time of those early herbaria the materials which we owe in any way to the intervention of man have been preserved without any regard to their scientific interest. They consist mainly of materials used in building or for sepulture. The woods employed in mediæval buildings present no peculiarities by which they can be distinguished from existing woods; neither do the woods met with in Roman and British villages and burying places. From a large series collected by General Pitt-Rivers in extensive explorations carried on by him on the site of a village which had been occupied by the British before and after the appearance of the Romans, we find that the woods chiefly used by them were Oak, Birch, Hazel, and Willow, and at the latter period of occupation of the village the wood of the Spanish Chestnut (Castanea vulgaris, Lamk.) was so extensively employed that it must have been introduced and grown in the district. The gravel beds in the north of London, explored by Mr. W. G. Smith for the palæolithic implements in them, contained also fragments of Willow and Birch, and the rhizomes of Osmunda regalis, L.

The most important materials, however, for the comparison of former vegetation of a known age with that of our own day have been supplied by the specimens which have been obtained from the tombs of the ancient Egyptians. Until recently these consisted mainly of fruits and seeds. These were all more or less carbonised, because the former rifling of the tombs had exposed them to the air. Ehrenberg, who accompanied Von Minutoli in his Egyptian expedition, determined the seeds which he had collected, but as he himself doubted the antiquity of some of the materials on which he reported, the scientific value of his enumeration is destroyed. Passalacqua in 1823 made considerable collections from tombs at Thebes, and these were carefully examined and described by the distinguished botanist Kunth. He pointed out, in a paper published sixty years ago, that these ancient seeds possessed the minute and apparently accidental peculiarities of their existing representatives. Unger, who visited Egypt, published in several papers identifications of the plant remains from the tombs; and one of the latest labours of Alexander Braun was an examination of the vegetable remains in the Egyptian Museum at Berlin, which was published after his death, from his manuscript, under the careful editorship of Ascherson and Magnus, In this, twenty-four species were determined, some from imperfect materials, and necessarily with some hesitation as to the accuracy of their determination.

Flora of Ancient Egypt.—The recent exploration of unopened tombs belonging to an early period in the history of the Egyptian people has permitted the examination of the plants in a condition which could not have been anticipated. And, happily, the examination of these materials has been made by a botanist who is thoroughly acquainted with the existing flora of Egypt, for Dr. Schweinfurth has for a quarter of a century been exploring the plants of the Nile valley. The plant-remains were included within the mummy-wrappings, and being thus hermetically sealed, have been preserved with scarcely any change. By placing the plants in warm water, Dr. Schweinfurth had succeeded in preparing a series of specimens gathered 4,000 years ago, which are as satisfactory for the purposes of science as any collected at the present day. These specimens consequently supply means for the closest examination and comparison with their living representatives. The colours of the flowers are still present, even the most evanescent, such as the violet of the Larkspur and Knapweed, and the scarlet of the Poppy; the chlorophyll remains in the leaves, and the sugar in the pulp of the raisins. Dr. Schweinfurth has determined no less than fifty-nine species, some of which are represented by the fruits employed as offerings to the dead, others by the flowers and leaves made into garlands, and the remainder by branches on which the body was placed, and which were enclosed within the wrappings.

The votive offerings consist of the fruits, seeds, or stems of twenty-nine species of plants. Three Palm fruits are common—the Medemia Argun, Würt., of the Nubian Desert, and the Hyphæne thebaica, Mart., of Upper Egypt, agreeing exactly with the fruits of these plants in our own day; also Dates of different forms resembling exactly the varieties of dried Dates found now in the markets of Egypt. Two Figs are met with—Ficus carica, L., and Ficus Sycomorus, L., the latter exhibiting the incisions still employed by the inhabitants for the destruction of the Neuropterous insects which feed on them. The Sycamore was one of the sacred trees of Egypt, and the branches used for the bier of a mummy found at Abd-el-Ourna, of the twentieth dynasty (1,000 years before the Christian Era), were moistened and laid out by Dr. Schweinfurth—equalling, he says, the best specimens of this plant in our herbaria, and consequently permitting the most exact comparison with living Sycamores, from which they differ in no respect. The fruit of the Vine is common, and presents, besides some forms familiar to the modern grower, others which have been lost to cultivation. The leaves which have been obtained entire exactly agree in form with those cultivated at the present day, but the under surface is clothed with white hairs, a peculiarity Dr. Schweinfurth has not observed in any Egyptian Vines of our time. A very large quantity of Linseed was found in a tomb at Thebes of the twentieth dynasty, now 3,000 years old, and a smaller quantity in a vase in another tomb of the twelfth dynasty, that is, 1,000 years older. This belongs certainly to Linum humile, Mill., the species still cultivated in Egypt, from which the capsules do not differ in any respect. Braun had already determined this species preserved thus in the tombs, though he was not aware of its continued cultivation in Egypt. The berries of Juniperus phœnicea, L., are found in a perfect state of preservation, and present a somewhat larger average size than those obtained from this Juniper at the present day. Grains of Barley and Wheat are of frequent occurrence in the tombs; Mr. Mariette has found Barley in a grave at Sakhara of the fifth dynasty, 5,400 years old.

The impurities found with the seeds of these cultivated plants show that the weeds which trouble the tillers of the soil at the present day in Egypt were equally the pests of their ancestors in those early ages. The Barley fields were infested with the same spiny Medick (Medicago denticulata, Willd.) which is still found in the grain crops of Egypt. The presence of the pods of Sinapis arvensis, L., among the Flax seed testifies to the presence of this weed in the Flax crops of the days of Pharaoh, as of our own time. There is not a single field of Flax in Egypt where this Charlock does not abound; and often in such quantity that its yellow flowers, just before the flax comes into bloom, present the appearance of a crop of Mustard. The Charlock is Sinapis arvensis, L., var. Allionii, Jacq., and is distinguished from the ordinary form by its globular and inflated silicules, which are as characteristically present in the ancient specimens from the tombs as in the living plants. Rumex dentatus, L., the Dock of the Egyptian fields of to-day, has been found in graves of the Greek period at Dra-Abu-Negga.

In is difficult without the actual inspection of the specimen plants employed as garlands, which have been prepared by Dr. Schweinfurth, to realize the wonderful condition of preservation in which they are. The colour of the petals of Papaver Rhœas, L., and the occasional presence of the dark patch at their bases present the same peculiarities as are still found in this species growing in Egyptian fields. The petals of the Larkspur (Delphinium orientale, Gay) not only retain their reddish-violet colour, but present the peculiar markings which are still found in the living plant. A garland composed of wild Celery (Apium graveolens, L.) and small flowers of the blue Lotus (Nymphæa cœrulea, Sav.), fastened together by fibres of Papyrus, was found on a mummy of the twentieth dynasty, about 3,000 years old. The leaves, flowers, and fruits of the wild Celery have been examined with the greatest care by Dr. Schweinfurth, who has demonstrated in the clearest manner their absolute identity with the indigenous form of this species now abundant in moist places in Egypt. The same may be said of the other plants used for garlands, including two species of Lichens.

It appears to have been a practice to lay out the dead bodies on a bier of fresh branches, and these were inclosed within the linen wrappings which enveloped the mummy. In this way there have been preserved branches of considerable size of Ficus Sycamorus, L., Olea europæa, L., Mimusops Schimperi, H., and Tamarix nilotica, Ehrb. The Mimusops is of frequent occurrence in the mural decorations of the ancient temples; its fruit had been detected amongst the offerings to the dead, and detached leaves had been found made up into garlands, but the discovery of branches with their leaves still attached, and in one case with the fruit adhering, has established that this plant is the Abyssinian species to which Schimper's name has been given, and which is characterised by the long and slender petiole of the leaf.

In none of the species, except the Vine to which I have referred, which Dr. Schweinfurth has discovered, and of which he has made a careful study, has he been able to detect any peculiarities in the living plants which are absent in those obtained from the tombs.

Cereals of Egypt.—Before passing from these Egyptian plants I would draw attention to the quality of the cereals. They are good specimens of the cereals still cultivated. This observation is true also of the cultivated grains which I have examined, belonging to prehistoric times. The Wheat found in the purely British portion of the ancient village explored by General Pitt-Rivers is equal to the average of Wheat cultivated at the present day. This is the more remarkable, because the two samples from the later Romano-British period obtained by General Pitt-Rivers are very much smaller, though they are not unlike the small hard grains of Wheat still cultivated on thin chalk soils. The Wheat from lake dwellings in Switzerland, for which I am indebted to J. T. Lee, Esq., F.G.S., are fair samples. My colleague, Mr. W. Fawcett, has recently brought me from America grains of Maize from the prehistoric mounds in the valley of the Mississippi, and from the tombs of the Incas of Peru, which represent also fair samples of this great food substance of the New World. The early peoples of both worlds had then under cultivation productive varieties of these important food-plants, and it is remarkable that in our own country, with all the appliances of scientific cultivation and intelligent farming, we have not been able to appreciably surpass the grains which were harvested by our rude ancestors of 2,000 years ago.

The Glacial Epoch.—The period of great cold during which arctic ice extended far into temperate regions was not favourable to vegetable life. But in some localities we have stratified clays with plant remains later than the Glacial Epoch, yet indicating that the great cold had not then entirely disappeared. In the lacustrine beds at Holderness is found a small Birch (Betula

nana), now limited in Great Britain to some of the mountains of Scotland, but found in the arctic regions of the Old and New World, and on alpine districts in Europe, and with it Prunus padus, Quercus Robur, Corylus Avellana, Alnus glutinosa, and Pinus sylvestris. In the white clay beds at Bovey Tracey of the same age there occur the leaves of Arctostaphylos Uva-Ursi, three species of Willow—viz., Salix cinerea, S. myrtilloides, and S. polaris; and in addition to our alpine Betula nana, the more familiar B. alba. In beds of the same age in Sweden, Nathorst has found the leaves of Dryas octopetala and Salix herbacea, this last being associated with S. polaris. Two of these plants have been lost to our British flora from the change of climate that has taken place—viz., Salix myrtilloides and S. polaris; and Betula nana has retreated to the mountains of Scotland. Three others (Dryas octopetala, Arctostaphylos Uva Ursi, and Salix herbacea) have withdrawn to the mountains of northern England, Wales, and Scotland, while the remainder are still found scattered over the country. Nothwithstanding the diverse physical conditions to which these plants have been subjected, the

Leaf of *Variegated Sycamore* (¼ natural size). *See page 609.*

remains preserved in these beds present no characters by which they can be distinguished from the living representatives of the species.

We meet with no further materials for careful comparison with existing species until we get beyond the great period of intense cold which immediately preceded the present order of things. The Glacial Epoch includes four periods during which the cold was intense, separated by intervals of somewhat higher

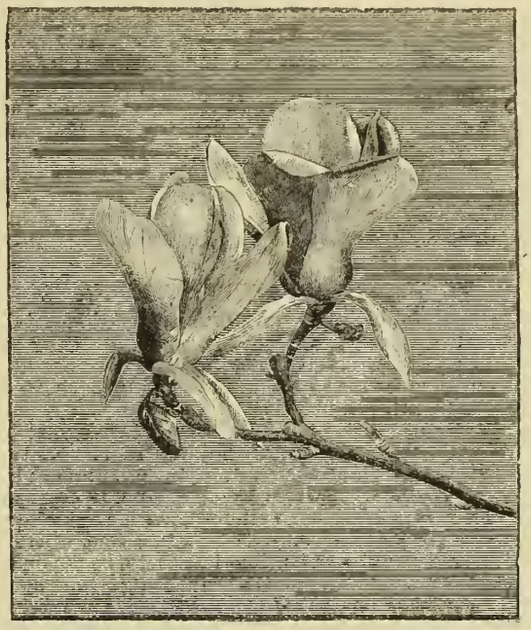
Leaf of *Fraxinus Americana Aucubæfolia* (¼ natural size). *See page 609.*

temperature, which are represented by the intervening sedimentary deposits. During these alterations of temperature extensive changes in the configuration of the land were taking place. The first great upheaval occurred in the early glacial period, and was followed by a considerable subsidence. A second upheaval took place late in the glacial epoch. Various estimates have been formed of the time required for this succession of climatic conditions and earth-movements. The moderate computation of Ramsay and Lyell gives to the boulder clay of the first glacial period an age of 250,000 years, estimating the time of the first upheaval as 200,000 years ago, while the subsidence took place 50,000 years later, and the second upheaval 92,000 years ago.

The sedimentary deposits later than the Pliocene strata, but older than the glacial drift, indicate an increasing severity in the climate, which reached its height in the first glacial period.

At Cromer, on the Norfolk coast, the newest of these deposits has supplied the remains of Salix polaris, S. cinerea, and Hypnum turgescens. This small group of plants is of great interest in connection with the history of existing species; their remains are preserved in such a manner as to permit the closest comparison with living plants. Such an examination shows that they differ from each other in no particular. In the post-glacial deposits in Sweden Salix herbacea is associated with S. polaris, as I have already stated. These two Willows are very closely related, having, indeed, been treated as the same species until Wahlenberg pointed out the characters which separated them when he established Salix polaris as a distinct species in 1812. One of the most obvious of the specific distinctions is the form and venation of the leaf—a character which is, however, easily overlooked, but when once detected is found to be so constant that it enables one to distinguish without hesitation the one species from the other. The leaves of the two willows in the Swedish bed present all the peculiarities which they possess at the present day, and the venation and form of the leaves of S. polaris from the pre-glacial beds of Cromer present no approach towards the peculiarities of its ally, S. herbacea, but exhibit them exactly as they appear in the living plant. This is the more noteworthy as the vegetative organs supply, as a rule, the least stable of the characters employed in the diagnosis of species. The single moss (Hypnum turgescens) is no longer included in the British flora, but is still found as an arctic and alpine species in Europe, and the pre-glacial specimens of this cellular plant differ in no respect from their living representatives.

Tertiary Flora.—The older beds containing the remains of existing species, which are found also at Cromer, have recently been explored with unwearied diligence and great success by Mr. Clement Reid, an officer of the Geological Survey of England. To him I am indebted for the opportunity of examining the specimens which he has found, and I have been able to assist him in some of his determinations, and to accept all of them. His collections contain sixty-one species of plants (enumerated by the lecturer) belonging to forty-six different genera, and of these forty-seven species have been identified. Slabs of clay-ironstone from the beach at Happisburgh contain leaves of Beech, Elm, Oak, and Willow; the materials, however, which have enabled Mr. Reid to record so large a number of species are the fruits or seeds which occur chiefly in mud or clay, or in the peat of the forest bed itself. The species consist mainly of water or marsh plants, and represent a somewhat colder temperature than we have in our own day, belonging, as they do, to the arctic facies of our existing flora. Only one species (Trapa natans) has disappeared from our islands; its



Flowers of *Magnolia speciosa* (½ natural size). *See page 609.*

fruits, which Mr. Reid found abundantly in one locality, agree with those of the plants found until recently in the lakes of Sweden.

The various physical conditions which necessarily affected these species in their frequent diffusion over large areas of the earth's surface in the course of say, 250,000 years, should have led to the production of many varieties, but the uniform testimony of the remains of this considerable pre-glacial flora, as far as the materials admit of a comparison, is that no appreciable change has taken place.

It is not my purpose to point out the bearing of these facts on any theoretical views entertained at the present day; I wish merely to place them before the members of this section as data which must be taken into account in constructing such theories, and as confirming the long-established axiom that by us, at least, as workers, species must be dealt with as fixed quantities.

MICHAELMAS DAISIES.

It is somewhat remarkable that so few grow the better forms of the Michaelmas daisy, for they are remarkably handsome at this season of the year, when summer flowers are over. For my part I should be sorry to be without them, as the flowers are well adapted for filling the épergne. They are light and feathery, and the colours, if not striking, are delicate and pleasing. No one can fail to admire them. There are some very attractive mauve colours amongst them, as well as a white and pale magenta red, all of which combine to make a fine arrangement. No one can say that they do not cultivate these plants because they are difficult to grow, for in my garden they thrive well in ordinary soil, and give but little trouble. In my case they never want any water or have any manure, yet some of them begin to flower in August, and continue in bloom until the out-door chrysanthemums are ready for cutting. It is quite plain that comparatively few know of the existence of the many useful varieties which are now to be had. Several of my friends express their surprise when they walk round my garden and see the number I have got. Laura L——.

Notes of Observation.

TOMATO HACKWOOD PARK PROLIFIC.

In a note on tomatoes that appeared at page 561, the writer complains of some of the varieties having had their merits overrated, and amongst them he includes Hackwood Park Prolific. With reference to the productiveness of this variety when grown against the open wall, I can confirm what "Amateur Cultivator" has said, for with me it is not equal outside to the Common Red; but we must remember that tomatoes are now largely grown under glass, and that in estimating their merits we must take into consideration the crops they bear indoors as well as in the open. For cultivation under glass Hackwood Park Prolific is certainly not overrated. It is very free in bearing when it has the shelter of glass and proper attention, and the fruit is decidedly handsome and of good quality. In a house sixty feet in length, which is constantly devoted to the culture of tomatoes for market purposes, I have grown the Common Red, and several of the newer varieties, with Hackwood Park Prolific, and the results have been eminently favourable to the last-mentioned variety. From a given number of plants of that variety I have in one season gathered fully 150 lb. of fruit more than from the same number of plants of any other variety with which it has been compared. The conditions under which the plants were placed were precisely the same in each instance. This is a difference which growers both for home use and market will not fail to appreciate. It may, perhaps, be useful to add that I grow my tomatoes in pots, and adopt the one-stem system of training.

Preston's, Ightham, Kent. J. Hilling.

LONG LASTING FLOWERS.

Of the large number of different flowers which I use every year for indoor decoration, there is none I value more than the early-flowering gladiolus. The two varieties which I like best are The Bride, white, and Byzantinus, crimson. I have had these two sorts arranged in a pair of blue-coloured vases with a few sprays of myrtle as greenery, and the effect has been very pleasing. The purity of the white variety in contrast with the dark crimson flowers of the other against the colour of the deep blue of the vases has delighted all my visitors, and I hope to extend their use another year in this direction, as my gardener tells me they are not difficult to cultivate. I learn from him that he grows them with less trouble in the open ground. He lifts the bulbs early in October, and keeps them during the winter in a dark shed free from frost, and plants them out in February in good soil in a warm border.

Laura L——.

PLANTING POTATOES IN AUTUMN.

It is very doubtful if there is any gain in planting potatoes in the autumn instead of the spring. I have never derived any benefit from autumn planting, except that it has been to get the work a little forward, for there is not so much to be done in the autumn as in the spring. Having practised autumn planting at different times, and under a variety of conditions, I have not found that I have gained anything in the point of earliness, and certainly nothing in respect to weight of produce. I am, therefore, not much in favour of autumn planting, and I only refer to the subject now because the time is close at hand for this work. In rather light and well-drained soils crops equal to those obtained by spring planting may be secured; but where the soil is inclined to be heavy autumn planting is not to be recommended, for not only is there is some risk of the sets being frozen during a hard winter, but, owing to the heavy nature of the land, it will become so close when growth commences neither roots or stems will have a kindly staple to work in, and a poor crop will be the result. In no case where slugs abound is it desirable to adopt autumn planting, as the sets will become a prey to the obnoxious pests, and they will feed on them all the winter. Cut sets should never be used in the autumn, as the cut part offers a greater attraction to vermin of all kinds. To be successful with autumn planting the sets must be one uniform depth of six inches under the surface, and there is no better way of securing an even depth than by planting as the ground is being dug. Then by making a cut in the trench with a spade the requisite uniformity of depth can be secured. The sets can also by this plan be more securely covered with fine soil, and thus prevent the frost reaching them. It is only necessary to add that autumn planting should be completed by the early part of November. R. H. B.

RUDBECKIA NEWMANI.

This is, in my opinion, the grandest of all autumn-flowering herbaceous plants, as it is of such a showy character. Perhaps I ought to mention that I have to cultivate as many autumn-flowering plants as possible, as the family I serve are away from home all the summer, and only come here for the shooting season; therefore, anything that lasts well in flower during the autumn is of more value to me than those which only make a short display during the summer. Perhaps this is why I value this plant so highly. At the same time I do not think its merits can be over-estimated, for it is so hardy that no kind of weather interferes with it, and it commences to flower in July and continues in bloom until frost cuts its down. But like many other plants it thrives best in good ground. I change the position of our plants every year. Early in February I lift the old stools and select strong young pieces from the outside for planting, and throw the centre pieces away. The selected pieces are then planted where they are to flower. We generally have a rather large bed of it as well as many large clumps in the borders. I may mention that in a good soil it grows two feet high. The flower is composed of a single circle of rich orange-coloured florets with a large and prominent black disc, so that altogether the flowers have a striking effect. J. M.

ODONTOGLOSUM GRANDE.

This I consider to be one of the easiest of all orchids to grow, and it seems to me to be just the plant for amateurs and other small gardeners to cultivate, as its requirements are not at all difficult to understand. However, I find it so, for we have a couple of plants which we grow with a mixed collection of stove and greenhouse plants, and they never fail to flower. They have been in blossom now three weeks, and they will continue in good condition for several weeks longer. Yet they never had a higher temperature than 55 degrees by fire heat all last winter; during the summer they stood with other plants in a span roof plant house, in which we grow for winter flowering such plants as gesneras, and stove euphorbias, &c., which are regularly shaded, and to which a moderate amount of air is admitted. We syringe the odontoglots twice a day, and give them water both winter and summer as often as they want it. They are never rested or coddled up in any way; they have heat, air, and water like the other plants. They are now growing in nine inch pots; on one plant there are five spikes of flowers, and six on the other. The compost we use is equal parts of lumpy peat, chopped moss, and broken crocks. Once in two years (early in February) we shake away from the roots all the old compost, and give them a fresh supply. This is all the attention our plants have, as insects do not trouble them if the house is kept clean. Thrips is the only insect likely to injure them, but they may be kept away if the leaves are sponged occasionally with soapy water. I may remark that the plants require much less water during the winter than they do in the summer, and when in flower they should be kept in a drier air than at other times. We find that the flowers last longer in the rooms of the house than many subjects which we use for that purpose.

R. H. B.

APPLE, RED ASTRACHAN.

This is a dessert apple, which is ripe during the later part of August and the early part of September, and is therefore valuable where a variety of fruit is required for the table. In shape the fruit is inclined to be conical, and in size it is medium. Well-coloured examples are very handsome, being streaked with bright vermilion-red on the side next the sun, and clear bright yellow on the other. The flavour is also excellent, being very little inferior in that respect to a Ribstone Pippin. It grows admirably in any form, and makes particularly handsome pyramids or bushes. As a standard it makes rather a close head. J. M.

DWARF MICHAELMAS DAISIES.

Cultivators of hardy flowers are becoming more careful in the selection of the perennial asters than was at one time the case, but in many gardens are still to be seen species so wanting in beauty as to be utterly worthless for garden decoration. I cannot understand how these weedy kinds can be tolerated when it is considered that a strong plant of either of the finest kinds can be purchased for a shilling. I do not propose to mention all the good dwarf kinds, but there are two now in bloom of such rare excellence that they ought to have a place in every border of hardy flowers. These are Aster Amellus Bessarabicus, a very distinct variety, with ample dark green leaves and bright blue flowers; and A. longifolius formosus, which is very compact in growth, and produces dense heads of bright rose-coloured flowers. It is not necessary to determine the relative merits of these two fine kinds, but the last-mentioned, which is not so generally known as the other, is, perhaps, the best of the two. G.

FUCHSIAS TREATED AS ANNUALS.

Just twelve months ago you inserted a paper of mine with the above heading, wherein I state that it has been my practice for many years to treat the fuchsia as an annual. I have now the pleasure of forwarding blooms from some of those plants so treated, the seed of which, as previously intimated, was sown on the 16th February last. Of course I send blooms apart from any characteristic merit as regards the individual flowers, to show what can be done with comparative ease and facility, and that with ordinary skill and attention how much may be done in a decorative point of view, at the same time affording an immense amount of pleasure for at least nine months out of the twelve. As a rule the seedling plants commence to show their bloom buds by the end of June, and then continue on in a blooming state until late in the autumn. Some of the plants continue flowering even up to Christmas, having, of course, such attentions as are required. Those sent by no means represent the whole batch of my seedlings, and I do not aver that they are all in the best possible condition, or even the cream of the collection raised and treated as annuals in the year 1886.

Further Green, Lewisham. George Fry.

[A most beautiful lot, very various in character, and a fair proportion of high quality, if not strikingly novel. To secure such from seed in the space of four months would be worth the aim of any earnest amateur.—Ed.]

A PRODUCTIVE PEAR TREE.

Some of the readers of the Magazine will probably be interested in a brief account of a very productive pear tree we have here. In a small orchard, contiguous to the Warminster Road, Westbury, there is a huge pear tree, from which a crop of nineteen sacks were gathered a few days since. The nineteen sacks of fruit weighed one ton eighteen hundredweight, and the gathering of this large quantity occupied three men two days. There were more than two hundredweight of windfalls, so that the crop exceeded two tons. The crop was purchased by a fruit dealer in the town, who some years since bought the crop from the tree, when it amounted to fourteen sacks.

Westbury, Wilts. Thomas Sharpe.

FAVOURITE PEAS.

Our favourite peas for maintaining successional supplies throughout the season are the undermentioned, which fully justify the esteem in which they are held. They are: American Wonder and William I. for early supplies, Veitch's Perfection and Carter's Stratagem for general crops, and Ne Plus Ultra for late use.

Woodstock Park. W. Gray.

Bliss's Abundance and Stratagem have been the best dwarf varieties, and Sharpe's Paragon, Telephone, and Ne Plus Ultra the best of our late kinds.

Old Nurseries, Maidstone. George Bunyard.

The following peas taken in rotation are, I consider, the best of the many varieties in cultivation: American Wonder, McLean's Little Gem, Harrison's Glory, Telegraph, Duke of Albany, Champion of England, Triumph, Veitch's Perfection, Sturdy, and Culverwell's Giant Marrow.

Preston Hall, Aylesford, A. Waterman.

HEELING OVER BROCCOLI.

This is a practice that is not so often practised as it was twenty-five years ago, though for what reason I know not. It is just as necessary now as at any previous time, because we can never tell when we may get a severe winter and kill all the broccoli plants, as it has done in times past. The practice, therefore, is as well worthy of being carried out now as it was a quarter of a century ago. In heeling over broccoli the head of the plants must be laid so as to face the north. This is done by taking out a spadeful of earth on the north side of the plant, and then changing the position of the spade to the south side by striking it down straight within a few inches of the stem, and while the spade remains firmly in the soil to press the handle over, which will cause the head of the plant to fall over and with it sufficient of the roots and soil to fill up the hole previously made on the north side. After this is done the spade may be drawn out and the roots firmly trodden in again, when the operation will be complete. The advantage to be derived from heeling over the plants is that the frost has not so much effect on them, owing to the fact that they are in a slanting direction. The leaves also afford a greater protection to the heart of the plants. Besides this, owing to the hearts of the plants facing the north, they do not thaw so suddenly, and it is well-known that sudden variations of temperature are more destructive to this class of plants than continued frost. Although when so dealt with the plants will generally stand through the severest winter unharmed, yet those so treated always produce much smaller heads than those which have not been interfered with; but we must not forget that small heads are better than none at all. In my own case I always treat half of the plants this way, leaving the others to risk the winter. In stiff heavy soils it is more necessary to heel the plants over than in drier ground, as the more retentive the soil the greater risk there is of the plants being injured by frost. The end of October or beginning of November is the best time to commence the work, and it should be done in dry weather, if possible. J. M.

CRYPTOGAMIC SOCIETY OF SCOTLAND.

Conference in Aberdeen.

The Cryptogamic Society of Scotland opened its twelfth annual conference in Aberdeen on Wednesday, 29th ult. The conference was continued until Friday, 1st inst. It was proposed to hold a show of cryptogamic plants during the meeting of the society, but the autumn has proved so unfavourable that plants are in bad condition, and the idea was therefore abandoned. The formation of this society was first resolved upon at a meeting of botanists held in Aberdeen on September 18, 1874, and a committee of organization was then appointed, which gave in its report at a meeting held in Perth in April, 1875, at which the society was formerly constituted. The list of members includes some of the most eminent names in the scientific world at home and abroad, and many of those distinguished members were present at the conference. The early part of the first day was devoted to an excursion to Monymusk in search of cryptogamic specimens, but, owing to the disagreeable nature of the weather, the visit was not very successful. In the evening council and business meetings were held in Marischal College, and afterwards a public meeting was held, at which Professor J. W. H. Trail, M.D., F.L.S., of Aberdeen, the president for the year, occupied the chair.

President's Address.

The President, in delivering his annual address, on the Uses and Practical Application of Cryptogamic Plants, which was illustrated by numerous diagrams, referred to the bearing of the study of cryptogamic botany upon human welfare, and the widely-prevalent ignorance concerning a subject which was of so much practical interest. Having explained that cryptogamic plants derived their designation from a time when the imperfect methods of investigation available made it impossible to detect the organs of reproduction in these plants, Professor Trail entered upon the question of the relative importance of the various orders of cryptogams, placing the great division of the Fungi highest, and the order *Filices* or ferns among the lowest, the most important product of the latter being the medicine for destroying intestinal worms prepared from the male fern (*Lastrea Filix-mas*), and a few other kinds of ferns. Touching upon the practical value of the horsetails, or *Equisetæ*, he passed to the scientific interest which the club-mosses, or *Lycopods* possess, on account of the many points of structure in which they stand intermediate between the flowering plants and the lower cryptogams, and described the *Selaginellæ* as "not less interesting scientifically than the true club-mosses, while they are deservedly favourites in greenhouses, because of their elegance and beauty. In running over the small genera, *Isoëtes*, *Salvinia*, and *Marsilea*, the interesting fact was adverted to that the spores of the *M. Salvatrix* had been used as food by the early explorers of Australia when in danger of famine. After directing attention to the structure and comparatively unimportant economic uses of the mosses and liverworts (the highest group of the cellular cryptogams), Professor Trail said: It is among the *Thallogens*, or those plants that do not possess markedly different stems and leaves, that we meet with the most numerous examples of cryptogams, useful or injurious to mankind, directly or indirectly. Marine Algæ.—The very large group of *Algæ* (including the seaweeds), often brilliant red, purple, or green, or dull and sombre browns, or olive greens, or almost black in colour, is known to every resident by the sea-shore in some or other of the many forms that these plants assume. They are almost the sole plants of the salt waters, in which they cover the rocks with almost as copious a vegetation as that of our terrestrial pastures; and the immense masses thrown in on many coasts after a storm must be familiar to everyone who has spent a winter on seaweed-frequented coasts. After explaining the many uses made of seaweeds, he proceeded to speak of the Fresh-water Algæ. The *algæ* of the fresh-water lochs and streams are even more numerous in species than the seaweeds; but they are for the most part so small individually that they are far less conspicuous, and might often be wholly overlooked by the non-observant. Yet they swarm in every place where water can lodge, and at times force themselves upon the notice of civic authorities by appearing in the water supplies of towns. In moderate quantity the fresh-water *algæ* are useful in the sources of town supplies, as they aid efficiently in the removal of organic impurities, and in supplying oxygen to the water. The most important of these *algæ*, from an economic point of view, are the diatoms, so well know to microscopists for their wonderful beauty and variety, and so much esteemed as tests of the excellence of the lenses of microscopes on account of the extreme delicacy of their markings, which only the best and most powerful microscopes can show properly. Despite the minuteness of these plants, of many kinds of which upwards of 1,000,000,000 could lie in one cubic inch, in course of time beds of many feet in thickness become deposited, and assume the form either of fine grained rocks, or of gray, friable deposits, often under peat. This latter form is termed *Kiesel-guhr*, the chief use of which is in the preparation of dynamite. Professor Trail next proceeded to discuss lichens, and in a clear and lucid manner detailed the many uses they are put to, and then devoted a great part of his address to fungi, and characterized them as being the most important of all other cryptogams to mankind. In structure, he said, the fungi show very great diversity, but all agree in requiring for their nourishment organic food, in the form of the living bodies or of the dead and decaying remains of plants or animals. Many fungi seem to grow from the ground itself, but even these get their food from decaying organic matter in the soil, or from the roots of plants. In size fungi vary from a foot or more in diameter to extreme minuteness. In dealing with the edible properties of fungi, he said it would be well that there should not be too strong a tendency to experiment on them, in view of the very poisonous nature of so many fungi, and of the great likeness of certain edible to poisonous species. There are no rules that can be relied on with absolute certainty to distinguish edible from poisonous mushrooms, and where the consequences of ignorance may be so serious, over-caution is less to be blamed than rashness, yet a little care would enable any moderately observant person to recognise several excellent species without much risk or error, and as illustrations he mentioned Chantarelles (*Cantharellus cibarius*), fairy-ring mushrooms (*Marasmius oreades*), *Hydnum repandum*, young puff-balls (*Lycoperdon giganteum*), morels (*Morchella esculenta*), and many others which he said could scarcely be mistaken by anyone once acquainted with them. Having briefly touched on Medicinal Fungi and Poisonous Fungi, the speaker proceeded to speak of the diseases causes by fungi, on which subject he said there seems good evidence to warrant the belief that various diseases in domestic animals —*e.g.*, glanders in horses—are due to particular bacteria; and the same holds good with certain diseases that have attacked and ravaged the silkworm larvæ, so largely reared in France, for the sake of their silk. Certain farm crops, too, often suffer grievously. Potatoes seldom escape wholly from the ravages of the potato-disease fungus (*Peronospora infestans*), and it is also liable to injury from other less conspicuous fungi. Turnips fall a prey to the finger-and-toe disease, caused by *Plasmodiophora brassicae;* and the cereals suffer from the "rusts" (*Puccinia straminis* and allied species). Of garden produce few kinds are free from liability to such diseases. Turnips and cabbages show the effects of the *Plasmodiophora*, and they are also liable, along with the other cultivated crucifers, to the attacks of moulds (*Peronospora parasitica*, *Cystopus candidus*, &c.), which cripple and distort, or even kill the plants. Onions, carrots, parsnips, spinach, and peas all suffer from the growth of moulds in or on them, which frequently seriously diminish the crops. Raspberry bushes have their peculiar parasites (*Phragmidium rubi-idæi*, &c.). So, too, have currant bushes (*Microsphæra grossulariæ*, *Glæosporium ribis*, &c.). Rose bushes are rendered most unsightly by mildew (*Sphærotheca pannosa*), and allied fungi often prove very fatal to the hop plant in England, and to the vineyards of France, rendering constant vigilance necessary to save these crops from total destruction. In conclusion, Professor Trail said, "The only means by which we may hope successfully to overcome the injuries inflicted by fungi upon our own bodies and upon our various possessions, is to investigate fully the life history of the fungi, and to ascertain how to prevent their attacks, and how to contend with them, so as to extirpate the fungi without injury to the body in or on which they live. Such investigations are the chosen work of the mycologist, and progress is being made slowly but steadily. But into this subject time will not now permit me to enter. My aim has been to show that the study of cryptogamic botany is not a mere amusement of a few hobby-riders, but that it has important bearings on the welfare of mankind." (Loud Cheers.)

During the conference excursions were made to Monymusk, Park, Drum, and Kincausie, but the results were not altogether favourable, owing to the inclemency of the weather. Among the many papers read, those by Mrs. Farquharson, of Haughton, on "Several varieties of British Ferns," and by Mr. Stephen Wilson, Aberdeen, on "The Reproduction of Smut," were very favourably received, and the authors highly complimented. The annual dinner was held on Thursday evening in the Douglas Hotel, under the presidency of Professor Trail. The meetings throughout were most enthusiastic, and, taken all over, the conference was one of the most successful yet held under the auspices of the society.

TRADE CATALOGUES.

Wm. Paul and Son, Waltham Cross, Herts.—*Roses for Autumn*, 1886, *and Spring*, 1887; *Fruit Trees, Grape Vines, &c., &c.*

Frank Law, Oldham Road, Rochdale.—*Carnations, Picotees, &c.*

James Dickson and Sons, Newton Nurseries, Chester.—*Select Roses.*

E. S. Dodwell, Stanley Road, Oxford.—*New Carnations and Picotees.*

E. G. Henderson and Son, Maida Vale, London, W.—*Dutch Bulbs and other Flower Roots.*

Exhibitions and Meetings.

CRYSTAL PALACE FRUIT SHOW, October 6 to 9.

The exhibition of hardy fruits which closes to-day (Saturday) at the Crystal Palace shows in a conspicuous manner the high state of perfection to which fruit culture has been brought in this country. Although this is, on the whole, an unusually fine fruit year, the general opinion is that the fruit is wanting in quality, and this is most noticeable in the present show. There is a decided falling off in the case of pears, the exhibits, with but few exceptions, lacking size and quality. But of course splendid examples are to be seen, especially in the classes devoted to apples, which are strongly represented, and make a fine display. In almost all the classes there is keen competition, and vegetables, to which several classes are allotted, add variety to what we may call a most interesting and instructive exhibition.

Open Classes.

The most important class in the show is that for the best exhibition of apples, and the several competitors show, on the average, about one hundred and forty varieties, and there was spirited competition. The first prize is taken by Messrs. George Bunyard and Sons, Old Nurseries, Maidstone, who put up a fine collection, the varieties conspicuous for good quality being Warner's King, Emperor Alexander, Waltham Abbey, Red Hawthornden, Lord Suffield, Ecklinville Seedling, Winter Hawthornden, Alfriston, Schoolmaster, Gascoyne's Seedling, Cox's Orange Pippin, Blenheim Orange, Worcester Pearmain, Golden Noble, Court of Wick, Crimson Queening, Ringer, Beauty of Kent, Mère de Menage, Lord Grosvenor, and Pott's Seedling; Mr. John Watkins, Pomona Farm, Withington, Hereford, was a very close second, the fruit being noticeable for high colouring. The following are well shown: Harvey's Reinette, Ribston Pippin, Cellini, Golden Redstreak, Red Costard a grand conical apple, very large, in form like Alexander, and streaked and dappled with carmine and red; Cox's Pomona (grand fruits), Cox's Orange Pippin, Duchess of Oldenburgh, Emperor Alexander, Calville Rouge, Dutch Mignonne, Mère de Menage, and Lord Suffield. The third prize was secured by Mr. C. G. Sclater, Heavitree, near Exeter; his collection includes good examples of Fearn's Pippin, Reinette du Canada, Kirke's Lord Nelson, Golden Ducat, Court Pendu Plat, Dumelow's Seedling, Cox's Orange Pippin, Tom Putt, Lady Henniker, Peasgood's Nonesuch, Gloria Mundi, Lord Suffield, Catshead, Warner's King, Golden Noble, Ingestrie Pippin, and Waltham Abbey Seedling. The fourth place is occupied by Mr. David C. Powell, Powderham, Kenton, Exeter, who has Golden Noble, Gloria Mundi, Mère de Menage, Beauty of Wilts, Annie Elizabeth, Dumelow's Seedling, Alfriston, and Claygate Pearmain, of good quality.

In the corresponding class for pears there was also keen competition, but as mentioned above, the fruit is wanting in quality. Mr. James Butler, gardener to A. J. Thomas, Esq., Orchard Lane Gardens, Sittingbourne, is first, and in his collection are good examples of Beurré Clairgeau, Bonne d'Ezee, Beurré Van Geert, Louise Bonne of Jersey (well coloured), Williams's Bon Chretien, Vicar of Winkfield, Desire Cornelis, General Todtleben, Beurré Bachelier, Beurré d'Amanlis, Souvenir de Congres, Beurré Diel, Beurré de l'Assumption, Madame Treyve, Marie Benoist, Duchesse d'Angouleme, Doyenné Boussoch, and Brockworth Park. The second award was made in favour of Messrs. T. Rivers and Son, Sawbridgeworth, who put up excellent fruits of Rivers' Princess, Rivers' Magnate, Doyenné du Comice, Doyenné Boussoch, Glou Morceau, Beurré d'Amanlis, General Todtleben, Marie Louise d'Uccle, Durondeau, Conseiller de la Cour, Louise Bonne of Jersey, Pitmaston Duchess, and Marie Benoist; the third prize went to Mr. A. Waterman, gardener to H. A. Brassey, Esq., Preston Hall, Aylesford, Kent; and the fourth to Messrs. G. Bunyard and Sons, Maidstone. Messrs. J. Cheal and Sons have in their collection some well-developed fruits of Mère de Menage, quite blue with bloom.

Amateur Classes.

Apples make a prominent figure in these classes, and for twenty-four dishes the post of honour is occupied by Mr. W. Edwards, gardener to H. Higgins, Esq., Shinghill, Hereford, the varieties represented being Bedfordshire Foundling, Ecklinville Seedling, Red Costard, King of the Pippins, Emperor Alexander, Pott's Seedling, Waltham Abbey, Costard, Duchess of Oldenburgh, Peasgood's Nonesuch, Alfriston, Cox's Orange Pippin, Gloria Mundi, Yorkshire Beauty, Cox's Pomona, Worcester Pearmain, Tower of Glamis, Warner's King, Lady Henniker, Blenheim Orange, Round Winter Nonsuch, Mère de Menage, Annie Elizabeth, and Wellington. The second award was made in favour of Mr. Sidney Ford, gardener to L. A. Wallace, Esq., Leonard's Lee, Horsham, who has good fruits of Warner's King, Worcester Pearmain, Emperor Alexander, Dr. Harvey, Golden Noble, Red Hawthornden, Lady Henniker, and Blenheim Orange. The third prize was won by Mr. A. Waterman. For twelve dishes of apples, Mr. William Jones, gardener to J. R. Brougham, Esq., Wallington Bridge, Carshalton, is first, exhibiting Blenheim Orange, Emperor Alexander, Fearn's Pippin, Gloria Mundi, Scarlet Nonpareil, Flower of Kent, King of the Pippins, Cox's Orange Pippin, Wellington, Washington, and Ribston Pippin. Mr. William Jacob, Pound Street, Petworth, Surrey, is second, his fruits being noticeable for bright colouring, especially Emperor Alexander, Cellini, Sussex Nanny, and Lawrence's Incomparable. Mr. C. J. Goldsmith, gardener to Mrs. C. A. Hoare, Kelsey Manor, Beckenham, is third.

In the class for twelve dishes of pears, Mr. Sidney Ford is well to the front, exhibiting General Todtleben, Duchesse d'Angoulemo, Beurré Bosc, Durondeau, King Edward, Marie Louise, Beurré Clairgeau, Vicar of Winkfield, Marie Louise d'Uccle, Uvedale's St. Germain, Louise Bonne of Jersey, and Doyenné du Comice. Mr. A. Waterman is second, putting up Beurré d'Amanlis, Duchesse d'Angouleme, Pitmaston Duchesse, and Beurré Superfin, and Mr. J. Neighbour, third.

Gourds and Pumpkins prove an interesting feature. In the class for the best collection of ornamental gourds Mr. C. Osman, South Metropolitan District Schools, Surrey, is first, exhibiting an extensive collection, comprising a variety of kinds noticeable for grotesque form, and striking colouring; the most noticeable are Summer Crookneck, Turk's Cap, and the Bottle Gourd. Mr. W. Dance, gardener to Colonel A. S. H. Lowe, Gosfield Hall, Halstead, Essex, a close second. For the heaviest gourd or pumkin, Mr. J. Rodbourn, gardener to Baroness Heaton, The Gardens, Coombe House, Croydon, is first, exhibiting a pumpkin weighing 139 lbs. Mr. G. Sheppard shows one weighing 119 lbs., and was awarded the second prize. In the class for a collection of pumpkins and gourds, the prizetakers are Messrs. W. C. Dance and C. Osman, in the order of their names.

Vegetables.

These are well shown, and there is spirited competition in all the classes. For the best exhibition of vegetables in the show, Mr. A. Waterman was deservedly placed first, having a very fine display, including almost all the vegetables in common use. Mr. J. Neighbour is second, and Mr. W. Mist, Kent, third. For twelve dishes Mr. C. J. Waite, gardener to Hon. W. P. Talbot, Esher, is first with a collection of grand quality, especially worthy of mention being the Autumn Giant Cauliflowers, New Intermediate carrots, Prizetaker leeks, and Snowdrop potatoes. Mr. J. Neighbour and Mr. A. Waterman are placed second and third respectively. In the cottagers' class for six dishes, the prizetakers are Mr. W. Thayre, Mr. R. Hall, and Mr. Charles Beckett, in the order of their names.

Miscellaneous.

There are several miscellaneous exhibits worthy of mention. Messrs. J. Veitch and Sons, Chelsea, and Messrs. W. Paul and Son, Waltham Cross, exhibit large collections of apples. Messrs. F. Rivers and Son, show the following plums: Monarch (Rivers), which has large purple fruit, Grand Duke, Autumn Compote, and D'Automne de Schamal, a very showy variety, with scarlet fruit. From Mr. H. J. Penney, Herne Grove, East Dulwich, comes Perfection tomato, a variety with smooth, highly-coloured fruit; and from Messrs. J. Laing and Co., Forest Hill, tomato Pedigree, grown out of doors, and appears well adapted for this method of culture. Mr. James Butler exhibits splendid fruits of Louise Bonne of Jersey pear, a dish of Doyenné Boussoch, and two dishes of the popular Williams's Bon Chretien. Pitmaston Duchess pear is well shown by Mr. J. Burdett, gardener to Mrs. Raynor, St. Ives Place, Maidenhead, and Warner's King, Emperor Alexander, and Lord Suffield are exhibited to advantage by Mr. G. Hunt, West Dulwich. Mr. S. Ford shows a seedling apple named Ford's Seedling, a medium-sized conical fruit, of good shape and colour. A dish of White Dutch currants is shown by Mr. C. Bowens, The Gardens, Castle Hill, Dorset.

The flowery portion of the show is made up by contributions of dahlias from Mr. Charles Turner, Slough, and Messrs. J. Cheal and Sons, Crawley, Sussex, and tuberous begonias from Messrs. J. Laing and Co., Forest Hill.

A ROUND AT THE COTTAGERS' SHOWS IN MID AND SOUTH OXON.

Readers of *G.M.* have been kept posted up with reports of the principal exhibitions in Oxon during the season just ended; and, with the view of interesting "lovers of the country," the notes of cottagers' shows visited, with a few antiquarian and topographical details added, may, perhaps, be read with interest, seeing that the more humble workers in the horticultural field contribute in their way to swell the full measure of the productions necessary to the wants and pleasures of the genus MAN.

First in the order of date comes (July 27),

Clifton Hampden—"the village on the cliff"—a famous resort of metropolitan and Thames boating men, and those who delight in piscatorial pursuits. It is a clean, quiet village, situate on the north bank of the Thames, at a bend in the river; and throughout the summer the cottagers' gardens are all aglow with scarlet geraniums, golden calcolarias, asters, stocks, &c. It possesses a pretty restored church, chiefly transition Norman, with a bell-turret and some windows in the decorated style, its lych-gate, of carved oak, being especially interesting. The register dates from 1572, the parish containing 1,030 acres of gravelly loam, with a population of 350 souls. The ancient ferry-boat has given place to a brick bridge of six pointed arches; adjoining, on the Berks side, being a very ancient inn, where anglers and others "put up" during their summer outings. From Oxford it is eight miles *via* Iffley, Rose Hill, Littlemore, Sandford-on-Thames, and Nuneham villages, including a two-mile walk across Nuneham Park, over a ladder-stile at the park fence—altogether a lovely bit of country. The show was small (as compared with others to be referred to), being limited to the parish, but in the classes for plants were some good specimen fuchsias (one a large bush of the old Fulgens in full flower), and geraniums (a plant of Master Christine being furnished with fully fifty trusses of pink blooms), petunias, hydrangeas, &c., the out flowers being choice roses, indifferently set up. Wild flowers abound in the neighbourhood, and full fifty well-shaped bouquets and twenty button-holes were exhibited by the school children for the several prizes offered. One noticeable arrangement was the exhibiting of German stocks in open-mouthed glass jars, with roots and stems entire—not a bad idea. Bush fruits, such as raspberries, gooseberries, and currants, were truly large and well ripened, the single bunch of red currants being six inches long. The vegetables were presented with much care, quality being the great aim of the exhibitors, and the judges marked their approval by awarding prizes to the most shapely specimens. One feature at this show is the pure type of Broad Windsor bean grown (two beans only in the pod), the Long-pods being equally well shown; while of peas the tall growing Marrow-fat type (pods filled tight with peas nearly as large as marbles) seems to find most favour here. The roots were good for the early season, but the potato classes demonstrated the suitability of the soil for producing clean, handsome tubers. The numbers staged comprised 600 specimens, exclusive of those staged in the collections of vegetables. The winning sorts were Schoolmaster, International, Triumph, Trophy, Mr. Brosee, American Purple, Vicar of Laleham, and Reading Russett. The society's business was admirably regulated by Miss J. Townsend, the village schoolmistress.

On the same date a show was held at Littlemore, a village of much interest to the archæologist, as a very important mynchery or nunnery existed here in the time of Henry II. Its possessions were extensive in the twelfth and thirteenth centuries. In an open shed abutting the Thame railway (which has a station here), there is pointed out the site of a very elaborately-built conventical church where, till 1851 (at the west end of all that remained of that once splendid edifice), were three coped tombs and a portion of a fourth, all more or less cracked, lying in a heap of nettles; these were simply hacked to pieces, and now form part of the walls of the shed. This village is three miles distant from Nuneham and Oxford, its population about 1,000, with 1,100 acres of sandy loam, subsoil sand, resting on limestone rock. The gardens attached to the County Lunatic Asylum are evidences of the productive nature of the soil there, and the land sloping down to the "silvery Thames," contributing in a degree to supply the Oxford market with high-

glass products. The Oxford Sewage Farm adjoins the asylum grounds, and large crops of coarse grass, rye, &c., are raised upon it. The show was held in the rectory grounds, a large proportion of the display consisting of table decorations, the neighbourhood containing a number of ladies who pride themselves in the art of "dressing a table for dinner," glass and silver entering largely into the designs. The cottagers produced good window plants and garden flowers, nasturtiums, sweet peas, mignonette, having classes specially provided for competition; the "extra productions" sent made up a large display. The fruit was generally of hardy kinds, and the run of vegetables fully sustained the average of a July exhibition. There is always a keen competition for a specimen "Thread of Life" plant, Harrison's musk, and other simple forms of window vegetation. The soil in the neighbourhood is admirably suited to grow potatoes, those shown in competition being less than 300 tubers, the cottagers not caring to lift them in an unripened condition. The beans and peas were excellent, and vegetable marrows were staged in considerable numbers. There is every encouragement to the toilers in the district to do their best in the way of producing, prizes being given for well-kept gardens and allotments.

The next week proved equally fertile, a very interesting display being made by the inhabitants of the parishes of Standlake, Northmoor, and Stanton Harcourt, the show being convened in the Vicarage grounds; at

Stanton Harcourt, the property and burial place of the Harcourt family for six centuries, time and space would fail to relate all that is known about its Early English church with Norman doorways; suffice it to observe that objects of interest are preserved from 1293, while the church register dates from 1568, its ancient wood-screen of oak being regarded as one of the oldest in England. The Harcourt family have been referred to as

"Noble in blood and ancient in descent,
E'er since to Norman yoke Britannia bent."

Besides the church proper, the Manor House, the eight-sided kitchen without a chimney, Pope's Tower, and the Harcourt Chapel, each and several contain sufficient interest to antiquaries, who make long pilgrimages to view the relics of a by-gone age. The population is near 550, the soil, gravel on rock, comprising 3,550 acres. Standlake, a village two miles west, was once a British village, the remains discovered taking the mind back to a time when the bronze period encroaches on the flint, an antiquity of equal importance to Pompeii or Herculaneum. Standlake Church is a rich specimen of Early English with an octagonal tower. Cokethorpe Park (with its famous gardens and forest trees), of 170 acres, is partly situate in the parish, the land being 2,245 acres of stone brash on gravel, with a population of 700 souls. Northmoor, one mile south, has a fine old embattled-towered church in the Decorated style, the interior largely partaking of Early English architecture, the register dating from 1654. The area of the parish is 2,000 acres of limestone and gravel, with a population of 300. The display made by the three parishes was a large one, pot plants, roses, and cut flowers being well staged. There is a considerable amount of glass in the neighbourhood, and without even attempting to detail the general features of the exhibition, it may be stated that the amateur productions were equal to a provincial town display, some thirty varieties of potatoes being grown in the parish.

Next in importance was the exhibition held by villagers of the extensive parish of

Headington, distant from Oxford two miles eastward. To reach it you have to climb the hill bearing its name. It is regarded as an important place, being a royal vill as early as 1009. Court Close is still the name of a part of the village, where Saxon coins have been found; foundations are still visible, but have been much disturbed during the past three hundred years. It is here the roses are grown which are exhibited at the shows in the name of Miss Watson Taylor, a lady much interested in floriculture. The church is an old, good-looking structure, its several portions being Early Norman, Late Norman, Early English, and Perpendicular. In the graveyard stands a fine perpendicular decorated cross, raised on steps, consisting of an octagonal quartrefoiled base, the ribbed shaft supporting a heavy square head terminating in a cross. The register dates from 1683. The area of the parish is 1,800 acres of sandy soil, subsoil clay, resting on coralline oolite. The hamlet of Barton adjoining, has a number of fifteenth century cottages, a pretty water-mill, and, in the yard at the Wick Farm, is a remarkable spring of water concentrated in a large basin of stone-work, said to be of Roman origin. Headington Quarry is also included in the parish, and its large stone quarries are very interesting, while in the clay pits Roman pottery is found. Its area is about 1,000 acres, with a population of 1,200 souls. The villagers reside in good brick and stone built cottages; and although the surface is very undulating, the gardens are excellently kept and most productive, the fruit trees being in the most healthy condition possible. One disused stone pit, an acre in extent, has been utilized by Mr. W. Coppock, who had the sides levelled, and now the walls all round are covered with plums, cherries, apricots, and other hardy fruits, which produce heavy crops each year, being sheltered from the cold winds and frosts. Other portions of this large parish are known as New Headington and Highfield, districts where nurserymen and gardeners "do vegetate." The plots under cultivation range from a quarter of an acre to eight acres, the light sandy soil producing roses of superior colour, the bulk of the holdings being freehold in the occupation of the owners, who, as a rule, are a thrifty, temperate class of workers. The modern-built cottages are peopled by laundresses and mechanics generally, who are employed in the city during the day, and from this neighbourhood the Oxford Market is very largely supplied with flowers, &c. There are many villa residences standing in their own grounds, so that the annual show on Bank Holiday was a horticultural feast in its truest sense. The chief features of interest were the groups of plants staged for effect, which included orchids, ferns, mosses, fuchsias, geraniums, coleus, and the run of popular exhibition varieties of decorative plants. The cut flowers embraced a vast array of hand bouquets (in collections of nine and six each), for which the parish is famous. Of exhibitors of roses such names as Evans, Mattock, Narroway, Taylor, Price, Stow, and Watson-Taylor were inscribed on the cards attached to the winning collections of eighteens, twelves, and nine blooms. Table decorations (single pieces) are always done well, the triplet trusses of zonal geraniums being presented equal to those at the larger exhibitions. Fruit and vegetables were displayed in a way to prove instructive as well as pleasing.

The potato classes were important for the number of exhibits, a very large quantity of land being under cultivation as allotments, the gardens attached to the cottages in Old Headington being somewhat circumscribed. Cottagers, single dishes, *Kidney*, first, Beauty of Hebron; second, International; third, Snowdrop; *rounds*, first, Sutton's First and Best; second and third, Vicar of Laleham; *three dishes*, first, Woodstock Kidney, Early Rose, and Manhattan; second, American Purple, Early Rose, and Vicar of Laleham; third, Blanchard, Vicar of Laleham, and International. Amateurs, *three dishes*, first, Sutton's First and Best, Reading Russet, and Vicar of Laleham; second, Ashloaf, Mr. Bresee, and Woodstock Kidney; third, White Rose, Late Rose, and Brinkworth Beauty. Professionals, three dishes, *round*, first, Reading Russet, Early Border, and Blanchard; second, Blanchard, Reading Russet, and Reading Hero; third, Vicar of Laleham, Sutton's Favourite, and Manhattan; *Kidney*, first, Cosmopolitan, Mr. Bresee, and International; second, Cole's Favourite, International, and Cosmopolitan; and third, Cole's Favourite, International, and Mr. Bresee. There was a small show of honey. An extensive show of poultry and live stock was held in conjunction with this show, the *locale* being the Manor House Grounds.

PLANTS OF THE ALPS.

By H. Correvon, Director of the Jardin d'Acclimatation, Geneva.
Translated by R. Irwin Lynch A.L.S., Curator of the Botanic Garden, Cambridge.

CHAPTER VII.

Circumstances that Influence the Alpine Flora.

Whoever, even slightly, knows the plants mentioned in the foregoing lists, will have no trouble in recognizing a great analogy between the parallel species. The distinguishing botanical characters are often of little importance, and in all cases not very remarkable. Some depend only on the colour of the corolla or that of the flower. In general, the species belonging to calcareous soil are richer in colour, and their flowers are larger than those of the granitic series. Generally also, the leaves are hairy or woolly, which is rarely the case in the silicious flora. Dr. Christ, speaking of the influence of soil on vegetation, says: "It is when similar species of close relationship comport themselves quite differently in the choice of ground, that the influence of soil on the distribution of plants become the most evident. In this respect *Anemone alpina* is a remarkable example. With us the form with white flowers is found exclusively on limestone (it is no longer so on the Vosges) while that with sulphur-yellow flowers *(A. alpina var. sulphurea)* is found only on the clayey and silicious ground. The limit is so exactly traced that at the places where the two kinds of ground meet, the two varieties exactly follow the lines of demarcation, and even in the places where the transition from limestone to soil destitute of carbonate of lime is not sudden, but takes place by insensible gradations, the flower of the anemone passes through a series of intermediate shades from white to the yellow colour."*

I have often been struck with the manner in which the two forms are distributed on the Alps, according to whether the ground is calcareous or granitic. This phenomenon occurs in a special manner in the charming valley of Fully, in Valais. In the pastures along the right bank of the second lake (the first in coming from Martigny) the flowers of the Alpine anemone are of a very pure white. If we follow this coast along the lakes, passing below the "Frête aux Gorgneules," and go by the "Sex Trembloz," to get to the "Col de Fenêtraille," the colour of the corolla passes through all intermediates to reach a deep sulphur-yellow. Now we know that the southern part of the Fully district includes limestone, whilst towards the north in the bottom of the ravine, the rock is schistose. I remember having found on the southern flank of the Chasseron, Jura, in 1877, a small station of *Anemone sulphurea* in the middle of a field of white anemones. Much astonished at the sight, I examined the ground, and found it in this particular place only, to be clayey. As there was a little fountain lower down, it is possible that it was the removal of the soil to place in the pipes that brought this clay to the surface and so produced the occurrence. I only mention this fact, without giving importance to it for the present. I do not know that this *Anemone* has been found elsewhere on the Jura.

In the case of *Rhododendron*, the absence or presence of lime has determined the formation of two perfectly distinct species, of which the one has perfectly glabrous leaves, the other leaves ciliated on the margin. The flowers differ besides in a notable manner, and whilst the leaves of the one are brown below, those of *R. hirsutum* are of quite the same colour on both sides. *Rhododendron hirsutum* is met with generally in calcareous districts, whilst *R. ferrugineum* belongs to the granitic flora. Precise limits, however, cannot be assigned to these species, because the *Rhododendron* covers so vast an area and is so spread in the Alps that it is very difficult for it to remain within confined limits. *R. hirsutum* is found in the exclusively granitic parts of the Alps, whilst its congener is found in certain parts of the Jura. In the same way it occurs on the Reculet, where it seems perfectly established in the most calcareous and rocky places. It is necessary, however, to remember that these cases are exceptional, and that the bed of vegetable earth which separates in these places the roots of the plants from the rock itself is very thick, and in a manner isolates the roots.

We often ask ourselves the reason of those cases of albinism which sometimes occur in the Alpine flora. Campanulas, Orchises, Gentians, Rhododendrons, Primroses, Soldanellas, and Cyclamen we often find with white flowers, when they should be of quite another colour. Evidently it is due to the chemical composition of the soil, which differs in kind on the Alps, while in the plain it is generally much mixed everywhere. This will explain why these cases happen, but rarely in the plain, and still more rarely in flat countries without mountains. On the Jura there are localities entirely covered with white-flowered *Gentiana verna*. But it is striking that between the tufts of these white Gentians there grow some plants bearing blue corollas in the usual way. I have searched everywhere to see if there were no cases in which the two colours occurred on the same plant, but I never met with any. There is here a very interesting question for study, and quite a field of investigation for physiologists. The white *Gentian*, replanted on the rockwork of the Botanic Garden, flowered white the following year. The white rhododendron is known to all Alpinists; it is very pretty, and well maintains its colour in cultivation. It is the same with other white-flowered plants, but I have not heard whether this colour is constant from seed, which is a question to prove. It is probable that cases of albinism are a result of a modification of the species the cause of which must have been the chemical nature of the soil.

I desire no other than the following fact for proof, which happened beneath my own eyes. In the autumn of 1878 I received from the Pyrenees a collection of plants containing a dozen plants of *Androsace villosa*. I planted them in peat, mixed with soil and calcareous sand. This species, in the spring of 1879, produced white flowers, which is natural. But what was my surprise the

* *La Flore de la Suisse et ses origines*, p. 317.

following spring to see these plants produce corollas of a bright and brilliant purple, of a colour so deep that I could compare it to no other Alpine plant. Now, this is what happened: The plants had been removed from the canton of Vaud to Geneva; they had suffered from cold and dryness during a part of the winter, and were afterwards planted in leaf soil containing very little peat and a certain quantity of granitic sand. Will this suffice to explain this change of colour produced by the eight plants which remained? I am not positive, but one fact is certain, that this superb tint could not have been produced but as a result of the change of soil and conditions. It is very important, in the case of certain plants, to provide for their chemical preferences in cultivation. These necessities are satisfied by mixing with the soil that is used a greater or less proportion of calcareous or granitic sand. The first is found on the lakes and rivers that descend from calcareous districts, and so all the sand that comes from the Jura and our environs is calcareous. Granitic sand is that furnished by the Arve which descends from Mont Blanc; it is found on the borders of streams and rivers of the parts that are not calcareous. Granitic sand can be replaced by aluminous soil, and calcareous sand by Loess,* when it can be had.

The physical properties of the soil have a less important influence on species, but are very important upon the consideration of the growth of plants. It is well, however, to observe further, that there is a series of variations from the turfy ground of the moist meadow to the frozen grit of the highest regions. Humus, that nutritive matter in soil which comes from vegetable decomposition, is found in them in greater or less quantity. It is very abundant in, and almost entirely composes, the black and spongy earth which fills the interstices of the rocks, while it forms but a small part of the sandy and stony soils which border the glaciers or the Alpine torrents.

It is on elevated ledges where we find a flowering-plant-vegetation growing on ground which seems to be composed of stones and sand. Icy water continually maintains life and a gentle degree of moisture in this detritus of rock, and if we examine the soil carefully some particles of humus are soon found. Some species, such as *Androsace glacialis*, *Eritrichium nanum*, and *Saxifraga biflora*, seem to affect this ground in a particular manner. In cultivation, therefore, too much soil is to be avoided, and with it must be mixed a large quantity of stone and sand. Certain species, such as *Linnæa borealis*, *Empetrum nigrum*, *Pyrola uniflora*, *Lycopodium selago*, &c., grow only in spongy soil, mossy and extremely light, and filled with detritus of wood and leaves. Some appear to prefer moss pure and simple as soil. The species which grow in peaty, turfy places, such as *Parnassia palustris*, *Swertia perennis*, *Gentiana bavarica*, require moist spongy ground, with much sphagnum or some other species of very open moss. Such species as will succeed in light turfy soil would gradually die if planted in a heavy and less porous soil. Others would not succeed in light soil, and require that which is substantial. Some are only met with on the *débris* of rocks or slates, or on grits or on the pierriers.

I saw, in 1880, at the Combazellina, in the Pennine Alps, quite a field of young rhododendrons which were only a few centimèters high, and could not be more than two or three years old. It was the first time I had the opportunity of seeing such a nursery, and it is said that young rhododendrons are very rare. In the upper part of the Valley of Aussiviers, in Valais, in the Pennine Alps, there are whole territories full of young plants of *Rhododendron ferrugineum*, and *Azalea procumbens*, and there as many as may be desired can be taken without harm to the local flora. The soil here was formed of alluvial sand, purely schistose and granite, which had spread on the ground some years before by the rupture of the *bis*.† In taking up the young plants I found that their roots grew only in this sand, and had not yet reached the lower bed formed of vegetable mould. Now this soil did not seem to contain humus, and at any rate was very poor in organic matter. But wait: gradually the leaves decomposed, the roots reached the sub-soil, and the plants bore flowers and seeds. I do not think that Kerner was right in supposing that *Rhododendron ferrugineum* and *Azalea procumbens* could live on a soil absolutely free from humus, and that they might be considered as first colonisers. The only plants which, according to my experience, can live in a soil very poor in humus, are the species of the high regions I have already named, and the grasses. These last invade all places where there is a little sand and moisture, and they alone can be considered as first colonisers in the soil prepared by water and Lichens. There is in the Torembec (valley of Bagnes) a very rich flora, which lives in a sand mixed with a small proportion of humus, and there are some species there not met with generally, except in the richest humus, which, nevertheless, accommodate themselves very well to this arid sand. But their roots are here very greatly developed, and go far to seek nourishment and gentle moisture. They cannot be considered as first colonisers from the fact that they are sometimes correspondingly situated. The fact that their roots attain such considerable development proves only that they are not in their natural element. Nevertheless, they content themselves under necessity with these conditions, and are none the worse, because they find compensation from the facts that the sand is continually moist, and that water brings the necessary humus. Care must be taken to provide plants which are found under such conditions with the same soil and the same proportion of sand and humus. It is only by continued study and experience that one succeeds in discovering the soil which agrees with the different Alpine plants.

In general, they like a light soil, rich in humus, mixed with sand and grit, even the dust of coke, and, if possible, a little sphagnum. Leaf-soil, when it is pure, in my judgment, is preferable to all other soils. Peat or chestnut soil enters the mixture in certain proportions. In the great majority of cases I use a soil composed of two-thirds leaf-soil and one-third of peat, with admixture of sand, coke, charcoal, or sawdust, according to the plant. For the delicate species I use one-third peat, one-third chestnut soil, and one-third leaf-soil, with an admixture of sand. According to the nature of the case I mix pieces of calcareous or granitic stone with this composition. There are, nevertheless, a certain number of alpine species which are not content with this soil, and have other needs, of which we shall treat further on. Those which play in nature the part of first colonisers are naturally the least delicate in cultivation. They present, however, a difficulty, which is that they spread freely, and develope to the prejudice of neighbouring plants. That is remedied by giving them a stony and poor soil. The grasses and certain composites, such as Hieracium, are cases of this kind.

* A German term for the ancient alluvial deposit of the Rhine, replete with fresh-water shells of existing species. According to Lyell, "It is a finely-comminuted sand or pulverulent loam of a yellowish-grey colour, consisting chiefly of argillaceous matter, combined with a sixth part of carbonate of lime, and a sixth of quartzose and micaceous sand."

† A local word meaning aqueduct.

Replies to Queries.

Market Garden.—An Old Subscriber.—Your proper course will be to obtain legal advice on the questions submitted.

Zonal Pelargoniums.—J. N. H.—The cuttings should be placed in a light position where they will be safe from frost, and, until February, receive sufficient water to prevent the leaves flagging.

Mushroom Beds.—I. M.—Mushroom beds made up at once in a structure in which a temperature of 60 degrees can be maintained, will yield a supply throughout the greater part of the winter.

Tree Onion.—Mr. T. Jeffries, gardener to H. T. Frend, Woodlands Villa, Barnes Common, S.W., writes: I have a small stock of the Tree Onion, and shall be pleased to send your correspondent a few bulbs on his sending me his address.

Seakale.—T. G.—The seakale may be readily forced in the border with the aid of seakale pots and a supply of fermenting materials. Place the pots over the crowns, and then heap leaves or a mixture of stable manure and leaves over them to a depth of about two feet. Stable manure alone may be employed, but when it is used the pots must not be covered to so great a depth or the heat will be excessive and force the crowns too rapidly. The temperature of the bed ought not to exceed 75 deg.

Pleiones.—Young Gardener.—It is important that you should carefully watch the pleiones at this season of the year, as they are now commencing to make new growth, and if neglected, as frequently happens, they will receive considerable injury. Immediately the flower buds make their appearance commence to supply with water, and increase the quantity according to the progress made. Do not disturb the plants at the roots for the present, as the proper time for repotting them is directly they go out of bloom.

Clematis.—W. E. Sussex.—All the clematis of the Jackmanni type may be readily propagated by layerings, which should be done towards the end of the summer, when the wood has become moderately firm. Select shoots of a moderate degree of strength, and if the plants are trained to a wall or upright trellis, those rather low down will be the most suitable. When they have been carefully detached from the trellis cut tongues at convenient points for layering, and peg the shoots on the surface of the border, and cover with sandy soil, the pegs to be inserted immediately opposite the tongues. In cutting the tongues commence on the under side of the shoot, about one and a-half inches below the joint, and make a clean cut in a slanting direction to the joint. If your soil is light it will suffice to draw a little from the surface, but if the staple is close in texture a little sandy soil from the potting bench should be used in covering the layers.

Lapageria and Slugs.—With reference to the inquiry of a "Learner," at page 556, for information as to the best means of protecting the young shoots of Lapageria rosea from slugs, W. S. writes: In the conservatory under my charge we have several specimen lapagerias, and as we have a full share of slugs it was for some time a difficult matter to protect the young shoots from them. We tried various plans for their protection, but were some time before we found one that was really efficient. After making several unsuccessful experiments, we obtained some circular zinc trays, about two inches in depth, three inches in width, and eighteen inches in diameter. Each tray was in two sections, and when placed round the plant was filled with water, care being taken that no shoots were allowed to fall over the tray, and so form a bridge for the slugs. These trays answered remarkably well for the plants trained to the pillars in the centre of the house, but were quite useless for those trained to the walls, as the slugs had no difficulty whatever in reaching the succulent shoots by way of the wall. These occasioned us the most trouble, and a considerable number of the shoots were destroyed before we were able to checkmate the slugs. At last I obtained a number of glass chimneys, about six inches in length and one and a-half inches in diameter. The chimneys of this description are used for circular gas-burners, and can be readily obtained, and are comparatively inexpensive. Common lamp glasses, such as are used for paraffin lamps, would probably answer very well, but I prefer the gas chimneys because of the facility with which they can be removed after the shoot has attained a considerable length. It is essential to keep a very sharp look-out for the rising shoots, because they are usually attacked just as the tender point is making its appearance above the surface. Although the glasses have been found so efficient in protecting the shoots we do not trust wholly to them, but catch and destroy every slug that can be found, and with a view to the destruction of the marauders the borders are frequently examined in the evening.

Correspondence.

THE AFFLICTION OF A FRUIT CROP.

I am just returned from a visit to my head physician, Dr. Pritchard, of Teynham, who, in addition to his large medical practice, has a fine garden and orchards which he manages upon sound principles.

I had read of the great abundance of plums this year; but beyond seeing here and there in my excursions, trees laden with fruit requiring gathering, imputed to exaggeration the newspaper accounts of superabundance; and did not credit that the finest plums in the London and Liverpool markets produced only 3d. per bushel; and that in many places they as well as damsons were not even gathered, but allowed to drop from the trees to manure the ground.

To-day's experience, however, has proved the perfect truth of those reports. I have seen bushels of fine plums rotting upon the ground, and this, after large quantities had been gathered for preserving and for presents. I was told that this waste was general. In my "Scarcity of Home-grown Fruits, with Remedial Suggestions," I shall in a future edition have further to urge the propriety of meeting such bountiful provisions of nature with intelligence and foresight. The charitable growers can only extend their charity to a limited circle; but surely means can be devised to place the unused fruit within the reach of millions who, without some help, cannot procure it.

Damsons, I understand, are being sold for 2s. per bushel; but even this desirable fruit, from the great abundance, is only partially marketable.

The Strood Prolific damson (grown under other names), owing to the late Mr. Rivers's enterprise, has stocked this and other countries to a wide extent; and damsons can never be expected to again fetch the old regular price.

Strood, October 4, 1886. C. Roach Smith.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 40 Yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
17	S	**17th Sunday after Trinity.**	6 28	14 36	5 2	7 58	10 42	4 6	4 23	1 15	1 31	50·5	Calantho Veitchi	Gar. hyb.	290
18	M	*St. Luke.*	6 30	14 48	5 0	8 47	11 42	4 41	4 59	1 48	2 6	50·1	Cypripedium Harrisianum	Gar hyb.	291
19	Tu	Swift died, 1745.	6 31	14 59	4 58	9 44	After.	5 19	5 43	2 24	2 44	49·8	Dendrobium superbiens	Torres Straits.	292
20	W	☾ Last Quarter, 2h. 41m. after.	6 32	15 9	4 56	10 50	1 27	6 8	6 36	3 8	3 33	49·5	Pleione maculata	India.	293
21	Th	Battle of Trafalgar, 1805.	6 34	15 19	4 54	Morn.	2 10	7 7	7 44	4 1	4 32	49·2	Pleione Wallichiana	India.	294
22	F	Lord Holland died, 1840.	6 36	15 28	4 52	0 2	2 46	8 24	9 10	5 9	5 49	48·8	Pleione lagenaria	India.	295
23	S	Earl of Derby died, 1869.	6 38	15 36	4 50	1 18	3 18	9 52	10 33	6 35	7 17	48·4	Zygopetalum Mackayi	Mexico.	296

NATIONAL CHRYSANTHEMUM SOCIETY, ROYAL AQUARIUM, WESTMINSTER.

GRAND CHRYSANTHEMUM, FRUIT, and VEGETABLE EXHIBITION, WEDNESDAY and THURSDAY, November 10th and 11th.

Schedules free on application to Mr. William Holmes, Hon. Sec., Frampton Park Nurseries, Hackney.

The Floral Committee will meet on Wednesdays, October 27th, November 10th and 24th, and December 8th, at 1.30 p.m.

HULL AND EAST RIDING CHRYSANTHEMUM SOCIETY.—THE ANNUAL GRAND EXHIBITION will be held in the Artillery Barracks, Hull, on THURSDAY and FRIDAY, November 18 and 19, 1886, when Prizes to the value of £175 will be offered for Chrysanthemums alone.

1—48 Blooms, 24 to be incurved in not less than 18 varieties, 24 to be Japanese in not less than 18 varieties ... ... £10 £8 £5 £2.

2—24 Blooms, 12 to be incurved in not less than 9 varieties, 12 to be Japanese in not less than 9 varieties ... ... £5 £3 £1 10.

The SILVER CHALLENGE VASE, value 15 Guineas, will be offered with the 1st Prize in Class 1. Entries close November 11. Schedules may be obtained from the Hon. Secs., R. Falconer Jameson and Wm. Hawksworth, Queen's Dock, Hull.

KINGSTON and SURBITON CHRYSANTHEMUM SOCIETY.

The TENTH ANNUAL EXHIBITION will be held in the Daill Hall, Kingston, on TUESDAY and WEDNESDAY, November 9 and 10, when, in addition to valuable money prizes, the CHAMPION CHALLENGE VASE, value 25 guineas, and TWO CUPS, value 5 guineas each, will be offered. Entries close November 4.

Schedules and further particulars of T. Jackson, Hon. Sec., Fife Road, Kingston-on-Thames.

WATFORD CHRYSANTHEMUM SOCIETY.—President, The Right Hon. the EARL of CLARENDON.—The FIRST ANNUAL SHOW of CHRYSANTHEMUMS and other AUTUMNAL FLOWERS and FRUIT will be held in the Agricultural Hall, Watford, on TUESDAY and WEDNESDAY, November 16 and 17, 1886. Schedules can be obtained on application to the Hon. Sec. and Treasurer, Chas. R. Humbert, Watford. Entries close on November 11.

Auction Sales for the Ensuing Week.

Monday, Wednesday, and Saturday, October 18, 20, and 23.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Dutch Bulbs and Plants from Ghent.

Monday, Thursday, and Saturday, October 18, 21, and 23.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.

Tuesday, October 19.—Messrs. Protheroe and Morris, at Kilburn; Nursery Stock.

Tuesday, October 19.—Messrs. Protheroe and Morris, at the Ainger Nurseries, Cambridge; Clearance Sale of Nursery Stock. (Three days.)

Wednesday, October 20.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Greenhouse Plants, Bulbs, &c.

Wednesday, October 20.—Messrs. Protheroe and Morris, at the Loughborough Nurseries, Brixton; Nursery Stock and Greenhouse Plants. (Two days.)

Friday, October 22.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

Friday, October 22.—Messrs. Protheroe and Morris, at the Nurseries, Lewisham; Clearance Sale of Nursery Stock.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London, E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, OCTOBER 16, 1886.

The Treatment of Sewage was discoursed upon by Dr. Tidy, at a meeting of Society of Arts, on the 14th of April last, and what was then said attracted considerable attention. The learned gentleman appeared to talk paradoxes and crotchets, but the critics waited, because it was understood that he had only dimly suggested what he had not then time to properly say. The critics are now rewarded for their faith and patience, and as they are the best of men we feel sure they will be gratified. The issue of the *Journal of the Society of Arts* for October 8 contains the full text of Dr. Tidy's paper, which appears to us to be the most complete and impartial review of the subject extant. We are profane enough to allow the journal to drift after we have made a hasty run through it, but we save a number occasionally because of some special feature in it, and this No. 1768, October 8, 1886, we shall consign to the honourable reserve. This note may cause some few other members of "Socarts" to do the same thing. Dr. Tidy's sewage flows through 62 pages of the journal, and, far from being an example of diffusiveness, it is perhaps rather too much concentrated, and might have been expanded to thrice the space with some advantage. He treats of all known methods of managing and mismanaging sewage, and has in view always the peculiar circumstances that govern special cases, such as local rainfall, relation of levels of produce to levels of possible appropriation, and the influence of industries and habits on the qualities of sewage. It is a matter of some importance, we think, to note what is said about the works at Aylesbury, the system of which may be regarded as founded on the A B C process, but so greatly differs now from the original as to be entitled to rank as an original invention, for there is nothing absolutely original under the sun. Dr. Tidy says "the A B C process is capable of producing a uniform effluent, notwithstanding the very varied nature and concentration of the raw material to be dealt with. . . . The effluent is certainly not so good as in the case of a strong as with a weak sewage; nevertheless, the efficiency of the process is proved to be actually greater with regard to the total quantity of organic matter removed, a result we hardly anticipated" (pp. 1,170-1). It is but our duty to advise all who are in the least degree concerned in the solution of sewage problems to secure, and read, and keep this particular number of the Journal.

Colonial and Indian Affairs are acquiring the importance they have never had, but certainly should have, in the councils of the state and the current of public opinion. Amongst the many evidences of the drawing together it was a chief object of the present exhibition to promote is the newly-formed office for the diffusion of official information on the industries, rates of wages, and other circumstances of special importance to intending emigrants. It is to be known as the Emigrants' Information Office, and its public communications are to be made under the responsible direction of the Colonial governments. The first circular of the office, published a few days since, gives particulars of the rates of payment to be made for assisted passages and the kind of emigrants best adapted for the several colonies. The classes for whom the prospects appear most inviting are farmers with capital and female servants with good character and industry. In new lands there is not much demand for gardeners as such, although many that have settled in rough places have prospered in large undertakings. It is in thriving cities that horticulture has the surest field and the broadest scope; and the official "Handbook of Victoria," will show that in Melbourne there is much horticultural life, as, from other sources of information, it may be learned that in all the Australian, New Zealand, Cape, and Canadian centres of wealth and enterprise; horticulture is pursued with ardour, and on nearly the same lines as in the old country. The present circular of the Emigration Office is of a preliminary nature, another being promised shortly. It may be advisable, however, to state at once that the circular informs us that there is at present but a small demand for labour, in a general way, in either Victoria, South Australia, New Zealand, the Cape, or Natal, which seems equivalent to a declaration that all the labour markets are sufficiently, if not superabundantly, supplied. There are men in every branch of life, and of the most varied acquirements, who prosper wherever they go and whatever they do. For such as these, so far as the general view may be trusted, there are at present but

few opportunities; while for the class of "clerkly" persons who can keep books, write letters, and perhaps manage buying and selling, the openings are the fewest of any. The lesson of life from the colonies is the same precisely as from our home labour market, that the best thing that can be done for a boy who was not born with a silver spoon in his mouth is to teach him some kind of productive industry. The man who can handle a hammer, a saw, a plane, a crucible, a lathe, a spade, may find employment almost anywhere; and if a fall is inevitable, he will, like a cat, fall on his feet and be little the worse for the concussion. All old societies are encumbered with a superfluity of small gentlemen who can do nothing particular, but whose wants are more multifarious than those who build cities and feed the people who crowd into them. Probably, gardeners have better chances of a sufficiency, even if they cannot get beyond it, than about nine-tenths of all other classes that may rank on the same level in the general view of life and the world. They make the best of colonists when carrying with them a knowledge of a few useful things that are not exactly orchids or florists' flowers, but touch the point where large lands and big marketing come into view. The new office is located at 31, Broadway, Westminster, where, for the sum of one penny, may be purchased a handbook containing a body of valuable information.

Mr. A. Ryder has left Shobden Court to take charge of the gardens of Sir W. A. Ogg, Oakfield, Dulwich.

Brighton and Hove Chrysanthemum Society will hold its exhibition Tuesday and Wednesday, November 16 and 17.

Mr. T. Tebby, formerly employed at Ayberaman House, Aberdare, has been appointed head gardener to E. D. Thomas, Esq., Welfield, Builth.

Mr. James Pawsey, late of Edge Hill, Wimbledon, has been appointed head gardener to Alexander Drewer, Esq., Dulwich Common, Surrey.

Mr. J. Ferguson, lately in the employ of Messrs. Little and Ballantine, Carlisle, has been appointed superintendent of the public park, Sunderland.

Potatoes at the Chester market are selling well within four pounds a penny. At this price it scarcely pays to dig the tubers, of which there is an enormous crop absolutely free from disease.

Laxton's Bergamot Pear is a seedling raised by Mr. Thomas Laxton, at Girtford. It was shown on Tuesday as British Queen; but a pear of that name having been long established, the name was officially altered as above.

Plague of Flies.—The towns and villages in South Lincolnshire have recently suffered from an extraordinary plague of small flies, known as "midges," which have made themselves almost unbearable for the eyes, nose, and mouth. The air has been literally darkened with them, and passengers have been almost covered from head to foot with the tiresome insects. Up to Saturday the nuisance had not abated in the least.

Tuesday last was a great day at South Kensington, and apples were shown in immense numbers, and in the finest form. Two tables, extending the whole length of the conservatory, were filled with fruits. The committees were liberally provided with work, and we indulge the hope that some of the many men present obtained a luncheon. They were not all feasted by the sublime favour of Spiers and Pond, for a certain number have adopted the better plan of finding food farther off.

The Gardeners employed in R.H.S. Gardens, Chiswick, have formed a "Chiswick Young Gardeners' Mutual Improvement Association," with Mr. A. F. Barron as president, Mr. John Fraser, of Kew, as chairman of meetings, and Mr. J. Barry, honorary secretary. The chief business will consist in readings and discussions, but it is in contemplation to establish a class for the systematic study of botany. Subjects to be considered comprise Physiology of Plants, Oct. 15; Extension of Horticulture, Oct. 22; Position of the Gardener, Oct. 29; Roots, Nov. 5; Economic Plants, Nov. 12.

Pittosporum Tobira is now in flower in the garden of F. Vulliamy, Esq., Southend, Ipswich. Our correspondent asks, "Am I right in thinking myself fortunate?" To this we reply that we are familiar with the fragrant white flowers of this handsome Japan shrub, as also of the brilliant red flowers of the New Zealand *P. crassifolium*, as products of south coast and western gardens, but to flower a pittosporum in the open ground at Ipswich is a triumph that testifies alike to the kindness of the season and the good judgment of the cultivator.

Angræcum caudatum was amongst the good things placed before the Floral Committee on Tuesday last. Baron Ferdinand de Rothschild sent up from Waddesden a healthy plant, bearing a raceme of ten flowers in a very fresh and delicate state, a type of rare and perfect beauty, in the quietest possible tone of colour. This fine old plant is not often seen, and although figured so far back as the year 1836, it is, and always has been, scarce. It was described by Lindley in the B. R., 1844, and by Sir W. J. Hooker, in B. M. 4,370, in each case the figure being unsatisfactory. Mr. B. S. Williams reports having seen "twelve or more flowers on a spike." There is at the present time a plant in flower in the Kew collection.

Royal Gardens, Kew, display now in liquid ambers, scarlet oaks and other trees, delightful examples of autumnal colouring. In the Palm house the rarely seen *Lonchocarpus Barteri*, a tropical fabaceous climber, is in flower. As the flowers are near the roof, the spiral staircase must be ascended by those who would see it. In the Nymphæa house *N. Sturtevanti* has flowered, and there was a fresh flower on the plant in perfection yesterday (Friday), in the forenoon; the Victoria lily is still flowering, and in the rear of the greenhouse (No. 4) is a collection of *Erythrinas* in a large bed, showing considerable diversity of character in the several varieties.

Allotments and Small Holdings.—The question of allotments and small holdings is receiving a practical trial in the parish of Banstead, Surrey, where Lord Egmont has placed at the disposal of the parishioners four fields, containing about thirty-eight acres, conveniently situated, and adjoining the Sutton and Reigate Road. In response to applications, these have been divided into 26 plots of from half an acre to ten rods, and ten small holdings varying in extent from five acres to an acre and a-half. The rent charged is, for the small plots, 3d. per rod, and for the larger, which require fencing, 3½d.; this includes tithe and rates and a small charge for the cost of subdivision and fencing. It may be added that the occupiers of the farms from which these lands have been taken have offered every assistance to Lord Egmont in carrying out these arrangements, and it is probable that, should the results prove satisfactory and the demand for such accommodation continue, a further extension of the small holdings will be made by his lordship in the course of another year.

The Sea Buckthorn, *Hippophaë rhamnoides*, is but rarely seen in gardens, and as a plant that loves the smell of the sea it is scare even in the favourable marine localities where we should first look for it. Mr. Robert Marnock sent up from Rousdon to the R.H.S. meeting of Tuesday last a branch so laden with the orange-coloured fruit that, if often seen in such a state, it would soon become one of the most popular trees of its class. But such is not the case, for, scarce as it is, the trees are as often barren as fruitful, the reason being that, in common with the aucuba and the garrya, the sexes are usually separate, and there is no fertilization unless both are in proximity. At the meeting on Tuesday Dr. Masters suggested that by grafting a branch of the male on the female tree the splendid example then on view might be matched in many places. There are several examples densely clothed with berries on the margin of the fountain lake, Royal Gardens, Kew.

The Temperature of the First Week of October has been variously reported on, and there is considerable interest attaching to the records, not only on account of their variations, but because of their general concurrence in representing an unusual and almost unprecedentedly high temperature for the season. From a number of records we have selected two as at once representative and trustworthy. Mr. William Sowerby reports from Royal Botanic Gardens, Regent's Park (125 feet above sea level), the following thermometrical maxima in the shade for the dates named in October, 1886:—

Friday, 1st	76°	Tuesday, 5th	76°
Saturday, 2nd	65°	Wednesday, 6th	62·5°
Sunday, 3rd	65·5°	Thursday, 7th	60°
Monday, 4th	77°		

The highest shade temperature registered during October, 1885, in the gardens was 58·5°.

From the Meteorological Office, Victoria Street, London, Mr. F. J. Brodie reports the maximum shade temperature of Monday, Oct. 4, at 12 English stations as follow:—

Loughborough	77	Ingatestone (Essex)	77
Leicester	77	London	80
Hillington (Norfolk)	77	Royal Observatory, Greenwich	79
Cambridge	80	Kew Observatory	77
Rothamsted (Herts)	76	Strathfield Turgiss (Hants)	75
Oxford	75	Llandovery (Carmarthen)	75

A New Use for Sugar.—Mr. Thomson Hankey communicates to the *Times* of October 13 the following interesting letter: "Experiments have recently been made proving that sugar is a valuable ingredient in mortar and cement, having strong binding qualities. Equal quantities of finely-powdered lime of a very common kind were mixed with an equal quantity of good brown sugar, with the addition of water, and the result was a cement of exceptional strength. This has been tried at Peterborough Cathedral, two large pieces of stone of the broken tracery of a window having been joined firmly together by sugared mortar. The severest test is joining glass, which gives no hold to mortar without the use of sand, and this has been successfully done. The fact appears to be certain that sugar produces an extraordinary effect on lime when the latter has been allowed to fall into a fine powder and has been thoroughly slaked. Particles of unslaked lime would destroy the result, because of their expansion, which would make the mortar lift. The sugar mortar thus made will be found, I believe, to be as good as Portland cement, and the only question, therefore, would be one of cost; and it is probable that Portland cement itself would be made much stronger by the addition of sugar. Treacle might have the same effect. It is not necessary to mention in detail the numerous small experiments which have been made. It is a matter which any one can test for himself by joining bricks with Portland cement alone, and by joining others with sugar and water added to the cement. The fact that cane sugar and lime form a definite chemical compound has long been known. It is used, indeed, for various purposes, and it may be hoped that the suggestion of its use as an ingredient in mortar may be turned to practical account by builders and cement manufacturers It has been suggested to me that the use of sugar is the secret of the success of the old Roman mortar."

PROPAGATING CARNATIONS, PICOTEES, &c.

With the requisite convenience these may be rooted finely and in a condition to be potted off in about three weeks from the time the cuttings or pipings are put in. In fact, as I stated long since, treated as I have suggested, they root as if by magic, and produce equally good plants as those that are rooted by layering.

Cuttings may *now* be inserted on a gentle bottom heat. For rooting purposes use well decomposed cocoa-nut fibre refuse, with a good portion of silver sand. I have a small three-light propagating pit heated with a hot-water tank, and, as a rule, the cuttings are put in and ready for potting with a mass of fibrous root growth in about twenty-one days. Cuttings may now be treated as stated with perfect safety, and strong flowering plants secured that will flower well next season. I am now rooting some very choice seedling yellow carnations, and some that were put in about three weeks ago are potted into sixty-sized pots, some of the plants possessing a handful of roots.

Those that have the convenience of a constant and genial bottom heat can strike almost all the year round by the hundred or by thousand with the best of results, and those who have neglected to layer at the proper season should, having the convenience, lose no time in adopting the plan suggested, although I have, in some seasons, layered the old Dutch clove as late as October, and had a fine lot of strong stuff for planting out in the following spring.

Lewisham. George Fry.

A ROUND AT THE COTTAGERS' SHOWS IN MID AND SOUTH OXON.

(*Concluded from page 617.*)

After an interval of four weeks there came the pretty compact display made by the inhabitants of Cassington, Begbroke, and Yarnton—three villages of historic fame. At Begbroke there is a small Norman church (twelfth century) with a low saddle-back western tower, its register dating from 1664, and near is a Danish fortification thrown up about 877. The area of the parish is 612 acres. Cassington possesses a church of Norman character (date 1155), with a spire of much elegance, which forms a landmark for many miles across the low water-meadows verging the Isis on its way from Eynsham to Oxford. In the graveyard there is part of a perpendicular cross, the church being originally connected with Eynsham Abbey. The register dates from 1560. The area of the parish is 3,000 acres, and the population 340 souls. The soil is gravelly loam resting on clay. Yarnton (a place full of interest) is four miles north-west of Oxford, and an equal distance (one and a-half miles) from each of the other two villages. It has a small station forming a junction with the East Gloucester and Worcester lines of rail. Close adjoining the railway are extensive gravel pits, opened to ballast the railway, and here at a depth of fourteen feet were discovered large quanties of tusks and other remains of the elephant, while four feet deeper in the Oxford clay is a moist ferruginous mass, full of quartzoze pebbles drifted from the far-off Silurian Hills of Bromsgrove, fragments of shelly oolite from the more northern part of the district, pieces of septaria, and chips of chalk and flint, probably brought by different agitations of water to their present resting place. Abutting on the gravel pits stands the Manor House (at present occupied by Mr. Richard Walton), a farmhouse, which is full of interest to the antiquary. It has been much shortened at the southern end. Of course, it has its haunted chamber. On the first floor (north end) is a most elaborate mantel-piece with caryatids and arms (date 1603). The coat of arms in the great hall is a spirited piece of carving. The splendid masonry of the house is noticeable all through; the stone walls of the garden terraces, and buildings to the south have been cleared away to build other residences. The church is also worth a visit. Originally it was a long early English structure (much in the way of Headington), but it underwent considerable alteration in 1611 and subsequent periods. It possesses an embattled tower, and is exceedingly rich in altar tombs; one massive piece of carved work in white marble refers to the family of Sir Thomas Spencer, his wife, and four daughters, whose images are very ably delineated. Sir Thomas formerly owned the land, but it is now in the property of Sir H. W. Dashwood, Kirltington Park. Alderman Fletcher (Oxford), a native of the parish, also lies here beneath a costly marble tomb, he being a large contributor to the fabric, especially in the way of the coloured glass which is of a rare type. His last gift to the parish is thus described on the tomb: "Yarnton, my childhood's home, do thou receive this parting gift. My dust to thee I give." In the churchyard stands a beautiful Early English cross, with ribbed shaft and canopied niches, enclosing figures on a carved geometric base, resting on circular steps. The register dates from 1539; the area of the parish is 1,613 acres of clay and sand on gravel; population 280 souls.

The show was held in the Manor House grounds, on the "feast day" (August 30), and proved one of the most successful of the cottagers' displays through the season. The large tent had been well arranged, the bulk of the vegetables being ranged under the shade of a group of elms. The plants staged in competition (in the open classes) included: Orchids, palms, cycads, fuchsias, balsams, coleus, chrysanthemums (summer flowering), pandanads and greenhouse specimens generally; the cut flowers being represented by several collections of twelve bouquets each, those by Mr. Joseph Bates, Oxford, being particularly good. The amateur's productions comprised fair specimen window plants, roses, nosegays, dahlias, asters, zinnias, and helichrysums; the épergnes and floral designs being executed with much taste. Hardy fruits comprised fine apricots, dessert apples, and pears, the cooking kinds being limited to the Blenheim Orange apple, which grows well in the district, although the orchards all around need to be replenished by younger plantations. The show of roots was a good average for quantity and exhibition form, the display of potatoes reaching 850 tubers. The awards went to the following dishes: Amateurs—*White kidney*, first, second, and third, International; *white round*, first, second, and third, Schoolmaster; *coloured round*, first, Reading Russet, second and third, Vicar of Laleham; *coloured kidney*, first and third, Prizetaker, second, Trophy. Cottagers—*White kidney*, International; *white round*, first and second, Schoolmaster, third, Porter's Excelsior; *coloured round*, Vicar of Laleham; and *coloured kidney*, first, White Elephant, second, Prizetaker, and third, Trophy. For six dishes, first, Vicar of Laleham, Schoolmaster, Trophy, Reading Russet, Beauty of Hebron, and Magnum Bonum; second, Beauty of Hebron, Prizetaker, White Elephant, Schoolmaster, International, and Royal Norfolk Russet. Miscellaneous contributions included a large collection of Black Hamburgh and Trebbiano Grapes, Pine Apple Nectarines, Alexandra, Noblesse Peaches, White Dutch Currants Cape Gooseberries, and fruits of the noble aroid Monstera deliciosa, from G. H. Morrell, Esq., Headington Hill Hall; boxes of show and fancy dahlias and quilled asters, from Mr. John Walker, Thame; a group of palms, crotons, and liliums, and a collection of roses and gladioli from Mr. John Mattock, Headington; asters, dahlias, marigolds, helichrysums from subscribers in Oxford and district, besides honey and fruits for the Radcliffe Infirmary, Oxford.

Ten days later a large village-town show was held at Eynsham, five and a-half miles west of Oxford, a very ancient decayed town, reduced to the position of a village, situate in a portion of the country in which the Britons long resisted the Saxons. Not far from the town, on the brow of a hill, is a British earthwork; but it was in the sixth century that the garrison at Eynsham was captured by Cealwyn and his brother Cuthwulph, it afterwards becoming a frontier post for the Western Saxons. Previous to the year 1000, a Benedictine Monastery was founded by a nobleman, Ailmer, sub-King of Cornwall, "in a noted spot near to the river, Temis, which among the inhabitants is called Egnesham." A cross, in the decorated style, and a few other remains in the vicar's garden are the only remnants of this once magnificent foundation. There is a very fine church containing Early English, Late Decorated, and Perpendicular styles in its several portions. The register dates from 1664; the area of the parish is 5,060 acres of gravelly-loam on stiff clay; the population verging on 3,000 souls. There is a cross near the porch of the church somewhat more complete than its fellow at Yarnton. Eynsham Hall (the seat of J. Mason, Esq.) has a park of 700 acres, and well-kept extensive gardens with grand forest trees and shrubs, and a lake of 16 acres.

The show was held close to the railway station, and was somewhat extensive, though weak in pot plants, a number of ferns, abutilons, fuchsias, zonal geraniums, oakleaf geraniums, mosses, &c., being staged as extras by the leading residents. The premier group of six in competition came from Mr. J. Calcutt, Witney, who had fair-sized examples of tuberous begonias, Sedum fabarium, Adiantum cuneatum, two single and one double Zonals; the second card going to half a-dozen coleus, grown in the village. For three plants, the best came from Witney—two coleus and a begonias; the second card being awarded to three coleus. The cut flowers were strongly represented by the Stanton Harcourt cultivators, who staged most creditable roses, bouquets, dahlias, &c., the French and quilled asters being of large size and well developed. The special prizes for roses were awarded to Mr. A. Blake and Mr. Mark Burden, both of Sutton (a hamlet of Stanton Harcourt), their stands containing a number of teas. The fruit made a great display, Royal George peaches (well grown and coloured), plums in about five kinds, Blenheim Orange, Hawthornden, Quarrenden, Early Harvest, and Kerry Pippin apples, Jargonelle and Williams's Bon Chretien pears, filberts, large well-ripened clusters of Black Hamburgh and Buckland Sweetwater grapes, Morello cherries, and Greengage plums, with a large show of apricots, denoted that there is a goodly variety cultivated in and around.

In the vegetable classes, the long carrots were only an average display, the short and intermediate forms being bulky and handsome. Onions and peas were alike excellently presented, broad, long-pod, and French beans being fine, while the runner beans were equal to those exhibited at some of the larger exhibitions, the variety most popular being Neal's Ne Plus Ultra. The potatoes occupied a large amount of table space. Prizes were offered for collections (not less than six dishes), the premier lot being exhibited by Frederick Burden, Stanton Harcourt, who had splendid samples of Snowdrop, Purple and Gold, White Elephant, Adirondack, Prizetaker, Royal Norfolk Russet, Vicar of Laleham, Idaho, General Gordon, and seven other kinds; the second card going to John Akers, Stanton Harcourt, who had handsome tubers of Edgecote Purple, Royal Norfolk Russet, Queen of the Valley, Prizetaker, Great Eastern, Vicar of Laleham, Snowflake, Reading Russet, Lye's Favourite, Lapstone Kidney, and Adirondack. In the classes for single dishes, the awards went to the following varieties, viz.: *Coloured rounds*, Vicar of Laleham; *white kidneys*, International; *white rounds*, Schoolmaster; and *coloured kidneys*, first, to White Elephant, and second to Trophy. For the best dish of *rounds*, the card went to Adirondack; and for *kidneys*, to White Elephant; the special prize for a dish of Royal Norfolk Russet was awarded to John Akers. The total number of tubers in the show was 600, exclusive of those entered for the prize "by weight." The winning dish of nine tubers in this class (White Elephant) turned the scale at 13¼ lb.; they were an ugly lot, as might be expected. Farmers' roots numbered close on 300 specimens, the common turnips and globe mangels were very large.

The next in order comes Garsington (or gorse-hill), a village situate five miles S.E. of Oxford, viâ Cowley. It is an elevated spot on the crest of a steep hill. It boasts of a large elm 300 years old, near which is located the lofty shaft of a Norman cross standing on a pediment of four steps. The old Norman church, with embattled tower, was built about 1200; the register dating from 1560. The soil is clay and loam resting on gravel and limestone. The area of the parish is 2,300 acres, and the population 600 souls. The soil and situation being conducive to market gardening, several families hold considerable plots, both on the hill and also at the lower level where the soil is heavy. The village is noted for the production of bush fruits, and at the July show (altered on this occasion to the date of the village feast) the gooseberries and black and red currants were considered unequalled by any of the larger shows in the county. The same remark applies to the apples grown in the district, which are always highly coloured and large specimens. The show, held on September 27, was as compactly arranged as any seen during the season; the plants in competition being full-sized examples of fuchsias and zonal geraniums; the single specimens being the hardy Sedum fabarium. The cut flowers included boxes of twenty-four and twelve varieties of roses; boxes of dahlias, and stands of cut zonals, French asters, &c., all of which were up to the exhibition standard; a goodly number of hand bouquets in pairs and singles being most excellent. The premier hand bouquet was a splendid arrangement for a bride, and was composed of eucharis, stephanotis, lapageria, white chrysanthemums, &c., with sprays of maiden hair fern; Mr. J. Johnson, florist, carried off all the premiers in the first divisions for the bouquets; he also staging a nice collection of pompon and cactus dahlias in triplets. Wild flowers, usually exhibited very largely here, were represented by two arrangements only. The fruit in competition included fine damsons, plums, and apples, the culinary apples were Blenheim Orange, Warner's King, and Ecklinville Seedling, the dessert kinds Kerry Pippin, and Quarrenden only. Pears were plentiful; those fit for use being Williams' Bon Chretien; others, such as Buerré Diel, Duchess d' Angoulême, Pitmaston Duchess, and Marie Louise not being ready. The collections of fruit represented specimens of all the classes; and the wild fruits denoted that sloes, blackberries, crabs,

hazel-nuts, rose-hips, hops, and the several solanums (black and scarlet), luxuriate on the hill-side hedge-rows. The vegetables were A 1 throughout, cauliflowers being unusually large, clean, compact heads; the marrows presented of reasonable size, carrots and other roots of the finest, with well-ripened onions, full sixteen inches round, and handsome. Runner beans were good, but not up to the bean fancier's standard, but really good cabbages were staged in plenty of medium size. The potatoes were large and shapely, nearly 600 tubers being staged as single dishes; in the subscribers' classes Mr. Bresee, Queen of the Valley, Vicar of Laleham, The Dean, Schoolmaster, Idaho, and International took the cards. Honey was a limited display, the best lot was from a neighbourhood in which grass fields abound; the other two lots coming from arable lands where peas and beans predominated this season, producing a vast contrast in flavour and colour. The awards were made by Mr. C. Hill, Rewley Nursery, Oxford, and Mr. Geo. Harris, Gloucester Street, Oxford.

The exhibition season closed with an excellent show at Kidlington (five miles north of Oxford), the "apricot village," where for thirty seasons past the cottagers' show has been held during the September "feast" week; usually, on the Monday, but since the society has expanded into an exhibition of poultry, pigeons, and live stock generally, Tuesday has been adopted. Historical records connect this large village with Robert d'Oily, who built the Oxford Castle in 1068, a successor of his handing it over to Osney Abbey, in 1232; Exeter College, Oxford, and the Duke of Marlborough having shared the ownership for about one hundred and fifty years. The church is regarded as being a very fine specimen of the decorated style, containing much old glass; its graceful pointed spire being unique among the churches in Oxon, being 173 feet high. The area is 4,860 acres of gravel and clay, lying on gravel, the population 1,400 souls, including the hamlets of Gosford, Walter Eaton, and Thrupp. It contains a number of decent villas, its easy distance from Oxford inducing tradesmen to take "summer lodgings" for their families.

The shows are always well supported, a circumstance that has helped the executive to "enlarge their borders" in the way of encouraging the breeding of fancy dogs, pigeons, &c. On September 28 four large marquees were needed to cover the valuables exhibited, two barely sufficing to stage the large number of exhibits entered for competition. The schedule was divided into two divisions—subscribers and cottagers; in the former classes the display of plants was creditable, though fewer than in some past seasons, large examples of coleus and fuchsias, taking the cards. Cut flowers were represented by excellent stands of medium-sized dahlias and French asters, and a profusion of hand bouquets in collections of six. One open class for twelve bouquets was poorly represented, the judges withholding the first. What were staged as "table decorations" were too much of a common nosegay style to demand a note in favour, the same kind of arrangements being staged each year without the slightest improvement. At one period the cottagers here, and at Woodstock shows, used to stage wicker cages (five feet high) full of asters, dahlias, and other garden flowers, with an endless quantity of the foliage of the lemon-scented geraniums, and called them "table decorations"; but they have improved, and on this occasion an epergne was exhibited, around the central stem of which the initial letters "K.H.S." (Kidlington Horticultural Society) had been inserted in very small white asters, amid blooms of purple and lilac. The cottagers' plants too were fairly good, a Vallota, an artillery plant, a Begonia Weltoniensis, fuchsias, and geraniums were presented as veritable "window" specimens. They too had some good stands of quilled and French asters, dahlias, and bouquets; also designs in wild flowers, foliage, grasses, mosses, lichens, and fruits; the premier prize being a solid pyramid, the second an open crown, the third an elegant basket.

The fruits in the first division were generally of a bulky kind, notably the peaches, greengage and other plums, damsons, nectarines, &c. Grapes were not exhibited, but cooking apples were represented by a large display of Blenheim Orange (largely grown in the district), Lord Suffield, Hollandbury, Catshead, Hanwell Souring, Wellington, and Alfriston; the dessert sorts being Astrachan, Kerry Pippin, Scarlet Nonpariel, Golden Pippin, Cornish Gilliflower, and Cox's Orange Pippin. A large quantity of winter pears were shown. Those winning as dessert being chiefly Bon Chretien. One collection of fruit contained four varieties of plums, two of pears, two of apples, two of nuts, and two dishes of currants. Honey, butter, bread, cooked potatoes, &c., were shown in the classes in which special prizes were offered. One exhibitor staged twenty-one forms of loaves and cakes for household uses. There were many loaves but no fishes. Only one cottager was strong in fruit. Vegetables made an excellent and an extensive display, the baskets (7 feet across) being filled with from twenty to thirty varieties, the bulk on a par with the single dishes. The carrots here were better for bulk than for shape; the parsnips and turnips always come out well in this neighbourhood; cabbages, beets, onions, and cauliflowers, also A.1. The potato classes were filled with large examples, some 1,300 tubers being staged, subscribers and cottagers contributing in about equal shares. The prizes were awarded as follows: First division: *White kidney*, first (and special prize for the best dish in the show); and second, International; third, Magnum Bonum; *coloured kidney*, first and second, White Elephant; third, Mr. Bresee; *white round*, first, second, and third, Schoolmaster; *coloured round*, first, second, and third, Vicar of Laleham. Cottagers, *white round*, Schoolmaster; *coloured round*, Vicar of Laleham; *coloured kidney*, White Elephant; and *white kidney*, Magnum Bonum throughout. The farmers' roots made a large display, the winners being much the same as at Woodstock show, although the roots were scarcely as bulky, the best roots having been pulled for the earlier exhibition.

Oxford. William Greenaway.

Nova Scotia Apple Crop promises to be an abundant one It is estimated that there will be 300,000 barrels of apples in the orchards of the Annapolis Valley, and that there will be fully 40,000 barrels of Gravenstein apples, the largest crop ever grown in Nova Scotia.

The Gigantic Gooseberry has been devoured by time, but the world is hungry for a substitute. It is therefore experimenting on apple trees, pear trees, chestnut trees, and other trees, perhaps India-rubber trees, that are flowering out of season; as also on autumnal primroses, second crops of raspberries, third crops of pears and plums; and fourth crops of catarrhs, bad debts, and dreams of reciprocity. But none of these have the flavour of the grand old gooseberry, and there could be no finer excitement for the season than to raise a monument to its memory.

Literature.

Illustrated Handbook of Victoria, Australia.—This is one of the many useful books on special Colonial interests the Exhibition at South Kensington has brought forth. In plan and purpose it is at once practical and complete, leaving little to be desired in the way of information or of references to sources of information upon the geography, government, resources, and aspects of the colony. The map surprises one by its myriad red dots, representing State schools, and the series of architectural and scenic illustrations take us into the cities, the woods, the villages, and the farms of Victoria as freely as we suppose it possible for any such representations to accomplish, and they convey collectively distinct impressions of the social life, as well as of the natural productions of the colony. It is important that in all representations of the industry and general characteristics of a colony, no matter where or by whom planted, the information conveyed should be free from the bias of any special interest; and a work of this kind, issued under high authority, may be taken to speak for the colony at large, and not for any mining company, or any land speculation, or any political party. It is deserving of description as an exhaustive essay—although in the nature of a sketch rather than a history—on the territory as regarded from the geographical point of view, and on the agriculture, mining, and other industries that have found encouragement by the dispositions of nature no less than by the wants of man. The preliminary chapters are contributed by Mr. J. Bosisto, M.P., and Mr. Julian Thomas. The Statistical chapter is by Mr. H. H. Hayter, C.M.G. (Government Statist). The Agriculture of Victoria is discoursed upon at length by Mr. J. L. Dow, M.P. The papers that follow are on Wine Growing, by H. de Castella; the Geography and Geology, by R. H. F. Murray (Government Geologist); Live-stock, by G. A. Brown; and Horticulture, by William Elliott (Horticultural Editor of the *Leader*). We learn from this last paper that the public gardens and parks, though extensive and well kept, are comparatively inexpensive; while, as regards the commerce in plants, Mr. Elliott adds, "Nurserymen's catalogues have attained a size which, with the exception of orchids and other stove plants, will bear comparison with those of Britain." The responsible editor of this admirable "Handbook" is Mr. James Thomson.

Mary's Meadow and Letters from a Little Garden.—By Juliana Horatia Ewing. (Society for Promoting Christian Knowledge.) There is much more in this light-hearted loveable book than a story for children. There is a philosophy for mature minds, and there are touches of character and sketches of dramatic incident that carry a glow of life into the heart of the story, and fix our eyes on the page as the eyes can only be fixed by a moving event, whether in a picture or in actual life. We learn from the preface that the scene of Mrs. Ewing's gardening exploits was the comfortable town of Taunton, "where she had a settled home with a garden, and was able to revert to the practical cultivation of flowers." There she developed the Game of the Earthly Paradise and made it the foundation of this story. Its effect was seen in many directions. "One family of children adopted the word 'Mary-Meadowing' to describe the work which they did towards beautifying hedges and bare places" and a Parkinson Society was formed, the objects of which were "to search out and cultivate old garden flowers, which have become scarce; to exchange seeds and plants; to plant waste places with hardy flowers, to circulate books on gardening amongst the members, and try to prevent the extermination of rare wild flowers, as well as of garden treasures." A portrait of the immortal John, with a note on his ridiculous punning title, forms a sort of rustic gateway to Mary's Meadow, after passing which the story begins in a way that is certain to fascinate young readers, and is not unlikely to cause some older ones to forget the years have gone as though, in the words of Longfellow, Mary herself should say, "come, be a child once more."

Library of English Literature. By Henry Morley (Cassell). Part 45 of this delightful book is singularly attractive by reason of the subjects entertained. No less than 33 pages are devoted to a review of Sir Thomas More's Eutopia, one of the great books of the prolific sixteenth century, and assuredly one of the books of all time forward from that date. Leviathan Hobbes and the matchless Defoe have their places here with contemporaries, making up a splendid number.

Doré Gallery (Cassell) is approaching completion, part 43 being before us. The five designs are various in purport, but the countryman and the serpent is very Doréish, and Don Quixote's conflict with the windmill illustrates the grotesqueness of Doré's humour with peculiar unction.

Familiar Garden Flowers is also near completion, the part before us being numbered 92. In this are figures and descriptions of the Lapageria and the Agapanthus.

History of England from the Earliest records to the present time. Messrs. Ward and Lock have issued part 1 of a history to be completed in 14 parts at 6d., forming a substantial and useful book at a cost too trifling to be considered an impediment to anyone who can make a small sacrifice for a large benefit. For a benefit it is to have, and to be familiar with a respectable history of England such as this will be when completed. It covers no crochets or theories; it does not propose to settle any of the points that perplex historians and divide scholars; but treads modestly in the beaten track, and will aim at the accomplishment of a respectable compilation. As regards the appearance of the book, it is certainly attractive, being freely and pleasingly illustrated.

Messrs. Ward and Lock have also forwarded *Quentin Durward*, part 6, in the series of "selected Waverleys"; *Universal Instructor*, part 23, treating of astronomy, history, machinery, mechanical occupations, &c.; *Whiston's Josephus*, part 12; *Langhorne's Plutarch*, part 11; *Popular Histories*, part 12; *Amateur Work*, part 59 (engine making, circular saw bench, fretsaw machine, flutes, clarionets, &c.); *Sylvia's Home Journal*, and *Family Journal*.

Ladies' Gazette of Fashion (Houlston).—The October number of this elegant monthly contains a charming example of wood engraving, entitled "Preparing for the Masquerade," and a huge folding plate of sweet ladies displaying their several costumes, which, we are most happy to say, are a little less ugly than usual. It seems that fashion no longer requires a woman to look like a camel—she may now look like an ostrich.

TRADE CATALOGUES.

V. Lemoine, Rue de l'Etang, Nancy, France.—*Supplement to Price Current No.* 103, *New Plants.*

Fratelli Ingegnoli, Milan.—*Seeds of Conifers, Miscellaneous Trees and Shrubs, and Farm and Garden Crops* (*Graines récoltées en Italie*).

Calls at Nurseries.

MESSRS. RICHARD SMITH AND CO., WORCESTER.

The immense nurseries of Messrs. Smith, at St. John's, Worcester, are very beautiful now in their plentiful combinations of the richest colours, of both summer and autumn. Deciduous trees are fast acquiring the hues of crimson and gold, proper to the season, and these new glories intensify the deep greens of yews and hollies, the grassy greens of many pinuses, and the silvery glaucous colours of certain piceas, abies, and retinosperas. High summer is, perhaps, the best time to make a critical inspection of a collection of trees and shrubs, but in high summer some of us have to make critical inspections of other things, and there is a slight difficulty in working with one's eyes the twenty-four hours round, because, periodically, there is a lack of the daylight that is one of the first necessities. But those who missed the Worcester Nurseries in July and August may find them refreshing in October, and assuredly, the men who lead busy lives have a better chance now than earlier in the season, for a leisurely look at things, and the pencilling of a note or two. One glance at the main road through, with its borders right and left, filled with superb specimens of ornamental trees, will suggest to an intending explorer that those who mean business here must stick to it, for things are done on a large scale, and in a grand way, and the visitor should, from the first moment, feel that there is before him a new world demanding exploration, but with the prefatory guarantee that disappointment is impossible.

The visitor intent upon acquiring knowledge may very well begin with the frame ground, which is within a stone's throw of the offices. If impressionable, he will take particular note of the substantial nature of the brick pits, the order that prevails, the healthy appearance of the "stuff," and the quantities of this and that grown. We passed through large stocks of conifers in the first stage of growth from the seed bed, finding delight in the colours of the tiny things, and presently found ourselves amongst flowering clematis in vast variety. These are in two beds five feet wide, the plants in five-inch pots closely packed, and the walk through the two beds makes 120 paces. Before we had calculated how many plants the two beds contained, we discovered that these were but as the shadow of a substance farther off, the open quarters containing clematis of larger growth, in quantities quite beyond all ordinary estimate of the nursery stocks of such things. Soon afterwards, while in this same frame ground, we noted a pit filled with the ever useful Clematis flammula, all the plants in five-inch pots, and all in flower as gay and fragrant as old stagers in a rockery of many years standing. The standard ivies here are especially worthy of notice, as they are useful in decorative work, and there can be no cheaper form of beautiful vegetation in "fast colours" that suffer nothing from the heat of a ball-room or the dust and tumbling plants are subjected to at places of assembly. These plants have fine heads, and are mostly budded on stout straight stems of the Irish ivy. In the centre of the frame ground is a beautiful specimen of the cut-leaved variety of the silver birch, at the present time a remarkably beautiful object, its streaming threads of elegant leafage being of a delicious amber colour, telling that the fall of the leaf is near at hand. The houses surrounding the frame ground are filled with orchard house trees, vines, and mixed subjects. We noted that the potted peach and other trees intended for fruiting under glass are made on the *ab initio* principle; the practice of lifting trees from the open quarters for the purpose being now entirely abandoned in all first-class establishments. If not made expressly for pot culture they but rarely make good trees, but being so made they show a perfect balancing of their growth, with an equable distribution of bearing wood, so that they may be spoken of as specimens at any time, but more particularly when the crop is ripening.

Amidst the immense stocks of all kinds of useful things, the hollies are conspicuous for beauty, and there is a fair sprinkling of fruit on the hollies this season, a quite exceptional fact. One of the finest garden hollies is a new one in the way of Golden Queen, but brighter. It is called *Elegantissima*, a poor name for such a fine thing. We saw this same holly some seven years back, when it was just entering upon life as a promising novelty: now it fills large quarters with its brilliant golden leafage, having the special merit of a broad smooth shining leaf that every shower brightens, and, therefore, a particularly fine thing for gardens near towns, in which often the hollies acquire a very dismal appearance as winter progresses and the atmospheric dirt accumulates upon them. Perhaps the dirtiest of hollies in a town garden is the Variegated Hedgehog which is really a dirt trap, and is made worse instead of better by the washings of the winter rain. The smooth surfaced leaves, especially those that are highly polished, invariably keep their looks better than any that are of a rough or wrinkled character, and this new and splendid Elegantissima will be valued for town plantations when its merits become known. The good old Golden Queen holly is not to be slighted because of the appearance of another beauty in the same line. It may be seen here in full splendour of standards with liberal heads, half specimens in bush form, and in fact, in every form that can be thought of, the trees being kept in form just enough to fit them for their duties without impairing their vigour. Silver Queen appears to rival in popularity its golden namesake, if we may judge by the quantities, but the quantities of all the leading subjects grown here are so great that it appears to be but commonplace prudence to avoid comparisons, and more especially to avoid the question, Where do they go to?

A fine sight for a student of hollies is a group of a few hundreds of Waterer's well-known, compact-growing, golden-edged variety. They are mostly on stems ten to twelve years old, with noble heads, and they are now flowering freely, the flowers being undoubted males, that is to say, with no hermaphrodites or females discernible in a casual, though somewhat careful, inspection. Another favourite for specimen is Perry's weeping holly, of which there are large plantations of trees ten to fifteen feet high, weeping to the ground, delightful examples of vegetable beauty. The periodical lifting of the hollies is an important part of the routine of management. Two or three years back 2,000 trees were lifted, and when a year had passed it was found that only one of that lot had died. Those newly lifted are not sold until they have made a year's growth, and are well prepared for another move, with a great body of roots suitable to carry them, if need be, round the world.

Roses are grown in all possible shapes and sizes, but the pot roses in the houses are at this time especially interesting. Such as Marechal Niel and the leading tea-scented varieties are, of course, grown in great quantities, and a cleaner lot one could not hope to see. The one that we paused before, and paid our respects to, was the one that should be regarded as the Jubilee rose, the finest perhaps of Mr. Bennett's pedigree series, Her Majesty. It should be known to all who lean towards it that it can grow. Is there another such grower in the class to which it may be best assimilated? Probably not. It would make stocks for standards, which is perhaps a profane way to speak of it, but we expect to see it put to such use when sufficiently plentiful, because it will advertise itself for the purpose with its tremendous flashing rods. And it will not disgrace its name even when it comes to that, for it is an honourable service to the great estate of roses to be the best example of strength, uprightness, and supporting power for lifting great glories above the heads of admiring peoples. Dwarf roses on own roots are in favour here, the principle that rules in these nurseries being to provide purchasers with the best goods in the several classes without regard to the prejudices that are often allowed to vitiate nursery work. As a matter of course, the manetti stock is largely used, but own roots are advancing in popularity.

One might venture, perhaps, to say that coniferous trees are a specialty here; truly it is a great place for them. Pinus insignis may be met with here in specimen form, the largest of the trees being without a fault. A fine substitute for places that are too cold for P. insignis is P. Bolanderi, a wonderful grower in the sandy loam here, and one of the hardiest of its race. It is in the style of P. Masseniana, but better every way, and a tree that may be safely planted as a feature where the conditions are at all favourable. A delightful effect in colour is produced by a large plantation of the glaucous variety of Picea nobilis, the trees being perfect in furniture, showing that this variety wears well, and may be trusted for permanent purposes. There is a glaucous Cedrus Atlantica of the most exquisite beauty, of which a nursery stock is in progress for the advantage of the world at large. The best specimen is conspicuous in the richly furnished borders that accompany the main walk through, and will arrest attention so surely that it scarcely needs to be pointed out. In the midst of a great brake of yews we were informed that these are paying trees by reason of their extensive employment in connexion with what is called Queen Anne architecture, or say, to have a comprehensive term, the Modern Antique, which has a free range from horrid ugliness, embodying the perfection of discomfort, to beauty and convenience, that tell us once more that it is not alone in "style" as that may be pronounced in leading lines and colours, that fitness for use is found. Any style acquires fitness in the hands of a master, and the Queen Anne style ably handled has the merit of combining richness of colour with refined picturesqueness that inevitably invites the relieving accompaniments of tree growth. We may even hope to see revived the "curiously knotted garden," although that belongs to a time long interior to Queen Anne.

Clematis make a great feature in the open quarters, for the 120 paces of the two five feet beds in the frame ground, accomodating some 30,000 plants, make only a beginning in the business, which is continued on a greater scale in the nursery at large. The completeness of the collection is of more interest than its numbers, and we were pleased to see a fine lot of the Gipsey Queen in all the freshness of true summer bloom, the rich violet purple of its sheets of flowers make a fine foil to the gold and glittering green of many of the trees surrounding the clematis quarters. A remarkably fine novelty is Clematis *Beauty of Worcester*, of which we could have gathered heaps of flowers, for it is a late variety, although it is also one of the earliest. In fact it begins to flower in June, and is not out of flower in October. The first flowers are thoroughly double, afterwards they are single, and usually with six petals. These we saw on the ground a few days since were large, six-petalled, and the colour was a rich rosy-lavender, fresh and satisfying.

The collections of herbaceous plants are worthy of the Worcester nurseries. No expense, no trouble, no sacrifice has been wanting to ensure possession of the best stocks of the best plants, and to have them labelled correctly. Whether herbaceous plants will ever pay for what is being expended on them in first-class nurseries is somewhat a question, but we need not entertain it while here, on a soil particularly adapted for about nine-tenths of all known garden plants, those who want such things can scarcely fail to be gratified if they will but ask and have, and pay the moderate prices that run in the catalogues. Collectors and fadders of all orders and sizes may be advised to take note of the labelling practised here—it ought to have had the first prize of the Society of Arts Label competition.

MAKING STOCKS FOR ROSES.

By C. Warden, The Gardens, Clarendon Park.

Seedling Briers.—To pass the subject (see p. 590) without some mention of the above stock would not be in any way doing justice to the seedling brier, for where one is successful in gathering hips and raising the seed of the common English brier, it is very doubtful if there is any simpler or better kind of stock in existence either for teas or perpetual roses. In most seasons there are plenty of hips on the bushes of the dog rose or common brier, which are usually fit to gather about the end of November or the beginning of December. When sufficient of the hips have been got together, they should be mixed with about one half of their bulk of sand and buried in some old tub or flowerpot where they are to remain until the following winter, when they should be taken out and turned and replaced again till the following March, sixteen months from the time of gathering. The burying is called the rotting process, wherein it is supposed the hard husk which envelopes the seed is thoroughly softened, enabling the seed to burst it, when placed in a more favourable position. About the month of March a site for the seed beds should be looked out, the ground being prepared in a similar way to that of vegetable crops. The bed should be marked out about four feet wide on which to sow the seed, and a little sandy soil such as old compost from the potting bench thrown over it, as also a small portion of the soil from the alleys should be thrown over the whole, covering the seed about three-quarters of an inch thick. If the spring is very dry it might become necessary to water, and the weeds should be pulled out of the bed before they grow too large so that their removal may disturb the seed as little as possible. The seedlings, when large enough, are to be transplanted in the same way as cuttings.

Taking Out the Eyes.—When the stock of cuttings of either brier, Manetti, or the other two mentioned, and also the seedling brier, are large enough for planting out in the position, where they are to be budded, it is necessary to take the eyes out of the stock for about four or five inches up the stem from the heel. Probably this is the most difficult part of the whole process, as it requires a keen perception to

detect where the eye is. Doubtless the beginner will have some suckers start from below where the buds are inserted on his first attempt, but when he becomes more experienced it is surprising how clean this work can be done. A practical hand wanted to lay me a wager that not one in a hundred of the stocks he dressed would throw up a sucker; and from practice I am of opinion that where care is taken very few suckers will proceed from below. Where much of this kind of work has to be done the plants may be lifted and laid in by their heels, and the dressing be done as opportunity offers in wet weather when outdoor work is stopped. The way to remove the eyes is to hold the stock in the left hand, and with the knife make a cut across the stem immediately below the bud, rather deep, holding the knife at right angles with the stem. The cut should be in such a direction that when the other cut is made above the bud a notch of the bark is taken right out. In the round stems this does not injure the bark much, and before the time arrives for inserting the buds this will be completely healed over.

Cuttings of Manettis, Briers, and Seedling Briers may be purchased of growers who make a speciality of growing them, and for inexperienced hands I would suggest that they pay a little extra for them, and have them ready dressed. If I were starting to grow roses in view of competition, and had plenty of named varieties from which to take buds, I would certainly prefer an equal number of stocks to the same number of budded roses, for it is surprising the length of time the maiden plants last in bloom, growing and flowering for months after the cut-back plants have ceased to flower, and in favourable seasons not ceasing until stopped by frost.

The Rose delights in a deep rich soil, somewhat stiff, and will do fairly well in soil almost approaching to clay in dry seasons, as well as in soils of a lighter description. But a soil something between the two may be said to suit it the best, and where soils are of too sandy a nature they will be greatly improved by the addition of clay as well as manure. On the other hand, soils of a very clayey description are greatly improved by adding burnt earth, road scrapings, and leaf-mould, not too rotten; and last, but not least, to be thoroughly drained to remove stagnant water. I should not like to say it was necessary for anyone to remove two or three feet of the staple soil of the garden to be replaced by loam from an old pasture. The fact is, when such measures become necessary we do not expect the amateur, however enthusiastic, to take largely to the growing of this favourite flower. In preparing the ground it is necessary that the plants have a good depth of soil to root into, and we generally open out a good sized trench across the ground eighteen inches wide and one spade deep, the whole of which is removed to the other end of the ground. The bottom of this trench is then broken up in the same manner as digging, but with forks, and none of the soil is brought to the top. When the bottom of this trench is completed, the top spit of the next trench is thrown on the top of it, crumbs and all, when the bottom of that one is served in the same way, and so on, until the whole is completed. When the soil has subsided into firmness, the earliest opportunity, combining favourable weather with the ground in good working order, should be seized for operations. The stocks may be planted in rows thirty inches apart and the stocks about nine inches to a foot asunder in the rows. They may be planted with a dibber, but it is preferable to plant with a spade, one man opening the holes while the other puts in the plant and treads it firm. None of the stocks should be planted deep, not more than two inches under the ground, and, after planting, they should have some earth drawn up to the stems to keep them from blowing about, as well as to cause them to form nice soft bark in which to insert the bud and to protect the stems from the corners of the hoe when hoeing up the weeds amongst them. If the bark is damaged just above ground where the buds are to be inserted they are worthless, as I have learnt from experience. It should be remembered this soil that is used for earthing up is removed before the buds are inserted so as to get the bud in the stem as near to the ground as possible.

Some growers never plant their stocks till the end of February or the beginning of March, and when we have a spell of sharp frost after the stocks are planted, which necessitates their being retrod in the ground, perhaps the later planted lot would come rather the best off, because it gives the whole of the winter to attend to dressing them and preparing the ground. Perhaps the time named is the best, although when mild winters are followed by dry parching springs, the earlier planted lot would have a considerable advantage.

Supposing the grower to have reached the planting and earthing up stage, there will be little else to do with these other than keeping them free from weeds until the following July, when it will be time to commence budding the brier stocks, it being absolutely necessary to have these for the teas, as they will not do on the Manetti stock. I also prefer to commence with the tea varieties as far as buds can be had, so that they may be thoroughly strong before winter. In selecting the buds none but plump ones on well ripened wood should be used. We have frequently used buds without leaf-stalks, and when it has been necessary to hold the bud between the forefinger and the thumb and remove the wood with the point of the knife. Such buds as these we should much prefer to those on soft, sappy shoots, however easy they might "run." Some suppose that for the buds to part freely from the wood denotes their being in a fit condition for budding, but a greater mistake could not be made.

A WORD TO WIVES.—*Beware of Spurious Imitations.*—For 50 years Horniman and Co. have advocated the benefits of Pure Tea, rejecting that "artificially coloured" on the surface of the leaf. The difference in quality is so great, and the flavour of genuine tea so superior, that it has become a household word, where "*Horniman's tea is once used it is always used.*" The pleasure of partaking of tea, free from adulteration, facing powder, or foreign admixture, is realized by many thousands of tea drinkers, who annually consume many millions of packets of Horniman's Pure Tea. See list of Agents in all newspapers, and at railway stations, or apply by post to Horniman and Co., 29, 30, 31, 32, and 33, Wormwood Street, City, London.—[Advt.]

COLONIAL TIMBER.

A week since a large number of Colonial visitors, together with some of the leading civil engineers, builders, timber merchants, and others interested in the employment of timber, assembled by invitation at the Chelsea works of Messrs. A. Ransome and Co., in order to witness a series of practical experiments with different varieties of colonial timber at present commercially unknown in England, but to the peculiar qualities and advantages of which it was desired to draw attention. There were altogether nearly one hundred and fifty gentlemen present.

The experiments, which were conducted with more than forty different varieties of timber from India and the colonies, comprised tree felling, cross cutting, sawing, planing, moulding, morticing, tenoning, and boring; while the manufacture of such things as casks, doors, pick handles, carriage spokes, and railway sleepers was carried to its completion and the articles exhibited to the assembled guests.

Among the more noticeable experiments were the felling of a rough log of hard Karri timber, 3 feet in diameter, by the patent steam tree feller in four minutes, and the subsequent cross cutting of a similar log in a still shorter time; the preparation of railway sleepers by a machine which, in less than a minute, planed the two rail seatings and bored the four spike holes; and the planing, grooving, tonguing, and heading at one operation of boards from each sample of timber submitted for experiment, the boards being passed through the machine at the rate of from twelve feet a minute for the harder woods to nearly twenty-four feet per minute for the softer woods. At the conclusion of the operations a conference was held in the pattern-room of the works for the purpose of eliciting information respecting the several varieties of timber experimented upon from the gentlemen representing the Colonies in which they were to be obtained. Mr. Edward Woods occupied the chair.

Mr. Allan Ransome opened the proceedings by announcing the conclusions at which the recent experiments had enabled him to arrive in respect to the qualities of the different varieties of colonial timber submitted to his notice. He said that among the 40 different species some stood out as pre-eminently suitable for the English market. There were iron bark and mountain ash from New South Wales, both suitable for wheelwrights' work, and the former, owing to its peculiar hardness, for piles and railway sleepers as well; black wood from Victoria, suitable for carriage building, cabinet work, and case making; Karri wood and Jarrah, from Western Australia, both useful for joiners' work, sleepers, furniture, and piles, of which he could say that there was no fault to be found; black pine, red pine, totara and kauri, from New Zealand, which could be employed for furniture, cabinet work, house building, and general purposes, kauri being especially useful; Douglas fir and the swamp ash, from Canada, both suitable for building, joiners' work, &c., the latter being particularly sound, strong, tough, and cheap; yellow wood, stink wood, and sneeze wood, from the Cape of Good Hope, the two former species suitable for furniture, building, and joiners' work, and the latter, from its unusual durability, for piles, posts, telegraph poles, &c.; Billian and Serayah, from British North Borneo, the former suitable for beams, piles, and every purpose where durability was necessary, and the latter for furniture, veneers, &c.; and lastly, Padouk wood, from India, which was suitable for joinery, carriage building, and furniture, was exceedingly plentiful, and was grown near the coast. Many samples of wood sent had, unfortunately, been too small for experiment, but of those operated upon he could say that they had all been found suitable, so far as quality was concerned, for their various purposes.

The Hon. Malcolm Fraser, Western Australia, said that of the Karri and Jarrah timbers there was a considerable supply in London at the present moment. Large quantities of several hundred loads of these species might be obtained at £7 per load, or in smaller quantities at a slightly higher price. Their cost was only half that of teak.

Professor P. L. Simmonds, New Zealand, said that New Zealand produced a vast number of ornamental woods, as well as many useful ones. In the latter line, however, the colonists of New Zealand would not be able to compete with other colonies in the home market, partly because of the local demand for their woods, and partly because the cost of carriage would be too great.

Professor Macoun, Canada, said that the reason the English merchant knew so few of the Canadian timbers was the natural indisposition existing in both countries to take a new departure from old habits. The Douglas fir of Canada was fully equal to the white pine now employed, and when the supplies of the latter were exhausted the former would, of necessity, take its place. The Douglas fir grew in vast quantities, attained a great height, and tapered very gradually. In their black ash, too, the Canadians possessed a species of timber which would some day be very widely employed, for it had all the qualities of the now favourite white ash, and its supply was unlimited. The Douglas fir could be supplied in England at £5 a load, and the black ash at the same price as elm or white pine.

Mr. E. A. Cooper (the Cape), said that the umzumbit of that colony was, from its remarkable hardness and durability, a very desirable wood, offering more resistance to wear and tear than lignum vitæ itself, and being impervious to the attacks of the teredos. The Cape yellow wood could be supplied as cheaply as any, the price being about £6 10s. a load. The stink wood, however, which was very useful for furniture, could not find a market here, owing to the high prices it commanded in the colony—namely, 3s. to 4s. a cube.

Mr. Alfred Dent, British North Borneo, said that the Billian of that country offered great attractions to the English merchant. It grew in enormous quantities, was very easy of access, and exceedingly hard and durable. Companies were wanted to undertake the supply of the wood in large quantities, at present an impossibility. As to the cost of the wood he would remark that one firm already was prepared to supply it alongside ship at £3 10s. per ton, a price which freightage, &c., would probably increase by about 50 per cent. But competition would, no doubt, reduce these charges considerably.

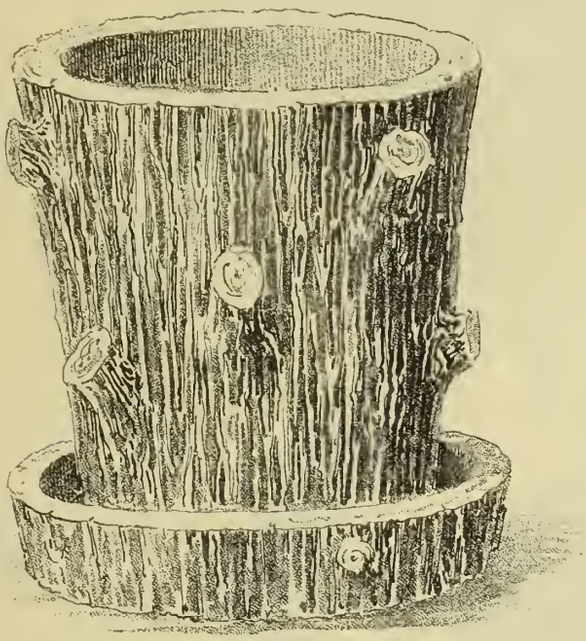
Sir Philip Cunliffe-Owen then proposed a vote of thanks to the chairman for presiding, and to Mr. Allan Ransome for the assistance which he had given by his careful and comprehensive experiments to the introduction of colonial timber into the English market.

Sir Charles Hutton Gregory seconded the vote of thanks, and Mr. Woods and Mr. Ransome having briefly replied, the meeting ended.

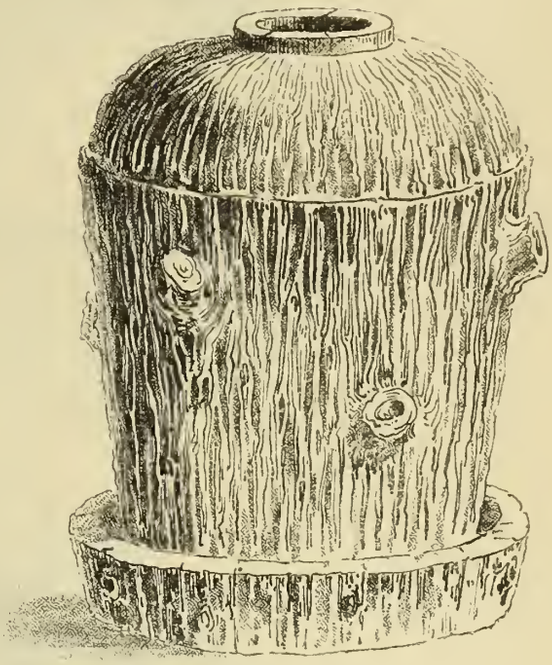
Fungus Foray and Exhibition of Essex Field Club, of Oct. 15 and 16, will be concluded this day, at the Roebuck, Buckhurst Hill, where the exhibition of specimens collected will be opened at four o'clock. The present meeting was announced in our issue for October 2.

TABLE PLANTS AND FLOWERS.

Having lately directed attention to the admirable garden pottery produced under patent by Mr. James Crute, of Knightrider Street, London, it appears that on one point at least we failed to convey a sufficient idea of the usefulness of some of the patterns. As regards the colour our figures are of necessity wanting, although we must commend them as singularly suggestive. It is to be observed, however, that the self-same vessel may be employed as an open pot for bulbs, or indeed for any kind of plants, and will have its due effect when placed on the table; and also as a closed pot to carry a palm, or any such elegant plant, to make the most finished table ornament imaginable. The moveable cover makes all the difference. This is made in two parts, and, therefore, when a plant is inserted, the cover is added without difficulty, and, of course, without so much as touching the plant. In this respect Mr. Crute has given to the article a finishing touch that may be termed unique.



Crute's decorated Jardinieres as an open flower pot.



The same closed for a specimen plant.

ROSE CULTURE IN A NUTSHELL.

Whatever may be the ultimate position of the rose in our gardens, it is certain that at the present time it stands very high in the estimation of the public, and there is no sign whatever of its popularity declining. In the first place I will make a selection of six varieties in each of the different shades of colour, which may be grown either as standards or dwarf plants.

Six White and Blush-coloured Roses.—Boule de Neige, Captain Christy, Caroline de Sansal, Jules Finger, Madame Lacharme, Merveille de Lyon.

Six Yellow Roses of Different Shades.—Belle Lyonnaise, Gloire de Dijon, Madam Falcot, Marie van Houtte, Persian yellow, Harrisoni.

Six Pink Roses.—Baroness Rothschild, Catherine Soupert, La France, Duchess de Valombrosa, Lady Mary Fitzwilliam, Queen of Queens.

Six Rose Coloured Roses.—Alphonse Soupert, Edward Morren, Francois Michelon, Henrich Schultheis, Lady Sheffield, Madame Clemence Joigneaux.

Six Light Crimson Roses.—Charles Bernardin, Duke of Teck, Etienne Levet, Ferdinand de Lesseps, General Jacqueminot, Annie Wood.

Six Dark Crimson Roses.—A. K. Williams, Charles Lefebvre. Crown Prince, Duc de Rohan, Duke of Albany, Countess of Oxford.

Six Marone and Purple Roses.—Abel Carriere, Louis Van Houtte, Pierre Notting, Prince Camille de Rohan, Reynolds' Hole, Xavier Olibo.

Soil for Roses.—This is an important feature in rose culture, as on the nature of the soil depends a good deal of future success. To all who can possibly get it I would say provide them with good mellow loam two feet deep, but to insist on the loam being provided is to prohibit their cultivation altogether in the majority of cases, as most people have to take the soil as they find it. This being the case, I must impress upon the intending planter the necessity of thoroughly preparing such as he has got. All beds or stations for single standards must be dug up two feet deep, and all hard lumps well broken to pieces, and a liberal quantity of rotten farm-yard manure must be worked in at various depths. Wherever practicable some loam should be added where the nature of the staple is light and the subsoil gravelly.

When to Plant.—This is a question of more importance than many imagine, because every experienced rosarian knows that the early planter obtains the best results. Many roses are, I know, planted every year from Christmas to the first of March, but they never give so many flowers as those planted early in November, which is the proper time to plant roses. When practicable the ground should be prepared for them some time before.

How to Plant.—This, too, is a question that we may all stop to consider. To merely dig out a hole and thrust in the roots and stamp on the soil with the feet, and hurry on to the next, is not the way to plant roses that are expected to last a lifetime. Before a plant is put in the earth we must be quite sure that the ground is dry enough to tread upon without treading it into a paste. The hole must be made large enough and deep enough to receive the roots without cramping them. All worked plants—that is to say, dwarf plants that have been budded on the mannetti or any other stock—must have the stem buried two inches below the surface. Before the plant is put in the ground the roots must be examined, and any that are injured must have the bruised part cut off. Care must also be taken that the roots are firmly pressed in the soil. If it is found that the ground is too damp to admit of being much trodden upon it is a good plan to get some dry soil to go round the roots; a couple of spadefulls for each plant will be ample. One lot under and another over the roots will enable the planter to firmly fix the roots in the ground. All standard roses should have a stake put to them immediately after they are planted, and the same attention paid to dwarf plants in exposed places always pays, as it prevents the wind from rocking them about, which always interferes with the roots, When practicable, a thick layer of half-rotten manure should be laid on the surface as soon as the planting is finished, which will prevent, in some measure, severe frost from reaching the roots and it will help to enrich the soil.

On the subject of pruning newly-planted roses it is not necessary to say much, but I wish to emphasize one short piece of advice: never prune a rose as soon as it is planted, and if planted after March 1st do not prune at all, or only very moderately. Whether planted in November or at any time after, they ought not to be pruned before the middle of March anywhere near London or in the southern counties. Residents in the north should not prune before the end of that month. All dwarf plants should have all the shoots cut back to within three buds of the ground, and standards should have all the strong shoots cut back so as to leave about three inches of wood, and all weak shoots should have only two buds left on them. Viator.

Tuberous Begonias have become dreadfully demoralized through contact with human society, and they may be described as going on "anyhow." In our issue for Sep. 18 last we figured a remarkable cup-within-cup sort of flower shown by Mr. Robert Owen, of Maidenhead, as indicating the possible origin of a new race. Mr. Owen has favoured us with a flower not less curious, but differing in this respect that it gives no promise of a new type or strain, for it is clearly abnormal in origin, while it is wanting in beauty of appearance. The flower measures about six inches over, and consists of three sets of broad petals, those within being a trifle smaller than those without, and suggesting rather than realizing the hose-in-hose or cup-in-cup character. The cluster of stamens is two inches over, and their bright yellow contrasts delightfully with the rich rosy pink hue of the huge petals. The explanation suggests that the plant may never again produce such a flower, for it surmounts a much flattened, fasciated stem, and the stamens are spread out in a broad band coincidently with axis of fasciation. The flower figured at page 563 was a beautiful beauty; the one before us is an ugly beauty, and as the result of abnormal growth is not to be desired.

NEW ROSES RAISED IN LYONS.

As it may interest your readers, as in former years, I send you the list of the new roses raised in Lyons, and which shall be sent out November 1. I give the descriptions as I have seen them myself last month, as correct as I can. They are thus really *remontant*, not "perpetual," as some are erroneously called with you. But custom makes tyrannical rules. I hope that you enjoy fine weather as we do since a week. September has been very abnormal here; very hot until the 19th, and then suddenly relatively cold. On the 15th we had 32 deg. Centigrade (89·6 Fah.), and on the 23rd only 15 (59 Fah.). So it was in August 33 deg. (91·4 Fah.) on the 10th, and 15 (59 Fah.) on the 18th. What is the matter? In America earthquakes and floods, in Spain the same, and the cholera besides. Here the mildew on vines has done much mischief, and the remedy used has, it is told, poisoned some people. The remedy used here is called Bouillie Bordelaise, and consists of a mixture of chalk and sulphate of copper. The latter is reported as poisonous when the dose is too great.

Best New Roses Raised in Lyons,
To be sent out November 1, 1886.

Tea Roses.

Viviand Morel (Bernaix).—Large, dark cherry red, slightly yellowish, centre lighter. New shade.

Madame Scipion Cochet (Bernaix).—Large flowers, solitary, in buds yellowish pink, when expanded fleshy rose, centre yellowish. Very free bloomer.

Docteur Grill (Bonnaire).—Medium size, fine clusters, vivid yellow, centre light orange, shaded light rose.

Duchesse de Bragance (Dubreuil).—Full, good shape, size of Persian yellow, fine sulphur yellow. Free bloomer; fine.

Baronne de Fonveille (Gonod).—Medium size, light rose, slightly yellowish. Fine in bud; vigorous.

Luciole (Guillot).—Large, full, fine shape, vivid rose, tinted yellowish. Free bloomer.

Mademoiselle Elizabeth de Grammont (Levet).—Large, full, fine shape, vivid rose, centre yellowish. Free bloomer.

CRUTE'S DECORATED JARDINIERE AS A TABLE DECORATION. (See page 625).

Madame Honoré Lefresne (Levet).—Large, fine shape, full, dark yellow. Free bloomer.

Attraction (Dubreuil).—Medium size, full, petals slightly crinkled, vivid rose, darker centre, plants dwarf. A hybrid tea.

Madame Joseph Desbois (Guillot).—Large, full, fine shape, rosy white, centre yellowish, free bloomer. A hybrid tea.

Hybrid Perpetual.

Stéphanie Charreton (Gonod).—Large, full, fine shape, centre vivid rose, edged lighter and whitish.

Louis Rotlet (Gonod).—Large, fine shape, like Baronne de Rothschild, dark cherry red. Free bloomer.

Madame Desir (Pernet).—Medium size, globular shape, like Centifolia, full, solitary, dark vivid rose, richly fragrant.

Orgueil de Lyon (Besson).—Medium size, nearly full, fine shape, dark purplish crimson, shaded lighter. Free bloomer.

Docteur Antonin Joly (Besson).—Large, solitary, fine globular shape, very bright rose, slightly shaded yellowish. Vigorous.

Madame Bois (Levet).—Large, fine shape, delicate rose. Vigorous and free bloomer.

BOURBON.

Madame Chevallier (Pernet).—Medium size, nearly full, very large panicles, fine buds, dark lilac rose. Abundant bloomer.

Monplaisir, Lyons, France. JEAN SISLEY.

THREE-LEAVED WINDFLOWER.

Anemone trifolia.

THE restoration of this anemone by Mr. Brockbank to the Kew collection strikingly illustrates the difficulty of the question, "What is a new plant?" It is figured in B.M. 6,846, where references are given to De Candolle, Reichenbach, Linnæus, and other authors, and the fact brings it within the category of "new plants." It is a native of central Europe, but is quite hardy here in fairly favourable situations, and probably had a place in many English gardens in Gerarde's time. It is very distinct, with its trifoliate leaves and solitary flowers, but is not a showy plant, nor one adapted to many diverse conditions. A moist soil and a half-shaded and much-sheltered situation appear to be

THREE-LEAVED ANEMONE, *Anemone trifoliata* (Flowers white).

the principal requisites to its free growth and flowering. Gerarde says it "hath many leaves, like vnto the common medowe Trefoile, sleightly snipt about the edges like a sawe; on the top of the slender stalkes standeth a single white flower tending to purple, consisting of eight smal leaues, resembling in shape the flowers of common crowfoote. The root is knobbie, with certaine strings fastened thereto."

ORCHID NOTES.

Catleya Trianæ Dodgsoni.—This truly handsome species is beautifully figured in the *Orchid Album* for September (just issued). This and C. Trianæ Osmanni are quite historical specimens, having been imported by Messrs. Low quite fifteen years ago. The cultural remarks by the editor on Cattleyas in general apply well to this species. We grow it with C. Mossiæ, C. Mendeli, and other allied species, and unless great care is taken to keep this species moderately dry at the roots when the pseudo-bulbs have grown to their full size, they push a second growth which does not have time to develop itself and this affects the next year's growth. Indeed it requires considerable experience to know when to water these plants, and how much to give at each time of watering. Some of the most magnificent cattleyas of what may be termed the C. labiata group are to be found in this section of it. Mr. Marshal, of Enfield, flowered many fine varieties from this early importation. Mr. Sander, of St. Albans, flowered a grand variety two or three years ago, which was named C. T. Leeana Baron Schroder flowered a superb variety last year, which was named in his honour. The most recent was a splendid form from Mr. Sander's collection, which he named in honour of the Duke of Marlborough. These fine forms are valued at one or two hundred guineas each, and are beyond the reach of ordinary cultivators, whereas the ordinary varieties can be purchased in good plants at two guineas a dozen or less even than that. A dozen small plants would be more useful in a small garden than one large specimen, which would cost as much, and in the larger number there are twelve chances to one of a fine variety being obtained, and the production of flowers will also extend over a longer period.

Solbralia Xantholeuca is represented in plate 250, and a very handsome species it is, producing large sulphur yellow flowers with a deeper yellow lip, and orange-coloured throat. This, the editor states, is a very scarce plant; the drawing for the "Orchid Album" was taken from a flowering specimen in the possession of the Rev. W. N. Ripley, Earlham Hall, Norwich. I have seen it in flower in Messrs. Veitch's Nursery at Chelsea, grown with other Sobralias in an intermediate house. It seems, therefore, that this species would succeed well with the same treatment as S. macrantha, a truly handsome orchid, especially the dwarf form grown under the name of Wooley's variety. The whole of these sobralias are easily grown, and produce freely their slender reed-like stems. They require to be kept rather dry at the roots and comparatively cool during the winter months, when at rest. We pot in light fibrous peat only.

Odontoglossum Cervantesi is a very pretty species, which should find a congenial home in every collection of cool orchids. A very superior form is the variety *decorum* figured in the orchid Album, from Mr. Lee's garden at Downside, Leatherhead. Some orchid growers recommend the culture of this and the allied species O. Rossi, in the Cattleya house. I can only say we cultivate both most successfully under the coolest treatment, being very small growing plants the pots in which they are growing are suspended from the roof in teak baskets. This arrangement will sometimes make all the difference, between success and comparative failure. Some orchids will persist in damping off on the stage; but they are all right when placed near the roof glass. The pretty *O. Rossi majus* is now showing its beautifully tinted and spotted flowers to be followed a little later by O. Cervantesi.

The last plate is one of Dendrobium Williamsi, a species which would be eagerly purchased if good plants of it could be obtained. It was imported by Mr. Williams, from New Guinea, and was exhibited recently before the Floral Committee of the Royal Horticultural Society and obtained the award of a first-class certificate. The sepals and petals are white, lip deep purple. The editor states that this species succeeds best in a sunny position. Indeed it is a fact that all Dendrobiums do best when well exposed to the sun, and in a high temperature, when making their growth. I place them up close to the glass in a warm house, and with a plentiful supply of water at the roots; and by evaporation in the atmosphere, they grow with wonderful vigour; when growth is completed, water is withheld and the atmosphere during winter is about 50 to 55 deg. as a minimum. I am alluding, of course, to the type represented by D. Goldei and D. superbiens, but D. Formosum and D. Deari succeed well with the same treatment. Mr. Williams, at the Holloway Nurseries, grows them in the Croton house, where he says "they all thrive well exposed to the full sun, a position in which they seem to delight, some of them quickly making nice plants from small pieces. We take off every break that appears from the old stems, and place each in a small pan with sphagnum moss, watering them once a day when the weather is hot and dry." I think it is only courteous to add here that, besides the cultural notes from the pen of Mr. Williams, the descriptive botanical remarks by Mr. Thomas Moore, of Chelsea, are most valuable, being, as they are, drawn up in his usual careful manner; and it is a pleasure to have to say that part 63 of the "Orchid Album" is better than part 1.

J. Douglas.

DAHLIAS IN 1886.

New Dahlias.—By these I mean the flowers that were shown as seedlings in 1885, and sent out in the spring of the present year. Strange to say, Mr. C. Turner did not have a single new variety, and it can be said with truth that it is very seldom that a list of dahlias is sent out from Slough without one or more new varieties.

But Messrs. Keynes, Williams, and Co., of Salisbury, contributed a batch of eight, and I propose to lay before your readers a few descriptive notes of them as I saw them growing, and my estimate of them as exhibition flowers. I commence with Mrs. Alexander Campbell, a pale yellow flower, with slight dark tip. As it was sent out as a yellow self, I take it the tip was the result of exposure and the late period of the season when I saw it; but it is a flower that cannot take high rank; it is large and coarse, and has somewhat pointed petals. If this is the estimate formed of it during a season that has on the whole proved favourable to dahlias generally, I am afraid it is scarcely likely to fare better another year. It has, however, one excellent quality, a good and desirable habit of growth. Harry Keith, printed by mistake in Mr. Turner's catalogue as Harry Veitch, is a large and constant rosy-purple self; a good, useful, and, indeed, very fine back-row flower. At Slough there were but two plants of it, and yet Mr. Turner was able to show it every time he exhibited. I think it has proved one of, if not the most useful new flower of the year. Richard Dean is a deep bright purple self, large, rather irregular in outline, and of doubtful value. A high opinion was formed of this flower at Salisbury, but it has been very sparingly shown this season. I do not think it is destined to take a prominent place among the best show varieties.

Spitfire is a very bright scarlet self, and well named, because of its intense colour; but the flowers were rather flat and confused, and it seems to just fail in making itself fit for the exhibition table. I think that, perhaps, it is a rather late flower, requiring a good season to bring it to perfection. Thomas Hobbs is a shaded purple self, that has not behaved this season so well as was expected. It is inclined to be flat and a little coarse, but it is worth a trial another season. Warbler, shaded magenta, is too small as a show flower, but it has a good habit, and may prove useful for garden decoration. Although it was thinned out quite hard, it seemed impossible to get anything like size into the early blooms. Midget, pale orange or amber, tinted on the edges, is small, but perfect in form and very pretty. It will make an excellent bedder, being about 2½ feet in height, and flowers erect and bold. It is very much in the way of Fellowes' Cyprus, but beats it in form. Mrs. William Slack is a pale-ground flower, edged with bright purple. A very good and useful flower, of dwarf habit, flowering well above the foliage; a good decorative variety also.

Messrs. Rawlings Bros., of Romford, can be credited with two new varieties, viz., Mrs. Geo. Rawlings, soft pink, tinted with rosy purple, the older flowers come more deeply shaded, very pretty, good outline and petal, but will require hard thinning to get size into the blooms; and Mrs. John Wells, pale ground edged with purple, rather pointed petals, and a little coarse; may come better later in the season.

Messrs. Keynes and Co. alone sent out new fancy dahlias, and they had four in number, viz., Eric Fisher, a dwarf-growing and good, useful fancy, somewhat new in colour—yellowish buff ground, heavily striped and flaked with scarlet, petals a little reflexed—will make a good show variety; Pelican, an improvement upon Annie Pritchard, not so difficult to get in the centre, as Annie Pritchard has a bad habit of coming low, at the same time it is so much like Annie Pritchard—white, striped with rosy purple and lilac—that it will be a risk to show them in the same stand; Salamander, yellow, striped with red, very bright petals, rather pointed when I saw it, probably owing to the lateness of the season; will make a good and useful show fancy; and General Grant, buff ground, striped with crimson and purple, large and coarse, and I should think it is a flower that it will be difficult to catch in good form.

As far as the season is concerned, I think it was, on the whole, favourable to the production of good flowers, excepting such as are naturally late. Late-flowering dahlias seemed to be later in blooming than usual, owing to the fact that they were late in getting a start into a generous growth; but the plants were vigorous and clean, and not so much affected by thrips and other insects as is sometimes the case, but at Slough caterpillars were doing much damage by devouring the flowers, eating great gaps in them. It will be interesting to know if this has been the experience of other growers during the past few weeks.

R. Dean.

DAHLIAS AT ROMFORD.

A few days ago I paid a visit to the nursery of Messrs. Rawlings Bros., of Romford, to have a look at the dahlias, especially their novelties of this year. I found a goodly array of fine flowers of all the best varieties, but the chief feature was the novelties of their own raising, of which they have several first-rate flowers, some of which will be distributed next spring; others will undergo a further trial. The most conspicuous variety was

Queen of the Belgians, a rare sight to see, for there were a dozen or more plants in a row, each plant being loaded with grand flowers of a very pleasing colour; cream, changing to a soft pink, with a white centre. It somewhat resembles Mrs. Gladstone in its young state, but is altogether distinct from that variety, both in habit and in petal. It grows four or five feet high, with blooms perfectly erect on stout stalks; it has also a real shell petal, and will be much required by dahlia growers.

Mrs. Theobald is a beautiful pink flower, of splendid form and outline, and remarkably constant.

R. T. Rawlings, clear yellow, a really grand flower; much wanted on account of colour. It has a beautiful outline, and is constant.

Mrs. David Saunders is a large, well-constructed flower; pale purple, very constant, and quite a new colour.

J. T. West, yellow ground deeply edged and tipped with reddish-purple. This will prove to be one of the best varieties they have sent out. It is of great depth, good form, and wonderfully constant.

Robert Petfield, lively orange red; fine, stout petal, with a peculiar edge, and of very dwarf habit; constant bloomer.

T. S. Ware, deep blood-red; a very useful flower both for exhibition and to make a show in the border.

Thos. Garrett, yellow, tipped red; large and of good form; very showy.

Frank Pearce, pale pink, striped crimson; of beautiful form; will prove to be one of the best of the "fancy" varieties. A novelty of last year, but Messrs. Rawlings informed me they were unable to send it out this year, having nearly lost the entire stock by being a very bad one to keep. They have only two plants now.

Such varieties as Mrs. G. Rawlings, Mrs. J. Walker, Mr. Glasscock, and others of last year's novelties have come quite up to their raisers' expectations. Altogether, a visit to the dahlia grounds of Messrs. Rawlings is well worth trouble and expense. W. T. J.

Notes of Observation.

ROSE W. F. BENNETT.

This new rose will probably prove of much value for autumn and spring flowering, when the plants have had time to gain strength sufficient to form vigorous growth. It appears to produce flowers very freely, but I must protest against it being called the Red Niphetos, as it is in some catalogues, for in form the flowers bear no resemblance to that well-known variety. The flower buds are thick and short, whereas those of Niphetos are long and tapering. In no respect do I think it worthy of such a designation, although I do not doubt it will prove useful. Being a hybrid tea, it is likely to be more suitable for outdoor cultivation than the ordinary tea scented varieties. Viator.

HARDY CYCLAMENS.

I am glad to see that you sometimes call attention to the hardy cyclamens in the list you give of hardy plants in flower; but I should like to see them noticed more prominently, because I believe that not one-half of those who have gardens have any idea how hardy and pretty they are. I call myself an old admirer of these flowers, because I have grown some of the sorts for twenty years, and I get such a treat of flowers from them every autumn that I would not willingly be without them. Moreover, they give me no trouble, and no sort of weather hurts them; but each year they increase in beauty, for as the bulbs grow larger they send up more and more flowers. When the flowers are over the foliage will appear, and that in itself is very beautiful, for it is delicately marbled, and neither rain nor snow robs it of its beauty, I may remark that I grow my cyclamens in a narrow border, which holds three rows of plants. They are now so close together that the blossoms are crowded, so that you cannot get a pencil down between them without touching the flowers. There are, at the time I am writing, more than three thousand blooms on this border. I began with one bulb of each colour. The white variety is *Hederæfolium album*, the other is *Hederæfolium rubrum*, and has rosy pink coloured flowers. As they ripened seed freely, I sowed it the first year as soon as ripe, and in a few years I had enough bulbs of a flowering size to fill my border. Nothing in the garden lasts longer in flower or gives more pleasure than these cyclamens. J. Macdonald.

AUTUMN CROCUSES.

The note at page 599 on the autumn blooming crocuses mentions two species only. They are very pretty certainly, and should be grown in every garden, but there are others besides *C. speciosus* and *C. nudiflorus* (this last-named species is *C. Pyrenæus*, of Herbert). It is not generally known that Dean Herbert cultivated and described forty natural species, besides a great number of natural local varieties. This seemed to be his favourite flower, and some of the most beautiful plates in the Bot. Mag. and Bot. Reg. of the crocus were drawn and coloured by his own hand. His last paper was a "History of the Species of Crocus," but he did not live to finish it, and died, so to speak, with the pen in his hand. The following words were inscribed by his own hands on the manuscript: "Crocorum Synopsis, nearly prepared for the press, and to be printed, if I die before it is sent to press, with or without plates from my drawings, as may be found expedient. Consult Dr. Lindley." The paper alluded to was published in the journal of the Horticultural Society for 1847, and occupies 45 pages. The plates were not given. We have now in flower *C. pulchellus*, a lovely species, with lavender-coloured flowers. This is mentioned by Herbert, and his remarks on it show how painstaking he was to get at the exact truth. He says: "The first knowledge I had of this plant was from a specimen in Sir W. J. Hooker's herbarium, gathered in Roumelia by Montbret, who mistook it for C. speciosus. His error was evident to me, and I requested Mr. Cartwright to have the kindness to send some person into the forest of Belgrade to look for it in October, thinking that a likely place for it. C. pulchellus was accordingly found there, and afterwards on the Asiatic side of the Bosphorus, and also on Mount Athos, where C. speciosus was erroneously said to grow." We have in flower with it C. zonatus, even more beautiful, larger in flower, but similar in colour to C. pulchellus. The flower tubes seems stronger than those of C. speciosus, and do not snap over with a breath of wind, as the flowers of C. speciosus do. There is also a white form of C. pulchellus, which was also described by Herbert. A sunny corner in every garden ought to be set apart for these lovely flowers. A glass light or two is necessary to shelter the autumn and winter flowering varieties from frosts and dashing rains. We cannot write about, think, or admire the crocus without being grateful to Mr. Maw for extending our knowledge of these flowers. He has just flowered a new species, *C. Karduchorum* (Kotschy). He says, in a letter to the *Gardeners' Chronicle*, that "C. karduchorum somewhat resembles C. zonatus, of Gay, but the flowers are smaller, and instead of the bright golden zone at the base of the inner surface of the segments above the throat, two small orange spots occur similar to those in C. Vallicola, of Herbert. J. Douglas.

SWEET PEAS.

To have sweet peas in flower as early in the summer as it is possible to get them, a sowing should be made about the end of October, and then they will be in flower early in June. Sweet peas are not near so tender as some people suppose, as they will stand through a fairly hard winter without taking any harm if they are sown in well-drained ground, and the position not too much exposed. To secure a good growth, it is necessary that the ground be dug up deep, and made fairly rich with manure; and as they are deep-rooting plants some of the manure should be placed nine inches under the surface, and then the plants will have something to support them in the event of a dry time in the spring or summer. Few annual plants are more effective than a row of sweet peas early in the summer, and there are many gardens in which could be found a suitable position for a row of these peas. They are invaluable to cut from, and their sweet fragrance is not the least of their merits. Those who cannot afford the room for a row should grow them in clumps in mixed borders, where they do very well. In every case it is necessary to well break up the soil, and to place the seeds about half an inch under the surface. There is no better way of supporting the growth of sweet peas than by using the ordinary pea-sticks, and the more feathery they are near the bottom the better. In the case of those sown in the autumn the sticks should be put to them as soon as they come through the soil, as they will afford some protection through the winter. It is customary for those who require a supply of sweet pea flowers throughout the summer to make another sowing in April, and all points considered that plan gives the less trouble. But if all the seed pods are kept regularly cut off from those sown in the autumn and they are growing in a good soil, they will continue to flower all the summer and autumn. I consider it to be more a matter of space than anything else; but if any one wants to have sweet peas in the best possible condition let them adopt autumn sowing. J. Macdonald.

ANEMONE JAPONICA.

During the last six weeks we have had in flower three varieties of this species in a corner of our garden. The white one is planted between the two rose-tinted varieties. They grow under a large decaying apple tree, and are but little shaded by the branches. I do not know any plants that are better adapted to fill up an out of the way corner of the garden. The flowers are beautiful when cut to place in vases, the pure white variety being most esteemed. Mr. Robert Fortune discovered this anemone when travelling in China for the Royal Horticultural Society, in 1844, near Shanghai, so late as the end of November. It was here and at this time that he also discovered Cryptomeria Japonica. He says the Anemone was found "when in full flower, amongst the graves of the Chinese, which are round the ramparts of the city. It blooms in November, when other flowers have gone by, and is a simple and beautiful ornament to the last resting-places of the dead." The plants take care of themselves after they are planted. They look as if they would do to smother the nettles in a dry ditch, if they had a fair chance to start. I fancy that many of our garden flowers besides these could be naturalized in half wild places, but they require looking after for the first year or two until they get good hold of the ground, and are able to battle on equal terms with our native weeds. Fancy the effect of a ditch full of Anemone japonica. J. D.

ROSES AND ROSE STOCKS.

The remarks on this subject at page 590 may be very useful, but I fancy that for tea roses the seedling brier or cultivating them on their own roots are the nearest roads to success. Is it more difficult to propagate a tea rose from a cutting than to obtain a brier or manetti stock by the same means? I have planted cuttings of tea roses in July and August in pots under hand glasses, which produced plants on which roses could be counted by the dozen in the space of nine months. I fancy exhibitors requiring roses by the thousand know how to obtain their plants, but for the amateur fond of roses I advise planting the seedling brier now. It is ten years or more since I purchased two hundred seedling briers; they cost three shillings, they were very small plants, the whole of them could be packed into a cigar-box. I planted them two feet apart, and they made a good large bed; every plant grew, and they were large enough to be budded in the July following. The season after that we had a splendid bed of roses. Amateurs would do well to grow more roses from cuttings. They may be taken off with heels and be planted now. Own root roses throw up suckers sometimes, but the more of them the better. Suckers from the manetti are very troublesome, and sometimes they may be found to have strangled the roses they were intended to carry, thus becoming usurpers of the old school, killing the monarch and reigning by false pretensions. J. D.

French Marigolds from several quarters have been forwarded to us within the past few weeks, and we gladly note that they have been very much improved of late years by systematic rogueing and selecting. Mr. Cawdwell, of Wantage, and Mr. R. Dean, of Ealing, have sent particularly fine samples. In some cases the flowers are richly self-coloured, but the most pleasing are those regularly banded with glowing gold and deep red-brown, the form being smooth and hemispherical. Such beauties being grown from seed are the cheapest of the cheap.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Chrysanthemums must enjoy as free a circulation of air about them as the state of the weather and due regard to the safety of the plants with which they are associated will permit. If kept too close at this stage the foliage will quickly become infested by mildew and the flowers decay. It is a very good plan to place the chrysanthemums in a peach or other fruit house until they are coming into bloom, as they can then have abundant ventilation, and receive the attention necessary to the proper development of the flowers without any interference with other subjects.

Cinerarias are growing freely, and must be encouraged by giving them a shift on, using a rich, light, fibrous soil. Do not put any in heat, but keep as many as possible for the present in cold pits. A few, however, may have a place on a shelf near the glass in the greenhouse for an early bloom. See that they receive enough water.

Heaths are, generally speaking, so hardy that a good pit suits them as well as the greenhouse. Where they have to be mixed up with other plants, let it be borne in mind that they must have abundant ventilation, plenty of light, and only a moderate amount of water. The heath house at this season is rather dull. Give abundant ventilation, and avoid the use of fire heat until the actual occurrence of frost.

Mignonette sown now, and put in a heat of 70 deg., will soon make a start. Sow in rich light soil, in pots extra well drained. When the plants are up, thin them to four in a pot, and keep them in the greenhouse, where they will flower from the middle of February to the end of March and be much valued. Any excess of moisture during winter quickly kills mignonette.

Myrtles require protecting in almost all parts of Britain, though in the southern counties we find them hardy on south walls. There is no plan so good as to mat them, but a few branches of spruce or any other dense evergreen thrust in the ground in front of them will screen them very effectually from severe frosts. There will probably be no need for any protecting till after Christmas, but there will be no harm in thinking of the matter now that frosts are to be expected Myrtles in pots can be kept anywhere out of the reach of frost; but the best place for all the myrtles in pots and boxes is the greenhouse.

FORCING AND ORCHARD HOUSES.

Cucumber Pit.—Cucumbers for winter fruiting must be kept growing freely with a steady heat. Damp and mildew are the plagues that trouble young cultivators at this time of year. Both may be prevented by affording sufficient heat, and carefully regulating the degree of atmospheric moisture. If mildew appears apply dustings of sulphur immediately. If the plants show fruit before they are strong enough to bear nip the fruit out.

Mushroom House.—Beds made now will begin to produce at a time when mushrooms will be much valued. Let the stuff be beaten firm in making up the bed; make a large bed in preference to a small one, and have it four feet deep if possible; mix turfy loam with the dung, both to moderate the heat and secure a longer state of bearing; do not spawn the bed till the heat has declined to a moderate point, and take care from first to last that the bed is never too wet and never too dry.

Peach House.—Trees in the early house must be pruned at once, and the house must be rendered clean before starting them. When the house is started, begin gently, to allow of a steady increase of heat, and take care the border is moist enough in the first instance.

Vinery.—Grapes intended to hang must be well aired, and the house be kept dry. Generally, various plants are kept under vines, and these want more or less water, and the humidity occasioned thereby causes the grapes to rot. All that can be done where there are plants is to watch for fine mornings to give water, and occasionally to let things go drier than is good for them, and to use a little fire heat, so as to allow of ventilation and dry the atmosphere.

FLOWER GARDEN AND PLEASURE GROUNDS.

American Plants may be moved now better than at any other period of the year. Whoever plants these must be sure in the first instance that the soil is suitable. Many of the natural loams suit them admirably, and, on the other hand, there are many otherwise good loams on which they will not grow at all. It is only to be determined by experience on the spot, and where there is any doubt the only safe course is to cart in peat from the nearest source of supply in the district. Pontic rhododendrons and their varieties are the least particular about soil of any of the race. Clay or chalk will not do for any of them, but loamy turf and leaf-mould are of great service either to increase the bulk of peat where it is an expensive article, or to take its place entirely where it is difficult to obtain. In any case American plants must have a soil in which their fine hairlike roots can run, and quite free from chalk or lime, which poison them. As they do not root deep, an excavation of two feet is plenty in the making of a bed.

Deciduous Trees may be planted now at discretion. Roses, forest trees, ornamental shrubs, and all such things may be ordered in from the nurseries and planted at once; and from this date every day gained is a real gain for the future well-doing of the trees, which will begin to make roots directly, for the ground is now warm, but from this time will become cooler every day, and the longer planting is delayed the longer will the trees require to make more new roots, on which their vigour next season will depend. Never plant while the ground is in a saturated state; if it does not crumble freely, wait a bit; meanwhile lay the trees in by the heels to prevent injury to their roots by sunshine and drying winds.

Hardy Herbaceous Plants.—This is a capital time to form and plant collections, and this is a fortunate circumstance, because in arranging them for effect various hardy bulbs may be planted at the same time. Such things as primulas, polyanthuses, daisies, &c., &c., may be parted and planted and will be sure to make new roots immediately if the earth is pressed firmly to them.

Ranunculuses and Anemones.—It is full time to prepare for planting these showy subjects. Autumn planting is certainly to be preferred except in special cases, such as a wet soil, a very bad climate, or a compulsory procrastination through stress of weather, or some other circumstance. These bulbs require a well-drained rich mellow loam. It is a matter of fancy and convenience how and where the bed should be placed, except that an open sunny spot is imperatively necessary.

FRUIT GARDEN AND ORCHARD.

Orchard Trees may be better pruned now than later in the season, as the dead and dying branches can be easier discerned while the trees are still in leaf than when they are quite bare. In pruning standards, which is not often necessary, remember all through that bearing trees very seldom grow too vigorously, or make wood where it is not wanted, and the less use of knife and saw the better.

Planting may proceed without regard to the leafiness of the trees. They will soon shake their leaves off after being lifted. If the operation is delayed, bad weather may render it impossible to plant until, perhaps, late next spring, and the trees will lose a period of four or five months in making roots in their new quarters. Every practical man can call to mind having lost the early period of the planting season, and having to wait till March or April following in consequence of rain, frost, snow, and other little incidents of the winter.

KITCHEN GARDEN AND FRAME GROUND.

Artichokes must be cleared of flower stalks, and have a little protection at the roots; the amount of protection to be increased as the winter advances.

Asparagus Beds must now be dressed for the winter. Cut off all the tops, carefully weed the beds, slightly break the surface with a hoe, taking care not to injure the roots, and cover the bed with four inches depth of rotten dung.

Broccoli.—Those heading now must be protected in case of frost. A very simple way of accomplishing this is to snap the midribs of a few of the outer leaves, so that they will fall over and cover the head without being quite separated. Plants that will have to stand the winter must be treated according to the climate of the district. In the southern and western counties broccolis stand ordinary winters without harm, but in many places they are so frequently killed that some assistance must be rendered them. A very simple and effectual method is to heel them over with their heads to the north; this checks growth, and enables them to resist severe frosts. But if the plants are forward and strong it is advisable to lift them and replant them, and lay them in trenches with their heads to the north, and with earth covering their stems as high as the leaves. They help each other much when planted close.

Endive.—Plant the last lot on a warm dry border. Blanched endive will be in demand now that most other saladings are scarce, and a few plants should be covered every eight or ten days to keep up the supply.

Parsnips.—Take up and store if the ground is wanted; if not, let them remain, and dig them out as required. They are much more buttery and sweet when cooked if but recently taken out of the ground.

Seakale for forcing may be taken up now and laid in under cover, but in a cool exposed place. This will give it a check, and cause the crowns to ripen preparatory to forcing.

PLANTS OF THE ALPS.

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Translated by R. Irwin Lynch A.L.S., Curator of the Botanic Garden, Cambridge.

CHAPTER VIII.

Cultivation of Alpine Plants, their Propagation and Reproduction by Seed.

Interest in Cultivation—Causes of Non-success—Acclimatization—Reproduction by Seeds—Collection of Seeds—Cuttings and Division of Tufts—Culture on Rockwork—Culture on Borders—Culture in Pots.

Many persons think and say that it is not possible to acclimatize and cultivate the plants of the Alps with us. Our warmer and drier climate is generally considered as a killing one for them. We have tried hard sometimes, and not having succeeded, the trowel and botanical case have been put aside, and the determination has been made not to be tempted by the flowers of the Alps. This does not prevent renewal of trials the following year, as the resolve cannot be made to enjoy this charming Alpine vegetation, only during the few hours that are possible for contemplation of it on the heights. Sometimes by the care taken success is attained with some species, but how much has not been sacrificed to reach this result. Alpinists of all times have sought to acclimatize the plants of the mountains, and we know now that the earliest Genevese of the last century who became famous in Alpine science, Necker de Saussure and Vaucher, made attempts of this kind.* Schleicher and Thomas cultivated Alpine plants at Bex, in 1818.† It is by no means a matter of fashion, or a passing taste, as we hear it said sometimes. No, for as long as we climb the Alps we shall endeavour to bring their beautiful plants to the gardens of the plain. Whatever we do, or whatever we say, the culture of Alpine species is, and will always become, more the pastime of all Alpinists who possess a corner of a garden, or even only a balcony with a box of earth. But how does it happen that we have so much trouble to establish the plants of the Alps and to make them flower in our plains? The reason of it is very simple. Do you ever go, in the middle of summer, to transplant any plant whatever of your garden when it is in full flower, with the hope that it will live? It is this, however, which happens continually in the case of Alpine plants. The plants are dug up in flower, because it is difficult for many to discover them before or after the flowering time. But it is, however, necessary to commence in this way, because we shall only conveniently succeed in establishing an Alpine species when it is transplanted at a convenient time. It is necessary to learn to know them, even when only their leaves distinguish them from other plants. This knowledge is rapidly acquired.

When we have to transport a plant from one climate to another for cultivation, it is necessary, for a certain time, to submit it to special treatment in order to acclimatize and accustom it gradually to the new climatological conditions to which it will be exposed. These attempts, when made without knowledge, give purely negative results, and cause the loss of a great number of plants, uselessly dug up from the place where they grew. But when they are made in an intelligent manner and according to certain data, by taking account of their former conditions of existence, and by introducing them gradually to the new conditions, there is much greater chance of success. Of the eight or nine hundred flowering plants which inhabit the chain of the Alps there are not, perhaps, fifty which up the present have been rebellious to cultivation. It goes without saying that for many of them it is necessary to adopt a particular system and special culture which all are not able to do. But in the great majority of cases Alpine plants are of easy and simple culture,

* *Bulletin de l'association Protectrice des Plantes*, No. 2, p. 4.
† *Rapport de la Société Helvétique des Sciences Naturelles*, 1818.

and require but little care. Their acclimatization alone requires some management, and here, by the way, are some details of the subject:

We have already observed the manner in which the Alpine flora grows, and the rapidity with which it accomplishes the cycle of its annual existence. It is at the end of this period, when the plant has flowered, when it has ripened its seeds, and when the movement of the sap commences to lessen, that we can attempt to transplant it the plain. There is then no necessity to take it up with its ball of earth, but on the other hand it is necessary to try to get all its roots, which we envelope in damp moss. It is not necessary, in this case, to take up a great number of plants to be sure of obtaining a result. All may succeed if the operation is done with care; I have no need I think to insist on the fact that the younger the plant is the better it will succeed. I have at this moment superb pieces or *Rhododendron hirsutum*, which were taken up as young plants in in the Bernese mountains and brought on in pots; they have flowered abundantly, and seem quite at home in our climate. The young plants of *Dryas*, which grow in the sand of the torrents or among the stones of the *pierriers*, are the most suitable to be established. It is generally in the poor and sandy soils that we find the youngest and best formed plants; it is also under these conditions that we can obtain all their roots with the greatest facility. It is here we must in preference gather, for besides the advantage to ourselves in collecting, there results less damage to the Alpine flora, the life of plants in these places being very ephemeral. The beds of sand and gravel are indeed constantly exposed to transformation, and to be carried away by the waters, their vegetation being too poor to protect them. The plants, when once taken up and packed in moss or grass, are placed in the botanical case or in boxes well closed, in order that the air shall not dry them up. On reaching their destination they are carefully unpacked, and are planted as they are opened out to the air. If it is not possible immediately to plant them, it will be necessary to heel them in provisionally in a cool place shaded from the sun. The ends of the roots are slightly cut with a very sharp knife. It is necessary to put these plants into pots as small as possible, so that they may make new roots by contact of the old ones with the warm sides of the pot. As soil, we use the compost of which I have spoken above, viz., leaf-soil mixed with chestnut or willow soil and peat with the addition of a greater or less quantity of sand, according to the dryness of the place or the air. The more it is necessary to water, the greater must be the proportion of sand, in order that the soil may allow the water to pass through rapidly. The pots must then be placed in a close frame, or wherever they can be kept close. Water must be given freely that the air may be moist, to prevent the plants from flagging and to keep them in good condition. Shade must, of course, be provided. Gradually these plants are accustomed to the air, to the sun, and to warmth, and as this operation generally takes place in September, the autumn soon comes with its cool and cloudy days, providing a temperature for the plants more in accordance with their requirements. At the beginning of winter the pots are plunged in coke dust or sand in a frame, and as near the glass as possible. Little water is given, and the plants are uncovered whenever the air is clear and dry; during the cold season as much air as possible is given. Equally it is necessary to avoid the moisture which kills Alpine plants during winter. Water is given on the first fine days of February, and if rain comes the frame is uncovered in order to allow the plants to be completely wetted and to commence growth. Later, when the plants have begun to develope, they are planted out on rockwork or elsewhere. The delicate species receive the same treatment, but the composition of the soil must be varied according to their different requirements. We shall return to this in the chapter on cultivation.

Some persons think to do well by covering their plants in the frame with dry leaves, in order to prevent sudden changes of temperature. It is a mistake, because the leaves promote decay and favour an injurious growth of fungus. If it were possible to get enough snow to cover the plants during winter, of course they would only be the better for it.

If frames, which all do not possess, are wanting, the plants are acclimatized in a cool and close place, little exposed to currents of air, and as moist as possible. Gradually they are accustomed to a position which is warmer and more exposed to the air; finally, about the end of October or the beginning of November they may be exposed to the east or west on a dry border, plunging the pots in coke-dust or sand. There we cover them completely, when the weather is fine and dry, with branches of fir or similar conifer, which will protect them from sudden changes of temperature, so frequent with us in winter. They are not uncovered till the end of February or the beginning of March, when the rains and warmer rays of the sun excite the motion of the sap and the growth of the plants.

So much then for transplanting from the mountain, and acclimatizing these plants in our gardens. So long as the Alps exist, and climbers who visit them, there will also be amateurs who endeavour to carry home the charming species which grow upon them and to make them succeed. It was well to treat of this subject. Yet I hasten to say that there is a much more simple means of obtaining the plants of the Alps—an infallible means which has always given me the most brilliant results. It is by seeds. It is generally thought that this means is slow and difficult to follow; but such an idea is most erroneous, for the method is simple, and all can undertake it upon the condition of devoting some care. I have raised from seeds either at the Botanic Garden of Geneva, or the Alpine Garden, more than half of the Alpine plants. In doing so I have followed the advice given by Dr. Kerner in his "Cultur der Alpenpflanzen," modifying and adding in accordance with what my own experience has taught me. According to this clever cultivator of Innspruck, almost all Alpine plants can be raised from seeds. The sowing should be done in autumn, as late as possible, so that the seeds do not germinate before the spring, but only prepare to do so then. The pots or pans in which the seeds should be sown require to be filled nearly to the rim with fine light soil, rich in humus, and containing plenty of sand; sphagnum is added to this, and also a small proportion of coke-dust. The seed is sown and covered lightly with soil, after which the pots are placed in a dry frame or in any other airy place, where they can be sheltered from the rain and the rays of the sun, which should not reach them. They are not exactly watered, but if there is snow it is heaped on the pots, which is then made to freeze by pouring water on the pile, before clear and cold nights, when it hardens and soon becomes a bed of ice. By this means the germination of the seeds is retarded, which then happens later in spring when the days are longer.

This method, easy to follow where the winters are snowy, is less easy in our country. I have tried another system which has succeeded very well with me: it is that of placing the pots in a dry frame covered with boards. From the moisture contained by the driest frame in winter, the seeds prepare to germinate under the influence of the first rays of light, and the first drop of water they receive. Yet the seeds which have been sown in spring in the Alpine garden have all, or nearly all, succeeded perfectly. It must be said that I have had a specially good soil for this purpose. It was composed of chestnut-soil, leaf-soil, sphagnum, and sand. Sphagnum, which English cultivators use in the soil of all their delicate cultures, is too much neglected by our gardeners. By its spongy properties it preserves the soil in equable hygroscopic condition, which is very important for seeds. When it is dry it is passed through a sieve very easily.

When the seeds have germinated, and the plants begin to get strength, they are pricked out or isolated, by planting them one by one in little pots. The instructions are then followed, that will be given further on under the subject of pot culture.

Certain Alpine species are very difficult to germinate and to grow from seeds. Moe, a celebrated cultivator of Alpine plants at Christiana, has made very interesting observations and experiments upon this subject. Here with respect to some delicate species, is the procedure, which, he says, he has followed with success.

For the heaths, the Lycopods and Alpine ferns, he takes pieces of turf cut into pieces of two or three inches in height, and as much in breadth. He rubs the seeds, or the spores of the before-mentioned species, against the sides and on the upper surface of the pieces of turf, which he then places in water up to an inch in depth. All the upper part is thus maintained in a state of constant and regular moisture, which allows this slow and difficult germination to take place in a regular manner. During winter, those of the pieces of turf sown with *Vaccinieæ* and *Ericeæ*, are placed in a cool frame sheltered from the sun, whilst those which have received the spores of ferns and *Lycopodiaceæ* are placed in a frame or warm house, where they must be sheltered from the solar rays by shading. Moe has even tried with success to raise the seeds of certain plants, which we regard as absolutely rebellious to all horticultural manipulation, as, for example, the *Pyrolaceæ* and Alpine orchids. This is what he says upon the subject:—

"The pots which are to contain the seeds are filled with a composition containing one part peat, another of forest soil, a third of the *débris* of pine wood or rotten fir, to which is added a little chopped moss and dry fir needles. This composition is then well pressed into the pots, and afterwards small mosses are planted, such as the different sorts of *Dicranum*, *Bryum argenteum*, *Mnium*, &c. It is in this moss that the seeds in question are sown, the pots are then placed in a case containing water, so that the soil may be continually and regularly moist. The case containing these pots is then placed for fifteen days in a frame heated and shaded in an uniform manner and kept hermetically closed during the whole time. In this way, he says, I have always obtained good success. A friend of mine has been this summer at Christiana to visit the botanic garden where M. Moe carries on his work, and he assures me that there are there a great number of very interesting things to study in regard to the acclimatization of Alpine plants."

Kerner thinks it possible by this means to raise the Alpine *Rhinanthaceæ*, and many species which are rebellious to ordinary culture.

The list of species which I have obtained from seed, and which have flowered abundantly, would be too long to give here. The fact is, that those which have entirely failed to become established are extremely few. I believe that with the system of the Sweedish botanist I have described, we shall succeed easily in acclimatizing all these rebellious species. This method of raising Alpine plants from seed, so simple and so natural, is the most of all to be recommended; it allows us to obtain strong and vigorous plants which are floriferous and quite accustomed to our climate. It offers besides the great advantage, that in the case of rare species, it contributes to their protection and preservation in a wild state. From all these points of view, the raising of alpine plants from seed is the best method to employ, and it would be well if it were more often adopted.

(*To be continued.*)

New Plants, Flowers, and Fruits.

Aristolochia ridicula (*G.C.*, 1886, ii., 360).—A curious plant, taking its specific name from the droll appearance of the flowers.

Cattleya (labiata) crocata (*G.C.*, 1886, ii., 360).—A curious plant, near the Eldorado group, with white flowers and lip four lobed.

Alocasia grandis (*G.C.*, 1886, ii., 390).—A fine species, with blackish-green leaves one or two feet long by a foot broad, ovate sagittate, the basal lobes six inches long; the spathes are white.

Zingiber brevifolium (*G.C.*, 1886, ii., 390).—A dwarf ginger, whose chief merit resides in the colour of the bracts of the flower spike.

Crassula Schmidti (*Gartenf.*, 1,225).—A South African succulent plant, flowers red.

Iris Rosenbachiana (*Gartenf.*, 1,227).—A pretty plant of the xiphion section, from Turkestan.

Rhododendron Smirnovi (*Gartenf.*, 1,226).—A Caucasian plant of dwarf growth, flowers red.

Rhododendron Ungerni (*Gartenf.*, 1,226).—A Caucasian species, flowers white.

Saxifraga stracheyi alba (*Gartenf.*, 1,228).—One of the most beautiful of the megasea section of saxifragas.

Thunbergia laurifolia (*G.*, 563).—A robust growing stove climber producing large flowers of a light blue colour. It has been catalogued and described as *T. Harrisi*.

Burchellia Capensis (*R.H.*, Sep. 16, 1886).—A fine plant allied to Gardenia, flowers scarlet. Figured long since in B.R., 466.

Geum rhæticum (*Gartenf.*, 1,229).—An alpine species of compact habit.

Echinocactus Senilis (*Gartenf.*, 1,230).—A well-known valuable plant of the dry stove.

Cypripedium purpuratum (*Rev. Hort. Belg.*, Sep., 1886).—A winter flowering stemless species. Flowers in the way of *C. barbatum*.

Aristolochia salpinx (*G.C.*, 1886, ii., 456).—An uninteresting plant with ovate-cordate leaves and trumpet-shaped flowers, coming nearest to *A. triangularis*.

Acer colchicum tricolor (*Rev. Hort. Belg.*, Oct., 1886).—Leaves mottled with white and red.

Orixa Japonica (*Gartenfl.*, 1,232).—An uninteresting shrub.

Larix Griffithi (*G.C.*, 1886, ii., 465).—This is the Himalayan larch, distinguished chiefly by the size of the cones, which are larger than those of any European larch.

Grevillea sulphurea (*G.C.*, 1886, ii,, 469).—A free growing shrub, hardy in sheltered places near London.

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, October 12 and 13.

Exhibition of Hardy Fruits and Vegetables.

The exhibition of hardy fruits and vegetables held by the Royal Horticultural Society on Tuesday and Wednesday, was in every way a splendid success, and may well be described as one of the most important of the horticultural gatherings at South Kensington during the current year. There were thirty-three classes in the schedule, and as the whole of them were exceedingly well filled, and the productions remarkably good, the display produced was of large extent and highly attractive. The competitive collections were supplemented by numerous miscellaneous contributions, chief amongst them being the dahlias, roses, and tomatoes, the latter comprising a large and comprehensive collection from Messrs. Sutton and Sons, of Reading.

Apples and Pears.

Apples made a great show, and on the whole the exhibits were of grand quality.

Dessert Apples were strongly represented, and in the class for twelve dishes, distinct varieties, there were ten competitors. The most successful was Mr. C. Ross, gardener to G. B. Eyre, Esq., Welford Park Gardens, Newbury, who had in excellent condition Worcester Pearmain, Baumann's Reinette, Gravenstein, Cornish Aromatic, Ribston Pippin, Cockle Pippin, Lady Alice, F. Eyre, a handsome roundish apple, slightly flushed with red on a green ground; Blenheim Pippin (well coloured), Cox's Orange Pippin, and Evagil. Mr. J. McKenzie, Linton Gardens, Maidstone, came second, exhibiting Worcester Pearmain, Jefferson, Melon apple, Ingestrie, Mother apple, King of the Pippins, Margil, Court of Wick, Cox's Orange Pippin, Fearn's Pippin, and Mabbot's Pearmain, a handsome, medium sized, conical apple, suffused with bright red on the sunny side. There were about sixteen competitors in the class for six dishes, the premier place being occupied by Mr. C. J. Goldsmith, gardener to Mrs. C. Hoare, Kelsey Manor, Beckenham, who had Nana, a round brightly coloured apple of medium size; Ribston Pippin, King of the Pippins, Fearn's Pippin. Cox's Orange Pippin, and Worcester Pearmain. The second prize went to Mr. W. Jacob, Pound Street, Petworth, who had a very creditable display, his varieties being noticeable for high colouring; Mr. J. H. Virgo, Somerset, third.

In the classes for single dishes of dessert varieties there was keen competition. The popular Blenheim Orange was well represented, the competitors numbering seventeen, and the fruits shown by Mr. S. Haines, Coleshill House Gardens, Highworth, who was accorded the first prize, were of grand development; Mr. W. Jacob came second with examples noticeable for brightness of colouring; and the third award was made in favour of Mr. A. Evans, gardener to J. S. Hodgson, Esq., Lythe Hill, Haslemere. Cox's Orange Pippin is a great favourite, for in the class devoted to this luscious apple there were no less than twenty-one competitors. The most successful exhibitor was Mr. T. Bailey, gardener to T. Drake, Esq., Shardeloes, Amersham, who put up six splendid fruits, models of beauty, being perfect in shape and well coloured; Messrs. G. Bunyard and Co., Maidstone, were a close second; and the third prize went to Mr. S. H. Goodwin, Mereworth, Kent. Ribston Pippin still holds its position as one of the most popular of dessert kinds, and in the class devoted to this variety there were twenty-two competitors, the post of honour being occupied by Mr. H. Folkes, gardener to F. F. Halsey, Esq., M.P., Gaddesden Place, Great Gaddesden, Herts. His examples were of medium size and well coloured; Mr. C. J. Goldsmith was a close second; the third prize went to Mr. R. Silk, gardener to James Abernethy, Esq., Whiteness, Margate. There were about twenty-four competitors in the class for six fruits of King of the Pippins, Mr. G. Thompson, The Gardens, Croxby House, Hounslow, coming first, putting up remarkably fine fruits conspicuous for large size, regular form, and bright colouring; Messrs. G. Bunyard and Co. came second; and the third place was occupied by Mr. E. Chadwick, gardaner to E. M. Nelson, Esq., Hanger Hill House, Ealing, both exhibitors putting up very creditahle fruits.

Culinary Apples were conspicuous for high quality, and the fruits put up by Mr. J. McKenzie in the class for twelve dishes were of large size and grand form and finish. The varieties represented were Warner's King, Frogmore Prolific, Stirling Castle, Winter Hawthornden, Peasgood,s Nonesuch, Gloria Mundi, Emperor Alexander, Ecklinville, Waltham Abbey, Mère de Mènage, Loddington Seedling, and Lady Henniker. Mr. T. Turton and Mr. C. Ross were second and third respectively. In the class for six dishes the post of honour was occupied by Mr. R. Smith, gardener to W. H. Sewell, Esq., Warren Hill, Loughton, Essex, who exhibited fine fruits of Gloria Mundi, Ecklinville, Peasgood's Nonesuch, Alfriston, Annie Elizabeth, and Emperor Alexander. The last-named was shown in splendid condition, the fruits being large, beautifully coloured, and carrying a deep bloom, which imparted to them a remarkably handsome appearance. Mr. W. Threadgold, gardener to R. Norton, Esq., M.P., Down's House, Yalding, was second, staging Stirling Castle, Lord Derby, Emperor Alexander, Striped Beefing, Calville Blanche, and Gloria Mundi. Mr. F. Miller, gardener to J. F. Friend, Esq., Northdown, Margate, came third, having good examples of Peasgood's Nonesuch and Emperor Alexander.

In the classes for single dishes of culinary varieties there was spirited competition. Dumelow's Seedling was well shown hy Mr. W. Jones, gardener to J. R. Brougham, Esq., Carshalton, who was placed first, his fruits being large, bnt rather rough. Mr. D. C. Powell, Powderham, Kenton, Exeter, came second, putting up more regular, but not such large examples, and Mr. E. Chadwick, third. Mère de Mènago made a fine show, tho sombre colour of this variety standing out conspicuously. Mr. C. Ross, who won the first prize, exhibited six splendid fruits, richly coloured, and large in size, but wanting the delightful deep bloom which characterizes freshly gathered examples. The second award was made in favour of Mr. G. H. Richards, Somerley Gardens, Ringwood, Hants; and the third prize went to Mr. D. C. Powell. Golden Noble made a good figure. The last-named exhibitor came first, showing highly-finished fruits of a deep lemon-colour. Mr. Jas. Bolton, Combe Bank Gardens, Sevenoaks, was second; and Mr. C. G. Sclator, third. There were twelve competitors in the class for Warner's King, the most successful being Mr. Turton, gardener to John Hargreaves, Esq., Reading; the fruits were creditable examples of this excellent culinary apple. Messrs. G. Bunyard and Co. were second; and Mr. John Fincham, Naeton House, Nacton, Ipswich, third. Gloria Mundi was not largely represented, the competitions being only four in number. The first prize lot shown by Mr. W. Threadgold well represented this variety, the fruits being of high quality. Mr. D. C. Powell and Messrs. G. Bunyard and Co. were second and third respectively. Peasgood's Nonesuch was the "lion of the show" in the majority of cases, the fruits being shown in unusually fine condition. The competition was keen, and all the exhibits were good, but the examples put up by Mr. W. Edwards, Wilkington, Hereford, were enormous, and of perfect form. Mr. Turton had brightly-coloured fruits, and was placed second. Mr. W. H. Bannister, Cote House Gardens, Westbury, was third. Lane's Prince Albert was not well shown, except by Mr. C. Ross, who won the first prize, his fruits being remarkably handsome and covered with bloom. The second place was assigned to Messrs. G. Bunyard and Co.; and the third award was made in favour of Mr. T. Bailey, gardener to T. Drake, Esq., Amersham.

The collections of apples were of great merit, and added greatly to the interest of the exhibition. The premier place was taken by Messrs. G. Bunyard and Co., who put up a magnificent collection; a few of the best were Lady Henniker, Lord Suffield, Melon Apple (fine), Washington, Cellini, Queen Caroline, Stirling Castle, and King of the Pippins; Mr. C. G. Sclater was second; and Mr. Watkins third.

Pears.

Pears were well represented, but they lacked quality. The fruits were, however, noticeable for bright colouring, and vied with the apples for making an effective display.

There was keen competition in the class for twelve dishes of dessert varieties, the first place being filled by Mr. Butler, who had Pitmaston Duchess, Doyenné du Comice, Beurré Hardy, Madame Treyve, Beurré Diel, Louise Bonne of Jersey, Duchesse d'Angoulême, Conseiller de la Cour, Beurré Superfin, Durondeau, Doyenné Boussoch, and General Todtleben; Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, was second; and Mr. A. Waterman, gardener to H. A. Brassey, Esq, Preston Hall, Aylesford, Kent, third. For six dishes, Mr. G. Ware, Leafwood, Frant, Tunbridge Wells, came first, showing Duchesse d'Angouleme, Pitmaston Duchesse, Gansel's Bergamot, Doyenné du Comice, Beurré d'Anjou, and Beurré Bachelier; Mr. A. Smith, gardener to W. H. Sewell, Esq., was second; and Mr. R. Smith third.

In the class for six fruits of Doyenné du Comice there were twelve competitors, the winner of the first prize being Mr. G. Ware, who put up creditable examples; Mr. W. Threadgold occupied the second place; and Mr. C. Ross, third. Beurré Superfin was well shown by Mr. D. C. Powell, who came first, while Mr. W. Jones and Mr. Turton, who were second and third respectively, also exhibited satisfactory examples of this well-known pear. The competitors numbered seven in the class for Marechal de la Cour, and the fruits exhibited by Mr. R. Silk were good examples of this pear; Mr. G. Allen, Ramsbury Manor Gardens, Hungerford, was second; and Mr. C. J. Goldsmith, third. Marie Louise still retains its popularity, as there were no less than twenty-four competitors. Mr. R. Smith was deservedly placed first, his fruits being large, well coloured, and of perfect shape; the second award was made in favour of Mr. D. C. Powell; and the third prize went to Mr. J. Hunter, Lambton Gardens, Durham. Glou Morceau is not everybody's pear, therefore we were not surprised to find only six competitors, and on the whole the fruits were poor. Mr. R. Smith was well to the front, his examples being of great merit; Mr. C. Ross was second; and W. Allan, third. Beurré Rance made a good figure, and the fruits put up by Mr. R. Smith were large and well developed. This exhibitor was deservedly placed at the top of the list; the second prize went to Mr. W. Threadgold; and the third to Mr. W Bannister. Beurré Diel was strongly represented, and in this class Mr. Butler came first, the second prize going to Mr. W. Allan, and the third to Mr. J. Hunter. Pitmaston Duchess figured prominently by reason of its enormous size, and there was good competition in the class allotted to this well-known variety. The prizetakers were Mr. Butler, Mr. C. Howe, and Mr. C. Ross, in the order of their names, all having fine heavy fruits. There were six competitors in the class for Fondante d'Automne, the first prize going to Mr. R. Smith; the second to Mr. W. Garlandroy, gardener to C. B. Bingley, Esq., Stanhope Park, Greenford; and the third to Mr. T. Turton. The popular Louise Bonne of Jersey, was shown to advantage, especially by Mr. J. Butler, who had six large fruits, perfect in shape, and brilliantly coloured; this variety is not only one of the most luscious, but is extremely handsome in appearance when well developed; Mr. H. Folkes was second; and Mr. Turton, third.

For a collection of pears not exceeding fifty varieties, Mr. J. Butler came first, putting up splendid fruits, especially noteworthy being Beurré Clairgeau, Duchesse d'Angoulême, Doyenné Boussoch, Bon Mignette, Catillac, Beurré d'Amanlis, Louise Bonne of Jersey (fine); Mr. Charles Davies, The Mote Park Gardens, Maidstone, was placed second; and Messrs. G. Bunyard and Co., third.

Vegetables.

Prizes were offered by Messrs. Sutton and Sons, Reading, for collections of vegetables and onions, and by Messrs. J. Carter and Co. for cauliflowers and runner beans, and the competing collections were so numerous as to form an important part of the exhibition. There were nine entries in Messrs. Sutton's class for a collection of vegetables, eight distinct kinds, and the premier award was made in favour of Mr. G. T. Miles, Wycombe Abbey, who had superb examples of Imported Brussels Sprouts, Cave's Pinesfield onion, The Lyon leek, Leicester Red celery, Autumn Giant cauliflower, Trophy tomato, Sutton's New Intermediate carrot, and Vicar of Laleham potato; Mr. S. Haines, Coleshill House, Highworth, was a close second, with an excellent collection consisting of Carentan leek, Abundance potato, Reading Perfection tomato, Green Globe artichoke, Rousham Park onion, Autumn Giant cauliflower, Exhibition Brussels Sprouts, and Sutton's Intermediate carrot; Mr. W. Meads, Beckett Park, Shrivenham, was third; Mr. C. J. Waite, Glenhurst, Esher, fourth; and Mr. W. Pope, Higholere Castle, Newbury, fifth. In competition for Messrs. Sutton and Son's prizes for Improved Reading onion, Mr. G. Goldsmith was first and Mr. F. Miller second. For three dishes of onions to comprise Crimson Globe, Golden Globe, and Silver Globe, Mr. S. Haines was first; Mr. G. Allen, second; and Mr. Phillips, third; each exhibitor staging good examples of these fine onions.

There was a sharp contest for the prizes for three heads of Carter's Mont Blanc cauliflower, and the awards were made in favour of Mr. Waite, Mr. H. Marriott, and Mr. Beckett, Amersham. The competition was even more severe for the prizes for twelve pods of Carter's Champion Runner bean, and the prizetakers were Mr. Waite, Mr. J. Bolton, and Mr. Beckett, all of whom had pods large in size and of good finish. Messrs. Carter also offered prizes for their New Tennis Ball onion, and the awards were made in favour of Mr. R. Phillips, Mr. Miller, and Mr. Beard. Messrs. Carter and Co. also exhibited excellent bulbs of this handsome onion.

Floral Committee.

Present: G. F. Wilson, Esq., in the chair; Major Leudy, Rev. W. Wilk and Messrs. H. Herbst, H. Bennett, J. Hudson, J. Walker, Shirley Hibberd, Amos Perry, W. Holmes, R. Dean, G. Paul, H. Ballantine, J. Dominy, H. M. Pollett, J. O'Brien, H. Cannell, G. Duffield, T. Baines, E. Hill, H. Turner, and J. Douglas. The principal subjects submitted to the committee were the dahlias and roses, of which there were numerous remarkably fine collections for so late in the year.

Orchids were not contributed in large numbers, but those staged were very interesting, and received a full share of attention. Mr. A. Bradshaw, gardener to Baron F. de Rothschild, Waddesden Manor, Aylesbury, presented a finely-flowered specimen of the beautiful Angræcum caudatum, on which a certificate of the first class was conferred. Mr. B. Searing, gardener to C. J. Partingdon, Esq., Cheshunt, exhibited a beautiful bouquet of flowers of the chaste Cattleya Gaskelliana alba, and several handsome racemes of Vanda cærulea, the finest of all the blue orchids, and was accorded a vote of thanks. J. Day, Esq., High Cross, Tottenham, received a like compliment for a nicely-flowered specimen of Odontoglossum Sanderianum, a handsome species bearing medium-sized flowers, the sepals and petals yellow blotched with bright red, and the labellum white with purple blotches. Messrs. F. Sander and Co., St. Albans, exhibited Cypripedium Spicerianum magnificum, a very fine form, distinguished by the large size and bright colouring of the flowers.

Chrysanthemums were represented by a few Japanese varieties of recent introduction. Messrs. J. Veitch and Sons, Chelsea, contributed well-flowered examples of Annie Clarke, a comparatively dwarf variety, with large, finely-formed flowers of a delicate rose colour; Charlotte de Montcabrier, a very beautiful variety, the flowers large and of a pleasing blush colour; Bouquet Estival, a distinct and handsome variety, bearing large, bright rose-coloured flowers. Mr. G. Stevens, Putney, exhibited cut flowers of Thomas Stevens, a beautiful flower of a pleasing cream colour, tinted rose; Miss Stevens, pale lilac, large and of good form; Martha Harding, bright yellow, the flowers large and full, and the florets threadlike; and William Holmes, a beautiful crimson flower, on which a first-class certificate was conferred. The last-mentioned variety was also exhibited by Messrs. H. Cannell and Sons, of Swanley.

Dahlias were staged in immense numbers, and in exceptionally fine condition for so late in the season, and contributed much to the attractiveness of the exhibition. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, exhibited a very large and beautiful collection, consisting chiefly of decorative, pompon, and single varieties. The decorative varieties comprised the well-known Juarezi, William Pearce, bright yellow; Mrs. Hawkins, sulphur suffused with rose; Cochineal, crimson scarlet; Constance, pure white; Prince Alexander, bright buff; Mr. H. Tait, white; and Fascination, rose tipped white. Chief amongst the pompons were Gem, Darkness, Isabel, Lady Blanch, German Favourite, Dora, Cupid, Fashion, Osiris, John Sandy, Rosetta, and Burning Coal, all of which are of high class quality in their respective lines of colour. Mr. Charles Turner, Slough, contributed a beautiful collection of show, fancy, and pompon varieties, and was awarded the silver Banksian medal. The pompons included Hector, a distinct variety, the flowers perfect in form and of a brilliant orange-scarlet hue; Flambeau, rich scarlet; Profusion, deep rose, tipped white; Titania, orange yellow; Anna Zachmann, a small white variety of much value for the supply of cut flowers; and Nymph, yellow, tipped red, distinct and attractive. Messrs. J. Cheal and Son, Lowfield, presented several attractive boxes of single and pompon varieties, and had the award of the silver Banksian medal made in their favour. A medal of like value was awarded to Messrs. Paul and Son, Cheshunt, for a large and representative collection, consisting exclusively of flowers of superb quality. From Messrs. Keynes, Williams, and Co., Salisbury, came ten boxes of show and fancy varieties, in which their superb new show flower Colonist was represented. The firm also exhibited good blooms of Mrs. A. Camphell, a superb show flower of a rich purple-marone colour. To Messrs. Rawlings Brothers, Old Church, Romford, was awarded the bronze Banksian medal for several boxes of show and fancy dahlias. Messrs. H. Cannell and Sons sent a box of decorative dahlias, which included Lady Brassey, a beautiful orange-scarlet flower; and Annie Harvey, a handsome crimson variety, which received the distinction of a first-class certificate.

Roses were sufficiently plentiful to constitute an important and very attractive feature. Messrs. William Paul and Son, Waltham Cross, contributed six boxes of excellent blooms of hybrid perpetuals and tea-scented varieties, and had the award of the silver Banksian medal made in their favour. The varieties represented included: Gloire de Dijon, W. F. Bennett, A. W. Richardson, Waltham Climber, No. 2, a very fine climbing rose with large bright rosy crimson and sweetly scented flowers, Paul Neyron, Ulrich Brunner, Madame Lambard, Marie Van Houtte, Prefet Limbourg, Captain Christy, Belle Lyonnais, Cheshunt Hybrid, and The Bride, a white tea-rose, recently received from America, but as shown hardly equal to the white teas in cultivation.

Miscellaneous.—Mr. R. Marnock presented a finely-fruited specimen of the Sea Buckthorn Hippophae rhamnoides. Messrs. J. Veitch and Sons exhibited a nicely-flowered specimen of the elegant Amasonia punicea, and two rhododendrons, which were certificated. Mr. E. Penfold sent a prettily crested form of Pteris serrulata. Mr. H. Cannell and Sons contributed two good boxes of cut flowers of double begonias, comprising several new varieties of great merit. G. F. Wilson, Esq., Weybridge, sent a nicely-flowered example of the beautiful Primula capitata, which he cultivates successfully in the open border. Mr. T. S. Ware had, amongst other miscellaneous subjects, Colchicum speciosum, Watsonia rosea, Saxifraga Fortunei, a handsome species with large orbicular leaves and erect spikes of comparatively large pure white flowers; and Nerine filifolia, a pleasing species with grass-like foliage, and producing neat umbels of rose-pink flowers. Messrs. Paul and Son contributed several boxes of hardy flowers, which included Physostegia speciosa, Senecio pulcher, Cyclamen græcum, and Doronicum Harper Crewe, and asters and Japanese anemones. From Messrs. J. Carter and Co., High Holborn, came six grandly-developed heads of their Empress Cockscomb, now so well-known for its excellence.

Fruit Committee.

Present: T. Francis Rivers, in the chair; and Messrs. J. Burnett, Charles Ross, T. J. Saltmarsh, Wm. Denning, George Norman, J. Ellam, G. Bunyard, Arthur W. Sutton, H. J. Veitch, W. Paul, F. Rutland, W. Warren, R. D. Blackmore, Philip Crowley, Sidney Ford, Harrison Weir, T. B. Haywood, G. Goldsmith, G. T. Miles, and John Woodbridge.

There were several things of interest brought before this committee. Chief amongst the contribution was the collection of tomatoes grown in the open ground, exhibited by Messrs. Sutton and Sons, of Reading. The varieties represented comprised Reading Perfection, Earliest of All, Maincrop, Chiswick Red, a small conical red variety, Hathaway's Excelsior, Greengage, small yellow fruits, Stamfordian, President Garfield, Mikado, large yellow, Abundance, Nisbet's Victoria, Acme, and Hackwood Park Prolific. The firm was awarded a silver-gilt medal for the interesting display. From Mr. Simeon Jacobs, Covent Garden, came twelve splendid fruits of Easter Beurré pear, weighing in the aggregate 154 oz., also a dozen Pitmaston Duchess, the total weight being 228 oz., and a huge pumpkin named Giant French, for which a bronze medal was awarded. Mr. S. Ford, The Gardens, Leonards Lee, Horsham, exhibited Ford's Seedling apple, a brightly-coloured variety of medium size and good shape. Messrs. Saltmarsh and Son, Cheltenham, sent a collection of plums, the varieties including Belle de Septembre, Imperatrice, Coe's Golden Drop, Jefferson, Wyedale (purple), and Bennet d'Evêque (small purple). A small collection of apples and pears came from Mr. W. Cole, gardener to the Commissary-General Pirkiss, Penley, Richmond; and several varieties of grapes grown in the open air were exhibited by M. Anton, Hungary, the varieties including such kinds as White Frontignan, Grizzly Frontignan, and Chasselas Musqué le Vrai, which are valuable for their delicious flavour, but are poor in appearance, and, therefore, find little favour amongst grape growers. Mr. R. Dean, Ealing, showed Tomato Prince of Orange, a smooth, bright yellow, and handsome variety, the result of a cross between Stamfordian and Greengage; and the Nanny apple, a medium-sized, conical, and showy variety. From Mr. Pionchon, Marine Hotel, Shanklin, came a pumpkin weighing ninety pounds; and from Mr. J. Bulter remarkably fine fruits of Pitmaston Duchess pear. The Black Bullace plum was exhibited by Mr. A. J. Harwood, Colchester; and Mr. T. Phillips, Norbiton, contributed fine examples of Princess Royal and Scarlet Nonpareil apples.

Mr. Miles was awarded a cultural commendation for a magnificent fruit of Lord Carrington pine. A dish of well-coloured peaches, grown in the open, was shown by Mr. E. Chadwick; and from Messrs. T. Rivers and Son came a small collection of plums, including Monarch, Octoher Yellow, and Grande Duke. Mr. J. Oxford, Alderley Park, Chelford, showed a seedling vegetable marrow; and a seedling nut came from Mr. C. Springham, Big Snap Gardens, Landogo. Mr. T. Laxton, Bedford, had several interesting things, including seedling pears, potatoes, and fruits of Septemher Beauty apple. Mr. H. Deverill, Royal Seed Stores, Banbury, had a fine display of onions, including Anglo-white Spanish, Maincrop, Improved Wroxton, and Rousham Park Hero. Collections of apples were exhibited by Messrs. J. Cheal and Sons, Crawley, Wm. Paul and Son, Waltham Cross, H. Lane and Son, Berkhampsted, Paul and Son, Old Nurseries, Cheshunt, and Messrs. J. Veitch and Sons, Chelsea, who also had a fine display of pears. The collection of apples from Messrs. H. Lane and Son consisted of one hundred and fifty dishes of excellent fruit. Mr. Thomas, Chatsworth, exhibited a new instrument for testing the soil of fruit horders.

There was a very large and interesting display of apples from Canada and Nova Scotia, the fruit chiefly of large size and very rich in colour, that of Emperor Alexander being especially good. The South Australian Commissioners contributed large well-ripened oranges, lemons, and citrons.

Novelties.

First-class certificates were granted to the under-mentioned exhibitors:—

To Messrs. J. Veitch and Sons, Chelsea, for

Rhododendron amabile.—A beautiful greenhouse hybrid, producing large trusses of finely-formed flowers of a delicate salmon-pink hue.

R. luteo-roseum.—A very handsome hybrid, the flowers of large size and horne in trusses of noble proportions; the colour bright rose pink.

To Mr. George Stevens, Putney, for

Chrysanthemum William Holmes.—A Japanese variety, in the way of Henry Jacotot, but much finer in form and finish and brighter in colour. The flowers are of rather large size, with broad reflexed florets; the colour, crimson tipped with gold.

To Messrs. Rawlings Brothers for

Dahlia R. T. Rawlings.—A fine show flower, of a rich golden yellow hue, which has been described in previous reports.

To Mr. G. Masters, gardener to Colonel H. Cornwall Legh, High Legh House, Knutsford, for

Adiantum imbricatum.—A very handsome seedling fern, intermediate in character between A. Farleyense and A. capillus veneris. The plant is of dwarf growth with medium-sized fronds, the pinnules being large in size, very thickly set, and deeply out.

To Mr. Bradshaw for

Angræcum caudatum.—A handsome species, of moderate growth, and producing long gracefully-arching racemes of medium-sized flowers, the sepals bright green, the petals green shaded with brown, the labellum pure white with long bright green point.

To Messrs. J. Cheal and Sons for

Dahlia Helena.—A fine single variety; the flowers rather large, stout in substance, and perfectly circular in form; the colour bright orange-red shaded crimson.

To Mr. Charles Turner for

Dahlia Zephyr.—A very distinct and attractively-coloured single variety; the flowers large and of good form; the colour bright reddish crimson with broad, well-defined yellow margin.

To Messrs. H. Cannell and Sons for

Dahlia Annie Harvey.—A distinct cactus or decorative variety; the flowers of medium size, quaint in form, and of a rich marone-crimson.

Begonia Paul de Vicq.—A beautiful double variety; the flowers of medium size, neat in form, and of a pleasing rosy-red hue.

B. Hon. Mrs. Plunket.—A handsome double variety; the flowers large and of a pleasing cream colour, delicately tinted with rose.

NATIONAL CHRYSANTHEMUM SOCIETY.—MEETING OF FLORAL COMMITTEE, October 13.

The first of the meetings of the Floral Committee for the current season was held at the Royal Aquarium on Wednesday, when the contributions of plants and flowers were sufficient to show that increased interest is being taken in the work of the committee. There were present: E. Sanderson, Esq., president of the society, in the chair; and Messrs. Richard Dean, George Gordon, Charles Herrin, George Stevens, J. Wright, Henry Cannell, William Holmes, J. P. Kendall, S. Gilbey, C. Gibson, E. Berry, N. Davis, and J. Mardlin.

Chief amongst the miscellaneous contributions to the meeting was a large

and exceedingly beautiful group of chrysanthemums from Mr. N. Davis, Lilford Road Nurseries, Camberwell, who was awarded the bronze medal of the society. The group, which was very tastefully arranged, consisted chiefly of Japanese and pompon varieties. Especially well represented in the group was La Vierge, a very fine intermediate, with flowers of good form and the purest white. Mr. H. J. Jones, Lewisham, exhibited a tastefully-arranged collection of cut blooms of chrysanthemums, and Mr. W. E. Boyce, Archway Road, Highgate, contributed five stands of excellent blooms of Japanese and pompon varieties. A vote of thanks was accorded each exhibitor. The following novelties were submitted:—

Miss Stevens.—A beautiful Japanese variety; the flowers rather large, quite full, and of a delicate lilac-pink. Will make a good front row flower. First-class certificate. Exhibited by Mr. G. Stevens, Putney.

Thomas Stevens.—A pleasing Japanese variety; the flowers of medium size, reflexed, full, and of good form; colour creamy white suffused rose. Commended as a decorative variety. Exhibited by Mr. G. Stevens.

Carew Underwood.—A superb Japanese variety, which originated as a sport from Baronne de Prailly. The flowers are of the same size and form as those the parent, and richly coloured yellow, orange, and rose. Very fine for the back and middle rows. First-class certificate. Exhibited by Mr. Beckett, Aldenham Park, Elstree.

William Holmes.—A remarkably fine Japanese variety; the flowers of medium size; the florets regularly reflexed, and of a bright chestnut crimson colour tipped with gold. It will make a good front row flower, and he found exceedingly useful for decorative purposes during October. First-class certificate. Exhibited by Mr. G. Stevens and Mr. N. Davis.

Alice Butcher.—A good pompon obtained as a sport from Lyon, from which it differs in having flowers of a rich orange colour. A valuable addition to the list of early flowering pompons. First-class certificate. Exhibited by Mr. N. Davis.

Mdlle. Elise Durdans and *Flambeau Toulousaine.*—Under these names Mr. J. Wright, Middle Temple Gardens, and Mr. N. Davis exhibited a very distinct and beautiful pompon. The flowers are comparatively large, globular in form, and of a beautiful shade of lilac-rose. A first-class certificate was awarded, and it was decided by the committee that the first of the two names be recognized by the society.

Duc de Orange.—An attractive pompon, with comparatively large flowers of a rich orange-yellow colour. Commended. Exhibited by M. Delaux.

Mons. Neville.—A reflexed flower of comparatively large size, and a pleasing pink hue. Exhibited by Mr. W. E. Boyce.

Madame Cannell.—A promising Japanese variety; the flowers are of medium size, the colour bright lilac-pink. It is said to be dwarf in growth, and is likely to be useful for decorative purposes. Exhibited by Mr. J. Wright.

Mdlle Melanie Fabre.—A Japanese variety with rather large and globular flowers of bright rose colour. Probably useful for decorative purposes. Exhibited by Mr. W. E. Boyce.

Mons. Cossart.—A Japanese variety bearing small globular flowers of a rich orange colour. It has a good habit, and was commended for decorative purposes. Exhibited by Mr. N. Davis.

Replies to Queries.

S. W.—If you rented the ground from the first on the understanding it was to be a nursery for plants, you can take all away. But if you did not, it is a question if you can take away anything. It will be prudent to consult a solicitor.

Brussels Sprouts.—W. H.—The sprouts should be gathered without injury to the side leaves, as they afford substantial protection to the sprouts remaining throughout the winter. The tops of the plants ought not to be cut and sent to table until the spring, or the whole of the sprouts have been gathered.

Back Wall of Vinery.—"Try" must give up peaches on a wall that loses the sun soon after noon, for they would pay only occasionally, and when glass is employed a regular and proper crop is expected. We have had figs and plums fruit well in houses that were not sunny enough for peaches, but we cannot, with comfort to ourselves, advise you to plant these, for if they do not ripen perfectly they will not pay for the glass that covers them. We shall be glad of assistance in replying to "Try"; the question is, What is the best fruit for a wall in a vinery where there is sun in the forenoon only?

New Flowers, &c.—Vulcan must present his flowers at a meeting of the Floral Committee of the Royal Horticultural Society to secure the estimate of their merit and suitable recognition that he desires. The matter is simple enough, but a few necessary rules must be observed. The committee meetings are held at South Kensington on the second and fourth Tuesday of each month from March to October. Not less than three flowers of any novelty sent for examination should be placed on the table. Previous to the date of meeting a note on the subject should be sent to Mr. A. F. Barron, who is the general manager of the subjects sent up for the committees. There is no charge made, and there is no special favour shown to any person. Every subject is judged upon its merits by a committee of fifteen persons, comprising the most experienced representatives of horticultural knowledge and taste who can be secured to discharge the duties of critical adjudication.

Ericas.—M. B.—During the autumn, winter, and spring a position near the glass is the most suitable for Cape heaths, and they ought to enjoy a free ventilation in favourable weather. An excess of fire heat is decidedly injurious, and they ought not to be subjected to more than is absolutely necessary for the exclusion of frost. During the summer they do remarkably well in a shady position with lights placed over them, and resting on a framework of wood to ward off the rains. Pots well drained and firm potting are essential to success, and the peat used should be of the finest description, and contain plenty of tough fibre. The greatest care must be taken in the watering, for the delicate roots are specially liable to injury. They must be watered as often as may be necessary and no more, and each time receive sufficent to well moisten the whole of the ball of soil. The following will give you a succession of flowers from early in the spring until quite the end of the summer. Affinis, Aitoniana turgida, Ampullacea obhata, Austiniana, Caffra, Cavendishiana, Cerinthoides coronata, Depressa, Gracilis autumnalis, Gracilis vernalis, Hyemalis, Irbyana, Jasminiflora alba, Massoni major, Parmenteriana rosea, Retorta major, Tricolor coronata, Tricolor Kingsectiana, Tricolor Wilsoni, Ventricosa alba, Ventricosa coccinea minor, Ventricosa superba, Victoria Willmorcana.

Names of Fruits.—T. F.—Apples: 1, Brabant Bellefleur; 2, King of the Pippins; 3, Warner's King. Pears: 1, Seckle; 2, Easter Beurré; 3, Louise Bonne; 4, Williams's Bon Chretien; 5, Bergamot d'Esperen; 6, Beurré Gris d'Hiver; 7, rotten; 8, Van Mons Leon Leclerc; 9, Duchesse d'Angouleme; 10, Beurré d'Aremberg.

Names of Plants.—The plants in tin box are: 1, is probably, as you suspect, Clerodendron fœtidum, but as we have only a couple of damaged leaves, we will not venture to name it; 2, Phygelius capensis; 3, Pyrethrum uliginosum.—Plants in Hart-Post box: 1, is Calocephalus Browni; the alternantheras can only be correctly named by means of fresh specimens. Yours were shrivelled up and the colour gone when they came to hand. You will have no difficulty, however, in obtaining the names, as most gardeners know them well when in a growing state. Several parcels of plants are unavoidably held over to next week.

Plan of Garden.—C. Albert Mans.—There are many good books of the kind required. Amongst them we select two for mention in this reply. Kemp's "How to Lay Out a Garden," published by Bradbury and Evans, is a systematic treatise on the mechanical work and the styles of decoration best suited for certain purposes and situations. Newton's "Designs for Gardens," published by Hardwicke, contains a series of designs with directions for planting, &c., but the text is limited to descriptions of the pictures, and there is no disquisition on the method of procedure or on the adaptation of styles to purposes. Both are good, but the first is the one we should recommend you to begin with.

Law.

RATING NURSERIES.

On Saturday, October 9, Mr. Edwin Bentley Haynes, proprietor of the Penge Nurseries, was summoned at Croydon, by the overseers for the hamlet of Penge, to show cause why a distress warrant should not be issued against him for the non-payment of £39 15s. 6½d. due for rates.

Mr. Haynes contended that he had been overcharged, the Act of Parliament clearly stating that nurserymen, florists, farmers, and occupiers of arable land should only be called upon to pay one-fourth of the rateable value. In this case the overseers had charged him one-fourth in respect of his land and plant houses for the sewer and consolidated rates, but they had demanded the full amount of the poor, lighting, and police rates. He held that a nurseryman's houses were quite as necessary for him to keep his stock in as a cellar was to a publican. At Tottenham a case was fought, and the justices decided in favour of the florist. He would be glad if the Bench would state a case, as he was determined to have the opinion of the Court of Queen's Bench on the subject.

The Chairman said they could not do that. They must grant the warrant asked for by Mr. Besley.

Mr. Haynes: As the matter is to be fought out, will you kindly allow the warrant to stand over?

Mr. Besley: If you reply you can take the matter to the House of Lords. The warrant asked for was then granted.

Mr. Besley applied for costs, but the magistrates declined to make any order, except for cost of summons, viz., three shillings.

Obituary.

Recently, Mr. Tom Burgess, formerly editor of *Berrow's Worcester Journal*, and subsequently of the *Leamington Courier*. He was author of a good book on "English Wild Flowers," of "Historic Warwickshire," and of a "Handbook to Worcester Cathedral."

The death is recorded of the Rev. William Barnes, the well-known Dorset poet, whose delightful poems in the Dorset dialect have occasionally enriched our pages. He was born at Rushay, Dorset, in the year 1800, and was for some time a schoolmaster at Dorchester. In 1847 he was appointed to the curacy of Whitcombe, and fifteen years later to the rectory of Winterbourne Came. He wrote several works on philological subjects, but will be best remembered by his poems on rural life in the Dorset dialect.

We are greatly pained to hear of the death, by suicide, of Mr. William Forsyth, many years gardener at Gunnersbury Park, and for sixteen years past in the enjoyment of a pension from the Rothschild family. His age was 73 years.

Markets.

COVENT GARDEN.

Fruit.		
Apples ..... per ½ sieve	1s. 6d.	to 3s. 6d.
Cobs ..... per 100 lbs.	50s. 0d.	,, 55s. 0d.
Damsons ..... per ½-sieve	2s. 0d.	,, 3s. 0d.
Figs ..... per doz.	0s. 9d.	,, 1s. 0d.
Grapes ..... per lb.	0s. 9d.	,, 2s. 6d.
Lemons ..... per case	15s. 0d.	,, 25s. 0d.
Melons ..... each	1s. 0d.	,, 2s. 0d.
Pears ..... per ½-sieve	1s. 0d.	,, 3s. 6d.
Pears, Dessert .... per doz.	1s. 0d.	,, 1s. 6d.
Pine-apples, English, per lb.	2s. 0d.	,, 3s. 0d.
Plums ..... per ½ sieve	2s. 0d.	,, 3s. 0d.

Vegetables.		
Artichokes, Globe, per dz.	3s. 0d.	,, 4s. 0d.
Aubergines ..... per doz.	2s. 0d.	,, 2s. 6d.
Beans, French ..... per lb.	0s. 2d.	,, 0s. 4d.
Beans, Runners, per sieve	4s. 0d.	,, 4s. 6d.
Beet ..... per doz.	1s. 0d.	,, 2s. 0d.
Brussels Sprouts .. per lb.	0s. 2d.	,, 0s. 4d.
Cabbages ..... per doz.	1s. 6d.	,, 2s. 0d.
Carrots ..... per bun.	0s. 4d.	,, 0s. 6d.
Cauliflowers ..... per doz.	2s. 0d.	,, 3s. 0d.
Celery ..... per bun.	1s. 6d.	,, 2s. 0d.
Cucumbers ..... each	0s. 6d.	,, 1s. 0d.
Endive ..... per doz.	1s. 0d.	,, 2s. 0d.
Herbs ..... per bunch	0s. 3d.	,, 0s. 4d.
Horse-radish .... per bun.	3s. 0d.	,, 4s. 0d.
Leeks ..... per bunch	0s. 3d.	,, 0s. 4d.
Lettuces, Cabbage, per doz.	0s. 8d.	,, 1s. 0d.
Lettuce, Cos ..... per doz.	1s. 0d.	,, 1s. 6d.
Mushrooms ..... per basket	1s. 6d.	,, 2s. 0d.
Onions ..... per bunch	0s. 4d.	,, 0s. 6d.
Onions ..... per bushel	3s. 6d.	,, 4s. 0d.
Parsley ..... per bun.	0s. 3d.	,, 0s. 4d.
Radishes .. per doz. bunch	0s. 8d.	,, 1s. 0d.
Shallots ..... per lb.	0s. 3d.	,, 0s. 4d.

Vegetables.		
Small Salading .. per pun.	0s. 3d.	to 0s. 4d.
Spinach ..... per bushel	4s. 0d.	,, 4s. 6d.
Tomatoes ..... per lb.	0s. 6d.	,, 0s. 9d.
Turnips ..... per bunch	0s. 4d.	,, 0s. 6d.
Vegetable Marrows, per doz.	2s. 0d.	,, 3s. 0d.

Cut Flowers.		
Bouvardias ..... per bunch	0s. 6d.	,, 1s. 0d.
Callas ..... per doz.	4s. 0d.	,, 6s. 0d.
Camellias, per doz. blooms	3s. 0d.	,, 6s. 0d.
Carnations, per doz. blms.	1s. 0d.	,, 2s. 0d.
Chrysanthemums, per doz. blooms	1s. 0d.	,, 4s. 0d.
Chrysanthemums, per doz. bunches	4s. 0d.	,, 0s. 0d.
Eucharis, per doz. blooms	2s. 0d.	,, 3s. 0d.
Gardenias, per doz. blooms	2s. 0d.	,, 3s. 0d.
Heliotropes, per doz. sprays	0s. 4d.	,, 0s. 6d.
Lapageria, per doz. blooms	1s. 0d.	,, 1s. 0d.
Marguerites, per doz. bun.	3s. 0d.	,, 4s. 0d.
Mignonette, per doz. bun.	2s. 0d.	,, 3s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d.	,, 0s. 8d.
Roses ..... per doz. blms.	1s. 0d.	,, 2s. 0d.
Roses, Tea ..... per doz. blms.	1s. 0d.	,, 1s. 6d.
Stephanotis, per doz. sprays	3s. 0d.	,, 5s. 0d.
Tropæolum .. per doz. bun.	0s. 8d.	,, 1s. 0d.
Tuberoses .. per doz. blms.	0s. 6d.	,, 0s. 8d.
Violets ..... per doz. bunches	0s. 9d.	,, 1s. 0d.

BOROUGH AND SPITALFIELDS.

Potatoes.		
Magnum Bonum ..... per ton	50s.	to 80s.
Beauty of Hebron ..... per ton	60s.	,, 90s.
Essex Regents ..... per ton	50s.	,, 80s.
Kent Regents ..... per ton	50s.	,, 90s.
Early Rose ..... per ton	60s.	,, 70s.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 10 yrs. Chiswick.	Orchid in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
24	S	**18th Sunday after Trinity.**	6 40	15 43	4 47	2 37	3 48	11 10	11 43	7 58	8 35	48·0	Angraecum caudatum	Madagascar.	297
25	M	*St. Crispin.*	6 42	15 50	4 45	3 56	4 16	—	0 11	9 8	9 36	47·6	Cattleya Gaskelliana alba	Brazil.	298
26	Tu	Hogarth died, 1764.	6 44	15 57	4 43	5 15	4 44	0 35	1 0	10 0	10 25	47·3	Lælia autumnalis	Brazil.	299
27	W	● New Moon, 7h. 16m. morn.	6 46	16 2	4 41	6 35	5 16	1 23	1 45	10 48	11 10	47·0	Odontoglossum sanderianum	Colombia.	300
28	Th	*St. Simon and St. Jude.*	6 48	16 7	4 39	7 52	5 49	2 6	2 28	11 31	11 53	46·6	Oncidium Rogersi	Brazil.	301
29	F	Riots at Bristol, 1831.	6 50	16 10	4 37	9 5	6 27	2 49	3 10	—	0 14	46·4	Vanda cærulea	Khasya.	302
30	S	Sheridan born, 1751.	6 51	16 14	4 36	10 11	7 10	3 30	3 51	0 35	0 55	46·2	Zygopetalum Gantieri	Brazil.	303

ROYAL HORTICULTURAL SOCIETY, SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS, Fruit and Floral, at Eleven a.m., in the Conservatory, on TUESDAY next, October 26, and WEDNESDAY, October 27.

SHOW OF CHRYSANTHEMUMS, VEGETABLES, &c.

N.B.—Open to Fellows at Twelve o'clock on Tuesday, and the Public at One o'clock; on Wednesday at Ten o'clock a.m.

CRYSTAL PALACE ANNUAL CHRYSANTHEMUM SHOWS, November 5 and 6.

For Schedules, &c., &c., apply to Mr. W. G. Head, Garden Superintendent, Crystal Palace, S.E.

NATIONAL CHRYSANTHEMUM SOCIETY, ROYAL AQUARIUM, WESTMINSTER.

GRAND CHRYSANTHEMUM, FRUIT, and VEGETABLE EXHIBITION, WEDNESDAY and THURSDAY, November 10th and 11th.

Schedules free on application to Mr. William Holmes, Hon. Sec., Frampton Park Nurseries, Hackney.

The Floral Committee will meet on Wednesdays, October 27th, November 10th and 24th, and December 8th, at 1.30 p.m.

HULL AND EAST RIDING CHRYSANTHEMUM SOCIETY.—THE ANNUAL GRAND EXHIBITION will be held in the Artillery Barracks, Hull, on THURSDAY and FRIDAY, November 18 and 19, 1886, when Prizes to the value of £175 will be offered for Chrysanthemums alone.

1—48 Blooms, 24 to be incurved in not less than 18 varieties, 24 to be Japanese in not less than 18 varieties ... ... £10 £8 £5 £2.

2—24 Blooms, 12 to be incurved in not less than 9 varieties, 12 to be Japanese in not less than 9 varieties ... ... £5 £3 £1 10.

The SILVER CHALLENGE VASE, value 15 Guineas, will be offered with the 1st Prize in Class 1. Entries close November 11. Schedules may be obtained from the Hon. Secs., R. Falconer Jameson and Wm. Hawksworth, Queen's Dock, Hull.

KINGSTON and SURBITON CHRYSANTHEMUM SOCIETY.

The TENTH ANNUAL EXHIBITION will be held in the Drill Hall, Kingston, on TUESDAY and WEDNESDAY, November 9 and 10, when, in addition to valuable money prizes, the CHAMPION CHALLENGE VASE, value 25 guineas, and TWO CUPS, value 5 guineas each, will be offered. Entries close November 4.

Schedules and further particulars of T. Jackson, Hon. Sec., Fife Road, Kingston-on-Thames.

THE BATH CHRYSANTHEMUM SHOW, 10th and 11th November, 1886.—For Prize Schedules apply to 14, Milsom Street, Bath. Benjn. Pearson, Secretary.

WATFORD CHRYSANTHEMUM SOCIETY.—President, The Right Hon. the EARL of CLARENDON.—The FIRST ANNUAL SHOW of CHRYSANTHEMUMS and other AUTUMNAL FLOWERS and FRUIT will be held in the Agricultural Hall, Watford, on TUESDAY and WEDNESDAY, November 16 and 17, 1886. Schedules can be obtained on application to the Hon. Sec. and Treasurer, Chas. R. Humbert, Watford. Entries close on November 11.

Exhibitions and Meetings for the Ensuing Week.

Tuesday, October 26, and Wednesday, October 27.—Royal Horticultural Society.—Exhibition of Chrysanthemums and Vegetables; Floral and Fruit Committees, 11 a.m., on the first day.

Wednesday, October 27.—National Chrysanthemum Society.—Floral Committee, 1 30 p.m

Auction Sales for the Ensuing Week.

Monday, Wednesday, and Saturday, October 25, 27, and 30.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Dutch Bulbs.

Monday, Thursday, and Saturday, October 25, 28, and 30.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.

Tuesday, October 26.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids in Flower.

Tuesday, October 26.—Messrs. Protheroe and Morris, at Cobbett's Nursery, Woking; Nursery Stock. (Three days.)

Tuesday, October 26.—Mr. J. C. Stevens, 38, King Street, Covent Garden; Dutch Bulbs and Plants.

Wednesday, October 27.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Stove and Greenhouse Plants.

Wednesday, October 27.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Plants and Lilies.

Thursday, October 14.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids.

Friday, October 29 —Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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No. 1,121, New Series.—Vol. XXIX.

The Gardeners' Magazine.

SATURDAY, OCTOBER 23, 1886.

"Cups and their Customs" are illustrated in horticultural exhibitions in forms and for purposes not contemplated by the late Dr. Porter when writing his elegant book on the subject. The worthy gentleman laboured earnestly to render a cathedral city respectable in horticulture, but he made no attempt to reform the general scheme of schedule prizes. Cups and their customs are illustrated in horticultural exhibitions in a manner that can scarcely be considered consistent with the primary purpose of any such exhibition. In the first place cups suggest drinking, and in the second place they are always of a value so very much below what they count for in the schedules, that they may be broadly accused of appearing under false pretensions. The beginner in competitive exhibiting is animated by a simple desire to win, and it scarcely matters what the prize may be. This is an honourable ambition that removes the mind from the thought of gain and concentrates it on the merit of good work. In such a frame of mind a cup is quite acceptable, and every generous nature will sympathise with the man who invites his friends to partake with him of an inspiriting draught to celebrate the first great victory as embodied in the receptacle that carries the nectar round. Nor are cups attractive to beginners only, for we see veterans enter the arena to try their strength for them, and we occasionally see cabinets filled with cups telling of many great conflicts and a long list of glories commemorated thereby. But for all this, we shall have the courage to say that cups may, with some propriety, be reconsidered. It is not a question of cakes and ale, for we have nothing now to say on what a competitor at an exhibition should eat, drink, or avoid. As regards the suggestion of drinking, however, we may put forward the scriptural precept that bids us avoid the appearance of evil; and add thereto that cups are not particularly useful, and are but rarely used, while as regards decorative qualities they are of the lowest order, and any house can do very well without them. The catalogue is almost endless of things that might be put forward in place of cups, for are there not epergnes, teapots, and tea services, not to mention dinner services, clocks, watches, books, bronzes, and garden appliances of undoubted usefulness. An amusing experiment might be made by the winner of many cups who should have the courage to put them in the melting-pot and change them into vulgar money. It requires courage to "trample on the pride of Plato" in that sort of way; but it has to be done sometimes under compulsion, and then—but we decline to say what then. It will be said by the champion of cups that the silver teapot would not realize its original cost or nominal value in the melting-pot, a declaration we shall assent to at once. But the cases differ. Between the nominal price and the actual value, the difference is greater in the case of cups than in any other kind of manufactured silver. So far as regards the melting-pot—which, of course, is a rude test, available only in the last resort. But, regarded as a saleable article without the intervention of the vulgar melting-pot, a cup is, generally speaking, worth nothing, for nobody wants it; but a teapot, a clock, a soup ladle, a set of good books may find a buyer without any need for an extravagant sacrifice. The winner of such things may at least have the satisfaction of knowing that his winnings are useful every day and respectable always; but that kind of satisfaction is not so easily got out of cups. As a matter of fact, dissatisfaction in various forms is often obtained from them, and there is the final consideration to intensify all the rest, that to melt them into money is to realize in the most extravagant form the difference commonly discovered between buying new and selling second-hand.

It is not possible at all times to offer winners free choice between the cups and the money they pretend to represent. The societies that offer medals are enabled, by reason of their settled organization, to name the sum in hard cash that may be taken instead of a medal. To certain exhibitors a medal or a cup may be preferable to money, and those who enter in the spirit of desiring a memento

W W

of honour are to be encouraged in every reasonable way. Baron Ferdinand de Rothschild was disappointed that he had only a certificate and not a medal for his beautiful specimen of Angræcum caudatum at R.H.S. on the 12th inst. There is something reasonable in the disappointment; it exactly touches a vital point in the economy of floral meetings. But cups do not appear to have any place in the considerations suggested by this case; the medal certainly would have met it; a cup probably would not; and money is simply not to be thought of. It is impossible for local societies to offer medals, or, at all events, comparatively few of them could do so; but all can offer cups, and because they can do so they can do something better. When the equivalent in money can be offered cups are at least allowable, because winners can do as they please about having them. As a rule, however, it is not possible to offer the alternative, and, therefore, before cups are decided on in the scheme of an exhibition the subject should be considered in its relations to good taste, propriety, usefulness, and money value.

Corn Exchange Chrysanthemum Show will be held at the Corn Exchange Hotel, Mark Lane, E.C., Nov. 2 and 3.

Mr. H. Munday has left the gardens at Orwell Lodge, Ipswich, and taken charge of those of W. H. Trego, Esq., Reigate, Surrey.

Leeds Chrysanthemum Show will be held November 22 and 23. This is a first venture, and, of course, we wish it success.

Mr. James Hussey has taken charge of the gardens of T. C. Garth, Esq., Haines Hill.

Mr. A. Porteus, late gardener at Aldenham Abbey, has been appointed gardener and bailiff to B. B. Green, Esq., Midgham, Reading.

Highbury Fields, a tract of pleasant gardenish ground that the builder would soon cover if allowed, has been secured for the public by the Islington Vestry at a cost of £60,000.

Chrysanthemums in the Inner Temple Gardens are on view, and they show good growing to the credit of Mr. Newton. But they are not so fully out as the papers describe them, and with the aid of kindly weather will improve considerably.

Liquorice Culture in Damascus has undergone considerable extension of late years, and the produce exported last year was estimated to be of the value of £30,000, a large proportion being sent to the American markets.

Cypripedium insigne, now in perfection of flower, asserts itself pleasingly in the orchid house at Kew, where a group of plants form a frontispiece to the collection, in which at the present time, a few good things may be found in flower.

Linnæan Society Meetings will be held this year and next on Thursdays, at 8 p.m.; Nov. 4 and 18; December 2 and 16; January 20; February 3 and 17; March 3 and 17; April 7 and 21; May 5 and 24; June 2 and 16. The anniversary meeting will be May 24, at 3 p.m.

The Hailstorm near Paris, on August 23, is estimated by the committee of the National Horticultural Society of France to have done damage in the nurseries and market gardens to the extent of 5,500,000 francs, which is equivalent to £220,000 of English money.

Ripe Strawberries have been gathered from many gardens lately, and the facts are reported to us in a way to command our thanks. But to print the reports would be to make too much of trifles, for such they are.

The Riverside Property of the Duke of Buccleugh, recently purchased by the authorities of Richmond for dedication to the public service, is admirably treated with pen and pencil in the *Illustrated London News* of Oct. 16.

A Presentation to M. Pynaert, to commemorate his twenty-five years' service as professor of horticulture at Ghent, will take place in the casino of that city, to-morrow (Oct. 24), at 4 p.m. The presentation will comprise a work in bronze and an album of portraits.

The Death of Mr. Z. Stevens, of Trentham, will fill with gloomy thoughts the minds of many of our friends. He has been out of health some time, but only ten days since he was at South Kensington, and was congratulated on the restoration of his activities.

Messrs. Sutton and Sons, of Reading, have been awarded two gold medals at the Liverpool International Exhibition for their collections of seeds and grasses shown in the exhibition building and in Wavertree Park adjoining.

Finsbury Park Chrysanthemum Exhibition is now open to the public, and will be enjoyed by thousands of north Londoners during the next three or four weeks. It is a good show in Mr. Cochrane's best style.

Pear Congress was advanced a stage on Wednesday last when the committee met under the presidency of John Lee, Esq. Mr. A. F. Barron has completed an elaborate and most valuable report, which the committee approved and recommended for publication at the discretion of the council of R.H.S.

Primula Conference Report will be issued immediately in a number of the *Journal* of R.H.S. It will contain Mr. Hibberd's paper on the Origin of the Auricula, the Rev. F. D. Horner's paper on the Polyanthus and lists of species and varieties of primulas. In the same number will be a report on the Orchid Conference at Liverpool.

Mr. R. Welles, during the past two years foreman at Balrath Bury, Kells, is appointed head gardener to W. G. Ashby, Esq., The Highlands, Burgess Hill, Sussex.

Douglas Fir has been selected for extensive planting on crown lands in the Isle-of-Man. In less quantity the Nordmann fir and the gigantic Thuia have been selected. The mountains of Mona are favoured with the atmospheric humidity that suits cold climate conifers, but much of their slaty soil is but "the riddlings of creation," and scarcely supports a suitable turf for mountain sheep.

Canadian Apples are now in great force on this side as exhibition subjects. The display at South Kensington, reported on in another part of this sheet, is so comprehensive as regards varieties, and so striking as regards the growth and colour, that all who are interested in the subject may be advised to lose no time in seeing it, for in the course of a few days the whole will be removed. A similar display will be made in the International Exhibition at Edinburgh.

The Journalist is "a newspaper for all newspaper producers," and, as at present appears, the appointed organ of the National Association of Journalists. It contains much information of interest and importance to the world at large, and will certainly be a proper candidate for admission to all public reading-rooms and literary societies. As implied by the title, however, it is projected in the special interest of the "gentlemen of the press," and they will judge for themselves as to its claims upon them without need of our assistance. The first number bears date Oct. 15, 1886. May it live and flourish for ever.

Italian and German Florists.—The demand for Italian flowers is increasing year by year, and season after season the inhabitants of the Riviera are planting more flowers where formerly they grew olives and grapes. This is particularly the case in the neighbourhood of Nice, Cannes, Grasse, and Mentone. From the beginning of November till the end of May, 1885, for instance, no less than 70,000 boxes of fresh flowers were sent away from the Nice railway station, the value of the flowers being £150,000. One of the countries which have taken a hint from Italy is Germany, which is at present diligently endeavouring to cultivate, for the manufacture of scents, &c., large quantities of roses, violets, lavender, and rosemary. The experiments have so far proved completely successful, and German perfume manufacturers are expecting in future to grow their "raw material" in their own country.

Seeds of Depauperite Plants.—At a meeting of the Academy of Natural Sciences of Philadelphia, a specimen of a grass, *Setaria viride*, was exhibited not over half an-inch high, but which had a large number of perfect seeds nearly mature. It was sent by Mr. Meehan to show that such minute plants might grow and produce seed annually for many successive years, the plants each year reproducing themselves among other vegetation, without any one being aware of their existence. When such tracts were ploughed up, and plants like this grass get a good chance to develop themselves fully, it would appear that there had not been any plant of the species growing for years, and the fact used to illustrate the long vitality of seeds in the earth. It might be that there was good evidence that cases of long vitality were undoubted; but it served a good purpose to point out where error may creep in.

Maignen's Anti-calcaire is an important preparation in aid of health and improved cookery. Its office, as its name implies, is to render hard-water soft by neutralizing the salts of lime that usually cause the hardness. The luxury of soft water is not universally known, but henceforth it should be, for it is at once more wholesome to drink, more effectual and agreeable for use in ablutions—to say nothing of the washing-tub—but it is much wanted in cookery, for hard water is only suitable for cooking salted foods, it tends to spoil tender and digestible viands, and really spoils vegetables. This preparation being in a dry form, and obtainable in small quantities at a price that may be called nominal, places the householder, on a level with the manufacturer and other large consumers of water who adopt Clarke's process of softening. The last-named process is adapted for large concerns only; for ordinary domestic purposes it is quite unsuitable. But the difficulty is disposed of by using Maignen's Anti-calcaire, a perfectly wholesome reagent that reduces hard water to the softness of rain water with the result of enhancing the enjoyments of life in all that relates to the use of water.

New Plants, Flowers, and Fruits.

Odontoglossum Harryanum (*G.C.*, 1886, ii., 486).—A beautiful novelty; flowers yellow and brown with purple and white markings.

Dendrobium hercoglossum (*G.C.*, 1886, ii., 487).—A beautiful species in the way of D. aduncum.

Tsuga Brunoniana (*G.C.*, 1886, ii., 501).—A beautiful Himalayan spruce with silvery grey leaves, and ovoid cones of a glaucous colour.

Sarracenia Moorei and S. Popei (*G.*, 566.)—Two fine hybrids raised at Glasnevin, they are of importance for their rich colouring.

Tillandsia fenestralis (*B.M.*, 6,898).—A handsome bromeliad of robust growth, corolla yellow, calyx green.

Begonia Johnstoni (*B.M.*, 6,899).—A pretty species from Kilimanjaro; flowers smallish, pale pink.

Leontice Alberti (*B.M.*, 6,900).—A Central Asian herb, allied to berberis; flowers yellow.

Colchicum Troodi (*B.M.*, 6,901).—A pretty white-flowered species from Cyprus.

Iris Eulefeldi (*B.M.*, 6,902).—A fine species from Turkestan; flowers rather large, combining delicate shades of blue, brown, and yellow.

A FEAST OF WINTER FLOWERING CARNATIONS.

The origin of the winter flowering or Tree Carnation is a matter involved in some obscurity. I have no doubt in my own mind that it is a somewhat remote descendant of the Florists' Carnation. I have this season, among seedlings from flaked and bizarre Carnations, some showing a tendency both to the tree habit and to flower in winter. I have lifted four or five of the latter, and they are now flowering in pots in my auricula house. This opinion, I find, is held by Mr. E. S. Dodwell; age and experience lend weight to his opinion.

If some happy accident of this kind gave us the original Tree Carnation, how great, varied, and interesting a progeny have sprung therefrom. I can remember the Tree Carnations of thirty years ago—tall, lanky plants, with little ground grass; what cuttings were then obtained appeared to be furnished by the side growths on the stems. But an entirely new strain has taken the place of these, and to this we are mainly indebted to the late Mr. Charles Turner, of the Royal Nursery, Slough. He availed himself of the blood of continental strains of dwarfer, more vigorous, and more freely branching growth, if of less value as regard to the quality of the flowers. From this have come a strain approximately perfect in point of habit, remarkably free of bloom, and bearing flowers of fine quality and remarkably varied character. The diversity of character shown in the flowers of the Tree Carnation is great—as great as is their exceeding usefulness at this season of the year.

The Tree Carnation House at the Royal Nursery, Slough, is just now a sight well worth a journey from London to see. It is an almost square house, fully exposed, light, and airy, with a level stage in the centre, and a level stage round the sides also. This house, spacious in extent, is now almost filled with plants either in flower, or just coming into bloom; many of them plants of named varieties, raised from cuttings taken in spring and early summer; the remainder seedlings, lifted from the open ground and placed in pots, simply because to leave them out in the open ground longer would be to impair their beauty, and so wreck a rich harvest of blossom. I saw these beds of seedlings five or six weeks ago. There were three beds of these, containing in the aggregate about two thousand plants. The seeds were sown in heat in January last, raised quickly, pricked off, and grown on into size, and then put out into well-prepared beds as soon as possible; and out of these two thousand or so plants, only a very small percentage indeed had not flowered, and single flowers were surprisingly scarce. The earliest bloomed about the middle of August, and as they became sufficiently in flower they were, and are, being lifted with balls of soil about their roots, and potted in 32-sized pots, then placed in the house to flower, after being kept a little close in a frame for a few days. In this way, what has hitherto been regarded as a biennial, requiring a portion of two years to get the plants into flower, can now be treated as an annual, and bloomed the same season in which the seeds were sown. Anything specially fine is set on one side for another season's trial, the remainder are sold, and there appears to be a very brisk demand for them.

By the side of these beds is another of seedlings, raised from seeds sown in March in the usual way, and consequently late in development. But they nearly all showed the winter-flowering character, and were hastening into the blooming stage. These also will be potted up before the winter sets in, and they will flower in spring—succeeding the earlier batch. In this way it is possible to have carnations in flower—using the winter-flowering types to succeed the summer bloomers—for a considerable portion of the year.

There is also a large number of propagated varieties just expanding their first flowers, and excellent stuff they are—plants in 48-sized pots throwing good heads of bloom. This is the time of year when they should be placed under glass; a house where plenty of air can be admitted is the best place for them. If anyone would grow Tree Carnations with success they should have them by themselves in a light, airy house. When grown with other plants they too often become drawn and flower in an unsatisfactory manner. We say of Tree Carnations that they will bloom in a cold house, meaning thereby that the plants are not affected by frost; but in order that they should bloom well during the autumn and winter months some fire heat is absolutely necessary; but with fire heat air must be freely given, and it is only when frost renders it absolutely necessary, should the house be entirely closed while fire heat is being applied. It is not necessary to have it on all day, but some portion of the day, when it is dull, damp, cold, and foggy. When the sun shines out the solar warmth will supply the place of the fire. Damp must be avoided. What is wanted is a free circulation of dry air, with sufficient heat to make the atmosphere comfortable without in any way forcing the plants. Damp in the autumn season will cause the flowers to decay in the bud, and they do not in consequence expand. And in regard to watering, the soil in the pots should be kept moderately moist; it must not be allowed to become too dry, and the plants must be kept clean, especially free from green fly. If it puts in an appearance, a fumigation with tobacco smoke will soon clear them from this pest.

Winter-flowering carnations are propagated by means of pipings. This work is done at Slough during the end of February and the beginning of March, and they are rooted in a little bottom heat. A moderately light sandy soil is used, and eight or ten pipings are put into a four-inch pot, and before being placed in a gentle warmth they have a good sprinkling overhead. In about three weeks or so the pipings are sufficiently rooted to be potted off; they are first placed singly in what is known as "middle sixty pots," and kept close, and when well established should be hardened off, and then repotted singly into 48-sized pots, or those a little larger, according to the strength of the plants. Then they should be stood out of doors upon a layer of cinder ashes during the summer months, be kept well watered, and the plants be staked and properly tied to them, as the shoots are brittle, and liable to be broken off by the wind. They are then housed for flowering in October.

The improved strain now grown at Slough flowers decidedly earlier than did the old one; and in regard to the dwarfness of habit much depends upon the treatment they receive. But in giving air during the autumn and winter let the lights be opened on the opposite side to that from which the wind is blowing. Mr. Harry Turner states he would give air when the weather is frosty provided it be not too severe. But fire heat is indispensable to have a good head of bloom, and the importance of this should not be overlooked. Of the value of the carnation for cutting purposes during the winter it is not necessary I should treat. It is obviously great, and it is not be wondered at that in some places a small house, or a division of a larger one, is being solely devoted to the growth of these beautiful, useful, and richly-scented flowers.

R. Dean.

CANADIAN FRUITS AT THE COLONIAL AND INDIAN EXHIBITION.

During the past few days a remarkable display of Canadian fruits, consisting of over two thousand dishes, and comprising chiefly apples, pears, grapes, and cranberries, has occupied the tables running the whole length of the conservatory at South Kensington. On Wednesday the Fruit Committee of the R.H.S., and a few other gentlemen interested in hardy fruits, were invited to inspect them. The chair was occupied by Mr. F. T. Rivers, and a number of specimens were passed through the ordeal of technical criticism. The exhibition may be described as at once vast and wonderful, the conservatory literally glows with colour, and a comparison of the dishes proves that in respect of size, as well as colour, the apples of the Dominion put the English growths quite in the shade. A critical examination, however, does not fully sustain the first impression, for it appears that the strength of the Canadian apple grower is in culinary sorts that bulk largely and carry well; in the region of dessert apples there appears to be wanting the high flavour and richness of the best British growths. Such varieties as Ribston Pippin, Blenheim Pippin, Gravenstein, and Cox's Orange Pippin, the Canadian samples are certainly not first rate, but then we must allow something for the fact that many of the sorts were gathered before they were mature in order to be put before the British public at the present time, in anticipation of the usual autumnal exportation. In respect of size British Columbia takes the lead, many of the large growing sorts, of which, perhaps, Gloria Mundi is a fair type, being of enormous dimensions, though, in many instances, wanting in high finish as specimens. On the other hand, New Brunswick apples, though a trifle under the average size of those from British Columbia, far surpass them in finish of form and high colour. They are, in fact, resplendent, and the colours are as notable for purity as for depth.

As compared with apples, the pears are of quite secondary importance, the leading sorts appearing to be Duchesse d'Angoulême and Flemish Beauty. The last named appears to be fully as important as the famous Bartlett or Williams, which is *the* pear of the fruit growing region of the western continent. Most of the dishes shown are above the British in every quality; they are large in size, most beautifully coloured, and of the most delicious flavour. Its season is evidently nearly run out, for many of the samples were too soft to be worth tasting, but many that were in proper condition were put to the test, and were simply perfect. The Duchesses were generally in good condition, but the flavour was not better than average English samples, which is not saying much, for this popular pear is often quite second-rate as grown in English gardens. Seckle is a very popular pear in the Dominion, and no wonder, for some one in the party said one bite would wake the dead. At all events there was no difference of opinion as to the superiority of Seckle.

Amongst the fruits that had attention as novelties were the following:—

Apple Kendall's No. 1, from Mr. Kendall, Ontario. It is of medium size, round, smooth, green, with rosy cheek; the flesh tender, juicy, sweet, with a sprightly flavour. Two marks ××.

Apple Trenton, also from Ontario. It is of a medium size, round, neat, with slender stalk; the colour brilliant carmine, deepening to blackish crimson, very showy and inviting. Flesh very tender with a sweet delicious balsamic flavour. Three marks ×××

Apple Fitzgerald's No. 2, from Mr. C. J. Fitzgerald, London, Ontario. The size is above medium, the form round, handsome, the skin richly mottled carmine on green, with a fine red cheek. Flesh greenish white, tender, but slightly crisp, and of delicious flavour. Awarded three marks ×××

Apple Scott's No. 3, from Mr. Scott, Lambeth, Ontario. It is of medium size, round, richly streaked and mottled with crimson on a yellow ground. Flesh tender, juicy, sweet, but not equal to those awarded three marks. The award was two marks ××.

Pear Dempsey is in the style of Duchess d'Angoulême, but in colour it is better, being of a clear citron yellow. The flesh is white, tender, juicy, rich, with a delightful sprightly acid that is at once satisfying and refreshing. Duchesse, of the same growth, was tasted for comparison, and was decidedly inferior. Three marks ×××.

Grape Emerald, from Professor Saunders, of London, Ontario, is a small round grape, of an emerald green colour, the flesh sweet, with a slight trace of foxey flavour. There were many varieties of American grapes presented, and all agreed in being distasteful to the palates of the fruit committee, and apparently requiring an acquired taste for their appreciation. Usually the flesh affects the tongue in the way of a jujube or a globule of gelatine, and the flavour that follows gives an unpleasant sensation suggestive of dead apothecary. The Emerald was the best of all that were tasted, but the committee made no award. As a wine grape it is probably destined to high importance for its exceeding fruitfulness and hardiness.

ROSE MABEL MORRISON.

It appears that all the roses after the type of the Baroness Rothschild's are more perpetual in character when grown on their own roots than when worked on any other stock. However, I find that Mabel Morrison is so, for it is now, in the middle of October, producing nice flowers, while I cannot find a single bud or blossom on the worked plants of the same variety. Both in form and colour this is a useful rose, and its usefulness is further enhanced by its perpetual character.

Viator.

HARDY PLANTS IN FLOWER.

Blustering Boreas made a change of scene; many trees have been blown bare; and gawky plants have been moved from the perpendicular, yet after wind and rain, long lasting and impetuous, garden flowers still abound, and promise to flaunt their colours for some time yet, unless frost puts a stop to them. That frost will do so no one doubts, but no one is in a hurry for that to happen; and hurry or no hurry, frost will come when the wind is in the right quarter for it, not before, no matter what people think or wish or say. In a look round in the hope of making a few useful notes, we find no subjects more gay and defiant than the single dahlias. They are crowned with flowers of all colours, and during an hour of sunshine are most acceptable types of gladness. An interesting fact should be recorded in respect of the asters, that some of the very best that were in flower early are still fresh and flowering. Even the early and beautiful A. amellus is gay with colour, but the beautiful A. acris is past its best, for it produces all its flowers at once, which is one reason of its exceeding splendour when in perfect freshness. We shall name as many things as possible now, for we may have but few opportunities for further notes on this side of the winter, for all depends on the weather, and a touch of frost is within reasonable expectations.

Asters now in good condition comprise the varieties of *Aster diffusus*, of which there are many, all good, the best being *horizontalis*, a most lovely thing, with small flowers, the disk copper-red or purplish, the rays white; *A. ericoides*, four feet, white, fine; *A. Drummondi*, five feet, neat, compact, flowers whitish, disk brownish.

Polygonums are acquiring a shabby tone, for the wind has shaken them. A fine plant of the gigantic group is *Polygonum molle*, with ovate-oblong or elliptic leaves, suitable to make a bold mass in the wild garden. An extra fine kind is *P. polystachyum*, very leafy, the flowers very white, at the present time fresh and snowy, quite differing in this respect from the greenish flowers of P. cuspidatum and others of that group.

Amaryllis includes two capital plants, the famous *Amaryllis belladonna* being still bright with its delightful rosy colour; and the crocus like *A. lutea*, better known as *Sternbergia lutea*, having a fair show of its pleasing yellow flowers. *Crinum Moorei* and *C. Poweli* are still flowering, and *Nerine sarniensis* has not finished its career for the season, though its chief glory is past.

Tritonias are quite out of season with the exception of the gay and useful *Tritonia aurea*, which is resplendent, with colour; *Montbretia crocosmæflora* and *M. Pottsi* have a few flowers left.

Erythrinas are stout and strong, carrying their lobster claws bravely where suitably sheltered. Amongst the twenty or more that may be said to be in "cultivation" there appears to be not one to surpass *Erythrina crista-galli*, but the several types are interesting, and for a sunny corner a collection may be regarded as useful.

Gazanias in flower include one beauty that has still a gay summer aspect. This is *Gazania revoluta*. The leafage is of a pleasing grey tone, much and handsomely cut, the flowers bright yellow with dark disk. *G. rigens* produces a few flowers but is not in good condition.

Rudbeckias flowering comprise *Rudbeckia speciosa*, *R. Newmani*, *R. subtomentoso*, and *R. laciniata*, but they look much the worse for wear. On the other hand *Coreopsis auriculata*, and *C. tenuifolia* are fresh and bright.

Saxifragas are conspicuous now by reason of their brilliant tones of green which the recent rains have given new life to. We do not look for flowers now, but we may have them in delightful lumps without looking for them by planting *Saxifraga Fortunei* in a sheltered nook, for this is its season, and if spared by frost it is one of the most beautiful of late autumnal flowers. The plant is perfectly hardy, and shelter is needed chiefly to save the flowers which appear so late that frost occasionally overtakes them.

Hypericums in flower include *Hypericum patulum* and its variety *oblongifolium*. These are as freely decorated now with their fine yellow flowers as at any previous time this season, and, therefore, they have a special value. The first frost, however, will make a difference.

Œnothera gives us but few late-flowering species, but the bold-looking *Œnothera Lamarckiana* and *Œ. stricta*, which comes near to it, both having yellow flowers, are in good condition.

Plumbago is best seen under glass now, the beautiful *Plumbago capensis* being still in flower, though not in full perfection. But we have it in a sheltered nook in a quite flowery state, for it is a capital outdoor rambler if put out young and strong at the end of May, and kept growing freely. The dwarf-habited *P. Larpentæ*, otherwise known as *Valoradia plumbaginoides* is in first-rate order, showing a good crop of blue flowers.

Dead Nettles might not attract us in a more flowery time, but now we are compelled to admire the aspect of the common *Lamium maculatum* that is completely covered with fresh flowers, which remind us of the woodlands. The green-leaved *L. vulgatum* is quite as flowery, but not so effective, for, in fact, the spotted-leaved plant is beautiful, though humble. There is no specific difference between these, they are forms of one species. The beautiful *Galeopsis versicolor* is in flower, and we take off our hat to it, for humble merit is entitled to respect.

Solanums have no special attractions now, but we must not ignore them. *Solanum sysimbrifolium* is an interesting plant with deeply-notched leaves, a thorny stem, and white flowers with conspicuous yellow centre. *S. guineensis* may be described as a huge black berried bitter-sweet, the growth, the leafage, and the berries being very near to our S. nigrum, the berries black and glossy, and a trifle larger than the largest black currants.

Pentstemons are important elements in the autumnal garland, and *Pentstemon gentianoides* in many forms still retains a share of its summer beauty. The varieties of *P. Hartwegi* comprise an effective white that is quite distinct. *P. campanuloides* is a very leafy green plant, flowers rosy purple. *P. glandulosa* is of neat growth, rigid, and phlox-like, the flowers large, dull purple.

Arnebia gives us two good summer flowers that even now are somewhat gay. *Arnetia Griffithi* is an annual, but *A. echoides* is a true perennial and a fine plant. It is now showing a good head of its bright yellow flowers, having been in flower for fully three months.

Campanulas are somewhat seedy, but the white variety of *Campanula rotundifolia* is in beautiful order, and it is a puzzle to us how it keeps so clean with so much rain falling, for white flowers generally look dirty after a washing. A good plant is *C. ramosissima* of tall growth, with pale blue flowers that are now in good condition.

Solidagos make a plentiful succession, if they do not enchant us. A good one now is *Solidago sempervirens*, which, of course, is not evergreen. It is late, handsome, four feet high, full green, the inflorescence in diffuse spikes, pale yellow. *S. altissima* is still fresh; it is too tall to be reckoned among the best.

Sunflowers are not wanting, and the very distinct *Helianthus orgyalis* is now in perfection with its ribbon leaves and yellow flowers. *H. doronicoides* is also fine. These are giants that seldom stretch to less than eight feet but often make ten.

Liatris is blown to pieces in the open border, but in a snug nook *Liatris pycnostachys* shows a fine head of rosy purple flowers on a stem five feet high. It is a quite interesting bit of colour.

Clematis still show a few flowers, but their season is over. However, we can still cut good flowers from *Gipsy Queen*, rich reddish purple; *Floribunda*, flesh-tinted white; *Gem*, pale blue; *Countess of Lovelace*, white or delicate grey; *Edward Desfoisse*, light blue.

Many tea roses are flowering; chrysanthemums are plentiful, and Mdlle. Desgrange is, and has for some time been, superb; a few verbasums are making a pretence of flowering, and a few silenes are acceptable for their cheerful colour. Should mild weather continue many primulas will flower, and will serve the double purpose of lighting up the garden and making a new marvel for the daily papers.

CHRYSANTHEMUM ECHOES.

I suppose we may now fairly assume that the chrysanthemum season has begun. Judging from the experience of the past twelve months it does not appear to be the easiest thing in the world to decide when it actually does begin or even when it ends, for blooms have been seen almost without intermission the whole year through.

For my own part, I would fix the date of its commencement at the middle of October, and draw the line at the middle or end of January, for the close of the season. That period is doubtless the time when Dame Nature intended the majority of our favourites to unfold their beauty, and during the dull cloudy weather their colours show off to the best advantage. But how about the early blooming sorts? Well, in spite of the excellent exhibition we had in September, they are no favourites of mine, and if they are to be grown or shown in conjunction with dahlias, zinnias, gladioli, &c., the existing colours must be heightened, made more varied, and new tones introduced. Till then I remain true to my first loves.

Still there is some evidence that a change is coming about. The early varieties were first sent out some five and thirty years ago, but only during the past few years do they seem to have made much progress. The best that have come under notice latterly being Simon Delaux, Isidore Féral, Mons. E. Pynaert van Geert, Mandarin, Roi des Précoces, and a few others, but these are properly only semi-early. Much remains to be done in this section, and when a few more additions, such as Monsr. William Holmes, are made, those who desire to grow chrysanthemums without the aid of glass will have ample means of gratifying their wish.

Is it really true that there is to be no show again this year at the Middle Temple? If so, it seems to me a great pity. Mr. Wright is a very capable cultivator and the public will lose a treat, but, perhaps, the Benchers have more serious work in hand, such as raising the standard of the legal education of the young aspirants for distinction at the Royal Courts of Justice.

A day or two ago I had an offer made me by a pawnbroker in that neighbourhood, and which has just come to mind by the mention of the Temple. It was a large water-colour drawing representing a group of chrysanthemums grown by the late Mr. Dale, formerly the occupier of Mr. Wright's present position. There were Plutus, General Slade, Oliver Cromwell, and several others but little known in these days. It was a sore temptation, but forty-five shillings rather frightened me, so my collection of coloured drawings of the chrysanthemum is one less than I should like it to be.

What an unfortunate thing it is to be a collector. In boyhood's days the propensity was cultivated and has gone on increasing. Instead of getting older and wiser, it seems—but perhaps it is well to say no more. I can, however, boast of a very extensive and varied accumulation of books, pamphlets, and drawings, both coloured and plain, of this delightful flower. And, like Oliver of old, I am asking for more.

A few months ago, while looking over some odd numbers of monthly magazines, I came across an article on Chinese poetry. The word chrysanthemum quite accidentally caught my attention and curiosity, of course, prompted me to see what the author had to say that was new about the golden Kiku. A piece of poetry, in which the writer apostrophises a bed of Chrysanthemums in full bloom, informs the reader that "their delicate perfume scents the garden walls," and that "hungry they feed on air," and concludes with a queer combination of words that is no doubt capital rhyme to the ears of the almond-eyed Celestial, but certainly were not to mine. It struck me, however, that the delicate perfume of my plants had never had a similar effect upon our garden walls, but it is only fair to acknowledge that I never applied my nasal organ to the bricks and mortar to find out. As for feeding on air, a very necessary element, of course, to the well-being of living things, it is customary when an English grower considers his plants are hungry to supply them with something a little more tasty. And so does John Chinaman, for he first taught us the way.

The author of the article above mentioned has in all probability a wide knowledge of the subject upon which he was writing, but one may venture to assume that his acquaintance with at least one branch of floriculture in his own country was rather limited, for he adds, "The chrysanthemum, although scarcely a flower calculated to excite enthusiasm or to inspire sentiment according to our ideas, is, nevertheless, highly prized by the Chinese." We could add something to the latter part of this statement, and refer the author to a piece of historical information concerning the death of a certain Queen Anne. The first part of the sentence is decidedly refreshing—if the chrysanthemum has not excited enthusiasm according to our ideas perhaps some kind reader will inform us the flower that has.

And according to American ideas too. There the passion is evidently making alarming headway. As everybody knows, Brother Jonathan goes in for big things all round. In November a six days' show is to be held at New York, £2,000 spent in prize money, and an official catalogue with a gorgeous cover, costing no end of dollars for the design, is to be issued. But mark the cuteness of the aforesaid Brother Jonathan. At this show the blooms will be numbered instead of named, these numbers will correspond with those in the catalogue where the names appear, and intending visitors will be charged one shilling for a copy. Bravo! C. Harman Payne.

DAHLIAS IN 1886.

Having passed in review the new dahlias sent out in the spring of this year and given my estimate of them, I now proceed to give some notes of the Show Dahlias and my estimate of them. The notes were set down as I carefully went through the plantations at the Royal Nursery, Slough, and without attempting anything in the way of alphabetical arrangement. But I trust they will prove none the less acceptable to your readers. John Bennett (Rawlings), yellow ground, broadly edged with scarlet, is a good constant flower, to be got for the exhibition table without any trouble; good petal and outline, and medium growth. Sunbeam (Fellowes), clear buff, a charming flower; excellent petal and outline, and good erect habit of growth, about 3 feet. Joseph Green (Keynes), bright crimson, a flower of beautiful form and certain as an exhibition variety; medium height, not too tall, 3½ feet. Mr. G. Harris, crimson scarlet, very bright, with a distinct shading of scarlet; a good useful flower, 3 feet. Ruby Gem (Harris), crimson, with a very slight orange tip, something like Stalyford's Gem; a flower that some claim to be a fancy, though classed with the show varieties, but if shown as a fancy I cannot see how it could disqualify a stand; fine and distinct, constant and useful, 3 feet. John Standish (Turner), bright red; this variety is sometimes just a little uncertain, but it has come remarkably good this year, and having proved a grand show flower should be in every collection; rather tall, 4½ to 5 feet. William Rawlings (Rawlings), crimson purple, very good indeed, and has come extra fine this season. Goldfinder (Fellowes), yellow, tipped with red, very constant and a good useful flower because a grower can always get it; dwarf growth, 3 feet. Joseph Ashby (Turner), shaded orange, a flower of fine form and very constant, but possesses what some consider the defect of a reflexed petal; a variety that tells well in a stand, 4 feet. George Rawlings (Rawlings), very dark marone, finely shaded; a very fine and useful variety, 4 feet. Burgundy (Turner), dark puce, suffused with light purple; fine and constant, dwarf growth and erect, flowering bold, 3 feet. Flag of Truce (Wheeler), sometimes pure white, other times more or less tipped with lilac; will sometimes come striped with lilac on a white ground, and then it is admissible as a fancy; very pretty and constant, and a good, useful, old flower, 3 feet. Prince Bismarck (Fellowes), puce shot with purple; very good, distinct and free, and has appeared in most competing stands during the past season; good erect habit, 4 feet. Georgiana (Keynes), creamy white; a good and useful white show dahlia, a little late, but to be relied upon, 3 feet. Imperial (Keynes), deep purple; also rather late, but a good and useful flower, of fine form, 4 feet. Mrs. Shirley Hibberd (Rawlings), cream, shaded with pink; a very pretty dahlia indeed, large, full, and of excellent form, 3½ feet. The Hon. Mrs. P. Wyndham (Keynes), one of the most constant dahlias grown, fine petal outline and centre; very pleasing; yellow, edged with deep rosy purple, excellent habit, 3 feet. T. J. Saltmarsh (Rawlings), yellow, deeply edged with red, distinct and constant, a variety that can be depended upon, good dwarf habit, 3 feet. Statesman (Keynes), purplish crimson; a fine flower, of excellent quality, good habit, 3 feet. Miss Connell (Eckford), white ground, deeply edged with purplish crimson; very good indeed, and constant, 4 feet. James Stephen (Keynes), a fairly good show variety, of a bright orange-scarlet colour; an excellent decorative variety, bold erect growth, and very free, 3 feet. Mrs. Hodgson (Keynes), yellow ground, heavily edged with crimson; excellent form, a little small, but very constant, 3 feet. Mrs. Gladstone (Hurst), undoubtedly the finest light flower grown; it may be best described as of a very delicate silvery pink, occasionally bright pink, very constant and useful, and good in all respects; if I had to name the best six show dahlias, Mrs. Gladstone would be one of them, 4 feet. Mrs. Langtry (Keynes), creamy-white, edged with crimson; a very fine and constant variety, well shown during the past season, 4 feet. Herbert Turner (Turner), greyish white, with a soft tinge of lilac; very good and constant, and a noble show flower when caught at its best, 5 feet. Seraph (Keynes), blush-coloured self, good, late in the season, does not require much thinning out; excellent habit, flowering erect, 3 feet. Emily Edwards (Keynes), blush white; a good, useful, and constant white dahlia, 3 feet. Clara (Rawlings), rosy peach; a pretty flower, of good shape, good erect habit of growth, 4 feet. James Cocker (Keynes), purple; a large and constant flower of excellent quality, a good one for amateurs to grow, though a little late, 3½ feet. J. N. Keynes (Keynes), a yellow self, of excellent form; a good, useful, and constant flower, 4 feet. Mrs. Harris (Harris), white ground, edged with lilac; very delicate in colour, constant and good, 3 feet; and Prince of Denmark (Fellowes), very dark marone, shaded with crimson; perhaps the very finest shaded flower grown, constant, the finest form; good erect habit, 4 feet. W. H. Williams (Keynes) deserves notice for its brilliant scarlet colour, but being so very late it requires an early season to get it into good form; it has a reflexed petal, but is of good size and excellent outline, and when well caught makes a telling exhibition flower. I find I have omitted Constance (Keynes), yellow ground, darkly edged with lake; a flower that is well named, for it is very constant, indeed, it is always good, 3 feet. I have not exhausted the list of good and useful flowers, as Alexander Cramond (Keynes), marone, shaded with crimson, 3 feet; Condor (Keynes), buff, shaded with with orange, 3 feet; Cremorne (Eckford), yellow, tipped with red, 3½ feet; Criterion (Edwards), delicate rose; rather large, but a fine and constant show variety, 5 feet; Ethel Britton (Keynes), blush white, edged with reddish purple, 3 feet; Hope (Keynes), light rosy lilac; a good and useful flower, 4 feet; H. W. Ward (Keynes), yellow, heavily edged and shaded with crimson, good and useful, 3 feet; James Vick (Keynes), purplish marone, 3 feet; John W. Lord (Keynes), shaded orange buff; a good show flower, 3 feet; Lord Chelmsford (Keynes), dark marone; large and showy, 3 feet; Mrs. Henshaw (Henshaw), white; large, full, and constant, 5 feet; Muriel (Fellowes), clear yellow; constant, a good yellow self, 3½ feet; Rev. J. Godday (Rawlings), maroon, shaded with purple; large and constant, 4 feet; Thomas Goodwin (Goodwin), very dark maroon, 3 feet; and Vice-President (Keynes), bright orange; a very good and useful flower, 3 feet; are all good and useful flowers, but were not at their best when I inspected the collection. Besides, it is well known to all dahlia growers that some varieties are better in one season than another; but in a good season most of those named in the supplementary list appear in competing stands of flowers. R. Dean.

FURTHER NOTES ON ROSES AND ROSE STOCKS.

By C. Warden, The Gardens, Clarendon Park.

Budding.—Assuming we have arrived at the budding season, and buds of the suitable kinds are taken, and their leaves removed, which should never be neglected, as they would soon injure the buds. To keep them fresh they should have their ends set in a pan of water, or be laid in a shady place among damp moss. With the hoe in hand remove the soil that has been drawn up to the stems of the stocks to protect them from injury, commencing on the back part of the row, or that behind where the buds are to be inserted. But take great care that the hoe is not allowed to touch the stems of the plants. When that has been done, stretch a line along the front, and fix it at both ends, so as to pull the stocks over, placing a stick here and there, to assist in keeping them over, after which the soil from the front may be removed, taking the same precaution as before. Complete the removal of the soil with a large label, then give the stems a little wipe with a piece of rag brought for the purpose. The row of plants will now be in readiness for receiving the buds. It must be remembered that I am speaking now of dwarfs. Standing astride of the rows of plants, commence by cutting a cross cut just above a clean part of the bark, and always as near to the ground as such can be found, then an upward cut till the knife meets the cross cut, and with a slight twist of the hand, the bark will be partly opened with the knife before taking it out. This opens the way for completing the opening of the bark, which is done with the handle end of the knife, prepared for the purpose. Prior to cutting the stock, the bud is usually cut off, commencing to set in the knife just above the bud and at the heel end of the shoot, so that the removal of each bud does not affect the others by tearing the bark. The bud is held in the mouth while the stock is being cut, and is inserted the moment it is open to receive it. It is well to have the left hand thumb-nail a good length, so that the bark may be opened and held by it, while the bud is being inserted, after which the bark is closed over it as well as possible. The operator generally takes advantage of a straight back while preparing the buds, which is generally enjoyed, and especially so if the budder is a stout one, and has any difficulty in placing his head very near to his feet. It is well to have a handy youth to follow tying in, and nothing is better for that purpose than half a length of Raffia grass, as by the time the bud has properly healed it will have become rotten, and the swelling of the bark is usually sufficient to break it. But it is sometimes necessary to relieve the bud by cutting it, or it may in some cases injure the bud. The work of tying in is important, and none but those who take all ordinary care in carrying out the work should be trusted. The matting should in binding cover nearly, or quite, all the cut bark, and should be brought near up to, but in no case over, the top of the bud, and should be drawn rather close, but not tight. I like to hear the squeaking sound made while drawing the matting through the finger and thumb; it should be tied in a double knot, for the wetting and drying process acts very much upon the material, and if it is not securely tied, it will open, and the bark open with it, to the destruction of the bud.

The preparing and budding of the rose stocks might appear to be a long and tedious process, but in reality it is not. It is usual to have three pairs of hands at the work—one to prepare, the other to bud, and the third tie in. I have known two alone to insert six hundred buds a day; and I myself have put in as many as one hundred in one hour, having someone to prepare the stocks for me. But this depends very much on the buds; some will run as readily as possible, while another kind may take thrice the time to prepare them.

Winter Work.—In sharp weather in winter it is necessary to protect the buds of tea-roses, and in exceptionally sharp weather the perpetuals also. I know of no better material than the common bracken, which is very abundant in the woods in most places. This being very light, may be left on for some time without any injury whatever, but should it become heavy and rotten, it should be removed and replaced by new before sharp weather sets in again. I would strongly impress on the minds of those who have budded teas on dwarf stocks for the first time, the necessity of some protection, as they are very susceptible to injury from frost.

Spring Work.—If we except the necessary precautions in the shape of protection, these budded plants will require little attention from the time they are budded till pruning time in March. It may be necessary to remove a sucker or two here and there, but that would be all. About the beginning of March the whole should be looked over, commencing with the hybrid perpetuals, and cut them all back to about half an-inch above the bud, cutting towards the bud, and after they are cut over a stick should be put to each, for the double purpose of marking their whereabouts, and also to tie the young shoot to as soon as it commences to grow. These young maidens are very liable to get broken or blown out with the wind, so that as soon as they begin to grow incessant attention will be necessary to make them safe. About this time a good mulching of rotten manure should be given, so that its beneficial properties may be washed down to the roots, and the

mulching will serve the purpose of preserving the moisture through the summer.

Insect Enemies.—In most seasons as soon as roses begin to grow they are attacked by insects, and unless something is done to keep these in check it is no matter how vigorous the stock or rich the soil they cannot thrive. It follows that the enemies must be removed by some means. Many growers advocate the use of tobacco water and soft soap, in a mixture made by pouring a gallon of water over a pound of tobacco paper, and allowing it to stand for twenty-four hours, giving it a stirring once or twice in the interval; to this add another four gallons of water, and four or five ounces of soft soap. It will then be in a fit state for syringing the plants with. Quassia chips are also used in a similar way. The wash is prepared as follows: Boil four ounces of quassia chips for ten minutes in one gallon of water. To this liquid add four ounces of soft soap, and dilute to three or four times its bulk. Both the foregoing receipts may be used on other kinds of plants besides roses, when affected with green fly, with good results.

The process of hand picking is advised in the case of young plants of roses, and I have known thousands of plants kept thoroughly clean by its means, even when these troublesome insects have been unusually abundant. The buds and shoots are passed between the finger and thumb dislodging the insects, and if this happens to be done just before rain comes it is wonderful what clean work is made. But unless the insects are disturbed the rain appears to have but little effect upon them compared to what it does when they are first assailed as described above.

Summer Work —From the time the plants break into growth in spring until the shows are over both the cut-back and the maiden plants will require constant attention and watchfulness, both in keeping them free from insects and to tie them to stakes to prevent damage by rough winds. When the young shoots are blown against each other the thorns will be sure to damage the buds, which cannot then bring perfect flowers. In addition to the tying, disbudding, keeping them free from insects, and keeping the ground clean amongst the plants, removing any suckers that may spring from their roots, the plants in dry weather will also require copious supplies of water and liquid manure where it can be obtained; but where there is any difficulty in obtaining liquid manure, that put on as a mulching when watered and washed by rains will answer very well. Almost any kind of manure that I have tried is beneficial to the rose, but where grown on light soils doubtless there is none to surpass cow manure, which has a wonderful cooling effect.

In transplanting budded stocks, it is always best to place the union of the stock and scion below the soil where the rose usually takes root above the stock, and thus becomes independent of the same. There are several hundreds of roses in this garden that have become own-root roses by this simple process. It is particularly necessary that roses on the manetti stock be treated in this way, for when the union is kept above ground they are usually very short lived. It is surprising the contrast between the growth of the perpetuals on this stock the first year, and the growth of them the second year, especially where not transplanted and placed lower in the ground. The contrast is not so noticeable with those budded on the brier stock, but as I look upon the stock only to carry the roses until they are in a position to provide for themselves, it is always preferable to place the point of union below ground when planting.

Selection of Varieties.—I will now append the names of thirty-six hybrid perpetuals and eighteen teas, most of which I have proved to be good, having them under cultivation here, and the rest I have seen in other gardens, and also on the exhibition table.

Hybrid Perpetuals.

Alfred Colomb, A. K. Williams, August Rigotard, Baroness Rothschild, Beauty of Waltham, Camille Bernardin, Captain Christy, Charles Lefebvre, Countess of Rosebery, Dr. Andry, Duc de Rohan, Duchess de Valombrosa, Duke of Edinburgh, Duke of Teck, Elie Morel, Emilie Hausberg, Eugenie Verdier, E. Y. Teas, Francois Michelon, Hippolyte Jamain, La France, Lord Macaulay, Louis Van Houtte, Madame Eugenie Verdier, Madame Gabriel Luizet, Madame Hippolyte Jamain, Marguerite de St. Amand, Marie Baumann, Marie Rady, Mervielle de Lyon, Monsieur Noman, Pierre Notting, Prince Camille de Rohan, Reynolds Hole, Senateur Vaisse, Star of Waltham, Ulrich Brunner.

Teas.

Anna Olivier, Caroline Kuster, Catherine Mermet, Comtesse de Nadaillac, Innocente Pirola, Jean Ducher, Madame Angele Jacquier, Alba Rosea, Madame Cusin, Madame Hippolyte Jamain, Madame Lambard, Madame Willermoz, Marechal Niel, Marie Van Houtte, Niphetos, Pearl des Jardins, Rubens, and Souvenir d'un Ami.

Gishurstine has acquired the character of a perennial by reason of its appearance periodically, and, as it were, from the same root, to be useful in its season and unheard of when not wanted. It is a preparation employed by prudent people who move about during winter—as all prudent are careful to do—for rendering boots and shoes waterproof without rendering them impervious to air, and also without impairing their beauty, for they may be polished as well after as before the application of Gishurstine. For sportsmen, gardeners, rambling botanists, and all men of business who are often "on the trot," it is of the greatest value. Nor is it a matter of indifference to the ladies, for it may be applied to the soles of boots, as well as to the uppers, rendering them warm because dry, and removing one of the common objections to outdoor exercise during the winter. We speak by knowledge of this thing, that it is invaluable.

Notes of Observation.

FORCING THE MADONNA LILY.

The value of the Madonna lily or common white lily for the supply of flowers early in the year is so fully recognized that there is no occasion to enlarge upon it. But there is one point bearing on the cultivation of this lily under glass which is not so generally known, and that is the difference required by bulbs grown in this country for the production of their flowers as compared with those from countries in which the summers are hotter and drier than here. We force rather large quantities of bulbs annually, for not only are the plants used extensively in the embellishment of the conservatory, but the flowers are in constant request for indoor and church decoration, Consequently we are unable to maintain a supply of bulbs from the beds, and have to purchase a considerable proportion of the bulbs forced. Three years since one portion of a batch of bulbs started at the same time came into bloom fully a fortnight earlier than the other, and I was much perplexed until I had ascertained from the nurseryman who had supplied the bulbs, that one part of the order had been filled with bulbs obtained from Italy. The next season I gave instructions that the whole of the bulbs required for the production of the earliest flowers should be of Italian growth, and as they were found equally as early as those of the previous season, we now grow them exclusively for the supply of flowers during February and March. A gain of a fortnight in these two months is so important to the majority of cultivators, that the fact of the Italian bulbs flowering in advance of both those from Holland and grown at home, cannot be too generally known. We are now potting up the bulbs required for forcing during the coming winter, and as they are potted we place them in a cold pit where they remain until they are removed to the forcing pit. G. H.

DAMSONS.

For the production of large quantities of fruit for preserving and for market purposes the Farleigh Prolific or Crittenden has much to recommend it, because of its immense productiveness and its excellent quality. But for the private grower the best of the damsons is Frogmore Prolific. It is a heavy cropper, and the fruit is quite double the size of that of either of the other varieties, and very rich in flavour. It has been described as rich in flavour as the greengage, but although the fruit of the damson cannot well be compared with that of the greengage it is sufficiently rich to justify its forming part of the dessert. The fruit of Frogmore Prolific make an excellent preserve. To plant the Common or Round Sweet Damson with two such fine varieties as the above-mentioned at command is a mistake which no cultivator should make. It is a pity the trade growers do not strike it out of their catalogues. S. F.

UNPRUNED ESCALLONIAS.

Escallonias are too tender to be grown successfully otherwise than against a warm wall, excepting in kind climates; but under a proper course of culture they will by their beauty afford an ample return for the space occupied. Generally speaking, the escallonias are pruned too severely, and trained in too close to the wall to produce a good effect. As a matter of fact, they should, when against a wall, as in the open, have but little of either pruning or training. The proper course is to train the shoots to the wall until the whole of the surface is covered, and then to allow them to grow naturally. Under this system of training the plants present a very elegant appearance, and bloom with a profusion that will surprise those who are only acquainted with the plants that are trained close to the wall in a similar manner to a peach tree. In a severe winter a portion of the outside shoots will be cut back by the frost, but that is of very little consequence, as there is invariably plenty of live wood underneath. On the other hand, the closely-trained examples frequently suffer so severely that they have to be cut back nearly to the ground level to obtain new growth from the base. One of the finest examples of unpruned escallonias is that of the well-known E. macrantha, on the up platform of Battle Station on the South-Eastern Railway. Originally planted against the closely-boarded fence enclosing the platform, it has been allowed to grow naturally, and is now about fifteen feet in width, and between three and four feet in depth. When I saw it a few weeks since it was thickly studded with its charming bright rose-coloured flowers, and the effect in contrast with the dark glossy green foliage was surprisingly beautiful. Visitors to Hastings, who travel by the South-Eastern Railway and are interested in shrubs, should certainly not miss the magnificent specimen at Battle Station. G.

SINGLE DAHLIAS FOR DECORATIONS.

Comparatively few of the large number of single dahlias in cultivation are really suitable for decorative purposes in a cut state because of their large size. Not only is there a difficulty in arranging them with other flowers, but they require wiring, which imposes a rather heavy tax on one's time when large numbers of flowers have to be arranged every day. I have, moreover, an objection to wiring flowers that have to be arranged in vases for the drawing room. I have made a list, during the past season, of a few of special excellence for decorative purposes in a cut state, and I have thought that a transcription of it might be useful to some of your readers. The varieties are as under: Alma, white shaded rose; Elsie, fiery scarlet; Ingomar, rich fiery magenta; Magpie, cerise tipped white; Duchess of Westminster, pure white, the best of all the white varieties for the supply of cut flowers. Illustration, bright yellow; and Midget, rich scarlet. The scarlet varieties are the most useful, as the flowers afford such a capital contrast to the Japanese anemones and white chrysanthemums, which are so abundant during the latter part of August and throughout September. W. B.

CHRYSANTHEMUM GEORGE WERMIG.

This fine yellow chrysanthemum is proving not less useful in the flower garden than Madame Desgrange, from which it originated as a sport, and should be extensively grown. It is particularly good at the present time in the Alexandra Park, Hastings, where it has been planted rather largely, the large masses of golden flowers presenting a very bright appearance. The season of flowering of George Wermig, and the variety from which it has sported, is in some degree determined by the time of striking the cuttings. Therefore, as they usually continue in good condition until the rains and frosts destroy the flowers, it is important to have them in bloom as early as possible in the season. Plants from autumn-struck cuttings begin to bloom first, and for some years past I have struck the cuttings in October and kept the young plants in a cold frame during the winter, and bedded them out in April. Without further attention they form good bushes in the course of the summer, and commence flowering at the end of August, and continue in good condition until quite late in October when the weather continues open. I mention this because so many growers defer the propagation until the spring, and, in consequence, fail to obtain a really good display until the middle of September.

W. H.

ONCIDIUM ORNITHORHYNCHUM.

One of the most charming orchids in bloom at the present time is the sweetly-scented Oncidium ornithorhynchum, of which we have several good specimens. It is not so showy as some of the oncids we have in flower, but it is exceedingly attractive, and the panicles of delicate rose-coloured flowers are admirably adapted for choice bouquets. We grow it in teak baskets, with peat and sphagnum, and supply liberally with water during the season of growth, and the conditions under which the plants are placed are evidently favourable to a robust state of growth and an abundant production of flowers.

Orchidophilist.

ROSE, THE BRIDE.

This rose, of which highly favourable reports have been received from America, where it originated, is so far decidedly disappointing. It has been described as the finest of all the white tea-scented roses in cultivation, but, judging from the flowers I have seen in the course of the past season, it is much inferior to our old friend Niphetos. The flowers are not so large as those of that variety, and they are, moreover, tinged with green at the base of the petals, which detracts much from their beauty, especially in the bud state. It cannot be compared with that fine tea rose, Sunset, which the Americans sent us a few seasons ago, and those who have not much space for rose growing will act wisely in waiting another season before adding it to their collection. It may prove better than I anticipate, but with my knowledge of roses I shall be much surprised if it proves worth growing.

Practical Cultivator.

EARTHING CELERY.

Opinions differ as to whether celery should be earthed up at different times or all at once. Taking a practical view of the matter, as the result of many years' experience, I can only say that there is something to be said in favour of both plans. With regard to earthing at different times, or by what is generally called the piecemeal system, I am aware that there is one point that can be urged in its favour, and that is that as a rule the longer celery is earthed up the better flavour it is, that it is to say it is milder in flavour and possibly more tender in eating, and, of course, this is a point of some importance. But as a set-off against this, we have the equally important fact that the longer celery is earthed the more is it exposed to the risk of injury by the weather, for long-continued damp is scarcely less injurious than severe frost, both of which will cause it to rot much sooner than that which has not been earthed up so long. Personally, I am in favour of earthing celery all at once, or, at most, completing the work at two different times. A long experience has satisfied me that, all points considered, this is the most satisfactory plan, especially in heavy soils, or where there are many slugs. In heavy land celery rots quicker than in a drier medium, and such soils are generally more infested with slugs. I like to get all late crops of celery tied up by the middle of October; each plant is tied up separately with a strong piece of matting, after the small and rough bottom leaves are pulled off, which effectually prevents the wind from doing it any injury. After the tying up is completed, a little fresh slaked lime is spread over the surface if there are signs of any slugs. I like to choose dry weather for putting on the lime.

J. Macdonald.

RAIN-PROOF FLOWERS.

Notwithstanding the heavy downpour of rain that my garden has been subjected to from the beginning to the middle of October, I have a nice few flowers in the beds and borders that are attractive for the time of year. Particularly so are the tuberous-rooted begonias, Salvia horminum violacea, and French marygolds, which are in separate beds. In the borders the ever-welcome Michaelmas daisies are a show of themselves, and the double and single annual chrysanthemums are still attractive. But none are brighter than some large clumps of Rudbeckia Newmani. The pompon dahlias have weathered the storms fairly well, and so have the roses, for many of the dwarf plants have lots of flowers upon them. Chrysanthemum leucanthemum is particularly bright, and the old blue Salvia patens is not without flowers, while Sedum spectabile, under the shade of a large shrub, has numerous heads of flowers of a lively clear pink colour; while on my lawn I have a grand plant of Hydrangea hortensis with more than a hundred large heads of bright pink flowers. From this list you will be able to judge that I am able to get a good deal of pleasure out of my garden, although the rain and wind have dashed the glories of the ordinary summer budders.

Laura L——.

RASPBERRY CULTURE.

There is no popular hardy fruit that I am acquainted with that so readily adapts itself to a variety of soils and positions as the raspberry. This should prove encouraging to those who are in doubt about its adaptability for any particular position, for to hear that this fruit had failed when it has been fairly treated would be a bit of new experience. We may, therefore, take it for granted that there are not many soils or positions but will grow this fruit when it is rationally treated. Except that it does not fruit satisfactorily when planted quite in the shade, no one need to study that part of its culture any farther, for in partially shady positions, whether from walls or trees, I have known it to fruit abundantly. Nevertheless it is a subject that likes sunshine, and in such situations it always gives the greatest quantity of fruit.

Then as to soil, give it plenty of manure and it will grow anywhere providing that before being planted the ground is trenched up two feet deep that the roots may have a chance to get down out of the reach of drought. As it is likely to be a permanent crop the ground should be made thoroughly rich before planting. The best manure for the raspberry is that from the farmyard or an exhausted hotbed.

As regards the best sorts to grow, there is really not much difference, either in flavour or cropping quantities. Given liberal treatment they all bear well. I have been a grower for many years, and I have not found one to beat the old Fastolf, which is a vigorous grower and an abundant bearer. Carter's Prolific is also a desirable sort. Either or both of these may be grown with every prospect of their doing well.

When to plant.—This is not a very serious question, as raspberries may be successfully planted at any time between the first of November and the end of February, but no doubt the earlier they are planted the better. Therefore, I advise all whom it may concern not to delay this part of the work, for although the canes may appear to be at rest all the winter, the roots will be making some progress if they are planted in November, and as a consequence they will start into growth earlier and stronger than those planted later.

How to plant is a more important question, as the canes require to be grown in such a way that each one should have sufficient space for the lateral growth to extend without being crowded by coming in contact with those near it. The old-fashioned plan of planting two or three plants in clumps at certain distances apart, and allowing them to form stools from which half a-dozen or more canes were tied to a single stake, is, I should hope, quite extinct, for no plan could possibly be more wasteful in space. The canes were so crowded that not half of the buds had room to start into growth, and a poor crop as compared to the space occupied was the result. There is no better way of growing raspberries than by planting them in single lines, the lines being six feet apart, and the plants put in one foot apart in the row. To support the canes some stout stakes should be placed twelve feet apart along the line. To these two pieces of stout wire must be stretched, one line near the top and the other eighteen inches lower. It will then be an easy matter to tie the fruiting canes to the wires, and they will be secure from rough winds. But the canes must not be crowded on the wires, or the growth will be weak. The canes should be at least nine inches apart, and one foot is not too much in a soil that is favourable to the growth of this fruit. The stakes and wires need not be fixed the first year, as the young canes can be cut back to a height of two feet as soon as they are planted.

Summer management.—Those who wish to excel in the cultivation of the raspberry must not stint the necessary labour. I am well aware that more than half of the raspberries which are grown in this country obtain little more necessary attention beyond the pruning and manuring during the winter. But this is not enough when we wish to obtain a full measure of success. They must have timely attention, and the first thing to be done as soon as the young canes have grown to a height of eighteen inches or two feet is to go over them, and remove all that are not wanted to furnish fruiting canes for the next year. This will give those that are left more light and air, and at the end of the growing season it will be found that they are much stronger than those that have not received such attention. The next point in which they will require attention is to cut out all the old canes which have borne fruit as soon as the crop is gathered. When this is done the young canes must be tied up in their place.

Winter management.—It will be seen that by working out a proper course of summer management that it leaves but little to be done in the winter. The canes will require to be examined and made secure to the wires, and the tops cut off one bud above the top wire. The ground must then be cleared of all weeds, and early in the winter a thick mulch of rotten manure should be laid on each side of the row, and extend two feet wide on each side. Neither spade nor fork should be allowed to come near the roots at any time. With an annual dressing of manure every winter the fertility in the soil will be maintained, and a vigorous growth will be the result. No hardy fruit that I am acquainted with better repays for the labour of giving the roots a few good soakings of manure water during the summer than the raspberry. It not only increases the size of the fruit, but it increases the number, as it encourages the canes to grow to a large size, and strong canes mean an abundant crop of fruit.

R. H. B.

A WORD TO WIVES.—*Beware of Spurious Imitations.*—For 50 years Horniman and Co. have advocated the benefits of Pure Tea, rejecting that "artificially coloured" on the surface of the leaf. The difference in quality is so great, and the flavour of genuine tea so superior, that it has become a household word, where "*Horniman's tea is once used it is always used.*" The pleasure of partaking of tea, free from adulteration, facing powder, or foreign admixture, is realized by many thousands of tea drinkers, who annually consume many millions of packets of Horniman's Pure Tea. See list of Agents in all newspapers, and at railway stations, or apply by post to Horniman and Co., 29, 30, 31, 32, and 33, Wormwood Street, City, London.—[Advr.]

ORCHARD HOUSES.

By William Cole, The Grove Vineyard, Feltham.

The management of the orchard house is slowly but surely undergoing a complete revolution, and the changes that are being made are decidedly for the better. We are now beginning to understand the principles of the work, and, as the result, are carrying it out on a more scientific basis. At one time it was supposed that any rough structure was suitable for the cultivation of fruit trees in pots; but it is now seen that a house substantially constructed, and fitted with appliances by means of which the ventilation can be readily regulated, will afford the most satisfactory results. Not only are the houses erected on the most improved principles, but they are, generally speaking, turned to better account. Instead of being occupied with a motley assemblage of fruits, some of which could be grown equally as well outside, they are now chiefly devoted to the choicer kinds, such as peaches, nectarines, and cherries, which, by reason of their productiveness when they have the protection of glass, and their high quality, will afford an ample return for the additional care bestowed upon them. The changes in the preparation and management of the trees have also been great, and cultivators have become fully alive to the fact that growing the trees in pots from the first and the more liberal use of the watering-pot are important factors in orchard house management.

PEACH "NECTARINE" (Second year of fruiting).

In the erection of the orchard house there is no occasion to expend much money in external ornament, but when the house occupies a prominent position it should be so constructed that it will present a neat, if not an elegant, appearance, as much of the pleasure to be derived from the structure will be lost if it is erected in such a way as to be more of an eyesore than otherwise. The house may have either a lean-to or span roof, but the latter is, in some respects, preferable. When there is no wall against which to erect the house a span roof

will afford more accommodation in proportion to its cost, and in all cases the conditions under which the trees are placed will be more favourable. They will have full exposure to the light on all sides, and, at the same time, enjoy as free a circulation of air as it is possible for trees to have when grown under glass. The dimensions of the house, whether provided with a lean-to or span roof, must be determined by such considerations as the quantity of fruit required, the amount to be expended, and the space available. But in all cases it ought to be large enough to give a substantial return for the labour incurred in its management. A house fifty feet in length, sixteen feet in width, and ten feet high may be mentioned as being in every way suitable for a garden of moderate dimensions. It will be large enough to hold enough trees to give a liberal supply of fruit extending over a comparatively long period without proving too heavy a tax on the time of those in charge or overshadowing the other structures. It may be heated or not at the discretion of the owner, but there is a decided advantage in being able to assist the trees with artificial heat during periods of very cold weather in the earlier stages of growth. In all cases the arrangements for the admission of air must be ample, and ventilators ought to be provided at rather short intervals, both in the apex of the roof and in the front of the lean-to's, and at the sides of those with span roofs. It is a great advantage, although not absolutely necessary, to have glass two or three feet in depth at the sides, as the trees cannot well have too much light. More especially is it desirable that the lower branches should enjoy a full share of light, which is practically impossible where the roof alone is of glass.

NECTARINE "GOLDONI" (Second year of fruiting).

The selection of the trees is a most important point in orchard house management, so much depending on the way in which they have been prepared. It is satisfactory to be able to state that during the past few years a decided change has taken place in the opinion of cultivators as to the trees most suitable for pot culture. In the early days of the orchard house, the practice was almost general of growing the trees in the open quarters until they attained a fruiting size, when they were lifted, put in pots, and placed in the orchard house. Experience has shown that trees so prepared are not the best that could be had for the purpose, the wood being too soft and long jointed, and the roots deficient in numbers. The best are those which have been grown in pots from the earliest stages, as they invariably have an abundance of fibrous roots and are well furnished with short-jointed wood. Trees that are grown altogether in pots are rather more expensive than those recently potted, because of the additional labour involved in their preparation. But the difference in the cost of the trees will be more than balanced in their greater productiveness, not only in the following season but in subsequent years.

Pyramidal trees are in some respects preferable to bushes, but their shape is of less importance than their being well established and furnished with an abundance of fibrous roots, and having wood that is short jointed, properly ripened, and carrying plenty of flower buds. Those established in eleven-inch pots are the most suitable for the general body of cultivators, for whilst large enough to produce a good crop the following season, they are not so large as to be very costly. Trees that have occupied the same pots several years previous to their being received, and those in pots of a less diameter than eleven inches, should be repotted on their coming to hand, and the earlier they are shifted in October the better. Pots one or two sizes larger should be used, and care be taken in the arrangement of the crocks, for, with the assistance of rich top dressings, the trees can be grown several years without being repotted, provided the drainage is in proper order. The balls should be reduced by the removal of four or five inches from the surface and the roots be carefully loosened round the sides, but some of the roots should be shortened. A rather heavy calcareous loam is the most suitable for the several kinds of fruit trees grown under glass, and it is advisable to break it up rather roughly and to add a moderate proportion of partly decayed manure to it. In potting the soil cannot well be too firm, and it should be well rammed in with the potting stick. As the trees are potted they can be placed in the open with some loose material about the pots, to prevent their being split by the frost; or they may be placed in the house in which they are to be grown. It is not a matter of much consequence which course is adopted, but probably the best practice is to place the trees outside until the end of November, and then remove them indoors for the winter.

The trees should be pruned early in February, but when the growth is properly regulated during the summer, very little pruning will be required in the winter. It will in any case consist in throwing out the shoots where there are signs of over-crowding, and shortening those remaining to a length of six or eight inches, according to their strength. It is essential in shortening the shoots to cut them back to a wood bud, for when they terminate in a flower bud they usually die back to the young shoot. The summer pruning consists in pinching the shoots back to the fifth or sixth joint from the base, and stopping the laterals produced subsequently at the fifth leaf. When necessary for the improvement of the contour of the trees, the shoots may be left longer or pinched back more severely as may be desired. To ensure success in the cultivation of fruit trees in pots the watering pot must be in constant use and the air be very freely admitted. At no period of the year ought the soil to be allowed to become dust dry and remain so for any length of time, because whatever may be the season the trees suffer severely from drought. It was not so many years since it was thought that fruit trees may be kept perfectly dry during the winter, if not with advantage, without any great harm, but there are not many cultivators who are not careful to keep the soil moderately moist about the roots when the trees are at rest. Very little moisture will keep the trees safe, and that little they should certainly have. When the trees are growing freely they require very liberal supplies of water, and during the summer months they will require watering once, if not twice, a day. At each watering they must have sufficient to thoroughly moisten the whole of the soil. From the time the fruit is set till it is ripening the syringe must be freely used once or twice a day, and it will be an advantage to pour water occasionally on the surface of the bed, as the evaporation is decidedly conducive to the health of the trees. The ventilation must be abundant, as it is only by maintaining a free circulation of air when the weather is favourable that strong short-jointed wood and richly-coloured and highly-flavoured fruit can be obtained. The ventilation must, of course, be regulated in accordance with the state of the weather, more especially during the spring, when the trees are in bloom; but, generally speaking, there will be more risk in admitting too little air than in giving too much. In the years in which it is not intended to repot the trees they should have a liberal top dressing of a compost similar to that recommended for the repotting. Early in October is the best time for top dressing the trees, and in its application remove the surface soil to a depth of four or five inches, and replace with the new compost, ramming it quite hard with the potting stick. Towards the end of the spring a surfacing of horse droppings or other manure will be beneficial, whether the trees have been repotted or not, and, owing to the restricted space for the roots, there is not much risk of promoting an excessively luxuriant growth.

The selection of varieties is a point of considerable importance as regard the flavour of their fruit and adaptability to orchard house culture. The following form an excellent selection of peaches:—Alexander, Bellegarde, Early Grosse Mignonne, Goshawk, Noblesse, Princess of Wales, Royal George, Sea Eagle, Stirling Castle. The best nectarines are:—Albert Victor, Advance, Lord Napier, Pine Apple, Rivers's Orange, Stanwick Elruge, Violette Hâtive.

THE STORY OF BREMONTIER,

And the Reclamation of the Sand-Wastes of Gascony.

By G. V. Poore, M.D.

In an address to the working classes in connection with the recent meeting of the Sanitary Institute of Great Britain Dr. Poore said: I purpose to bring before you the chief facts of a great sanitary work which has been accomplished by our friends and neighbours, the French.

If you will take the map of France and look at that portion of the coast which skirts the Bay of Biscay, you will notice that two great rivers flow into the sea along this coast. One, the most northerly, is the Gironde, a stream which has upon its banks the great commercial city of Bordeaux; the other river is the Adour, the mouth of which is 150 miles south of the mouth of the Gironde.

Between the mouths of these two rivers the shore of the Bay of Biscay is formed absolutely and entirely of sand, and for a considerable distance inland from the coast the soil of France is composed of sand. It is to this great sandy district, covering nearly two millions and a half of acres, and known in France as the Landes or Moorlands, that I wish to direct your attention.

These Moorlands have been the despair of agriculturists for centuries, and have been universally regarded as among the dreariest and most unwholesome districts in Europe. Sand has not the reputation of being a very profitable soil to the agriculturist, and in addition to the natural poverty of the soil the farmer in this region has had to contend with the impossibility of efficient drainage. The Landes formerly produced nothing except a scant herbage sufficient to support a few miserable sheep, tended by shepherds as ill-favoured as their flocks, who generally suffered from one or other of the many diseases prevalent in the country; for disease was about the only crop which the Landes formerly brought forth abundantly.

Indeed, you will find that plains which are unproductive are generally unhealthy. The Campagna round Rome is a very hothed of malarious and other diseases, and the sandy plains of Holland, and our own Lincolnshire enjoyed a similar evil repute, before efficient drainage was brought about by skilful engineers, and the cultivation of the soil became possible. Husbandry and disease are sworn foes, and the pursuit of agriculture is generally the pursuit of health, and a healthy man is generally contented. Here is an argument for "small holdings," for "three acres and a cow," and for "allotments," which I freely give to those who find pleasure in political contention.

The drainage of the Landes presented special difficulties, and difficulties which no engineering skill and no expenditure of money in the direction of bricks, mortar, and machinery, seemed likely to overcome, and for the following reasons:—

The reputation of the Bay of Biscay is familiar to every Englishman. It is there, if anywhere, that the force of wind asserts itself, and the winds are generally westerly in direction, and blow with fearful violence from the sea over the land.

The shore of that part of the bay with which I am dealing, is composed, as I have said, of unmitigated sand. The effect of the wind upon sand is familiar to all of us, for the sand is borne before the wind and travels considerable distances.

Now, in the bay of Biscay the rise and fall of the tide is great, so that the sand washed up by the sea is left high and dry to the extent of many feet at low water.

Again, in the latitude of the Bay of Biscay the sun is far more powerful than here, so that in the interval between the times of high water the sand is greatly heated by the sun, and is so thoroughly dried that the particles no longer tend to stick together—glued by natural moisture—but are easily driven before the furious blast which comes roaring from the sea. When the wind is not very strong it blows the sand into heaps along the shore. These heaps or hills may reach an elevation of from 60 to 300 feet, with an inclination of about thirty degrees towards the sea. These heaps of sand are called "dunes," a word having the same origin probably as the English "down," and formerly the whole foreshore of the Bay of Biscay, between the Gironde and the Adour, presented an undulating appearance, as though a portion of the swelling, rolling sea had been turned to sand and become stationary. If these sandhills had been really stationary they would have formed a natural rampart against wind and waves, and it might have been possible to drain and cultivate the land behind them. But this was not the case. The scanty herbage of grass and reed which grew upon the dunes was not enough to fix them. It only required a gale of moderate force to completely alter the face of the country; hills became flat, valleys were filled up, the lakes which formed behind the dunes became dry land, the water which the lakes contained was forced in some new direction, and what happened to the lakes also happened to the water courses, with the result that the whole country was waterlogged, and fields and gardens which had been painfully and industriously cultivated were submerged by the drifting sand. It is even stated that villages disappeared completely in this way, and that the enterprising agriculturist in digging his estate was liable to the surprise of finding just beneath the surface the brazen weathercock on the steeple of some long-forgotten parish church. It is a great labour, even at the present day, to keep the mouths of the Gironde and the Adour free from drifting sand, and it is certain that a century or so ago the course of the Adour was completely changed, owing to the channel getting dammed by sand blown into it. If an accident such as this could happen to a mighty stream like the Adour, one may judge of the great uncertainty which attended the course of smaller streams, and the absolute impossibility of draining the land.

A few feet below the average level of the surface of the district there is an impermeable stratum, *locally known as allios*, which keeps the water from flowing away, and beneath the impermeable stratum was more sand sodden with undrinkable water.

The result of this condition of things naturally was that the district of the Landes during the wet season was a swamp, and during the dry season a pestilential morass. The district was uncultivated, and produced nothing but scanty herbage, which served as pasture for a few wretched sheep, tended by shepherds doomed to spend their lives upon stilts, for the country was such that it was impossible to walk far in any one direction without sinking to the

waist or shoulders. The country produced no corn and the population was the scantiest in proportion to acreage of any district in France. The population was kept down also by disease. Fevers of all kinds—and especially those of a malarious type—were exceedingly common. And in addition, there was a disease peculiar to this and a few other districts in Europe, known as Pellagra; a terrible disease which disfigured and slowly killed; the patient dying with the aspect of a mummy and the mind of an imbecile.

The Landes had remained for centuries as a hideous blemish on the fair face of France, and all attempts to reclaim and cultivate them had signally failed. The Emperor Charlemagne, it is said, employed his troops in the intervals of his Spanish campaigns in an attempt to reclaim the Landes, but the forces of nature laughed at the puny opposition of the greatest magnate of the world, and at once resumed their sway as soon as the imperial soldiers had ceased to dig ditch and throw up bank.

I have no fear of being contradicted, when I say that it is of no use to attempt to fight with Nature. We may oppose her for a time, but only for a time. In the end she asserts her sway, and man sees too late how his labour has been in vain.

Dwellers in these islands do not need to be reminded of the awful and irresistible power of wind and wave, against which the mere dead weight of cyclopean breakwaters, constructed at gigantic cost and maintained by constant periodic expenditure, is at times laughably impotent. I need not say that the wind and waves of the Bay of Biscay are the roughest and rudest in the world, and that if the maintenance of dead breakwaters is an endless and almost hopeless task on our coasts, on the stretch of coast which I am considering their construction and maintenance would be alike impossible. Thus it was that until the latter end of the last century the condition of the Landes, a tract of two millions and a-half of acres, seemed hopeless, and they seemed doomed to be open to the fury of sand storms for ever, and to remain a pestilential, unprofitable, undrained swamp to all eternity.

But, happily for France and especially for the dwellers between the Gironde and the Adour, there was born in 1738 Nicolas Theodore (or Thomas ?) Bremontier. It is said that the world knows nothing of its greatest men. Certain it is that Bremontier was one of the greatest benefactors to humanity that the world has ever known, but I regret to say that I can tell you very little about his life.

Bremontier recognised the fact that the only way to grapple with the forces of Nature is, not to fight blindly with them, but to try to make use of them. Nature is always working for our benefit, and although it seems as though at times in a fit of anger as it were (the real object of which we may fail to comprehend) she destroys much of her own work, still, in the long run, those who endeavour to turn the forces of Nature to account will find the balance enormously in their favour.

It is well known, and has been long recognized, that the best protection for a bank or rampart against the fury of the elements is to plant it. A loose heap of earth is liable (no matter how huge it may be) to be washed and blown away in times of tempest. If, however, the bank be planted, the roots of the trees and plants hold the elements of the soil together, and the spreading branches and leaves form at the same time a protection from the fury of wind and water. It is true that even planted hills and banks may suffer severely in times of exceptional storm, but the storm once past, the silent forces of nature commence at once the work of reconstruction; the damaged roots send forth fresh rootlets, the damaged branches soon push again with buds of promise, and possibly before the advent of the next exceptional gale, the storm rampart is stronger than before. These silent forces of nature are truly beneficent; they merely ask for fair play, they work for us without wage, and one great principle of success in all work in this world, be it legislative, be it sanitary, or be it of any other kind, is to go with them, not to fight against them, to learn if we can what is nature's inexorable law, and lay to our hearts the fact that nature brooks neither stubbornness nor disobedience.

Bremontier recognized the fact that the only way to fix the drifting sand-dunes was to plant them; but how, and with what? These were the questions he had to solve. Sand is not regarded as a promising soil by agriculturists in general, and the sea-sand along the shore the least promising of all. And yet sand must contain in its interstices a good deal of organic matter left by the seaward-tending rivers, and the fact that the sandy estuaries of rivers are very liable to breed malaria may be taken as evidence that organic matter must exist in quantity and in fine division among the minute particles of sand. This spring I was astonished at finding, close to Biarritz and within a few yards of the sea, a very flourishing crop of peas which had been sown in the sand without, apparently, the admixture of any manurial body. They were protected from the sea-winds by hurdling made of gorse, and enjoyed an ample exposure to the sun, and thus bid fair to yield a good return in due time. The pea is a plant that sends its roots very deeply, and the roots doubtless found moisture and nourishment at a great depth below the surface. For fixing dunes, however, something more permanent than peas is necessary, and Bremontier resolved to try the Pinus Maritima, a species of pine tree which was known to flourish in sandy soils near the coast. The Pinus Maritima is a species of Pinaster, and in habit and size it very much resembles the common "Scotch Fir," with which you are all familiar. Bremontier made his first sowings of the seeds of Pinus Maritima in the year 1789, and I will state shortly his perfected manner of procedure by which he overcame the obvious difficulties of his task.

I wonder what the dull-minded and prejudiced peasant thought of this enthusiast who went forth to do battle with the mighty ocean and still mightier wind, armed only with a few handfuls of pine seeds such as might be driven far away by the first strong gust that blew. I wonder also if only the ignorant laughed at him, and if he escaped the jeers and sneers of those who had enjoyed the advantages of a better education. Probably not, and equally probably he cared little for the opinions of the prejudiced. The pine seeds were sown mixed with seeds of the common broom, and the sowings were made in a direction at right angles to the prevailing wind. A screen of hurdles made of gorse or of planks deeply driven into the sand was placed on the windward side of the seed-ground, and the seed-ground itself was thatched with pine branches and other suitable material. At the end af the first year the broom would be nine or ten inches high, and the pine saplings only two or three inches, and thus the tender little saplings were nursed and protected by the plants of broom. In half a-dozen years or so the brooms had reached their full growth, but the pines continued to grow, and, in course of time, overtopping the brooms smothered their nurses, and being themselves judiciously thinned and pruned by the foresters, grew into fine trees able to resist the fury of the elements, sending their long tap-roots and laterals in all directions through the dunes, and causing them to become year by year a stronger and stronger protection to the inland wastes instead of a dangerous menace. Before the dawn of the present century Bremontier had proved the success of his practice, and in the year 1801 the matter was taken in hand by the French Government, and in 1810 it was ordained that so much of the sand-dunes as belonged to the State should be planted after the manner of Bremontier, while the private property of those who were unwilling or unable to plant should be taken in hand by the State, all revenue arising from such land being confiscated until the cost entailed by the work had been recouped.

In 1817, a yearly sum of less than £4,000 was voted for the reclamation of the dunes and wastes of Gascony, the result of this has been that in the department of Landes, 98,000 acres of forest have been planted, and that whereas in 1834 there were about 900,000 acres of uncultivable land in the department of Landes alone, there are now only 340,000 acres, showing that in the past half-century, reclamation has proceeded at the rate of 12,000 acres a-year. These figures apply only to the department of the "Landes," and leave out of consideration the department of "Gironde," in which, however, nearly half these waste moorlands are situated. This reclamation has been made possible by the fixation of the dunes, which has rendered systematic drainage operations practicable; canals and drains have been cut in every direction, and, thanks to the pine forests, there is now no longer any risk of their being choked up with sand.

The Pinus Maritima has proved a very profitable tree, and within twenty or twenty-five years of sowing, it began to yield a return. The timber is of very moderate quality, but is largely used for packing-cases, as shores in the dockyards of Bordeaux, for railway slespers, and for firewood. I may remark in passing, that the great scarcity of coal in France compels the French to look to their forests for fuel, and there is probably no nation more clever and more thrifty in the management of trees.

The pine trees are chiefly valuable for their yield of turpentine and resin, which in that comparatively warm climate is very abundant. The resin is obtained by removing a strip of bark from the tree and allowing the exuding sap to trickle into a small earthern vessel shaped like a flower-pot. The trees begin to yield resin when they are about twenty years old, and the resin is worth about £5 a hogshead in its raw crude condition. As far as I am able to judge, it requires about 250 trees on an acre of ground to give a hogshead of resin. It requires comparatively little labour to collect the resin, so that the profit per acre from the resin harvest is considerable. It is said that the draining away of the resin does not seriously affect the value of the timber. Besides resin and timber, the manufacture of charcoal is largely carried on, charcoal, as you are aware, being in great demand in France for a variety of purposes.

Thus it appears that the waste moorlands on the shores of the Bay of Biscay have become of great commercial value. Journeying from Bordeaux to Bayonne the railway passes through one long monotonous pine forest. When I state that the journey takes between four and five hours you will be able to judge of the vast track of country which, once the abomination of desolation, is now covered with millions of the resin yielding Pinus Maritima. The cultivation of the pine improves the soil, which is gradually enriched and altered in quality by the dead leaves and other vegetable debris which fall upon it. In some places clearings have been made in the forest and vineyards planted, and I need not remind you that the most valuable vineyards in the world are on the southern bank of the Gironde on the very fringe of the pine woods which I have been describing.

The rise in agricultural value of this tract of country, great as it is, is a small matter. The great gain after all has been the rendering wholesome of a pestilential swamp and the removal of a plague spot from the face of Nature. The shepherds of the Landes, except in very few places, have now no longer any need to walk about on stilts, and malaria and pellagra from being common have become rarities, and will soon become extinct. Life in this district no longer languishes and ends prematurely, but the dwellers of this vast district enjoy a vigorous health, and that happiness and contentment which vigorous health alone can give.

Population has increased very rapidly since the beginning of the century, and industries of various kinds are able to be carried on. Round the basin of Archacon is a very large population, supported mainly by the oyster fisheries, and the town of Arcachon which has grown up in the pine forest is one of the best known health resorts in Europe, where land in the best situations is worth about £1,000 an acre. Well may the dwellers in Arcachon raise a statue to Bremontier, whose far-seeing and thrifty policy has brought them health, happiness, and riches in place of disease, misery, and poverty.

I have now given you the simple details of the manner in which Bremontier's small beginning has made a great end; how his pine plantations, made at first with no little labour and sorrow, began along the coast, and with the lapse of a century have reclaimed a province.

You will be asking, perhaps, why I have chosen this subject for my short address to the inhabitants of York, and having listened to my tale, you will be asking for the moral.

I chose this subject for my address for several reasons. The chief reason, probably, is to be found in the fact that I spent part of the early spring of this year in the district which I have been describing, and what I saw there made, as it could not help doing, a very deep impression upon me.

My next reason was that it is an aspect of sanitation which is not often dealt with at meetings like this, and I was glad of the opportunity of taking you away from pipes, traps, sinks, and those expensive roads to health which we have to consider in cities; to contemplate the sanitary effect of good husbandry in the open air, and to show you on a large scale what I believe to be universally true, viz., that the cultivator of the soil must always be the right-hand man of the sanitarian.

It has been refreshing for us to contemplate a sanitary work which has been a financial success. Sanitation always gives us the best of all dividends—health. And it is a short sighted policy, especially in cities, to look for a money return on the capital expended on works for improving the public health. The thrifty French, however, have given to the world a valuable example of a comparatively small expenditure yielding in the course of time a magnificent return of both health and material prosperity.

Do not run away with the idea that Pinus Maritima is a cure for all waste lands, and unwholesome districts, because it happens to be especially suited for the soil and climate of the eastern shores of the Bay of Biscay. In the warm climate of the south it yields abundance of resin and turpentine, grows quickly, and furnishes a large quantity of timber. In more northern climates it will grow, but does not flourish; and although there is at least one fine specimen in Kew Gardens, it is not, from all I have heard, a tree suited to this climate.

My story seems to show that in the reclamation of waste lands we must not

be in a hurry. Nature is sure, but from our point of view, slow. Bremontier, and those who worked with him, began in a small way. We may be sure that experience had to be bought at more or less expense, and it was not until the success of his methods had been proved that the French Government seriously took the matter in hand. Bremontier was a true patriot. He worked solely for the good of his country and for posterity. He had no idea of immediate profit, either for himself or his contemporaries. He drew his modest salary as inspector-general of roads and bridges (for he was an official of the State department of *Ponts et Chaussées*), but looked to no further profit. He lived barely long enough to see the resin flow from his first plantings. He pointed out, as it were, the way to the promised land, but, for himself, he only saw the promised land "in his mind's eye." It is good for us to bear this fact in mind, for many reformers of the present day seem, in questions of land management, to look only for immediate results, and to be actuated by the not very noble sentiment of "bother posterity, what has posterity done for me?"

There has been a good deal of talk of late about the reclamation of waste lands in this country, and the opinion of some seems to be that worthless soil presents a glorious opportunity of wasting money. These are questions concerning which I cannot speak to you as an expert, but it seems certain that the problem of reclamation must differ with the circumstances of soil and situation, and that it is far more easy to do the wrong thing than the right. The first thing necessary is to find a Bremontier to show the way. We shall want a Bremontier to show us the way out of the pestilential quagmire which we Londoners are making by dint of large expenditure in the estuary of the Thames. We want a genius and enthusiast who will do for the bogs of Ireland what this great Frenchman did for the Landes of Gascony.*

Correspondence.

BRITISH GRAPES FOR BRITISH WINES.

In your issue for October 2 you have remarks on English grape vines by Mr. Harrison Weir, followed by a letter from Mr. Rivers, who expresses a very unfavourable opinion and no slight condemnation of English wines. Mr. Rivers appears never to have met with good English wine; therefore, he is of opinion there is none to be had.

Now, I have made grape wine for over thirty years, and I should not have followed it up for so many years if I had not considered it good, and I think Mr. Rivers, although he writes on the subject, does not know all about it. I could add many opinions of friends and strangers in favour of English grape wine, but perhaps that would not prove my case. I have never made for sale and never sold any, and I do not want to sell any; but I have so much confidence in it that were I a young man I should devote all my resources to cultivating and making grape wine. It can be made as a sparkling wine equal to any except only the very highest class champagnes, and either red or white, it can also be a still wine, and it is certainly palatable and nutritous, and this cannot be said of all imported wines.

At the Healtheries Exhibition I showed six bottles only of various vintages. I stated on my exhibit it was not for sale, but to encourage others to grow grapes and make wine for themselves, and I was awarded the bronze medal. I believe this was the only award given to English-made wine. I was present with the jurors at the tasting, too, and they declared they had never tasted better wine in their lives. The exhibit was one bottle made in 1860 red wine, others in various years to 1874, some white, some red. All this wine was not then so good as if fresh from the cellar. It had been in the hot exhibition for over a fortnight. Other exhibitors of English wines had pyramids and mountains of bottles. I had six only, a very insignificant show indeed; but then mine had the only award.

Of course I know the usual objection to growing grapes in this country—the uncertainty of the crop. But every year I have managed to obtain some, never less than two sherry casks, about fifty-six gallons, a nice little drink for a small household, and once I had over a ton weight of grapes, all crushed down, and, as late as 1885, I made five sherry casks full. Its average cost is about one shilling a bottle (champagne bottles). Nearly all those grapes I obtained from cottagers, and many from open market; but I believe with common orchard houses grapes in any quantity, and good in quality, could be grown.

Mr. Rivers describes English wine as a very "penitential drink." He may not have had the privilege to drink some so "grateful and comforting" as I believe mine to be, and, of course, he did not persevere to have an acquired taste for it; but I have drank it for over thirty years, and have not received either the visits or the advice of a doctor all this time.

Mr. Rivers says the wine must be largely fortified, and he says even then Mr. Harrison Weir would not drink it, or offer it to friends. Now, I never put in any spirit but once, and then only a few bottles, just a wine glass in a bottle. I do not think it did any harm, but I also think it did not do any good.

There are men who say England could grow all its tobacco. I have an opinion it could grow all its wine. Of course good wines are imported, but they go into the cellars of wealthy people. Ordinary or middle-class people get only vile stuff, neither grateful, comforting, nor nutritious. We know that to get English wine would first occupy four, five, or six years to grow grapes and make the wine. But greater obstacles than this are surmounted by enterprising men. The time would not be lost, as the ground could be producing something else while the grape vines were growing.

I hope Mr. Harrison Weir will not silently consent to be so "sat upon," and I also ask you to further ventilate the subject. John Parker.

St. Margaret's, Oxford.

The Liquidamber, *L. styraciflua*, is now rapidly acquiring its proper autumnal colours in the vicinity of London, the decline in temperature since Sunday last having made a considerable difference to this and many other trees. The scarlet oak, *Quercus coccinea*, is also conspicuous for its splendour of colour, although three weeks since we saw a few specimens in brilliant array. Relative exposure and dryness of soil have much to do with the degree and the time of autumnal colouring.

* For many of the facts embodied in this address I am indebted to Dr. John Croumbie Brown's "Pine Plantations on the Sand-wastes of France." (Edinburgh: Oliver and Boyd, 1878.)

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory should now be gay with October chrysanthemums, of which there is now a considerable number that are decidedly first-class. To preserve the freshness of the flowers and prevent the foliage being attacked with mildew, maintain a free circulation of air. Chrysanthemums that are still in the open should be removed to a cool airy structure without delay, because of the risk of the buds being injured by frost. A peach house or a vinery from which the crop has been gathered will be the most suitable place for them until the flowers are sufficiently developed for the plants to be removed to the conservatory.

Greenhouse should be freely ventilated on all favourable occasions. On bright days open all the ventilators, to cause a free circulation of air amongst the plants. Avoid using fire heat as far as possible consistent with the safety of the plants, and give very little water to those that have finished their growth, or which it is desirable to throw into a state of rest. Plants in pits will endure short periods of frost better if kept well aired and moderately dry. In case of a severe frost, now to be looked for, light a brisk fire early in the day; give air while the sun shines, shut up early, and trust to covering up rather than keep the fire burning all night. A clear sky and a few points of north in the wind may be considered indications of frost, and at such times the cultivator should be on his guard. Generally we have one sharp frost at this season, and then no more till near or after Christmas, and the frost generally follows close upon heavy rains.

STOVE AND ORCHID HOUSE.

Stove Plants will require careful attention at the present time. There are comparatively few plants in bloom now, and those few must be made the most of. Many subjects, however, require to be started into growth, and the necessary repotting and pruning must be attended to. Solar light is now scarce, and the careful cultivator will catch all he can. Clean glass, climbers a little reduced, and plants most in need of light put up as high as possible, are three direct ways of obtaining the fullest benefit of the present subdued daylight.

Orchids approaching a dormant state should be kept comparatively cool and dry, but due caution must be exercised to avoid extremes. Pleiones are commencing to grow freely, and must receive more liberal supplies of water, and be placed in a warm part of the house. Plants in bloom should be placed where they will not be exposed to drip, or the flowers will soon become spotted and lose their beauty.

FORCING AND ORCHARD HOUSES.

Peaches that are to be started early may be pruned at once; the roots top-dressed, the branches washed, and the lights put on, but give plenty of air. Vacancies may now be filled up in the peach house, and nothing better for the purpose than bearing trees. Generally where peaches are unproductive on open walls the climate is most to blame, and the mere protection of glass, even without fire heat, suffices to convert barren into fruitful trees, besides the fact, which must always be borne in mind, that trees under glass invariably get more attention than those in the open air. In planting peaches let attention be first given to drainage. If the soil is light lay down six inches of tenacious loam or clay, or turf from a loamy pasture, and about three inches of rotten dung, and then stir the whole and mix this material with the staple to a depth of two feet, mixing the ingredients well together. The peach, nectarine, and apricot all require a firm, substantial, and somewhat adhesive soil, a south aspect, and a dry bottom.

Vineries which contain fruit for late use should be freely ventilated in dry weather, and, where practicable, have all plants removed from them, as the moisture rising from plants underneath the vines is decidedly unfavourable to the preservation of the grapes in good condition at this season of the year.

FLOWER GARDEN AND PLEASURE GROUND.

Auriculas must be kept clean and dry; any drip from the frames will do incalculable mischief. At no time, not even during frost, should the roots be dust dry; it causes an exhaustion of the plant which will tell seriously on the bloom hereafter.

Carnations will often be found beset with green-fly during damp warm weather at this time of year; in which case fumigate at once, and again a few days afterwards, and they will probably remain quite clean till they begin to grow again in spring.

Plants in Frames will soon be infested with mildew, if kept close or damp. Though nothing should go dust dry, it will be best always to defer watering till the weather is clear and bright, and then water well the first thing in the morning, that the pots and plunge material may be somewhat dry before night; one good watering will go a long distance now. During keen north-east winds—not very prevalent at this season—soft-wooded plants suffer severely if kept very dry, and at the same time they will not then bear so much exposure as at other times. Keep the plants clean by removing dead leaves and cutting off the soft tops of any green shoots of geraniums, &c., which show signs of mildew.

KITCHEN GARDEN AND FRAME GROUND.

Crops to be kept clean, all dead leaves removed, the ground frequently hoed between cabbage, &c. Thin winter spinach, clear off Brussels sprouts, in compartments as used, and dig the ground over as soon as vacant.

Cauliflowers potted for keeping over winter should be kept rather dry, and as much as possible exposed to the weather, to keep them stocky and hard. Keep the lights or glasses on always at night from this time forth, removing them every morning, except during frost or drenching rains. In wet muggy weather, tilt the lights upon blocks of wood or bricks, so as to create a circulation of air amongst the plants, and yet keep them from being soaked with water.

Storage of root crops should be proceeded with as opportunities offer, and effort be made to have beetroot lifted before the crop has been exposed to severe frosts.

Vegetables in Season include Cape Broccoli, Brussels Sprouts, Cabbage, Cauliflowers, Endive, Lettuce, Mushrooms, Onions, Scorzonera, Spinach, Tomatoes, and Turnips.

CHOICE ROSES FOR EXHIBITION AND GARDEN DECORATION.

As the planting of roses must be soon proceeded with to give them time to become established in their new quarters previous to the winter, we give below a series of selections adapted to the requirements of the several classes of cultivators. The varieties in the several groups have been selected with due regard to their freedom of growth and profusion of flowering, as well as to the high quality of the flower. None of the selections exhaust the list of good flowers in the respective sections, neither do they include a variety which is otherwise than of the highest class in its class and colour.

One Hundred Hybrid Perpetuals for Exhibition.—*White and White-tinted.*—Mdme. Lacharme, Merveille de Lyon, Violette Bouyer, and White Baroness.

Light Pink and Flesh Colour.—Baroness Rothschild, Baroness Nathaniel de Rothschild, Captain Christy, Duchesse de Valombrosa, Helen Paul, La France, Mdme. Gabriel Luizet, Mdme. Hippolyte Jamain, Miss Hassard.

Deep Pink and Pale Rose.—Abel Grand, Archiduchesse Elizabeth d'Autriche, Cathorine Soupert, Centifolia rosea, Comtesse de Paris, Comtesse de Serenye, Her Majesty, Duchesse de Morny, Egeria, Edouard Morren, Elie Morel, Lady of the Lake, Mdme. Eugène Verdier, Mdlle. Eugénie Verdier, Mrs. C. Swailes, Marie Cointet, Pride of Waltham, Queen of Queens, Thérèse Levet, and William Warden.

Deep Rose, Carmine, and Cerise.—Annie Laxton, Alphonse Soupert, Antoine Ducher, Countess of Rosebery, Dupuy Jamain, Ella Gordon, Etienne Levet, François Michelon, Hippolyte Jamain, John Hopper, Lady Sheffield, Mdme. Clémence Joigneaux, Mdme. Prosper Laugier, Mdme. Norman Neruda, Marchioness of Exeter, Marie Verdier, Marquise de Castellane, Mary Bennett, Marshall P. Wilder, Mrs. Baker, Star of Waltham, and Victor Verdier.

Crimson-scarlet, Blackish-crimson, and Purple Shaded.—Abel Carriere, Charles Darwin, Charles Lefebvre, Devienne Lamy, Duke of Edinburgh, Duke of Teck, Duke of Wellington, Earl of Pembroke, Horace Vernet, Jean Liabaud, Harrison Weir, Louis Van Houtte, Mons Bonnenne, Pierre Notting, Prince Camille de Rohan, Victor Hugo, Reynolds Hole, Xavier Olibo, and Rosieriste Jacobs.

Red-scarlet, Red, Rose-crimson, and Deep Carmine.—Alfred Colomb, Alfred K. Williams, Annie Wood, Auguste Rigotard, Beauty of Waltham, Benoite Comte, Camille Bernardin, Countess of Oxford, Dr. Andry, Duchesse of Bedford, Duchesse de Caylus, E. Y. Teas, Fisher Holmes, General Jacqueminot, Henri Ledechaux. Heinrich Schultheis, John Stuart Mill, Lord Macaulay, Mdme. Victor Verdier, Maréchal Vaillant, Marie Baumann, Marie Rady, Maurice Bernardin, Mrs. Charles Wood, Mrs. Jowitt, Mrs. Laxton, Prince Arthur, Pride of Reigate, Sénateur Vaisse, Star of Waltham, Thomas Mills, and Ulrich Brunner.

Twenty-five Teas and Noisettes for Exhibition.—*Blush, Flesh Colour, Rose, and Crimson.*—Adam, Anna Olivier, Catherine Mermet, Devoniensis, Hon. Edith Gifford, Mdme. Bravy, Mdme. Cusin, Rubens, Souvenir d'un Ami, Souvenir d'Elise Vardon, Souvenir de Therese Levet, Waltham Climber No. 3.

Yellow and Yellow Shaded.—Adrienne Christophle, Bouquet d'Or, Etoile de Lyon, La Boule d'Or, Mdme. Eugène Verdier, Mdme. Hippolyte Jamain, Mdme. Lambard, Mdme. de Watteville, Maréchal Niel, Marie Van Houtte, Sunset.

White and White-tinted.—Innocente Pirola, Etandard de Jeanne d'Arc, Mdme. Willermoz, and Niphetos.

Six Hybrid Teas for Exhibition.—Cannes la Coquette, Cheshunt Hybrid, Countess of Pembroke, Distinction, Lady Mary Fitzwilliam, Mdme. Alexandre Bernaix.

Seventy for Gardens Decorations and Towns.—Hybrid Perpetuals.—Alfred K. Williams, Anna Alexieff, Annie Wood, Antoine Ducher, Baroness Rothschild, Baronne Prevost, Beauty of Waltham, Bonle de Neige, Brilliant, Captain Christy, Charles Lefebvre, Charles Dickens, Charles Lamb, Countess of Rosebery, Crimson Bedder, Crown Prince, Dr. Andry, Duke of Edinburgh, Duchess of Bedford, Duchesse of Connaught (Noble), Elizabeth Vigneron, Fisher Holmes, Florence Paul, Général Jacqueminot, Glory of Cheshunt, Glory of Waltham, Grandeur of Cheshunt, John Hopper, Jules Margottin, La France, Lord Bacon, La Reine, Longfellow, Marguerite de St. Amand, Mdme. Victor Verdier, Mdlle. Eugénie Verdier, Marquise de Castellane, Mons. E. Y. Teas, Paul Neyron, Princess Louise, Queen of Bedders, Red Dragon, Red Gauntlet, R. C. Sutton, Sénateur Vaisse, and Victor Verdier.

Hybrid Bourbons.—Comtesse Barbantanne, Garden Favourite, Mdme. Isaac Perrière, Rev. H. D'Ombrain, Souvenir de la Malmaison.

Hybrid China.—Blairi No. 2, Charles Lawson, Coupe d'Hébé, Mdme. Plantier.

Moss.—Alice Leroy, Glorie de Mousseuses, Mdme. William Paul.

Tea-scented Noisettes and Hybrids.—Belle Lyonnaise, Cheshunt Hybrid, Coquette des Blanches, Devoniensis, Gloire de Dijon, Lady Mary Fitzwilliam, Mdme. Berard, Mdme. Eugène Verdier, Marie Van Houtte, Princess of Wales, Reine Marie Henrietta, Waltham Climber No. 1, Waltham Climber No. 2, William Allen Richardson.

Thirty-six for Pot Culture.—Hybrid Perpetuals.—Abel Grand, Alphonse Soupert, Baroness Rothschild, Beauty of Waltham, Countess of Rosebery, Dr. Andre, Duke of Edinburgh, Duke of Teck, Edouard Morren, François Michelon, La France, John Hopper, Merveille de Lyon, Mdme. Victor Verdier, Marquise de Castellane, Star of Waltham, and Victor Verdier.

Tea-scented and Hybrid Teas.—Anna Olivier, Belle Lyonnaise, Cheshunt Hybrid, Hon. Edith Gifford, Mdme. Alexandre Bernaix, Mdme. de Watteville, Mdme. Willermoz, Marie Van Houtte, Mdme. Berard, Mdme. Lambard, Princess of Wales, Souvenir d'un Ami, Sovenir d'Elise Vardon, W. F. Bennett.

Hybrid China.—Charles Lawson, Paul Perras, Juno.

Noisettes.—Céline Forestier, Mdme. Caroline Kuster, Triomphe de Rennes.

Fifty for Pillars, Trellises, and Walls.—(*C. Climber; P. Pillar*).—Hybrid Perpetuals.—Anna Alexieff, *P.*; Annie Wood, *P.*; Climbing Bessie Johnson, *C.*; Climbing Captain Christy, *C.*; Climbing Charles Lefebvre, *P.*; Climbing Edouard Morren, *C.*; Climbing Mdlle. Eugénie Verdier, *P.*; Climbing Jules Margottin, *C.*; Climbing Victor Verdier, *C.*; Glory of Waltham, *P.C.*; Maréchal Vaillant, *C.*; Princess Louis Victoria, *C.*; Red Rover, *C.*; Red Dragon, *C.*; William Jesse, *P.C.*

Bourbons and Chinas.—Blairi No. 2, *C.*; Charles Lawson, *P.*; Coupe d'Hébé, *P.*; Fulgens, *C.*; Paul Verdier, *P.*; Paul Perras, *P.*; Vivid, *C.*

Tea-scented and Hybrid Teas.—Cheshunt Hybrid, *C.*; Climbing Devoniensis, *C.*; Gloire de Dijon, *C.*; Mdme. Berard, *C.*; Mdme. Falcot, *C.*; Reine Marie Henrietta, *P.*; Waltham Climber No. 1, *C.*; Waltham Climber No. 2, *C.*

Evergreen.—Félicité Perpétué, *C.*; Flora, *C.*; Leopoldine d'Orleans, *C.*; Princess Marie, *C.*

Noisettes.—Bouquet d'Or, Céline Forestier, *C.*; Jane Hardy, *C.*; Lamarque; Maréchal Niel, *C.*; Triomphe de Rennes.

Ayrshire.—Bennett's Seedling, *C.*; Dundee Rambler, *C.*; Rampante, *C.*; Ruga *C.*

Boursault.—Amadis, *C.*; Gracilis, *C.*; Elegans, *C.*

Banksian.—Alba, *C.*; Lutea, *C.*

Calls at Nurseries.

MR. B. S. WILLIAMS, VICTORIA AND PARADISE NURSERIES, UPPER HOLLOWAY.

As one of the many evidences of the increasing popularity of chrysanthemums, it may be mentioned that an exhibition of these flowers is held annually in the Victoria and Paradise Nurseries, and rich as are the nurseries in attractions, it is regarded with much interest by the visitors. The place of exhibition is the magnificent winter garden which forms the entrance from the Highgate Road, and no more suitable structure could possibly be desired. It affords plenty of space for both flowers and visitors, and the splendidly developed tree ferns, palms, dracænas, and other fine foliage plants with which the structure is so liberally furnished, form a pleasing contrast to the bright colouring of the chrysanthemums. Preparations are now being made for the exhibition of the current season, and judging from the appearance of the plants already in position, a display exceeding that of any previous year may be anticipated. At the present time La Vierge, a fine intermediate, with well-formed flowers of the purest white, is in perfection, and proves to demonstration its usefulness for conservatory decoration and the supply of cut flowers during the current month. It forms a capital succession to Mdme. Desgrange, and is now being cultivated largely by the market growers, who are not slow to take advantage of a good thing.

This is perhaps the dullest period of the whole year in the orchid house. Nevertheless the several structures devoted to orchids contain sufficient plants in bloom to produce a series of bright displays of colour, and afford abundant interest to the visitors. The cattleyas in bloom included the autumn flowering C. labiata, which is quite unsurpassed in beauty, the lovely C. Gaskelliana and C. Eldorado splendens, one of the finest of the forms of this distinct and remarkably handsome species. Lælias that are in flower comprise L Perrini alba, a chaste variety distinguished by having a white labellum; L. Dormanniana, a fine form of tall slender growth, and bearing medium-sized flowers, the sepals deep green and the labellum rich amethyst purple; and a very dark form of L. Perrini. The little known Cœlogyne nitida was blooming freely, and its bright yellow flowers were singularly attractive; C. Massangeanum promises to contribute materially to the attractions of the intermediate house in a short time for it is now coming into bloom, some of the plants having six racemes each; Aerides Rohanianum, a comparatively new species bearing large racemes of flowers of a delicate rose colour, was finely in bloom and at once arrested attention by reason of its great beauty. Chief amongst the few dendrobiums in bloom was the remarkably handsome D. superbiens, of which some thirty or forty plants were in flower. This species produces its rich purple flowers in elegant racemes from the top of the pseudo bulbs and is one of the most attractive of the orchids flowering during the autumn and the early part of the winter. Very attractive also were D. formosum and D. Dearei, two of the best of the white dendrobes, the last-mentioned being particularly useful for the supply of flowers at this season of the year. The odontoglossums do not make a very great figure at the present time, as it is yet too early for O. Alexandræ and O. Pescatorei, which contribute so much to the attractions of the cool house during the winter and spring months. There are a few good examples of each in bloom, and there is still a good display of the showy O. grande, which so well deserves the popularity it enjoys.

The cypripediums form a very important and highly effective feature at the present time, for there are at least twenty distinct kinds in bloom, some being represented by numerous examples. Of the lovely C. Spicerianum, which is now at its best, there are at least a hundred flowering plants, amongst them being several exceptionally fine varieties. In addition to the foregoing, the following were finely in flower, namely: C. Ashburtoniæ, C. biflorum, C. Crossianum, C. Harrisianum, C. Haynadlianum, C. selligerum, C. Swannianum, C. concolor Regnieri, C. euryandrum, C. insigne albo marginatum, an elegant variety of this fine old lady's slipper; C. insigne punctatum purpureum, a variety remarkable for its richness of colouring; and C. Sallieri, the last mentioned being a handsome hybrid between C. insigne and C. villosum, the flowers having the petals and labellum of the last mentioned of the two parents, whilst the dorsal sepal closely resembles that of C. insigne. Amongst the oncids now in perfection were O. Jonesianum, O. Forbesi, and O. tigrinum, the last mentioned being especially good. Phalænopsids are beginning to contribute liberally to the attractions of the East India house, a large number of plants of P. amabilis and P. grandiflora being already in bloom. The vandas comprise the two exquisitely beautiful V. cærulea and V. tricolor planilabris, one of the finest of the several forms of the species.

In the plant stove the three new amaryllis, Mrs. Garfield, Mrs. William Lee, and Comte de Germiny, recently distributed by Mr. Williams, are producing a very beautiful display. These are all exceedingly beautiful, and have the merit of blooming so freely that with a moderate stock of bulbs they may be had in flower during the greater part of the year. Mrs. Garfield has finely formed flowers of a delicate blush colour reticulated with pink, and the others have flowers exquisitely coloured with rose pink and of different shades. The nepenthes house is highly attractive, and amongst the kinds deserving of special notice is Nepenthes Excelsior, a fine hybrid raised by Mr. Williams in the way of N. Rafflessiana, but with much larger and more richly-coloured pitchers.

"THERE IS UNQUESTIONABLY" no better remedy in the whole world for all cough and throat troubles than KEATING'S LOZENGES—any medical man will assure you of this fact. Relief is speedy; they contain no strong acting, but only simple drugs; the most delicate can take them. Sold everywhere in 13½d. tins.—[Advt.]

HORTICULTURAL SOCIETIES.

At the last meeting of the Tooting, Balham, and Mitcham Horticultural Society arrangements were made for the annual exhibition in the Vestry Hall on November 9 and 10 next. There was also a good show of flowers, fruit, and vegetables, for which cultural certificates were given and their cultivation discussed. Subsequently, the hon. treasurer, Mr. S. E. Lambert, read a capital paper on Horticultural Societies, Tooting in particular; and as it may be of interest to many of our gardening readers, we are induced to give it here in full.

Horticultural Societies.

It occurred to me, in case none of your members were prepared with a paper to read this evening, that a few words might not be unacceptable on the subject of horticultural societies.

These are times when institutions and societies come in for their share of that spirit of investigation which prompts men to inquire into their various surroundings with the purpose of altering and improving them. Very little is nowadays taken for granted. Everything is called upon to justify itself, to show a good reason for its existence, or there quickly comes the cry, Cut it down, or remove it out of the way.

I propose then, to ask the question this evening, Why have we a horticultural society in Tooting; and, can its existence be justified? The earliest occupation of man was to till the earth. In the very long list of human employments this comes first, and however long the world may last, and whatever further developments science may have in store for the future, whatever other occupations may become obsolete or unnecessary, man will still be called upon to pursue his original work—always there will be tillers of the soil.

From the useful to the elegant is in this connection but a step. Man saw that the earth brought forth the herb and the fruit, the golden grain and the sheltering tree; but he saw also that it gave birth to innumerable flowers of every graceful form, and rich in colours of every conceivable shade. Whilst he toiled for the food that should sustain the body he could scarce forget to indulge his leisure in surrounding himself with some of those objects of beauty which pleased his fancy and in their influence elevated his thoughts. And just as there must always be human labour engaged in producing food, so we may very fairly conclude there will always be some who will occupy themselves in the cultivation of flowers.

When we come to the inhabitants of such a place as Tooting, it is easy enough to see that not many of us are agriculturists. I do not know if we have a real farm within the parish boundaries. But although we have no farmers yet there are two classes, if not more, who are directly interested in the work of such a society as this. There is the gardener who is the servant of some gentleman whose houses and grounds are sufficient to occupy his entire time, either alone or it may be with assistants. Then there is the gardener employed by someone whose houses and grounds are not sufficiently extensive to make him require the entire time and service of such gardener, who consequently attends to so many of these smaller establishments as he can get or manage. These two constitute what I may call the professional element in such a society as this. But the other class I have in my mind are certainly greater in number, if not equally important, in the constitution of a horticultural society. These are the persons with small gardens who love to spend a part of their leisure time in making their tiny plots beautiful with flowers, or a wonder to the neighbours by the fine vegetables produced in such unlikely places. These are the amateur class, for whom, I frankly confess, all my sympathies are enlisted. These work for pure love of the thing, and none but themselves know how great the difficulties that have continually to be fought and overcome, children's fingers, cats, winds that seem specially appointed to marauding around a garden and blow down pots, sticks, and aught else that is of the slightest value, and then insects! The productive power of a garden in the matter of slugs, caterpillars, and green fly, is beyond all reckoning.

Now I see before me representatives of both these classes, professionals and amateurs; of both there are many in Tooting and the surrounding district, so that I think it must be admitted that the existence of such a society as this is justified in that these are the persons who may fairly be expected to belong to it, having regard to their occupations or tastes.

This brings me to the most important point we shall consider. Granted that I am a gardener, or that I have a garden, why should I belong to this society, what good would it do me or others? Take first the case of the gentleman whose establishment is large enough for him to require the entire services of one or more gardeners. He should support this society, for it teaches his gardeners their work, makes them more capable to do that work. It interests them in the work, and by its schedules of prizes encourages them to adopt the best methods to get the best stock, and to cultivate to their very highest ability. I am surprised that every such gentleman living in this neighbourhood should not liberally and warmly support the society. It is a good friend, working for their good, and a guinea or two could scarcely be laid out to greater profit than in extending the usefulness of such a society. Of course the gardeners will belong to it. The master meets other masters. At the meetings of the society every discussion increases his knowledge, every exhibit has a lesson for him. So with the assistants. Here they get the experience and judgment, the mature observation, study, and reflection of those who, for years, have been engaged in the work. The amateur, whether he be tradesman, employé, or workman, can come and listen to practical discussions on the subjects which interest him—can bring his specimens if he has anything worth showing, and almost all have something. He can ask questions and get information; while, at the same time, he will find a ready welcome given to the results of his observations if he has noticed anything which is worthy of remark.

At present, I suppose, this society is most largely supported by professionals, as I have termed them. This speaks well for the gardeners; it shows that they are keen to improve themselves—that they take an interest in their work. But I want to see the general community joining this society, and giving it their support both by their purse and presence. Every man who cultivates a garden ought to belong to this society. Whether his hobby is flowers or vegetables, he will get aid and assistance from the thoroughly practical discussions which take place here from time to time, and which are often rich in suggestions of what to do or not to do, as the case may be. I want every member to take a greater interest in the society, a greater interest in these meetings, never to come without bringing a visitor, never to omit making a note of anything likely to be useful to the society. If more notice could be given of these meetings, either by a bill in Mr. Dalton's window and one or two other conspicuous places, or by advertisement in the local paper, it would, I think, be a good thing; and, whenever it can be done, I would advise that the subject to be discussed should be announced. In conclusion, let each do his utmost on behalf of the society, and then there will be a thoroughly successful future before it; and in working for the success of the society we shall be working for ourselves, for the greater its success, the larger the benefits which it will confer on its members.

PLANTS OF THE ALPS.

By H. Correvon, Director of the Jardin d'Acclimatation, Geneva.
Translated by R. Irwin Lynch A.L.S., Curator of the Botanic Garden, Cambridge.

CHAPTER VIII.—*(Continued).*

It is during the month of September that it is most easy to collect seeds in the Alps. At that time one can still recognize the species to which the seed belongs. As it is equally the time for taking up the plants we desire to transport to the plain, a journey to the Alps presents then a double advantage.

This is the proper season to undertake the propagation of Alpine plants by division of the tufts; the replanted pieces have then time to make root and grow before winter. A good proportion of mountain plants are capable of propagation in this way, but all will not suffer the operation. The species which grow in carpet fashion, forming moss-like tufts, are especially suited to division. The saxifragas, the various sedums, aubrietias, silenes, pinks, the edelweiss and other composites, some campanulas, the dwarf and creeping phloxes, a certain number of primroses (*Aretia Vitaliana*), and some labiates, seem rather, in cultivation, to require division than to object to it. These plants make so much the finer and more floriferous tufts the more they are divided. Many other species, especially those which belong to the pastures and grassy slopes, are the same in this respect. It is not so in the case of the androsaces, *Silene acaulis*, the gentians, the *Ranunculaceæ* in general, the Soldanellas, *Papaver alpinum*, the *Leguminosæ*, and the generality of the saxatile species. It is true they form tufts composed of a great number of stems, often close and creeping, but these stems are not of the nature to form roots. The better method of increasing them is the natural one, viz., by seeds. Certain species, such as *Salix retusa*, *S. reticulata*, and other willows, *Rosa alpina*, *Rhamnus pumila*, *Clematis (Atragene) alpina*, the several daphnes, *Androsace lanuginosa*, *Silene Pumilio*, and *S. Elizabethæ*, *Dianthus glacialis*, and *D. alpinus*, and the *Campanulaceæ* are multiplied by cuttings in August and September. It need not be said that they should have cold treatment in a close frame. The propagation of the bulbous species of our Alps is the same as that of the hyacinths and tulips of our gardens. Finally, some species, such as the daphnes, betulas, and rhododendrons, are grafted on the common kinds.

The culture of Alpine plants is not difficult for anyone who has first acquired some knowledge of the Alps and of their nature. We have, in the preceding chapters, studied the Alpine flora and its conditions of existence. It will not be difficult for one who has understood how they grow to grasp the culture of these frail plants. Those among Alpine plants which belong to the lower regions are generally cultivated like the herbaceous plants of our borders, with this difference always, that a particular soil and good drainage are necessary for them. It is for this reason, that instead of cultivating these species in the open ground, they are generally planted on artificial rock work, where they receive, each according to its necessity, some particular soil or position. The species belonging to the upper zones and to the snowy regions of the mountains require more delicate cultivation and more care. Further on with the list of plants desirable for cultivation will be found certain summary information concerning the species that are easy to grow. Those which demand special treatment are treated of separately. It will be sufficient for me, therefore, to recall the necessary work for the year to those who undertake it.

If you have little time to give to Alpine cultivation, or if you are but moderately interested, then plant on your rockwork a selection of robust species belonging to the region of pastures or sub-Alpine zone. Give them a soil rich in humus, or, in other words, one that is composed of leaf-soil and sand; let the bottom of your pockets be well drained, and give water regularly. Visit your rockwork from time to time for the purpose of pulling up weeds. In addition to this you will not have to devote any particular care to cultivation. But if you are an amateur in Alpine plants and regard them as cherished and living beings, then study their nature and treat them accordingly. A certain species you will plant in shade, another in the chink of a rock, others go to a sunny position, some are provided with dry pockets, and others with moist positions. To some a special soil is given, while others are content with leaf-soil mixed with sand. In a subsequent chapter on the subject of Alpine gardens, we shall see how Alpine plants must be distributed in gardens.

The question of the soil to be used is one of the most important if we wish to succeed well. In studying the nature of the soil in the Alps, we have seen that it is of different kinds, either from a chemical or a physical point of view. The point then is to improve and modify the soil according to the species we wish to cultivate. The plant that grows naturally in a turfy or peaty and spongy soil, will not succeed in developing its roots in a heavy and close soil. Another that loves the rock will do nothing in a peaty soil, or in one too rich in humus. It may, however, be admitted as a general rule that the plants of the Alps succeed in a light soil, spongy as well as rich, and that all require drainage. The soil of the mountain differs according to whether it is found in woods, in the pastures, between the clefts of rock, or in the very elevated regions. We have seen that under these last conditions we find only a soil composed of grit and sand mixed with a small quantity of humus, while the soil found in the clefts of rock is black spongy mould, entirely formed of decomposed vegetable *débris*. It is this that nourishes and sustains the vegetation of elevated pastures and which clothes the clefts of the "*lappiaz*" and rocks. In the lower pastures the soil is much mixed, in consequence of the different influences which contribute to bring sand, soil, stone, and *débris* of all kinds from the higher mountains. Finally, the soil found in woods is composed of humus, mixed with mineral matters, which the water brings in greater or less proportion as the place is exposed to receive them. On the borders of glaciers and on their moraines we find plants which grow in sandy soil, and of which the roots are greatly developed. But those plants are nearly all found in other conditions, and seem to belong only accidentally to these regions.

When the plants of these elevated parts are transported to our plains to continue their existence, it is of course necessary to endeavour, so far as possible, to give them the soil which suits them. This soil, in the great majority of cases, may be one composed of leaf-mould, friable soil, and sand, in proportions according to the nature of the species. The endeavour must be to obtain a light porous mould, permeable to water, permitting the rapid

development of roots, and just so rich that the plant retains its dwarf and pretty habit. The Alpine plants, which are cultivated in too rich soil, develope their organs unduly and lose their natural aspect. It is an error to believe that they require manure; it does not kill them, but it causes a decided disturbance of their growth and developes some of their organs in an unnatural manner. The only nourishment suitable for them is supplied by humus, that is to say, the vegetable matter contained in the soil in a decomposed state. In proportion to the herbaceous and vigorous nature of the species so much greater must be the quantity of this humus provided in the soil. A *Primula Auricula* will require a much larger proportion of humus than another plant of the same genus belonging to the species *minima*; *Senecio Doronicum* more than *S. incanus*, and so on. So much the more humus is required in proportion as the plant grows and developes with rapidity. On the contrary, a species with slender stems and few leaves, of slow growth, requires more sand or peat, and less humus. The shrubs of slow growth and hard wood, such as the rhododendrons, heaths, willows, and daphnes, grow in a lighter soil of very slight fertility. It is peat that suits them best. The species of which the tissues are turgid with sap, of which the cells are looser, such as the *Gentianaceæ*, *Pinguiculas*, *Primulaceæ*, and ferns require a spongy and moist soil. To obtain it, *Sphagnum* is added to the soil, or very spongy turf such as is found in the mountain marshes. If those materials cannot be obtained, it is then necessary to double the proportion of leaf-mould which is mixed with a third part of sand without adding other soil; but then it is necessary to provide good drainage in the bottom of the pots or niches, because humus possesses the property of retaining moisture a long time, which might sometimes be injurious to the plant.

A cultivator of Alpine plants should always have leaf-soil and sand at disposal. The first-mentioned is easily obtained by those who have the country and leafy trees at command. In autumn the leaves are collected in a place exposed to the rain and air, and the heaps are turned over twice a-year. At the end of eighteen months the leaf-soil is fit for use; that obtained from the leaves of the chestnut appears to me preferable to any other for Alpine plants. As regards sand, it will be well to have both the calcareous and the granitic. The first is found on the margins of all the rivers and streams which descend from the calcareous mountains; the second is abundant on the margins of the Arve and all water courses which descend from mountains formed of crystalline rock. It will be well also to be provided with the black soil, of which I have already spoken, found in the clefts of the rock on mountains. This is the best soil for the culture of Alpines; it requires to be mixed with a third of sand, and to have the addition of peat according to the species.

The soil for Alpine plants should be cool, and as regularly and as slightly moist as possible; one of the important conditions for the success of these plants is that the soil does not dry too rapidly, as is the case with light and sandy soils. We must seek to obtain a constant balance between the evaporation of the soil and the transpiration of the plant on the one hand, and the degree of moisture in the soil on the other. If the plant is of weak growth, or if its foliaceous organs are little capable of active transpiration as is the case with thick-leaved saxifragas, it is necessary to give but little water and to use a light soil. If, on the contrary, we have a plant with loose and soft tissue, a *soldanella*, a pansy, or a fern, it requires more copious watering and a soil of greater consistency. If it happens, moreover, that on any day the soil gets quite dry, and on the next receives a large quantity of water, and then gets dry again, the plant cannot fail to suffer. We have seen that in the Alps the moisture of the soil is constantly abundant during the flowering season; then comes a time of relative dryness, during which the plant ripens its seeds. But very great changes in the moisture of the soil do not occur. In our plains, on the contrary, vegetation is exposed to frequent and sudden hygrometric changes. It is necessary, therefore, to obtain a soil of porous composition, which is to the plant as a sponge, absorbing the water when there is too much, and affording it to the plant in proportion to its need. Broken and sifted coke is one of the best materials to use with this object in view. Stone, especially that of a calcareous nature, is suitable for the same purpose, and it is necessary to put a certain quantity in the soil itself for the cultivation of delicate species. I have remarked that the most difficult species to keep are those which in the Alps grow in stony soil and among stones. *Hutchinsia alpina*, *Papaver alpinum*, *Thlaspi rotundifolium*, *Linaria alpina*, and some others, are plants which succeed well from seed, but which it is almost impossible to transplant with us. This is certainly due to the fact that these species, the foliage and flowers of which are exposed to the most ardent sun, strike their roots between the stones, and are, in consequence, provided with a moderate degree of constant moisture.

As I have said, it is necessary to provide drainage for the pots or niches in which Alpine plants are cultivated. This is a very important point, too often neglected. It must be possible to water abundantly at the time of flowering, in order to give the plant that atmospheric humidity to which it is accustomed in its wild state, and which is produced by the evaporation of water contained in the soil. But if the soil is not very permeable to water the excess of moisture becomes prejudicial to the plant, and, besides, favours the growth of injurious algas and mosses. It is necessary that the water which is not evaporated by the solar rays, or which is not absorbed by the organs of the plant, should be able to pass away with as much rapidity and facility as possible; for although it is well for the roots of the plants to be preserved in a state of constant and aerated moisture, it is, on the contrary, dangerous for them to be situated in that which is stagnant. For this reason it is necessary to drain the soil by placing beneath it a good layer of stones or coke. At the time when the plant commences to grow, which would be in March, the soil is frequently watered. Accordingly, as vegetation advances, more water is given, seeking always to maintain a balance between evaporation and absorption. After the flowering period less water is given, and when autumn comes, when the atmosphere is moister, the days shorter, and the heat less, still less water is given. Finally, during winter watering ceases, as a matter of course.

In autumn after the collection of seeds, it is advisable to look over each tuft in order to remove dead stems and to pull up the weeds which may have grown in them. It is at this time we divide plants, and transplant them if they have become too large and troublesome. The rockwork or border containing the Alpine plants is then carefully cleaned, and the time will soon come when the whole may be covered with the winter protection. For this purpose a dry November day is chosen, and the plants are covered with a layer of fir branches (those of common Silver Fir if possible), fixing them as well as possible to the soil by means of stones or hooks of wood, in order that the wind may not carry them away. The purpose of this protection is not to keep the plants warm, as is sometimes thought; but to maintain the soil at a more equable temperature, and to prevent the alternation of freezing and thawing which causes great injury to Alpine vegetation in our climate. We have seen, indeed, how little is necessary to call to life these frail and delicate plants, which, to live and develop at home, are content with such a slight degree of warmth. When the earth has thawed and the sun shines on the plant, the least degree of warmth forwards its growth, and then under the influence of frosts, which veritably supervene, the young shoots are damaged and flowering is compromised. This is why it is necessary to replace the snow of the mountain by a covering which moderates the influence of cold as well as of warmth. We have already seen that it is not advisable to cover the plants with dry leaves, as some persons do, because they promote decay of the plant, and communicate fungus to the vegetation.

The covering of Fir branches is removed at the commencement of, or during the month of March, according to the condition of temperature. It is necessary so far as possible to take them off during rainy weather, for if during winter, in spite of the covering, some development of vegetation has taken place, the young shoots are not then destroyed by the sun, and can strengthen and habituate themselves to light before receiving the sun's rays. The longer we defer the time of uncovering the rockwork the finer will be the flowering of the plants, for we have seen how important it is that this should be done when the days are long, the Alpine spring corresponding to the longest days of the year. At Innspruck, Dr. Kerner conceived the idea of covering his rocks with a thick bed of snow, which he caused to become a block of ice by watering in the evenings before cold nights. By this means he succeeded in having his plants covered by a true glacier, which disappeared the more slowly according to thickness. It is an excellent means by which to retard the commencement of the growth of these plants; it is unfortunately little practicable with us, because for several years we have had no snow in winter. It is important when winter is over and when the rockwork has been uncovered, to visit every niche and plant in order to make those firm that the frost or any other cause may have disturbed or uprooted; a survey is made of the species which have to be replaced, all the labels are verified, and those which have had the characters destroyed by moisture and cold, are renewed. When the flowering time comes we again carefully revise the labelling, which, in the country of De Candolle and Boissier, cannot be too precise.

In the open ground Alpine plants succeed admirably in a mixture of one-third ordinary soil, one-third leaf-soil, and a-third of sand. If desired, a border can be made with a solid edging, in which the soil may be mixed; then you commence work by planting the dwarf species at the side, and the stronger-growing in the centre. It is well to have stone in the soil and to place some at the surface in order to preserve dampness about the roots. In winter, cover in the same way with branches of Silver Fir.

It is seen that the culture of Alpine plants on rockwork or in borders does not demand very great sacrifices. They require a little more care than the herbaceous plants of our gardens and more considerable expense at starting; but how much greater and complete is the enjoyment conferred upon those who are devoted to them? How many means do they not offer of studying nature, and of contemplating the works of God even to their minutest details.

Cultivation in pots, without being more difficult, requires, however, more active supervision and closer care. It is necessary to be vigilant in regular attention with water, and in constantly maintaining for the plant an atmosphere of moderated moisture. In this cultivation it is necessary, so far as possible, to use deep pots, in the bottom of which a layer of drainage material is to be placed. The plants must be potted every year in autumn, and in a less sandy soil than that for culture in the open ground. During summer it is well to plunge the pots in sand; in winter the plants are kept dry, and the pots are plunged in coke dust, or in any other dry material. They are wintered in beds under cold frames, the plants being as near the glass as possible. If these plants are cultivated in windows it will be well to avoid any position which is exactly north or south, as they prefer an east or west aspect.

ORCHIDS IN FLOWER.

The orchid houses are recovering their wonted gaiety by the aid of many good things now showing their first flowers, not the least important of the number being the cypripediums and the autumn flowering dendrobes. The notes now offered are in the way of reminders and records merely, for to burden them with many references or descriptions might be to lessen their value.

Dendrobes include the very lovely *Dendrobium Phalænopsis*, a finer plant than *D. bigibbum*, which is also flowering now. Both are looked for in spring, but are quite welcome in the autumn. Conspicuous amongst the seasonable orchids is *D. formosum*, and the variety *D. f. giganteum*, very cattleya like in expression, and delightfully combining white and yellow. *D. Lowi* is coming into flower, and will soon be gay with gold banners and crimson fringes.

Cypripediums lead off with the invaluable *Cypripedium insigne*, which should be grown in quantity with Dendrobium nobile to change places for a strong feature. We have also nice flowers on *C. Harrisianum*, one of Mr. Dominy's hybrids; *C. porphyreum*, *C. conchiferum*, a hybrid raised by Mr. Bowring; *C. selligerum*, a hybrid of C. philippinense, C. barbatum, and *C. Javanicum*, a beautiful group.

Odontoglots comprise *Odontoglossum cariniferum*, which will last for some time; *O. cervantesi membranaceum*, and *O. aspersum*, the last being not quite in full feather.

Calanthes lead off with the pretty *Calanthe vestita*, one of the most useful orchids to cut from; *C. Williamsi* is showing promise of its rosy colours; and *C. porphyrea* will flower with it.

Cattleyas are few, but *Cattleya Eldorado* is good, in fact glorious; *C. Gaskelliana* is not quite past; and *C. Schilleriana Regnelli* is fresh and beautiful; *C. elegans* is worth anything for the purple of its labellum.

Saccolabiums are well represented in *Saccolabium Blumei*, which has nearly finished for the season, but is still too good to be passed by. *S. bigibbum* is quite fresh, and though more curious than beautiful, is quite a good plant. Very soon we shall have the lovely and fragant flowers of *S. giganteum*, and *S. violaceum* will soon follow.

Bletias are represented by *Bletia Perrini*, with flowers of a soft mauve colour; *B. Shepherdi*, and *B. Sherrattiana*, all good.

Vandas include *Vanda Sanderiana*, which ought to have been over long since, but one would never complain if it were in flower throughout the year; *V. suavis*, also, is not quite over, but it ought to be; but *V. cærulea* is in perfection, and, as usual, fills one with delight. The colour of this beauty is extra good everywhere this season, the result, doubtless, of the extra supply of sunshine the summer has given us.

Zygopetalum is capricious but accommodating. *Zygopetalum Gauteri* combines green and purple in a manner that always surprises one, and gives the lie to the adage about the causation of contempt; *Z. maxillare* is fine, but the lurid purple fails of effect in small specimens. When we have fifty or sixty flowers in a lump and a good light prevailing, it is a real beauty; *Z. Mackayi* needs no adventitious aids, it is full of light and glory.

Oncids are always obtainable in some form. Just now we have *Oncidium tigrinum* and *O. ornithorhynchum* in perfection; *O. hæmatochilum* will soon be in full feather; and *O. Forbesi* is in the same state of promise. As for *O. crispum*, it is like bread and butter, always in season, and we have now many fine spikes at command.

BOUNTY-FED TRADE IN FRUITS.

The following refers more especially to the case of the market gardeners of Kent, but is of universal application. It was communicated to the *Standard* a few days since:

The market gardeners stand in very much the position of the extinct class of yeomen; they are a very industrious and independent set of men, tilling the land, not infrequently their own, with their own hands with the aid of their families and one or more labourers, according to the size of their holdings.

They raise fruit and vegetables chiefly for the large London markets. For carriage they are dependent on the two Kentish lines, and for sale on the wholesale salesmen in the markets.

Their complaint of the carriers is that they make a hard and fast tariff which does not vary although the price of fruit has sunk almost to vanishing point; that, according to the fashion of the day, they favour the foreigner above the Englishman; and that consignments of soft perishable fruit are sometimes delayed until they are unsaleable.

A neighbour of mine sent to market a parcel of plums on a Friday, which did not reach the salesman's hands till after the market had closed on Monday; before they could be sold they were of course spoiled and useless. He had to pay one shilling and two pence a cwt. for railway carriage, and it is generally asserted and believed that the cause of the delay was that the English fruit train was shunted in order to allow some foreign fruit, which was not subjected to so high a tariff, to pass to the market first. I am told the company are in some way protected against an action in the case.

When the fruit gets to market it falls into the hands of the salesman, who charges for selling, not on the price, but on the weight, so that the lower the price the more in proportion to the value is deducted from the unfortunate grower.

I have seen a number of memoranda of these sales, and I venture to ask you to publish three specimens out of many now lying before me which I received from three different market gardeners.

No. 1.

Fruit sold...	£2	9	9
Less carriage 19s. 3d., commission 16s. 6d.	1	15	9
Balance to grower...	0	14	0

No. 2.

Fruit sold...	0	18	0
Carriage 7s., commission 6s.	0	13	0
Balance to grower...	0	5	0

No. 3.

Fruit sold...	1	1	2
Carriage 6s. 2d., commission 10s. 6d....	0	16	8
To grower	0	4	6

Out of these sums No. 1 had to pay 2s. 9d., No. 2 1s., No. 3 10½d., for carriage of empty baskets.

Nor was the money received all profit; it had to pay its share of rent, tithe, taxes, cultivation, gathering, packing, and transit from three to five miles to the railway station.

It is clear no men can stand this long. Is this, like other kinds of English agriculture, to be utterly ruined in order that the foreigner, whose produce is charged at lower rates on these very lines, may sell in our markets at lower prices? Would English consumers wish it?

Free trade is all very well, or very ill, according the view you take of it; but this is not free trade, but bounty-fed trade. The bounty comes to the foreigner in the form of cheaper carriage from those English railway companies who received large privileges on the implied understanding that they would open up and develop the trade of the districts through which they pass.

The fact is, the real termini of these companies are on the Continent, and they are so bent on opening up the Continental traffic that the interests of the districts through which they pass is of little account with them. These interests, therefore, ought to be protected by legislation.

With regard to the other grievance. Fruit growers have to complain of the enormous commission charged by the salesmen. It is only fair, however, to say that this charge includes a small fee for the use of baskets, and, I believe, market charges. Yet that it should reach half the value of the fruit sold, as in No. 3 above, is perfectly monstrous.

The market gardeners, however, and farmers who grow fruit have, I think, begun to see that the remedy is in their own hands. Combination has been used to keep up these charges; combination may, and, I have reason to hope will, be used on the other side. No doubt some salesman may be found who would charge a fair percentage on the price realized if he were assured of a large business.

Edw. S. Woods.

Ash Vicarage, October 15.

TRADE CATALOGUES.

A. M. C. Jongkindt Coninck, Dedemsvart, Near Zwolle, Netherlands.—*Wholesale Trade List of Coniferæ, Rhododendrons, Fruit Trees, &c.*

W. E. Boyce, Victoria Cottages, Archway Road, Highgate, N.—*Chrysanthemums.*

John Hiscock, 107, Queen's Road, Peckham.—*Bulbs and Roots.*

Richard Smith and Co., Worcester.—*Roses—Forest and Ornamental Trees—Blackberries—Clematis—Special offer of Ornamental Trees &c.*

Charles Turner, Slough.—*Roses, Fruit Trees, &c.*

Thomas Rivers and Son, Sawbridgeworth, Herts.—*Fruit Trees—Selected Roses.*

J. Cheal and Son, Crawley, Sussex.—*Trees and Shrubs, Fruits, Roses, &c.*

Replies to Queries.

Carnations.—Bath.—A layer of cocoa-nut fibre refuse spread over the bed containing the carnations and picotees will be useful in protecting the plants from severe frosts during the winter. The refuse should be placed close up to the plants, but no part of the shoots must be covered.

Incrustation of Boilers.—W. G. N. will find the non-corrosive boiler fluid supplied by the Abbey Chemical Works, Stratford, Essex, answer the purpose he requires. I enclose paper of particulars, to which let me add that I have used the preparation and found it effectual. For every 20 H.P. introduce one gallon of the Boiler Fluid per week with the feed water, and not only will the risk of accidents be diminished, but considerable economy of fuel will be effected, for an incrusted boiler resists the action of the fire in a very injurious manner. When purchased in quantity the price is 2s. per gallon.—A Subscriber to G. M.

Woodlice.—H. S., West Brighton.—We do not know of any preparation you can use for the destruction of woodlice without risk of injury to the roots of the plants. Large numbers may be caught and destroyed in a very short time with the aid of flower pots and hay. Take five-inch pots that are perfectly dry, and put in each a small handful of hay. These are then to be laid on their sides in different parts of the house and examined daily. The woodlice will congregate in the pots, and can be readily destroyed. In removing the woodlice from the pots, take the pot in one hand, with the other withdraw the hay, and then shake the pests from the pots and the hay into a pail or other vessel containing hot water. The hay is then to be returned to the pot, which can be placed in the same position as before or in a fresh one, as may be considered. Should the hay become wet it must be replaced with fresh, as the woodlice will not take refuge in pots in which the material is not quite dry.

Names of Plants.—Portsmouth.—Your spiky beauty is Colletia horrida.—T. C. W.—Your handsome tree is the beam tree, Pyrus aria.—J. A. M.—The asters are 1, A. Tradescantia; 2, Novæ Angliæ; 3, A. diffusus horizontalis; 4, A. diffusus (type) 5, Novæ Angliæ var.; 6, A. lævis, W. Andrews.—Montbretia Pottsi; 2, Watsonia coccinea; 3, Dipsacus laciniatus; 4, Liatris pycnostachya. The others are so crushed out of character that we cannot attempt to name them.—The fungus sent in a box is a mass of Clavaria grown on a block of wood, it is neither ornamental nor useful.—Parla.—The drawing you send suggests the weeping variety of Wellingtonia gigantea, an interesting, but not beautiful tree.—C. G.—Your "blackberry" plant is Phytolacca decandra; 2, Centaurea scabiosa. The apple is Redstreak.—H. H.—Moss-cupped oak, Quercus cerris.—W. C., Stamford Hill.—Polygonum cuspidatum compactum.

Names of Fruits.—F.K.—The long pear is Vicar of Winkfield, the other Beurré Diel.—J. Hudson.—1, Loan's Pearmain; 2, Foulden Pearmain; 3, Lane's Prince Albert; 4, Fillbasket of Lancashire, not of Kent.—H. E.—1, Bergamotte Esperen: 2, Bonne d'Ezée; 3, Maréchal de la Cour; 4, Bon Chretien Fondant.—Fruits in box (an unreasonable number sent).—Apples: 1, Lord Suffield; 2, King of the Pippins; 3 and 6, Small's Admirable; 4, Hambledon deux ans; (5 may be Small's Admirable, which we find numbered also, as it appears to us, 2, 3, and 6); 7 is Emperor Alexander; 8, Dumelow's Seedling; 9, 10, and 13 are Cox's Orange; 12, Burchardt's Reinette; 14, Cornish Gilliflower; 15 and 16, not known; 18, Allen's Everlasting; 19, Reneitte de Caux. There are two fruits numbered 17, one is Alfriston, the other Golden Pearmain. Pears: 1, Beurré Diel; 2, Jersey Gratioli; 3 and 4. Beurré Rance; 5, Beurré Bosc; 6, Beurré Clairgeau; 7, La Juive; 8, Todleben; 9 and 10, not known; 11, Alexandre Lambre; 12, Catillac; 13, not known; 14, Josephine de Malines; 15, Uvedale's St. Germain (?). In writing numbers on fruits to be named, care should be taken to ensure correct reading of them. It commonly happens that we cannot distinguish between 6 and 9. But by writing No. 6 the number is plainly declared.

Obituary.

The death is announced of Baron Mayer Carl von Rothschild, chief of the great banking house of Frankfort-on-the-Maine. His age was 66 years.

We are greatly pained to hear of the death of Mr. Z. Stevens, of Trentham, one of the ablest and largest minded men in the ranks of practical gardeners.

Markets.

COVENT GARDEN.

Fruit		
Apples.....per ½ sieve	1s. 6d.	to 3s. 6d.
Cobs .....per 100 lbs.	50s. 0d.	„ 55s. 0d.
Damsons .....per ½-sieve	2s. 0d.	„ 3s. 0d.
Figs .....per doz.	1s. 0d.	„ 1s. 6d.
Grapes .....per lb.	0s. 9d.	„ 2s. 6d.
Lemons .....per case	15s. 0d.	„ 25s. 0d.
Melons .....each	1s. 0d.	„ 2s. 0d.
Pears .....per ½-sieve	1s. 6d.	„ 3s. 6d.
Pears, Dessert....per doz.	1s. 0d.	„ 1s. 6d.
Pine-apples, English, per lb.....	2s. 0d.	„ 3s. 0d.
Pine Apples, St. Michael's, each.....	3s. 6d.	„ 7s. 6d.

Vegetables		
Artichokes, Globe, per dz.	3s. 0d.	„ 4s. 0d.
Aubergines .....per doz.	2s. 0d.	„ 2s. 6d.
Beet .....per doz.	1s. 0d.	„ 2s. 0d.
Brussels Sprouts ..per lb.	0s. 2d.	„ 0s. 4d.
Cabbages .....per doz.	1s. 6d.	„ 2s. 0d.
Carrots .....per bun.	0s. 4d.	„ 0s. 6d.
Cauliflowers .....per doz.	2s. 0d.	„ 3s. 6d.
Celery.....per bun.	1s. 6d.	„ 2s. 0d.
Cucumbers .....each	0s. 9d.	„ 1s. 6d.
Endive .....per doz.	1s. 0d.	„ 2s. 0d
Herbs .....per bunch	0s. 3d.	„ 0s. 4d.
Horse-radish .... per bun.	3s. 0d.	„ 4s. 0d.
Leeks .....per bunch	0s. 3d.	„ 0s. 4d.
Lettuces, Cabbage, per doz.	0s. 9d.	„ 1s. 3d.
Lettuce, Cos .....per doz.	1s. 0d.	„ 1s. 6d.
Mushrooms ..per basket	1s. 6d.	„ 2s. 6d.
Onions .....per bunch	0s. 4d.	„ 0s. 6d.
Onions .....per bushel	3s. 6d.	„ 4s. 0d.
Parsley .....per bun.	0s. 3d.	„ 0s. 4d.
Radishes ..per doz. bunch	0s. 8d.	„ 1s. 0d.
Shallots .....per lb.	0s. 3d.	„ 0s. 4d.

Vegetables		
Small Salading .. per pun.	0s. 3d.	to 0s. 4d.
Spinach .....per bushel	3s. 0d.	„ 4s. 0d.
Tomatoes .....per lb.	0s. 9d.	„ 1s. 0d.
Turnips .....per bunch	0s. 4d.	„ 0s. 6d.

Cut Flowers		
Azaleas.. ..per doz. sprays	0s. 9d.	„ 1s. 0d.
Bouvardias ...per bunch	0s. 6d.	„ 1s. 0d.
Callas .....per doz.	4s. 0d.	„ 6s. 0d.
Camellias, per doz. blooms	2s. 6d.	„ 5s. 0d.
Carnations, per doz. blms.	1s. 0d.	„ 2s. 0d.
Chrysanthemums, per doz. blooms	1s. 0d.	„ 4s. 0d.
Chrysanthemums, per doz. bunches	4s. 0d.	„ 6s. 0d.
Eucharis, per doz. blooms	4s. 0d.	„ 5s. 0d.
Gardenias, per doz. blooms	3s. 0d.	„ 4s. 0d.
Heliotropes, per doz. sprays	0s. 4d.	„ 0s. 6d.
Lapageria, per doz. blooms	1s. 0d.	„ 1s. 6d.
Marguerites, per doz. bun.	4s. 0d.	„ 6s. 0d.
Mignonette, per doz. bun.	2s. 0d.	„ 3s. 0d.
Pelargoniums, Zonal, per doz. trusses	0s. 6d.	„ 0s. 8d.
Roses .....per doz. blms.	1s. 6d.	„ 2s. 6d.
Roses, Tea ..per doz. blms.	1s. 0d.	„ 2s. 0d.
Stephanotis, per doz. spays	4s. 0d.	„ 6s. 0d.
Tropæolum ..per doz. bun.	0s. 8d.	„ 1s. 0d.
Tuberoses ..per doz. blms.	0s. 4d.	„ 0s. 8d.
Violets ..per doz. bunches	0s. 9d.	„ 1s. 0d.

BOROUGH AND SPITALFIELDS.

Potatoes		
Magnum Bonum .....per ton	50s.	to 80s.
Beauty of Hebron.....per ton	60s.	„ 95s.
Essex Regents .....per ton	50s.	„ 80s.
Kent Regents.....per ton	50s.	„ 90s.
Early Rose .....per ton	60s.	„ 70s.
Victorias .....per ton	60s.	„ 70s.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Southa After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
31	S	**19th Sunday after Trinity.**	6 53	16 16	4 34	11 10	7 59	4 11	4 31	1 16	1 36	45·9	Cattleya labiata	Brazil.	304
		NOVEMBER.													
1	M	*All Saints' Day.*	6 56	16 18	4 32	0 1	8 53	4 50	5 10	1 56	2 15	45·7	Cypripedium vexillarium	Gar. hyb.	305
2	Tu	Michaelmas Law Sittings begin.	6 57	16 18	4 31	0 44	9 51	5 32	5 55	2 35	2 57	45·5	Cypripedium Harrisianum	Gar. hyb.	306
3	W	☽ First Quarter, 5h. 5m. after.	6 59	16 18	4 29	1 20	10 52	6 17	6 44	3 20	4 42	45·4	Lielia superbiens	Guatemala.	307
4	Th	George Peabody died, 1869.	7 0	16 18	4 27	1 50	11 52	7 13	7 46	4 9	4 38	45·1	Odontoglossum Uro-Skinneri.	Guatemala.	308
5	F	Gunpowder Plot, 1605.	7 2	16 16	4 25	2 17	Morn.	8 22	9 1	5 11	5 47	44·8	Oncidium trigrinum	Mexico.	309
6	S	*St. Leonard.*	7 4	16 14	4 24	2 41	0 55	9 44	10 20	6 26	7 9	44·5	Sophronites grandiflora	Rio.	310

CRYSTAL PALACE ANNUAL CHRYSANTHEMUM SHOWS, FRIDAY and SATURDAY, November 5 and 6.

Schedules, &c., &c., on application to Mr. W. G. Head, Garden Superintendent, Crystal Palace, S.E.

NATIONAL CHRYSANTHEMUM SOCIETY, ROYAL AQUARIUM, WESTMINSTER.

GRAND CHRYSANTHEMUM, FRUIT, and VEGETABLE EXHIBITION, WEDNESDAY and THURSDAY, November 10th and 11th.

Schedules free on application to Mr. William Holmes, Hon. Sec., Frampton Park Nurseries, Hackney.

The Floral Committee will meet on Wednesdays, November 10th and 24th, and December 8th, at 1.30 p.m.

HULL AND EAST RIDING CHRYSANTHEMUM SOCIETY.—THE ANNUAL GRAND EXHIBITION will be held in the Artillery Barracks, Hull, on THURSDAY and FRIDAY, November 18 and 19, 1886, when Prizes to the value of £175 will be offered for Chrysanthemums alone.

1—48 Blooms, 24 to be incurved in not less than 18 varieties, 24 to be Japanese in not less than 18 varieties ... ... £10 £8 £5 £2.

2—24 Blooms, 12 to be incurved in not less than 9 varieties, 12 to be Japanese in not less than 9 varieties ... ... £5 £3 £1 10.

The SILVER CHALLENGE VASE, value 15 Guineas, will be offered with the 1st Prize in Class 1. Entries close November 11. Schedules may be obtained from the Hon. Secs., R. Falconer Jameson and Wm. Hawksworth, Queen's Dock, Hull.

KINGSTON and SURBITON CHRYSANTHEMUM SOCIETY.

The TENTH ANNUAL EXHIBITION will be held in the Drill Hall, Kingston, on TUESDAY and WEDNESDAY, November 9 and 10, when, in addition to valuable money prizes, the CHAMPION CHALLENGE VASE, value 25 guineas, and TWO CUPS, value 5 guineas each, will be offered. Entries close November 4.

Schedules and further particulars of

T. Jackson, Hon. Sec., Fife Road, Kingston-on-Thames.

LEWISHAM and DISTRICT FLORAL SOCIETY.—CHRYSANTHEMUM SHOW, November 12 and 13, at the LADYWELL PUBLIC BATHS, LEWISHAM. £5 offered for 48 cut blooms, 24 Japanese and 24 Incurved. Various other open prizes. Mr. Henry Drake, Hon. Sec., 64, Limes Grove, Lewisham.

RICHMOND (Surrey) CHRYSANTHEMUM SHOW.—The SIXTH AUTUMN EXHIBITION of PLANTS, FLOWERS, FRUIT, and VEGETABLES will be held at the CASTLE HOTEL, RICHMOND, on THURSDAY and FRIDAY November 11 and 12. For Schedules, apply to Mr. J. H. Ford, Hon. Sec., 22, George Street, Richmond.

THE BATH CHRYSANTHEMUM SHOW, 10th and 11th November, 1886.—For Prize Schedules apply to

14, Milsom Street, Bath. Benjn. Pearson, Secretary.

WATFORD CHRYSANTHEMUM SOCIETY.—President, The Right Hon. the EARL of CLARENDON.—The FIRST ANNUAL SHOW of CHRYSANTHEMUMS and other AUTUMNAL FLOWERS and FRUIT will be held in the Agricultural Hall, Watford, on TUESDAY and WEDNESDAY, November 16 and 17, 1886. Schedules can be obtained on application to the Hon. Sec. and Treasurer, Chas. R. Humbert, Watford. Entries close on November 11.

Auction Sales for the Ensuing Week.

Monday, Thursday, and Saturday, November 1, 4, and 6.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.

Monday, November 1.—Messrs. Protheroe and Morris, at the Osborn Nursery Hampton; Fruit Trees.

Monday, November 1.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; 10,000 Lilium auratum.

Monday, Wednesday, and Saturday, November 1, 3, and 6.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Dutch and Belgian Bulbs and Plants.

Tuesday, November 2.—Messrs. Protheroe and Morris, at Hallamley's Nursery, Groombridge; Nursery Stock. (Two days.)

Tuesday, November 2.—Messrs. Protheroe and Morris, at Ware's Nursery, Tottenham; Great annual sale of Nursery Stock and Herbaceous Plants.

Tuesday, November 2.—Messrs. Protheroe and Morris, at the City Auction Rooms; Roses, &c.

Wednesday, November 3.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Plants, Lilies, &c.

Wednesday, November 3.—Messrs. Protheroe and Morris, at the Melbourne Nursery, Anerley; Clearance Sale of Greenhouse Plants.

Thursday, November 4.—Messrs. Protheroe and Morris, at Maidstone; Nursery Stock.

Thursday, November 4.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; 5,000 Lilium auratum from Japan; Orchids, &c.

Friday, November 5.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

Friday, November 5.—Messrs. Protheroe and Morris, at Lee's Nursery, Honnslow; Trade Sale of Nursery Stock.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, OCTOBER 30, 1886.

Chrysanthemums obtain special attention at this season, and abundantly justify the enthusiasm of their many admirers. To praise them now would be to vex the soul of the prophet of all time by an act of wasteful and ridiculous excess. But, as observers in in the court of Queen Flora, we may be allowed to make note of the fact that the chrysanthemum advances in popularity, reaching every year higher and lower and wider in the attachment of human sympathies, and the aggregate of admirers and cultivators. The busy town of Leeds has entered the charmed circle with a first show by a new school of cultivators. A cluster of Midland towns that came in a few years since can now boast of thriving societies that keep the sacred flame of floriculture burning when the summer is past and the winter has stripped the woods, and this brave flower alone remains to bridge over the dark season between the last of the dahlias and the first of the snowdrops. For this is what the chrysanthemum can do; and, indeed, it can do something more. Time was when the flower was greatly admired and much cultivated, but scarcely ranged beyond the month of November for its season of display. Now it makes a prefatory show in September, attains to high usefulness in October, becomes glorious in November, and continues to give comfort and joy until far into February or even to March. With a run of nearly six months it begins to be a question whether we can, with propriety, describe it as "autumnal;" but, while it enlivens two out of the four seasons, we can properly say that we are, so far, satisfied, for it is one of the many good things we do not want all the year round. When the ever-to-be-remembered John Salter promised to produce summer-flowering "mums," we ventured to say "don't;" but he persevered, put them in the field, and they obtained absolutely no attention. There was sufficient reason in that they were not wanted. We begin to want them in September; the want is intensified in October; and we cannot do without them in November. Were they blotted out of the world life would not be worth living, for chill October and foggy November have no other light from Nature but such as this flower supplies. With leaves falling, fogs rising, the sun losing his way, and politics suppressed, there is but one last hold upon the world for any of us, and the societies that are now getting ready for demonstrative action are friends of humanity that we may with advantage encourage.

In his "Chrysanthemum Echoes," Mr. Harman Payne limits the season to three months, which is sufficient for the consumption of the best varieties in the open ground and under glass; but he anticipates a great enlargement of the outdoor season, not by putting early varieties in competition with dahlias, gladioli, and other September flowers, but by the augmentation of the list of first-class chrysanthemums flowering in October and November, and hardy enough to withstand a moderate degree of frost. The splendour of outdoor chrysanthemums in the sunny autumn of 1884 will not soon be forgotten, and there is at least half a promise of a repetition of the delight in the November that is dawning; but we will defer prophesying until we know, and in the meantime hope for the bright reality. This part of the subject, however, deserves more attention than it has obtained. Mr. Salter, in days o' lang syne, planted the whole of his collection for a proper outdoor trial, and a great frost made such an impression upon them as they were coming into flower, that not one good specimen was seen. We ought to be enabled to include in the *Garden Oracle*, the established book of reference for all such matters, a full list of hardy chrysanthemums of good quality that may be planted out with a prospect of flowering well in average seasons. But, alas! we cannot reach so far in our ceaseless endeavour to be useful. We will cultivate a lively hope in respect of this matter, knowing, as all observers know, that no living flower can withstand severe frost, and that, consequently, when winter sets in early, outdoor chrysanthemums are of necessity disappointing. The lovers of the flower, however, may perceive herein the opportunity for amusement in the acquisition and diffusion of useful knowledge.

The chrysanthemum came to us from the East, and having its face always one way, as becomes an emblem of constancy, it is bound to reach the great Western continent and give back an echo of itself to such as have ears to hear. Accordingly, America has beheld and wondered, and is now in the throes of a chrysanthemum excitement;

so that at New York there is a prize list current that most properly fits the land of big things, and, by comparison, makes nothing of the greatest efforts of the old country. We should be inclined to resent this kind of rivalry, but the facts of the case compel acquiescence. Of necessity, our policy is to obtain beautiful novelties in the way of chrysanthemums, and our dearly-beloved friends on the other side are now sending us better things than are supplied from the European continent, and we should be wanting in politeness if we could not forgive the sensational show in consideration of the pickings made for us from it. It is a decided gain to floriculture that America sends us new chrysanthemums. The French raisers appear to be playing fast and loose by sending over second and third-rate novelties, and by sending some of them under duplicate and even triplicate names. The raising of seedlings in the British isles, though everywhere possible, is not anywhere other than a difficult matter, for in these happy isles the sun, like the people, is of an independent spirit, and occasionally strikes work when his beneficent labours are very much wanted, so that we are sometimes tempted to believe that he has entered into a conspiracy with the gas companies or the promoters of electric lights. Mr. Burbidge has written wisely on the subject of raising seedlings, to the advantage, we hope, of our readers, but we do not remember that our good friend has justified his precepts by his practice. When a man has to manage a botanical garden he may be forgiven if he keeps himself perfectly sane on the subject of chrysanthemums. A real "hero of Stoke Newington," Mr. Adam Forsyth, told our readers clearly how to do it; but he could not be expected to do it, because he had a call to the antipodes to civilise the anthropophagi, who do not value seedling chrysanthemums. Mr. Rundell shines alone in the particular region of seedling raising, and we are bound to regret that his successes have not sufficed to keep him continually active in the delightful occupation.

The centre of present interest in view of the opening of the season is the National Chrysanthemum Society, the success of which adds a special emphasis to all proper eulogies of the flower. It has passed the experimental stage, and is seen to fill a place in the round of agencies needful to the progress of floriculture. There were not wanting doubters of the necessity for such a thing, and we were of the number; but the question now might be, not Do we want it? but, How can we do without it? The prescience of the promoters is justified by the useful work accomplished, and therein is the secret of success. All lovers of the flower should join the happy family, for a healthy head centre is advantageous to the cause at large as an aid towards uniformity in the proceedings of local organisations, more especially in the matters of classification and judging.

There is now wanted in the interests of the chrysanthemum a systematic review of the entire subject from the strictly floral point of view. The botanical view is of far less importance. Questions are continually arising as to the place of a flower, and the limits of a section or a group. It is not clearly settled what is a Jap; and the beautiful Cullingford variety suggests that we may have to institute a class of cockades, corresponding with the asters that are so designated. To settle such points, of which there are many, needs a full knowledge of chrysanthemums and something more. It needs a clear insight of dividing lines, and a firm grasp of generalisations and the most complete emancipation of the mind from the influence of current terms and garden traditions. The National Society has made a good beginning in such work by the publication of a Catalogue of Chrysanthemums, which should now be in the hands of all who are interested in the subject, and should doubtless be accepted as a basis of operations by future workers in this flowery field.

Hitchin Chrysanthemum Show will be held in the Corn Exchange, November 18.

Mr. H. Williamson, late of the Royal Gardens, Kew, has taken charge of the gardens of W. Peachey, Esq., Ebernoe.

Mr. George Baskett has left Elm Croft, Dorset, to take charge of the gardens of the Right Hon. Lord Penzance, Eashing Park, Godalming.

A Sale of Nursery Stock will be held by Mr. J. C. Stevens at Mr. Maurice Young's Milford Nurseries, Godalming, November 9, 10, 11, 12.

Royal Agricultural Society will be invited to hold a great exhibition in Nottingham in the year 1888, and a guarantee fund has been instituted in support of the invitation.

Robert Sydenham, gardener to Thomas Nash, Esq., Roseleigh, Edgbaston, carries on business as a florist, &c., in Tenby Street, Birmingham.

Mr. Richard Weller was employed temporarily at the Highlands, Burgess Hill. He has taken the appointment of head gardener to Sir Croker Barrington, Bart., Glenstal Castle, Munec, co. Limerick.

"The Colonial Investor and Settler," published at 110, Cannon Street, contains descriptions of farms, stock stations, sheep runs, orchards, &c., for sale or rental in Australia, New Zealand, Canada, South Africa, and other British Colonies.

Sutton Chrysanthemum Show cannot be held this year, the announcement is therefore withdrawn.

Mr. John Matthews, Royal Potteries, Weston-super-Mare, has been awarded a silver medal by the council of the International Exhibition at Liverpool for the excellent quality of his ornamental terra-cotta ware.

Wilts' Horticultural Society.—At a meeting of the committee it was decided to hold a chrysanthemum show, and the date fixed is the 11th and 12th of November. There are to be no prizes offered, as the object is to obtain the means of defraying a small debt occasioned by the summer show.

The Tercentenary of the Introduction of the Potato is to be commemorated by an exhibition in St. Stephen's Hall, Westminster, December 1 to December 4. The exhibition will comprise books, maps, &c., illustrative of the introduction and early history of the potato, and collections of tubers of various varieties of potatoes.

The Vegetarian Dinner, arranged for the evening of Friday next, November 5, at 303, Strand, will have for President E. J. Baillie, Esq., F.L.S. It will be followed by a fruit conference, when addresses will be delivered by Professor J. E. B. Mayor, M.A., J. M. Skinner, Esq., and William Robinson, Esq.

Porous Carbon, a mineral obtained in Devonshire, consisting of carbon combined with iron, is used as a precipitating agent in the purification of the sewage of Southampton. The results are highly satisfactory, as they have enabled the authorities to complete an effectual system of securing a comparatively pure effluent for discharge into Southampton Water.

Manchester Jubilee Exhibition will probably set an example for many cities and towns that are about to wake up to the demands of the year 1887. The exhibition is to combine general industry with horticulture, and Old Trafford will be the scene of operations. A space of 32 acres has been allotted for the purpose, and a guarantee fund of £132,000 has been provided.

Gravel Pit Woods, Highgate, seventy acres in extent, will this day (October 30) be dedicated to public use by the Lord Mayor, on behalf of the Corporation of London. The land was given to the Corporation by the Ecclesiastical Commissioners for the use and enjoyment of the people, and the civic authorities have in various ways improved it for the purpose.

Exhibitions of Chrysanthemums in the list we publish reach the number of 52. The season will be opened at Ealing on Tuesday next, November 2. Stoke Newington follows, November 4. The season will close at Tadcaster December 1. The N.C.S. will probably hold a show after the turn of the year, but for the present there is nothing resolved on in that direction.

Tobaccos Shown by Messrs. James Carter and Co. at R.H.S. meeting on Tuesday last, comprised leaves and flowers of about a score varieties. It should be understood that for the growth of commercial leaf the flowers have to be suppressed, and, therefore, the leaves that accompany flowers are not to be regarded as affording any key to relative commercial value. The varieties differ greatly in size of leaf, but the flowers differ but little. The award of a silver Banksian medal was justly conferred on this interesting collection.

Mr. Fenn's Wines Made from English Grapes were once more placed before the Fruit Committee on Tuesday last for critical examination. There were forty samples, and the committee wisely declined to taste only two or three of the number, which did not meet with approval. Whatever may be the intrinsic merits of these wines, there are three words to be said in reference to their appearance on the table on Tuesday. In the first place then, Mr. Fenn has no commercial interest in the subject; he has given long years of attention to it as an amusement, and if the knowledge he has gained is of any service to the public, he is, as ever, ready to communicate it. In the next place, it should be understood that a fruit committee must be free to taste, or not to taste, at discretion. And, however willing in the way of tasting, forty is a long number of sorts for one sitting. Finally, for the third word, those we ourselves tasted we considered too old for a proper estimate of their merits. To taste forty sorts might, in such a case as this, amuse a connoisseur through forty weeks at least, to give the palate rest between the several tastings.

Potato Tercentenary, 1586-1886.—The following gentlemen will act as a scientific committee of consultation, to co-operate with the executive, and to superintend the sections as below, namely, Messrs. J. G. Baker, F.R.S., F.L.S. (Kew), George Murray, F.L.S. (Brit. Mus.), Worthington G. Smith, F.L.S., J. Scott Keltie (Librarian R.G.S.), and H. B. Wheatley, F.S.A. 1. Illustrations of the Order *Solanaceæ* and the tuber-bearing species in particular. 2. Batatas, Yams, Ignahames, &c., that in Elizabethan times were confounded with the potato. 3. Distinct species of tuber-bearing Solanums. 4. Cultivation by the Incas. 5. Early cultivation in the British Isles. 6. Cultivation at Chiswick. 7. Cultivation of species at Kew. 8. Cultivation at Reading and other places. 9. Potato disease (Phytophthora infestans, de B.) 10. Methods proposed for preventing the disease. 11. Other diseases affecting the potato. 12. Chemistry of potato as a food. 13. Soils suitable for potatoes, geologically considered. 14. Meteorology as affecting disease. 15. History and literature of potato. 16. Maps showing European knowledge of the new world in Elizabethan times. 17. Ralegh. 18. Drake. 19. Hawkins. 20. Voyages of Elizabethan reign. 21. Heriott. 22. Gerard. 23. Statistics of produce.

"ANY DOCTOR WILL TELL YOU" there is no better Cough Medicine than KEATING'S LOZENGES. One gives relief; if you suffer from cough try them but once; they *will* cure, and they *will not* injure your health, they contain only the purest and simplest drugs, secretly and skilfully combined. Sold everywhere in 13½d. tins.—[Advt.]

SELECTIONS OF DAHLIAS.

Show Dahlias.—Selections of varieties are always acceptable, because there are persons who desire to enlarge their collections, or change the varieties, or form entirely new ones. "What is the best to grow?" is a question constantly being asked: let me try and answer it, and especially in the interests of those who may be contemplating growing a collection for exhibition purposes. I have applied to Mr. Harry Turner, of Slough, and to Messrs. Keynes, Williams, and Co., of Salisbury, for selections of the best varieties. The difference in locality does, no doubt, affect the character of some blooms, and so it is useful to have the list from remote districts. The Slough choice of the best 36 show dahlias is as follows: Burgundy (Turner), Clara (Rawlings), Constancy (Keynes), Flag of Truce (Wheeler), Goldfinder (Fellowes), George Rawlings (Rawlings), Georgiana (Keynes), Herbert Turner (Turner), Harry Keith (Keynes), Hope (Keynes), Henry Walton (Keynes), Hon. Mrs. P. Wyndham (Keynes), James Cocker (Keynes), John Bennett (Rawlings), Joseph Ashby (Turner), Imperial (Keynes), James Stephen (Keynes), John Neville Keynes (Keynes), J. B. Service (Keynes), James Vick (Keynes), John Standish (Turner), Lady Gladys Herbert (Keynes), Miss Cannell (Eckford), Mr. G. Harris (Rawlings), Mrs. Gladstone (Hirst), Mrs. Langtry (Keynes), Mrs. Harris (Harris), Mrs. Shirley Hibberd (Rawlings), Mrs. G. Rawlings (Rawlings), Prince Bismarck (Fellowes), Prince of Denmark (Fellowes), Ruby Gem (Harris), Sunbeam (Fellowes), Seraph (Keynes), T. J. Saltmarsh (Rawlings), and William Rawlings (Rawlings).

A selection of 12 fine varieties suitable for an amateur desirous of forming a collection, will be found in the following: Clara, Constancy, George Rawlings, Hon. Mrs. P. Wyndham, Mrs. Langtry, Mrs. Gladstone, Miss Cannell, Mr. G. Harris, Sunbeam, Prince of Denmark, Mrs. S. Hibberd, and Prince Bismarck.

In some parts of the country prizes are offered for stands of self or shaded dahlias, and a dozen of the best of these will be found in Clara, George Rawlings, Imperial, James Cocker, John W. Keynes, Joseph Ashby, Mr. G. Harris, Mrs. Gladstone, Prince Bismarck, Seraph, Prince of Denmark, and Sunbeam. Then there are prizes also for tipped show dahlias, and the best 12 of these will be found in the following: Constancy, Goldfinder, Hon. Mrs. P. Wyndham, John Bennett, Miss Cannell, Mrs. Langtry, Mrs. Harris, Mrs. S. Hibberd, Ruby Gem, T. J. Saltmarsh, Henry Walton, and Mrs. G. Rawlings.

Fancy Dahlias.—The best 24 fancy dahlias are given as follows: Charles Wyatt (Keynes), Duchess of Albany (Turner), Edward Peck (Keynes), Fanny Sturt (Pope), Frederick Smith (Keynes), Gaiety (Keynes), George Barnes (Keynes), Grand Sultan (Keynes), Henry Eckford (Rawlings), Henry Glasscock (Keynes), Hugh Austin (Keynes), James O'Brien (Keynes), John Forbes (Keynes), Laura Haslam (Fellowes), Mandarin (Keynes), Miss Browning (Keynes), Mrs. N. Halls (Rawlings), Mrs. Saunders (Turner), Peacock (Turner), Professor Fawcett (Keynes), Rebecca (Keynes), Pelican (Keynes), Rev. J. B. M. Camm (Keynes), and W. G. Head (Turner). A select 12 varieties will be found in the following: Charles Wyatt, Duchess of Albany, Gaiety, George Barnes, Henry Glasscock, Hugh Austin, John Forbes, Miss Browning, Mrs. N. Halls, Professor Fawcett, Rebecca, and Rev. J. B. M. Camm. The best 12 tipped fancies, that is with a distinct tip of colour on their petals, are Fanny Sturt, Laura Haslam. Miss Browning, Mrs. N. Halls, Mrs. Saunders, Peacock, Jessie, McIntosh (Keynes), Lady Antrobus (Keynes), Mrs. Carter (Rawlings), Maid of Athens (Keynes), Mrs. Friselton (Fellowes), and Miss Rodwell (Keynes). The best 12 striped fancies are Charles Wyatt, Duchess of Albany, Gaiety, George Barnes, Henry Eckford, Hugh Austin, Henry Glasscock, John Forbes, Rebecca, Rev. J. B. M. Camm, Professor Fawcett, and W. G. Head.

The Salisbury selections, furnished by Mr. John Wyatt, are as follows:—The best 36 varieties includes the following, named by Mr. Turner, viz., Harry Keith, Mrs. Langtry, Georgiana, Henry Walton, Herbert Turner, Imperial, James Cocker, Joseph Ashby, Miss Cannell, Mrs. Gladstone, Prince Bismarck, Goldfinder, Hon. Mrs. P. Wyndham, James Vick, Mrs. Harris, Prince of Denmark, William Rawlings, Seraph, Hope, and Constancy; and the 16 not named in the Slough list: Thomas Hobbs (Keynes), Lord Chelmsford (Keynes), Senator (Keynes), Buttercup (Fellowes), Ethel Britton (Keynes), Emily Edwards (Keynes), Henry Bond (Keynes), John Henshaw (Rawlings), Joseph Green (Keynes), Mr. Spofforth (Turner), Mrs. Stancomb (Keynes), Vice-President (Keynes), Mrs. Glasscock (Rawlings), Thomas Goodwin (Goodwin), Condor (Keynes), and Harrison Weir (Rawlings). Take away Senator, Emily Edwards, Hon. Mrs. P. Wyndham, James Vicks, Henry Bond, Mr. Spofforth, Mrs. Stancomb, Prince of Denmark, Condor, Seraph, Harrison Weir, and Constancy, and there remains the best 24 show varieties. The best 12 self or shaded dahlias returned by Messrs. Keynes and Co. are as follows: Mrs. Langtry, Miss Cannell, Mrs. Gladstone, Prince Bismarck, Constancy, William Rawlings, Harry Keith, Thomas Hobbs, Herbert Turner, Henry Walton, Joseph Ashby, and Joseph Green. The best 12 tipped or edged show flowers are: Mrs. Langtry, Henry Walton, Ethel Britton, Goldfinder, Miss Cannell, Mrs. Harris, T. J. Saltmarsh, Mrs. W. Slack, Lady G. Herbert, Harriet Tetterell, Royal Queen, and the Hon. Mrs. P. Wyndham. The selection of the best 24 fancies sent from Salisbury includes the following varieties found in the Slough list, viz.: Charles Wyatt, Fanny Sturt, Gaiety, George Barnes, Henry Eckford, Henry Glasscock, James O'Brien, John Forbes, Mandarin, Mrs. Saunders, Professor Fawcett, Rebecca, Rev. J. B. M. Camm, Pelican, and Hugh Austin. The following make up the requisite number: Adventure (Fellowes), Chorister (Keynes), Hercules (Keynes), Maid of Athens (Keynes), Miss A. Melsome (Keynes), Miss L. Large (Keynes), Mons. Chauviere (Keynes), Parrot (Keynes), and Salamander (Keynes). The best 12 tipped fancy varieties are: Fanny Sturt, Jessie McIntosh, Maid of Athens, Miss A. Melsome, Lady Antrobus, Mrs. Saunders, Miss Rodwell, Mrs. N. Halls, Polly Sandell, Peacock, Mrs. Carter, and Gaiety when in its tipped character. The best 12 striped fancies are Gaiety, George Barnes, Henry Eckford, Hercules, James O'Brien, John Forbes, Parrot, Mon. Chauviere, Professor, Rebecca, Rev. J. B. M. Camm, and Pelican. R. D.

PLANTS OF THE ALPS.

By H. Correvon, Director of the Jardin d'Acclimatation, Geneva.
Translated by R. Irwin Lynch, A.L.S., Curator of the Botanic Garden, Cambridge.

CHAPTER IX.

Plants of the Alps suitable for Cultivation.

Works for consultation—List of cultivated Alpine plants—Details on the manner of cultivating each of these species.

Of the 900 species of plants which are met with from one end of the Alpine chain to the other, at least from 700 to 800 are deserving of cultivation. Some of them, such as the Aurionlas, the Armerias, and certain Saxifragas, have long since appeared in our gardens, where they occupy a position as herbaceous plants. A certain number among Alpine plants are of easy culture, and may be cultivated like the herbaceous species of our plains, provided that they have a suitable soil. This is chiefly the case with plants belonging to the pasture region, and with those growing on the grassy slopes of the mountain. This category of plants, which I shall call pasture plants, is the most numerous. The saxatile species are more difficult to acclimatize and less common, and they must have a particular treatment. Finally a third category of plants is that which comprises the species of the high regions, which grow in soil continually moist and icy-cold. These require special care. In the list, which I give further on, will be found the Alpine species suitable for cultivation, with summary information of the manner in which they should be treated. By "lime-stone" and "granite" are indicated those species which prefer, if they do not in all cases require, a calcareous or granitic soil as the case may be.

Being unable, by the limits of this work, to enter into descriptive details, I refer those readers, who do not yet know the plants mentioned, to the important publication of the German and Austrian Alpine Club, the "Atlas der Alpenflora," which contains the greater number of Alpine plants. This work reproduces the 500 species it contains with great fidelity, and those who consult it may be sure that they have before them an earnest and successful production. Another publication of this kind, also Austrian, is found in the hands of many of our Alpinists; it is the Album of M. J. Seboth, edited by M. Tempsky, at Prague, of which the plates are equally well executed.

Those who possess these publications, or those who are able to consult them, will understand how it seemed to me undesirable to enter into descriptive details which are always so long and tedious to the reader, and little able to give a true idea of the form and colour of these plants. Those who do not possess and cannot consult these works, I recommend to visit the Alps frequently or to visit our Alpine Garden, in order to learn and know about these plants as they grow.

The following is almost a complete list, in botanical sequence, of Alpine plants suitable for acclimatization:—

Ranunculaceæ.

Clematis (Atragene) *alpina*, Lam. (lime-stone).

The superb blue clematis of the Alps succeeds in a stony soil mixed with leaf-soil and peat. It likes a little shade.

Thalictrum alpinum, L. (granite).
,, *aquilegifolium*, L.
,, *fœtidum*, L.

The Alpine meadow-rues prefer moderate moisture and a rich soil.

Anemone narcissiflora, L.
,, *trifolia*, L. (Eastern Alps).
,, *vernalis*, L. (granite).
,, *alpina*, L. (lime-stone).
,, *Burseriana*, Scop. (Tyrol).
,, *sulphurea*, L. (granite).
,, *Halleri*, All. (High Alps).
,, *baldensis*, L. (lime-stone).

The anemones, in general, flower very early. They succeed extremely well in cultivation. *A. Halleri* and *A. baldensis* are more difficult, and require a very porous and turfy peaty soil. All, with the exception of *A. trifolia*, like full sun. *A. montana* and *A. Pulsatilla*, both of which belong to the dry regions of the valleys and plains, may be cultivated as Alpine plants.

The anemones grow freely from seed, if care is taken to sow immediately after gathering. At the present time there is a collection of these anemones in the Alpine Garden which were grown from seed. At the Botanic Garden, *A. sulphurea* succeeded very well with me by this means.

Ranunculus Thora, L. (lime-stone).
,, *montanus*, Willd.
,, *lacerus*, Bell. (Dauphiné Alps).
,, *hybridus*, Bir. (Tyrol).
,, *pygmæus*, Wahlb. (granite).
,, *rutæfolius*, L. (High Alps).
,, *anemonoides*, Zahlb. (Tyrol).
,, *pyrenaeus*, L.
,, *alpestris*, L.
,, *Traunfellneri*, Hopp. (Eastern Tyrol).
,, *crenatus*, W. and Kit (Styne).
,, *bilobus*, Bert. (Alps, lime-stone; Southern Tyrol).
,, *amplexicaulis*, L. (Southern Alps).
,, *gramineus*, L.
,, *aconitifolius*, L.
,, *platanifolius*, L.
,, *parnassifolius*, L. (granite).
,, *Seguieri*, Vill. (Southern Tyrol; lime-stone).
,, *glacialis*, L. (granite).

The ranunculuses belonging to this series of plants are all of easy culture and require sun. They are raised from seeds as easily as the anemones. *R. aconitifolius* and *R. platanifolius* belong to the mountainous region, and succeed in the ordinary soil of our gardens. They are fond of moderate moisture, however, and a stony soil. The last three species, which grow in the rocky detritus of the elevated regions, require a well-drained soil, mixed

with sand and small pieces of limestone or granite, according to the species, and abundant water before flowering.

Trollius europæus, L.

It likes a rich and moist soil. It is met with sometimes in our plains. It grows abundantly in the meadows along the Gimel road, three-quarters of an hour above the town of Rolle.

Helleborus niger, L. (Southern Alps).

The Christmas Rose does well on rockwork exposed to the sun. It likes a deep and rich soil.

Aquilegia atrata, Koch.
,, *thalictrifolia*, Schott and Kotschy.
,, *Einseleana*, F. Sch.

Soil cool and rich.

Aquilegia alpina, L.

This requires a cool, light, and turfy soil, shade and moisture. This very pretty plant easily degenerates in cultivation; for this reason its natural conditions must be provided so far as possible. I have never had it by cultivation so fine as it grows wild.

Delphinium elatum, L.
,, *tyroliense*, Kern.
Aconitum napellus, L.
,, *anthora*, L.
,, *Lycoctonum*, L.
,, *paniculatum*, Lam.

Tall and branching plants belonging to the region of woods; they can be cultivated in the ordinary open ground, or may be utilized to ornament large rockeries or wild corners. In general they like a rich and cool soil.

PAPAVERACEÆ.

Papaver alpinum, L.
,, *pyrenaicum*, L.

The poppies of the Alps and the Pyrenees, both of which grow in the stony places of our Alps, succeed very well in cultivation. Care must be exercised to give them a stony soil, and to water them frequently. Moderate moist air is favourable to them. They sow themselves on the rockery.

CRUCIFERÆ.

Arabis alpina, L.
,, *alpestris*, Schl.
,, *saxatilis*, All. (Tyrol).
,, *ciliata*, R. Br.
,, *vochinensis*, Spreng. (Tyrol).
,, *serpyllifolia*, Will.
,, *bellidifolia*, L.
,, *Halleri*, L.
,, *arenosa*, Scop. (lime-stone).
,, *ovirensis*, Wulf. (Carinthia).
,, *cærulea*, All.
,, *pumila*, Jacq.
,, *cenisia*, Reut. (Mt. Cenis).

The Alpine Rock-cresses have pretty little flowers, sometimes white, and sometimes blue, which have the most graceful effect on rockwork. They love moderate moisture and a stony soil. All are easily reproduced from seed. *A. arenosa*, celebrated for its rarity, and on account of the hunt which the members of the "Tauschvereine" had to make for it, possesses a pretty rose flower, and requires a lime-stone soil.

Cardamine alpina, L. (granite).
,, *asarifolia*, L.
,, *trifolia*, L.
,, *resedifolia*, L.
,, *heterophylla*, Hort.

These plants like shade and moisture, and succeed uniformly well by seeds.

Dentaria digitata, Lam.
,, *pinnata*, Lam.
,, *bulbifera*, L. (Eastern Alps).
,, *polyphylla*, W. and Kit.
,, *intermedia*, Sond. (Southern Tyrol).
,, *enneaphyllos*, L.

The coral roots like shade and a rich, though stony soil. They grow by preference in the copses at the base of lime-stone mountains, and become very fine in cultivation.

Sisymbrium (Hugueninia) *tanacetifolium*, L.

A rare plant of the Bagnes valley; same culture as for the preceding.

Braya alpina, Sternh.
,, *dentata*, All.

Culture as for Arabis.

Vesicaria utriculata, *Lam.*
Erysimum pumilum, Gaud.
,, *ochroleucum*, D.C.
Alyssum alpestre, L.
,, *Wulfenianum*, Bernh.

Light soil, dry exposure, sun.

Draba (Petrocallis) *pyrenaica*, R. Br.
,, *aizoides*, L.
,, *sauteri*, Hoppe.
,, *tomentosa*, Wahl.
,, *stellata*, Jacq.
,, *nivea*, Saut.
,, *lapponica*, D.C.
,, *ciliata*, Scop.
,, *Fladnitzensis*, Wulf.
,, *lævigata*, Hoppe.
,, *Thomasii*, Koch.
,, *incana*, L.
,, *Davosiana*, Brug.

All these different species like a stony soil, an exposure to the east or west, and a cool position. They are easily multiplied by means of seeds.

Cochlearia saxatilis, L.
,, *alpina*, Lausch.
Thlaspi alpestre, L. (granite).
,, *Mureti*, Gremli.
,, *alpinum*, Crantz.
,, *sylvium*, Gaud.
,, *rotundifolium*, Gaud.
Biscutella lævigata, L.

Cool soil, rich in humus; sun. T. rotundifolium grows naturally in the slaty and schistose rubbish of the Alps. Therefore a stony and, if possible, a slaty or granitic soil must be given it, and a cool exposure.

Æthionema saxatile, R. Br.

A small plant of the dry lime-stone rocks.

Hutchinsia alpina, R. Br. (lime-stone).
,, *brevicaulis*, R. Br. (granite).

These like moderate moisture and a stony soil.

Mathiola valesiaca, Bois (Valais).

It likes a rich soil and a sunny position.

(To be continued.)

ZADOK STEVENS.

In announcing the death of Zadok Stevens in our last issue, we spoke of him as "one of the ablest and largest-minded men in the ranks of practical gardeners." The truth of this none will doubt who knew the man, but it is a fact that he was not widely known, though known sufficiently to be appreciated by those whose good opinion is especially worth having. The fact is, Stevens was a silent man; he had no fancy for a place in print; he had always a keen eye to business, but was always a man of deeds rather than words, and his judgment on matters he professed to understand was sound, because of his clear knowledge of first principles. He had the advantage of a good training for his business. He began life at Trentham, under a famous master, the late Mr. Henderson, under whom he made such good progress as to attain to the position of second in command in the Duke of Sutherland's famous gardens. But, in accordance with the golden rule that it is not good to settle down into a groove, Stevens left Trentham and took service in the nurseries of Messrs. Veitch and Son, at Chelsea, where he entered into a very different practice, and saw much of the commercial side of horticulture, more especially in the routine of exhibiting, and the preparation of plants for trade purposes. When Mr. Henderson retired, his former pupil was appointed head gardener in his place, and Stevens now had full scope for the exercise of his high abilities. He had to contend with a bad climate, and a soil in which many important trees and shrubs, such, for example, as the arbutus, laurestinus, and cherry laurel do not thrive. Moreover the water supply of Trentham, which is independent of the Trent, is not of the best for horticultural purposes, a fact that influenced Stevens in his ingenious modification of the Cornish boiler that resulted in the admirable construction known as the Trentham Boiler. It is well known that at Trentham landscape gardening has been carried to high perfection, for the place is open to the public, and the dressed grounds of 65 acres, with the fine sheet of water that forms the centre of the scene, are written large amongst the beauties of English scenery. But our friend had a soul above rhododendrons, which are conspicuous in this damp depression, and he gave his mind to the simplification of orchid culture with signal success. Cool orchids, tropical fruits, and fruits generally, were the subjects in which he took especial delight, and achieved conspicuous success. But he was an all-round man for all that, and master of small details as well as great principles. The respect in which he was held was indicated by his appointment as a trustee of the Veitch Memorial Fund, and his recognition on all important occasions as one best entitled to represent the fraternity of gardeners. Many who have written much have made less fame: he was a rough diamond, but he *was* a diamond of the very finest quality, and he made no pretence to be anything more than a master of his business, resting for all worldly purposes in the belief that "an honest man's the noblest work of God."

Mr. Zadok Stevens failed in health some time ago, and went to Egypt in the expectation of relief from pulmonary disease. To all appearance he had made considerable progress towards recovery, and was seen by many looking fairly well at South Kensington on the 13th instant. He appears to have taken cold on the return home, and his former complaint was renewed thereby. He died on the 20th instant at the comparatively early age of 52 years.

ALLOTMENTS IN SOUTH BEDFORDSHIRE AND NORTH HERTFORDSHIRE.

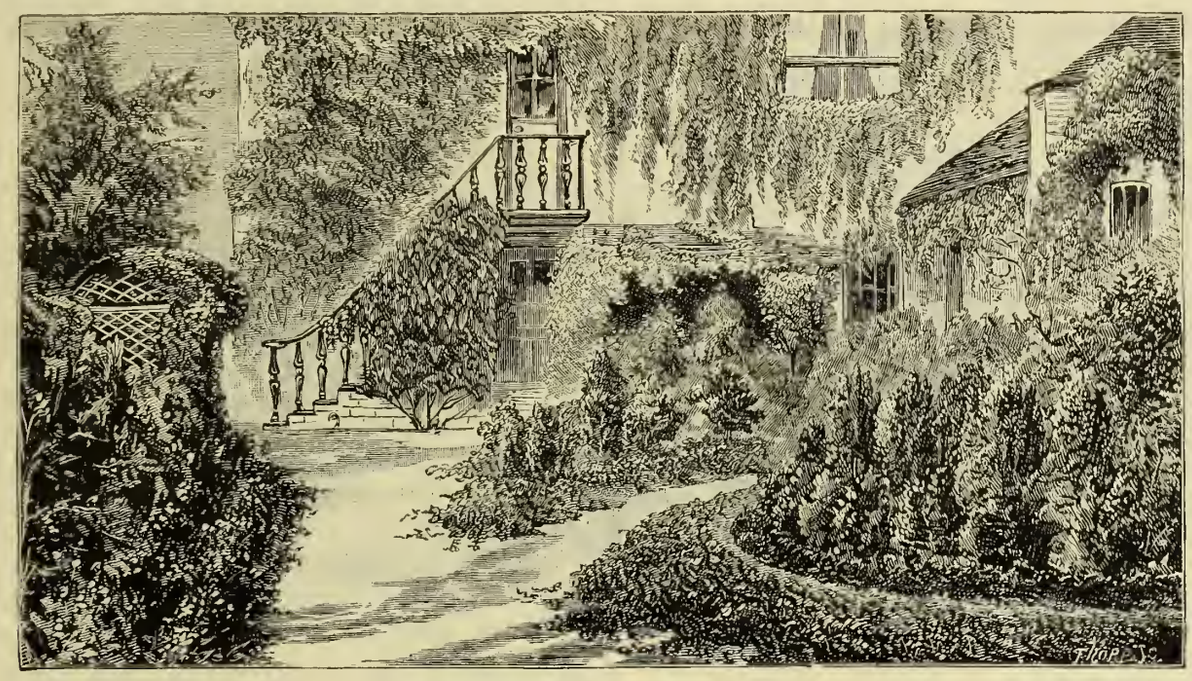
In response to a repeatedly expressed wish on the part of the Luton Horticultural Society, Madame de Falbe and his Excellency the Danish Minister recently intimated their willingness to let portions of land on the Luton Hoo estate for small gardens for the use of working men of the town. The offer has been largely taken advantage of, applications having been received for more than ten acres. The land is situated within easy distance of the town, and the rent to be charged is very moderate. Sir J. B. Lawes, of Rothamsted Park, who already owns a large number of allotments, has broken up two or three more fields close to the village of Harpenden. A committee has been formed to supervise the allotments, which are let out in plots of from ten poles up to an acre. For the first year the tenants are to pay only tithe charge and rates, and afterwards at the rate of £2 an acre. At the neighbouring village of Markyate Street, garden allotments have been laid out on the estate of Sir John Sebright. Admiral Fellowes, C.B., and Mr. J. W. Smith have made a most successful attempt in the same direction at Stevenage. Mr. Smith has relinquished some of his land, which Admiral Fellowes has rented, and several acres have been staked out in plots of ten or twenty poles each. At a meeting held recently, Admiral Fellowes, along with the Rev. G. Litting and Mr. S. P. Nash, met a large number of the labourers of the neighbourhood, and the allotments were all taken up at the following rates: Fourpence a pole to labourers, fourpence-halfpenny to mechanics, and fivepence to small tradesmen, including rates. Out of thirty-three lots, thirty were let at fourpence, the rent to be paid in advance. An agent and collector has been appointed, and any profit which may be made will be divided equally among the holders in seeds, manure, or tools.

Garden Allotments.—An experiment is being tried at Laugford, one mile from Gloucester, by which a piece of ground is being let out in garden allotments to working men. The field contains about seven acres, and the tenants are charged sevenpence a lug for it; the landlords pay rates and taxes. The object of the scheme, which is promoted by the vicar of the parish and three other gentlemen, is to afford industrious working men an opportunity of providing garden produce for their families, and perhaps adding something to their incomes. Nearly all the land has been let, some tenants taking thirty or forty lugs, but the majority only twenty. No man is permitted to take more than he is able to cultivate in his spare time. The tenancy is yearly, but may cease on three months' notice being given.

WANTED, A NEW OLD GARDEN

A correspondent, signing "Shadow of Queen Anne," asks for assistance in laying out a piece of ground in the style of an old garden. The editor has desired me to reply, but I am stopped at the threshold by the fact that no particulars are given as to the situation, extent, or intended uses of the ground. It seems to be quite a common practice for questioners to put their questions as abstractions, and, therefore, as far removed from facts as the wildest fancies often are. The new old garden that is wanted must be somewhat different to a new modern garden, or nobody will know that it is old, even in the idea of its inception. The "Shadow" may be advised to have a look at a few old books. Queen Anne was the second daughter of James II. In the year 1683 she married Prince George of Denmark; she succeeded to the crown in 1702 on the death of the Dutch William. Her death occurred in August, 1714, after what must certainly be described as a brilliant reign. Speaking roughly, Queen Anne architecture is "Jacobean," and one of the best examples, perhaps, accessible to Londoners is the palace at Kew. On this point I cannot say much, but, in reply to the Shadow, I should say that the whole of the sixteenth and seventeenth centuries might be reflected in the proposed "new old garden." I will, therefore, advise the Shadow to consult Hill's "Instructions for Gardening, with Diverse Plots and Knots," published 1519. Lord Bacon's famous essay supplies, perhaps, as good a plan for an old garden as could be desired, but it would require considerable space, and would be costly to carry out. In the pages of John Evelyn help may be found, as also in "The Retir'd Gard'ner" of London and Wise, 1706. Amongst very many such sources of information probably the most direct reply to the question propounded will be found in Knight's Pictorial Shakspeare; Comedies, Vol. I., where in illustration of the text is given at page 87 of "Love's Labour's Lost," a beautiful figure of a "curious knotted garden." It is laid out in square plots, with fountains and arcades at the intersections of the walks, and trees about in plenty, with, in the background, a respectable bit of domestic Gothic architecture. It may assist the inquirer to reproduce the design for a garden that will be found in "The City Gardener," by Thomas Fairchild, published 1722, some account of which (and of the author) will be found in the G.M., of November 3, 1862. In describing this garden, Fairchild says, "The part of the draught marked *a* is a grass platt, encompassed with a bed for flowers; and in the middle of the grass may be placed a statue or urn, which will give a good ornament. Between this grass and the border should be a water table, about eighteen inches or two feet wide, to be laid with red sand or cockle shells, and the borders to be planted with flowers. . . . To fill up the ground within the quarters, I recommend to plant the tallest sorts of trees in the middle of each quarter, and so let them decrease in stature till we come to the hedge sides that enclose them; and all these plants should be so ordered that an equal quantity of evergreens should be planted with the rest, because of the winter prospect." The centre walk *dd* is to be planted with horsechestnuts, and within is to be a mount, *e* overlooking the whole.

It is likely the Shadow might find in some homely garden of the present day made for comfort only and without any special notions, a model more worthy of attention than any that are in the old books. Here, for example, is a copy from a photo of an existing and very beautiful London garden, in which the chief materials are ivies, yews, hollies, and creepers. Although this garden now sparkles in the autumnal sunshine, displaying a delightful variety of colour, it has an air sufficiently "antique" to satisfy many, and would be in harmony with Jacobean architecture, with the aid of a few pyramidal yews, and some odd bits of verdant formality. W.



A MODERN ANTIQUE TOWN GARDEN.

DAHLIAS IN 1886.

In giving some descriptive notes of the best Fancy Dahlias in 1886, Charles Wyatt (Keynes) appropriately heads the list, for it is the finest formed fancy dahlia in cultivation; colour, deep rose flaked with crimson; very fine and constant; it will occasionally sport to a crimson self, and then it makes an excellent show flower, 4 feet. Frederick Smith (Keynes), has a lilac ground, striped with purple; rather late, but good and very useful, 4 feet. Grand Sultan (Keynes), buff, striped with bright red; is very fine and constant, and does not require much thinning out, 3 feet. Mr. Saunders (Turner), is a lovely fancy yellow, tipped with white; of fine form, but requires thinning out hard to get size into it, 3 feet. Laura Haslam (Fellowes), lemon tipped with white, quite distinct from the foregoing, but like it wants thinning hard; this was the favourite fancy dahlia of the late Mr. Charles Turner, and he was always greatly gratified when he could show a good bloom of it, 4 feet. Gaiety (Keynes), yellow striped with red, and distinctly tipped with white; is a well known and most useful fancy much given to sporting, 4 feet; it is a very difficult variety to keep through the winter. Hercules (Keynes), yellow striped with crimson; came very coarse and flat this season, and it is a variety difficult to get, but when caught in good character makes a graceful flower for the back row of a stand, 4 feet. Professor Fawcett (Keynes), dark lilac, striped with reddish brown and sometimes with black; is a good useful flower, very constant, with an excellent habit of growth, 3 feet. Mandarin (Keynes), yellow, striped and mottled with purplish crimson; a very pretty fancy, easy to get, 3 feet. W. G. Head (Turner), very dark, slightly striped with crimson; a sport from William Rawlings, and a little uncertain, but when caught in good character highly useful, 4 feet. Miss Browning (Keynes), clear yellow, tipped with white; quite distinct from Mrs. Saunders, a capital and useful variety, 3 feet. John Forbes (Keynes), fawn, striped with marone, a good, useful flower; can always get it, dull coloured, but very fine and of good form, 3 feet. Lottie Eckford (Eckford), white, striped with purple, very pretty, rather small, but striped in a very pleasing manner; very constant, though rather difficult to get up to exhibition form, 3 feet. Magician (Fellowes), deep yellow, tipped and striped with scarlet; a variety that appears apt to degenerate; good habit, flowering well above the foliage, 4 feet. Rev. J. B. M. Camm (Keynes), yellow, flaked with red, a good old flower; apt to come as a self, but dull coloured, yet very useful in this form for exhibition, 4 feet. Henry Glasscock (Keynes), buff, with crimson stripes; very useful as a fancy or self, good habit, 3 feet. Peacock (Turner), dark purple marone, tipped with white; a very pretty fancy when caught in good character, 3½ feet. George Barnes (Keynes), lilac, striped with crimson; a large, full, and finely formed flower, one of the best fancies, though not in the best form this season, 4 feet. Rebecca (Keynes), lilac, striped with crimson; a good, constant flower, excellent for the back row of a stand, rather late; the plants should be got well forward, and be put out as early as possible, 3 feet. Hugh Austin (Keynes), orange scarlet, striped with dark red, a fine and useful fancy, of service also in a self character, 3 feet. Mrs Carter (Rawlings), rich marone, tipped with white, a type of flower badly wanted among the fancies, but it is hardly large enough for show purposes, 3 feet. Henry Eckford (Rawlings), pale buff, with scarlet stripes, a nice clean, bright fancy, wants getting on early, probably the best way to to start early would be by potting up some pot roots or a ground root or two, 3 feet. Duchess of Albany (Turner); pale orange with rich crimson stripes, a beautiful shaped flower, a sport from James O'Brien, another fancy; a flower that keeps its character well, and

never reverts; 2½ feet; and Irene O'Brien (Keynes), yellow, with crimson and reddish-rose stripes, dwarf and free; a charming flower, but must be thinned sparingly. Some other useful fancies not mentioned in the foregoing list will be found in Annie Pritchard (Keynes), white, striped with lilac and rose, 4 feet; Chorister (Keynes), fawn, striped with rosy crimson, 3 feet; Florence Stark (Keynes), white, striped with purple, very pretty when in good character, 3 feet; Miss Lilley Large (Keynes), puce, striped and spotted with crimson, 3 feet; Mrs. N. Halls (Rawlings), bright scarlet, tipped with white, 2½ feet; and Ronico (Keynes), crimson and marone striped, but every plant of this at Slough came self-coloured this year, 4 feet.

What is and what is not a fancy dahlia is becoming a difficult question to answer. I observe that suggestions have been thrown out for a new classification, but this is scarcely possible unless there was some general agreement among the chief growers and exhibitors of dahlias; and then who is to take the initiative? In many parts of the country all tipped flowers are regarded as fancies; at any rate, they are shown and admitted into stands of fancy varieties. At the recent Crystal Palace show self flowers, with one or two flaked or striped petals, only were admitted as fancies, but the judges appeared to have strained a point almost beyond the usual latitude. R. Dean.

SHORT NOTES FOR SMALL GARDENS.

By the Vicar's Gardener.

Persian Cyclamens.

For those who can command a temperature of sixty or seventy degrees, the present is a good time to sow cyclamen seed which will produce plants for flowering in the month or November next year. Perhaps I ought to say the plants will be large enough to flower if they are properly treated from the first. In the temperature I have named, the seedlings will be up in four or five weeks. To prevent them from being handled while very young, the seed should be sown thinly so as to give the plants room to grow in the pot or pan in which they were sown; for if they have room they will not require to be disturbed until early in March. At this time they should be put singly in three-inch pots, and returned to the same or some other structure, where there is the requisite degree of warmth, and where they can have a moderate quantity of air and a thin shade on the glass in bright weather. The soil for cyclamens should consist of three parts mellow loam and one part leaf soil, with a good sprinkle of coarse sand added. Liberal drainage must also be provided, and while they are in small pots, great attention will require to be given to the watering, as the small amount of soil the pots contain, will quickly dry through; yet it is not desirable to use larger pots at first, for at no time, and more especially when young, will the cyclamen thrive if it is over-potted. About the end of April they will be ready to go into four-inch pots, and from that time an ordinary greenhouse temperature will suit them best. But they must not be exposed to too much air and must be slightly shaded. About the middle of July they must be shifted into five-inch pots in which they are to flower.

A close brick pit is the best place for them from the beginning of July until the end of September, and during this time they should be regularly watered with manure water, and be syringed in the evening at shutting up time. A tea-spoonful of Clay's Fertilizer or Standen's manure given to each plant at the end of August will assist them immensely. When they are removed from the pit, they must be taken to a structure in which a temperature of fifty degrees at night, and sixty by day is maintained. They require to be placed on a shelf near the glass, and to be liberally supplied with some stimulating liquid every time the soil requires moisture.

Herbaceous Calceolarias.

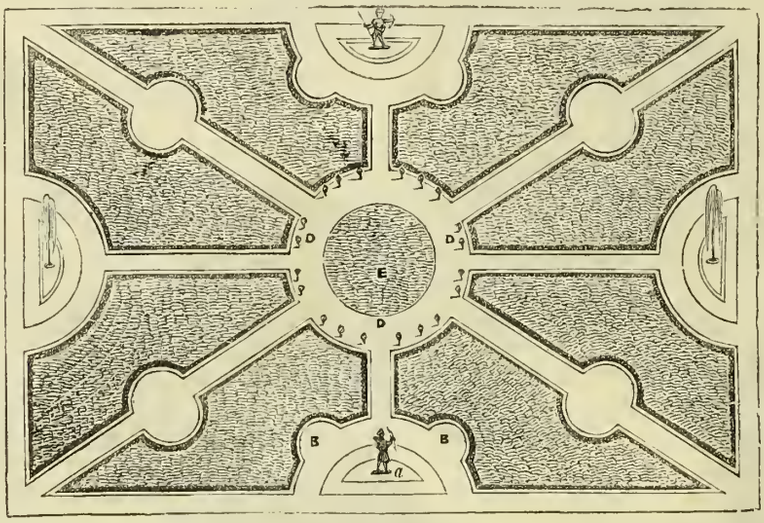
Many fail in growing these so satisfactorily as they might, owing to treating them too kindly during the winter. Cultivators should bear in mind that, although these are not hardy plants, they do not want any coddling, or in other words, they do better without fire heat than with it. The air of a greenhouse, although it may only be heated to keep out frost is too dry for them, and in such structures they get infested with green fly and other insects. An unheated brick pit is the best place for them until they come into flower, and they require to stand on a cool bottom, such as a bed of coal ashes, or, if on soil, with a slate for the pot to stand upon. Of course frost must not reach them; but that may be kept out by using plenty of external covering. They also require to be watered very carefully from this time until the end of February, for if they get too much root moisture the leaves will turn yellow. The only safe plan to regulate the amount of water, is to make a point of going over the plants twice a week in open weather. They do not require any liquid manure during the winter, but they may have regular supplies as soon as the flower spikes begin to rise. With regard to soil, the same description of compost as is recommended for cyclamens will suit them, and when they want shifting into larger pots it should be done in open weather. They ought to be in the pots in which they are to flower by the end of December.

Linum Trigynum.

This is the brightest of all winter-flowering plants bearing yellow flowers that can be grown in small pots. When properly treated it commences to flower early in November, and will continue to do so at various times all the winter. But to be thoroughly useful, it requires a few degrees more warmth than an ordinary greenhouse affords. With us, in a temperature that ranges from 50 deg to 60 deg., it flowers with great freedom. To grow it successfully it must be struck from cuttings early in the spring. During the summer the plants must be grown in a cold pit or frame, and be regularly syringed every evening, as red spider is particularly partial to it. The best compost for it is half loam and half peat, for it is a delicate rooted plant, and particularly resents being overpotted. Quite large plants of it may be had in six-inch pots; but, unless the cuttings are struck very early and skilfully treated afterwards, they should not be put into pots more than four and a-half inches in diameter. After the first flowers are over each plant should have a teaspoonful of some concentrated manure, and be gently watered directly afterwards to wash it down to the roots. This will assist them to form another lot of flowers. As old plants do not thrive so well as young ones, it is desirable to raise a fresh stock every year. I should have said before that the pots in which they are growing must be well drained, and while the plants are in flower they require to be kept in a dry air.

Gesneras.

These are admirable plants for winter use, as the leaves of well-grown examples are quite as handsome as the flowers. Our favourite variety is exoniensis, which has dark red leaves, and when the plants are stood on inverted pots while they are growing the leaves will hang over, and quite hide the pots. They may be grown in a close pit during the summer if they are carefully shaded, but during the autumn and winter they require a warm house in which the air is kept rather dry. They must also have a light position near the glass. For table decoration and for vases we grow a number of plants in five-inch pots, and no subjects we use for indoor decoration are more highly valued. The variety zebrina, which has green leaves with dark veins, we grow in pans for the decoration of the warmest end of the conservatory. We put seven plants in a pan ten inches over, and by tying them out and giving them plenty of room while growing they make handsome specimens. In regard to soil a mixture of equal parts loam and leaf soil, and a fair sprinkle of sand suits them admirably. Many fail to secure large and sound bulbs of these gesneras, because they dry them off too early. As a rule, the tubers are not more than half grown when the last flowers fade. It is, therefore, necessary to keep them watered and in a warm house for a month or six weeks after they have gone out of flower.



PLAN FOR A LONDON SQUARE. From Fairchild's "City Gardener," 1722. (See page 655.)

CHRYSANTHEMUM ECHOES.

In concluding last week's contribution it was not intended that the reader should imagine the chrysanthemum was a recent introduction to "the land of the free and the home of the brave." Oh, no. Mr. Thorpe has somewhere told us, I think in one of the New York monthlies, that it has been known for upwards of half a century in Long Island, and that there are some of the very ancient varieties still grown in that neighbourhood.

I wonder whether the real Tasselled Yellow is in existence, the Quilled flamed yellow, the large Quilled Orange, or even Freestone's Minerva. They say the Japanese were not introduced into Europe before 1860; but what are these? Chinese in name, but Japanese in form.

We are beginning to know some of our Yankee friends tolerably well. There is Mr. Thorpe, Dr. Walcot, Mr. W. K. Harris, Mr. Waterer, and Mr. E. M. Allen, all of whom are now closely associated with the culture of the Mum in America. The last named gentleman, who exhibited the very largest flowers shown at the New York show last year, possesses no greenhouse whatever. His plants are grown in the open till the latter part of the season, when he erects a temporary frame structure over them covered with canvas, and by this means only they are saved from frost and rain.

Before leaving the American growers, there is an interesting subject worthy of mention. They grow seedlings from home-saved seed. One enterprising firm of nurserymen offer prizes for the best results, but on condition that the winning varieties become their property, and that the flowers must be improvements upon existing forms in the various sections. The successful competitors have the right to name their productions, and as the climate is apparently suitable for the purpose, raisers of new chrysanthemums are likely to become rather numerous.

Naming the flowers! by no means an unimportant matter to some of us, especially those connected with the business of cataloguing. Speaking from comparatively recent experience, I would earnestly implore the fortunate American prize-winners in this class to make the nomenclature of their flowers as short and as sweet as possible. Pray let us have no more of the long-winded names such as the lively Gaul delights in. No more like Triomphe de la rue des Châlets, L'ami Boucharlat aîné, Madame la Marquise de Mun, Monsieur Juan Cruz de Eguileor, Secrétaire Général F. Astié, Souvenir de l'amiral Conrbet, or even any other souvenirs of that ilk.

And how classical some of the raisers are! Roman Emperors and Empresses, Mythological celebrities, Greek heroes, and ancient grandees of any distinction have been immortalised in the naming of varieties of the Autumn Queen. It is not much to be wondered at that there is no perfectly accurate catalogue extant. I am speaking now merely as regards the orthography of the varietal names. Even the official catalogue, lately issued by the N.C.S., contains two little errors in that respect, if not three.

I see "Veronica," in "The Garden," has been hunting up some old chrysanthemum lore. I always thought the late Mr. Haworth's classification of the chrysanthemum was tolerably well known to those interested in its early history. It was the first attempt to arrange the then known kinds in accordance with their natural affinities, and it was apparently considered a somewhat important work. Published in the first instance in Loudon's "Gardeners' Magazine," it soon reappeared in Harrison's "Floricultural Cabinet," then in Westley's "Horticultural Journal," and subsequently in the first volume of Paxton's "Magazine of Botany," but in this last-mentioned work in a slightly enlarged form. Mr. John Salter alludod to it in his book on the chrysanthemum, proposing the addition of several other sections necessitated by the advent of new forms, and in the pages of the Gardeners' Magazine, reference to Mr. Haworth's work have several times been made.

The seedlings, if my recollection is right, which he mentions in the paper preceding the classified list, were those raised at Oxford by Mr. Isaac Wheeler about the year 1832. From the illustrations depicting these flowers one can hardly affirm they were improvements on the varieties imported originally from China, and from which, I believe, they were raised. But more of this anon.

Monsieur William Holmes is a very welcome addition to the crimson Japanese varieties. Although sent out as a summer-blooming kind, it really seems to be at its best in October. Several good blooms were exhibited at the meeting of the Floral Committee, on October 13th, at the Aquarium, and it well deserved the award it gained. They say someone proposes to classify it with the reflexed. I venture, however, to submit that it is properly a Jap., quite as much as Flambeau, L'Africaine, and scores of others. The day is probably not far distant when what Mr. Haworth did for the old chrysanthemums will have to be done for the more modern race of Japanese. Everybody knows what an incurved, a reflexed, and an anemone are, and could probably describe them in a few well-chosen words, but it does not look so easy a matter to give any definition of what constitutes a Japanese, for a very good reason, that they have been crossed and recrossed to such an extent that, as a class, they partake of the characteristics of every other section.

In France, where so much of this has been, and is being done, the Mum is divided into classes rather differently than with us. They usually, in their catalogues, describe them under the following headings:

1. Japanese and their hybrids.
1. Chinese (which include incurved and reflexed.)
3. Anemones.
4. Indian (the various sorts of pompons).
5. Medium-sized; and
6. Early flowering.

It frequently causes some amusement to find how the French cataloguer relegates many of our popular English varieties to what he considers their proper classes. Occasionally there happens to be the peony-flowered section, and in that are to be found varieties of almost every type.

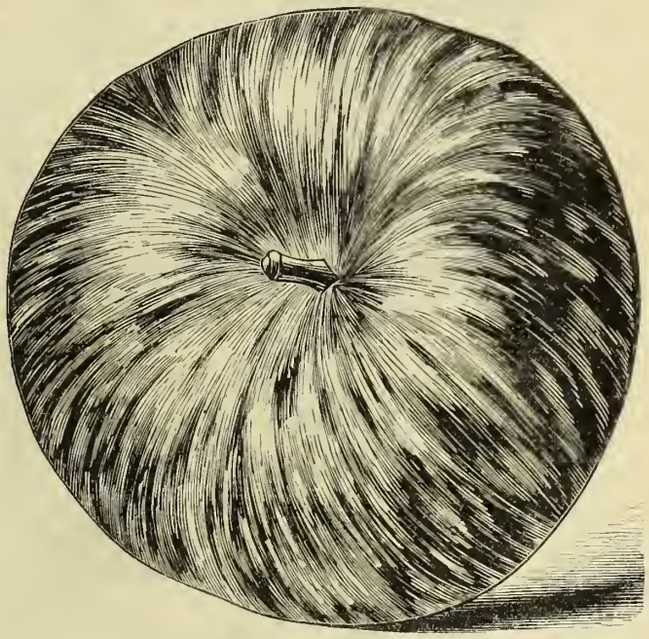
I have just noticed in a contemporary some observations by an anonymous critic upon the orthography of the French names in the National Catalogue. It is too late this week to make any remarks upon the accuracy of his somewhat sweeping assertion, but, if space permit me, I will refer more fully thereto in next week's Echoes. C. Harman Payne.

APPLE ST. LAWRENCE.

In exploring the fruits recently shown by the Dominion of Canada we met with a dish of apples from Nova Scotia, labelled *St. Lawrence*. This we recognised as having been been placed before the Fruit Committee of the Royal Horticultural Society in October, 1862, when, wanting a name for it, the colour of the fruit suggested it should be called *York and Lancaster*. It was thus named, and was duly reported on, and very soon forgotten. Turning to Downing's "Fruits and Fruit Trees of America," 1857, we find St. Lawrence described as of uncertain origin, of excellent quality, and as fit for table use in September and October. This variety merits attention for its exceeding beauty, combining, as it does, the prominent characteristics of American apples, which in colour often far surpass the brightest of British growths, while to this quality they also occasionally possess a peculiar tenderness of flesh that is acceptable to many. In respect of flavour, the highest qualities of American growth do not equal the highest qualities of British growth; but as the highest quality is not always wanted, St. Lawrence, *syn.* York and Lancaster, may be worthy of a Britisher's attention.

The fruit is large, roundish, oblate, tapering towards the eye, the stem of medium length, inserted in a large cavity. The skin is yellow, heavily streaked and splashed with brilliant carmine; specimens occur in which the yellow is faint and the carmine tends to a clear scarlet; but there is always plenty of colour, and if English growth did not equal American in this respect, still there probably would be a gain in colour were this variety added to our collections. The flesh is white, tender, crisp, juicy, and vinous.

Downing describes the tree is of upright growth, vigorous, and productive. As regards the season, it may be considered to comprise the



APPLE ST. LAWRENCE, OR YORK AND LANCASTER.

three months, September, October, and November, although Downing limits it to the two first.

The Household.

An Instantaneous Soup is an article of great utility in an emergency, but it has its uses also where there is no emergency, and only health and convenience are thought of. A busy man said to me, "I should like a cup of beef tea in the course of the forenoon while I work in my office, but it is impossible to get it; to have it regularly and properly made appears to tax the household, and to make it myself with extract of beef is only like substituting a new stimulus for the one—that is whiskey—that I am accustomed to." There are many possible answers to such a statement, but I was enabled to mention "Edwards's Desiccated Soup," which can be made in an office with the aid of a gas jet or fire. It is farinaceous and meaty, of excellent flavour, comforting, and supporting—as ready a substitute for whiskey to an honest palate as can be desired. I became acquainted with this through using it for gravies, for it supplies all that is needful as a basis, and any flavouring can be added at discretion. Sometimes I add a little Worcester sauce or essence of celery; sometimes a clove of garlic, which I remove when the gravy is ready. But it is as useful for soup as any preparation I have met with, and should be tried by all who take an interest in domestic matters. What are called ready-made soups are often good, but when a tin is opened the whole must be used at once, or what is left will soon spoil. The preparation now under notice is a dry powder, and will keep any length of time. It appears to be the manufacture of the same persons as prepare the admirable "desiccated potatoes," from which a delicate dish of mashed potatoes may be prepared in five minutes. X. Y. Z.

NEW TYPE OF TUBEROUS BEGONIA.

In a note on a showy seedling begonia with two distinct whorls of symmetrical petals, raised by Mr. Owen, of Maidenhead, we remarked that it represented a new type, and was therefore deserving of more than passing notice. We now present a figure of a plant that was shown at the same time by the same exhibitor, the habit of which will speak for it as a thing much to be desired. This variety is named *Marchioness of Lorne*, and it may for the present be taken to represent the group that Mr. Owen has had the good fortune to fashion. In this variety there is one whorl of petals only, and that is quite enough for a single flower, more especially as they are so evenly arranged and displayed as to form a salver-shaped corolla of commanding beauty. We need say nothing of the rich rosy colour of the corolla and the agreeable contrast of the centre, for this is a feature of beauty common to the entire group. But here we have a liberal head of bloom, and the differences in size and contour between the male and female flowers is reduced to a minimum; indeed, to the casual eye, they are not perceptible, and a completeness of effect is obtained such as we have not often—perhaps never—had before. And another point of importance is robustness of habit, combined with a dwarf growth, rendering the plant entirely self-sustaining, so that fine specimens may be staged without the aid of stick or tie. We were so struck by the many good qualities of this strain that we secured the subjoined figure of a plant as presented to the Floral Committee on the 27th of July last, and herewith hand it over to our readers, as calculated to convey a hint of the kind of plant best adapted for conservatory decoration, without reference to public exhibition. For the last-named purpose, however, it is not to be doubted that begonias of such a make are as well adapted as any, and better than many.

BEGONIA, MARCHIONESS OF LORNE (Colour rosy red).

SAMBUCUS CALIFORNICUS.

The Californian elder is a free-growing hardy deciduous shrub, the leaves pinnate, the leaflets narrower than those of the common elder; leaves and young shoots very much clothed with white scales and soft hairs, which give the whole plant a milky appearance. The flowers are in large cymes of a greenish-white or pale sulphur colour, less fragrant than those of the common elder, and are succeeded by black berries that are covered with a rich bloom which gives them the blue colour of some black grapes or plums. Our figure is from specimens supplied by Mr. Thomas Moore, curator of the Botanic Gardens, Chelsea.

Mr. A. Beech has left Wood Norton, Dereham, to superintend the gardens of Edgar Hibbert, Esq., Ashby St. Legers, Rugby.

NOTES ON ORCHIDS.

Masdevallia Shuttleworthi and its variety *Xanthocorys* are figured in the last published number of "Reichenbachia." The pretty variety flowered with Sir Trevor Lawrence, Bart., M.P., in 1882, and was described by Dr. Reichenbach in the G.C., N.S., vol. xvii., page 366. These dwarf-growing Masdevallias are not to be compared with the type represented by M. Veitchi, M. Harryana, M. Lindeni, &c. Indeed, comparisons are out of place in this connection. We grow the richly-coloured, showy type; but we value very highly the pretty dwarf group, of which the above species is the best representative. A still more dwarf species is M. Wagneriana, with its delicately-tinted translucent flowers. We find space for them over the heads of the others; small pans suspended from the roof glass take up no space to speak of, and that is the best position for them. I would just remark that they do not like quite such a cool temperature as Odontoglossum crispum. We place them in the Cattleya house in winter, and in the coolest part of it. Potted in peat, sphagnum, and with clean drainage, they grow and increase freely.

Angræcum sesquipedale is represented on plate 14, a species well known to be the finest of the genus to which it belongs. It is usually grown in a very high temperature, but during the last few years we have found it succeed well at the warm end of the Cattleya house. Our own plants grown close to the glass, in a winter temperature ranging from 55 deg. to 60 deg., have increased in vigour from year to year, annually producing large, handsome flowers. In the temperature of 65 deg. as a minimum in winter thrips were troublesome, but in the lower temperature they have been quite free from the vile parasite. There are two distinct varieties of this species; one flowers two months later than the other. The late type produces broader leaves, of greater substance.

The handsome variety of Cattleya Mendeli, *Duke of Marlborough*, is also represented at plate 15. This, perhaps, is the best variety ever discovered. It was introduced by Mr. Sander, of St. Albans, and flowered for the first time in his collection. The sepals and petals are a soft pink colour; the lip rich crimson; the flowers being of good form and great substance. The editor recommends that the best treatment for plants of Cattleya Mendeli is to hang them up close to the roof. This is sound advice, as I have been able to verify in my own experience. One reason why orchid culture is so facinating to amateurs, is the fact that such handsome varieties as this are likely to turn up at unexpected times and places. An amateur ventures to purchase a dozen plants of Cattleya Mendeli, which he can do now at a cheap rate. Everyone of them when they flower will give satisfaction, but amongst his little lot something to rival or even excel in beauty anything hitherto seen may be expected. Thus there is as much pleasure in anticipating the flowering of imported orchids, as there is in watching the opening flowers of our best strains of seedling Auriculas and Carnations for the first time.

Zygopetalum intermedium forms the subject of plate 16. This species was grown by Messrs. Loddiges, when the Hackney collection of orchids was the most famous in England. It is a distinct and handsome plant, and like Z. Mackayi (of which at one time Dr. Reichenbach made it a variety); it is winter flowering. The Zygopetalums are not looked up to with the favour their merits deserve. They are so distinct, and the rich blue lip, or it may be white marked with rich blue lines and bars, affords a wide field of contemplation to the thoughtful amateur. How freely they grow, and how well they appreciate their ordinary cultivation. One may sometimes observe great healthy masses towering aloft in some neglected hothouse, where the plant has been tumbled into a large pot amongst some nodules of ordinary turfy loam, and left to take care of itself, after being soused with rain water once a day. One may often pick up some useful information in such gardens. I will never forget observing in such a garden a vigorous healthy specimen of Cymbidium eburneum, while my own plants planted in turfy peat and carefully nurtured were only "so, so." How eagerly I pounced upon the plant to examine it leaf and root; when lo! the pot in which it was grown seemed to be half full of mud. It had been potted in loam, nothing else. Next day all the plants under my care were potted in loam. They are growing in

CALIFORNIAN ELDER, *Sambucus Californicus.*

loam now, and I care not who comes to look at them for I shall not be ashamed. Every one of the plates in this number of the Reichenbachia has been engraved from drawings by Mr. Moon. They are excellent artistic productions and faithful renderings of the plants they are intended to represent.

The cultural directions, as may be expected, can be relied upon to lead the cultivator to success. The nomenclature is entrusted to Dr. Reichenbach, and it is to be wished that the new departure begun by giving suitable English names to varieties of orchids, should be continued through the work. But the fact is, if there is any fault to find at all, it is with the nomenclature. Referring again to plate 13, it is inscribed "Masdevallia Shuttleworthi" and "M. xanthocorys." Now the tyro in orchid culture will suppose that two distinct species of Masdevallias are intended, but it is not so, xanthocorys is merely a variety of shuttleworthi. If some appropriate English name had been given to Sir T. Lawrence's variety, this error would not have crept in. Angræcum sesquipedale is dropped, and Æranthus sesquipedalis substituted. Well, this was Lindley's name (Gen. et Sp. Orch., 244), and the alteration should be adopted.

Plate 15 is inscribed "Cattleya Mendeli, Duke of Marlborough," but the press matter is headed, "Cattleya labiata Mendeli, var. Duke of Marlborough." Why labiata? We all know that C. Mendeli belongs to the labiata group, but it has been recognized as a species from the first. It is irritating to have labiata placed between the genus and the species. But if it is right, why inscribe one thing on the plate, and make a different heading for the press matter? These are certainly errors of detail that should not be allowed in a publication of this character.

Jas. Douglas.

MANUFACTURE OF KIRSCHWASSER.

M. De Brevans, a well-known French writer on agricultural topics, has lately published some interesting particulars of this industry, which is almost entirely confined to two districts in the East of France, one being Montiers, in the valley of the Loire, and the other Fougerolles, at the foot of the Vosges. The method adopted at Fougerolles is as follows: Young, selected wild cherry trees—the fruit of which is supposed to have a more delicate flavour than the cultivated sorts—are planted 40 ft. apart, or about 25 to the English acre, in ordinary fields, tillage being held to promote the growth of the trees, which soon strike deep into the soil. They require very little attention, the chief thing being to prevent their getting barked by carts and ploughs, and to keep them clear of vermin; a species of caterpillar is sometimes very destructive. Heavy rain at the commencement of flowering, or when the fruit is nearly ripe, does much mischief, as also do severe frosts, like that of 1879-80, which killed many of the trees outright. The most expensive operation is the picking, although it is not necessary to be so particular as with table fruit. The picking takes place in July, and the fruit is at once placed in vats to ferment, and left there for twenty-five days. Then follows the distillation, which has to be very carefully done, as upon it depends the quality of the liquor. The Kirschwasser is drawn off at a strength of 54 to 55 degs., and placed in jars covered with paper, in which small holes are pierced. The ripeness of the fruit and care in handling it are important factors in determining the quality of the liquor, but so also are the soil and site on which the fruit is grown. The best kirsch is to be had from farmers who grow fruit enough to make it themselves; the smaller farmers sell their fruit to distilleries, where the kirsch is often adulterated. According to M. de Brevans, each tree, in a good year, will produce 2 cwt., of fruit, which is equivalent to 50 cwt. per acre, with 25 trees to the acre. The average price is 11s. per cwt., or £27 per acre, which, after deducting £3 for rent, labour, &c., leaves £24 per English acre. From this something must be taken off for deterioration of crops in fields so planted. Even with this drawback, the crop is very profitable. The worst point about it is that the trees are fifteen years before they come into bearing. As short leases of three, six, or nine years are the rule, there is no inducement to tenants to replant in the room of trees, which have died or been blown down. In many place the cherry orchards have consequently disappeared.

LAPAGERIA.

Lapageria rosea.

Plants of recent introduction, more especially those from the great Western continent that we call the New World, do not willingly lend themselves to literary treatment. In respect of the book treatment of natural history subjects, we run in vicious grooves; and if the garrulous "ancients" have nothing to say, we seem to be struck dumb, for the sources of knowledge appear to the mere bookmaker to be in what are called the "classics." Alas, for the case before us! Theophrastus and Ovid knew not the lapageria; and it has not been known to our gardens at the present date for so many as fifty years. The flowers had been described by Ruiz and Pavon as "Formosissim;" but the lapageria was unseen at Kew until 1847, when an American gentleman, Mr. R. Wheelwright, presented a plant obtained from Concepcion, Chili, and very shortly thereafter it was talked about, as it deserved to be, as one of the wonders of botanical discovery. Messrs. Veitch, about the same time, secured it through their successful collector, the late Mr. Thomas Lobb; and, as a matter of course, it was cultivated by them for commercial purposes.

At this point we wish to mention an incident in the history of the lapageria of interest much greater, even if less attractive, than any possible association of the unknown thing with human loves or inhuman follies in Greek or Roman poetry might be. The plant was figured in the *Botanical Magazine* in 1849 (t. 4,447) and reference thereto will enable any one who knows the flower to say that the figure is admirably lifelike. But read the story that accompanies it, and you will learn that the artist, Mr. Walter Fitch, had no living flowers at command, for none had then been seen in this country. The story declares that "our flowers are taken from dried specimens, aided by coloured figures made in the native locality." Thus we are taken out of the overworn "classic" groove; we are not to consult the ancients about a flower that for them did not exist, but we have forced upon our attention the fact that a botanical draughtsman may, by means of dried specimens and secondary helps, produce a portrait that shall have, for both pictorial and scientific purposes, the value of a drawing from the life. To this remark it should be added that very much of botanical draughtsmanship in recent years has been founded on dried specimens and descriptions, and, generally speaking, technical accuracy has been secured thereby.

The lapageria belongs to the Smilax family, and therefore, by a little adroit management, it may be dragged into the classical connection; but we shall resist the temptation, and say that in the country it adorns its roots are used for the same purposes as sarsaparilla, while the ripe pulpy fruit is eaten, and is much prized for its agreeable flavour. It was first described, as noted above, by Ruiz and Pavon, in "Flora Peruviana," and was by Dr. Lindley included in a new order called Philesieæ; but Dr. Hooker, in his "Flora Antarctica," placed it in the Smilax alliance, and there it remains most properly. The genus is named in honour of Josephine Lapagerie, wife of Napoleon Bonaparte, who, in her gardens of Malmaison, rendered some special services to botany.

Lapageria rosea, and its white variety *alba*, have given much trouble to cultivators; but being now well understood, they occasion trouble no longer. They are so nearly hardy, that the cool plant-house is the best place for them, generally speaking, while it is probable that in some favoured spots in Devon and Cornwall they may prove to be sufficiently hardy to thrive on open walls and trellises through a series of average seasons, and perhaps survive the occasional severe winters that put all such plants of doubtful hardiness to the extreme and final test. The soil for the lapageria should be good turfy peat, with a considerable mixture of sharp siliceous grit. It should be free from calcareous matter, and, generally speaking, what is known as silver-sand and brown orchid peat are the safest materials for a compost. We have found that the fine grit sifted out of the sweepings of gravel roads and paths is the best of grit for such a purpose, provided the material is siliceous and not calcareous—a point on which any one may be easily satisfied. Another requisite is an abundance of root moisture. It is not, indeed, necessary to provide the roots with a running rill of water; but a large bulk of soil must be provided, and the supply of water must be copious and constant all through the growing season. Liberal root room, and correspondingly liberal head room, are conditions of importance in the cultivation of this superb climber. When these are provided, there is little else to do beyond training the plant to the wire or rafter near the glass, and shortening the growth only when it becomes too long for the situation. When in any way cramped or starved, the lapageria is more plague than profit. Better always a thriving tuft of native chickweed than a poor example of any grand exotic!—*Familiar Garden Flowers.*

CROW'S NEST BRANCHES IN THE CHERRY TREE.

At a recent meeting of the Academy of Natural Sciences of Philadelphia, the formation of fasciated branches, or as they are familiarly designated, "crow's nests," was the subject of a very interesting discussion. In introducing the subject, Mr. Meehan remarked that they might be classed as different species, and, perhaps, each species might have its own peculiar law of development. In former contributions to the academy, he had explained some of the phenomena attendant on fasciation in trees and plants, which gave clues as to their origin. In the cherry there was a species of fasciation distinct from that prevailing in most trees. In a portion of the mass of branches cut from the main mass, very little of an abnormal character could be noted. But on the tree itself a huge mass of small branches proceeding from one common branch might be noted, in striking contrast with the prevailing character. The specimens exhibited were from a mass of about four feet in diameter. In this there were about two hundred branchlets. In one of the thickest growths of a normal character, only about twenty branchlets could be counted in a similar space. The weight of these fasciations was so great that the masses hung like pendulums from the trees. The garden cherry had for more than a century been naturalized near Philadelphia, and he knew of three fasciations, one on each wild tree, within a half mile of each other. He had not seen any on cultivated trees. They had been under his observation for years. They might be said to never flower. On one he had seen two weak flowers last year. There were none this. The leaves are attacked by a species of fungus, which Professor Farlow, of Cambridge, has kindly worked out for him, and found to be *Exoascus Wilsneri*, an European species closely allied to *E. deformans*, the species well known as causing the disease allied the "curl" in the peach. Professor Fawlow states that the specimens sent by Mr. Meehan gave him the first knowledge of the existence of the species in America.

As in the peach leaf-curl, the first leaves that push in the spring are attacked, and are soon destroyed, the blistered and browned leaves all falling by the first of June. New leaves, free from the fungus, and weak shoots follow the attack. The absence of flowers led to the discovery of the method by which the fasciation is formed. In the normal condition of the cherry tree, the weak shoots become fruit-bearing spurs. From these spurs leaves annually appear, leaving an axillary bud, which becomes the flower bud of the next season. The leaf continues healthy throughout the growing season, and the parts that, morphologically speaking, might make a weak growth of wood, remain in a kind of microcosm as sepals, petals, stamens, and carpels, fed by the leaf for another year. But when this leaf is injured or destroyed, instead of the bud remaining quiescent, or the theoretical leaves changing into floral parts in the bud, a new growth of leaves and the weak shoot are produced instead. It is indeed so clear when once observed that the fasciation is simply the development to weak branches of what would normally be blossom spurs, that it was provoking to reflect that it had taken so many years to discover it.

An interesting observation was that the fungus should confine itself to the fasciated mass for so many years, and show no disposition whatever to spread to any other part of the tree. In practical gardening we were taught when these fungus pests appeared on orchard trees it was highly important to cut off the branches or leaves, and burn them, in order to check the spread. In the absence of actual demonstration in this case, one might with good reason assume that the mycelium of the parasite had obtained an entrance into the tissue and propagated itself continuously as the branches grew, and that a crop of spores in myriads must be produced annually. Only in rare instances were the circumstances favourable to their germination. The careful cutting away and burning of a few thousand spores would be a matter of small importance in comparison with the immense number that must escape the effort of the cultivator for their destruction. Safety lies evidently rather in the difficulty these minute bodies experience in finding the exact conditions necessary for their growth and development, than from the destruction of the germs themselves.

Notes of Observation.

CAULIFLOWER PLANTS.

Owing to the warm growing weather that has prevailed for the past month, cauliflower, cabbage, and lettuce plants to stand through the winter have grown larger than we like to have them, although they were not sown earlier than usual. We have, therefore, had to reject the largest as they would be more likely to be killed should we get a severe winter. Of all the subjects I have named we have chosen the medium size plants, and the small ones we have transplanted rather close together on a warm south border. I find it always the safest plan to devote cold frames to the protection of cauliflower and lettuce plants, and then with ordinary care they can be depended upon to stand through the severest winter; those who cannot spare a frame for them should plant them rather close to a south wall not later than the first week in November. It is a mistake to cover up these plants on the occasion of every slight frost early in the winter. A little frost will do them no harm, but rather prepare them to endure a greater degree of cold later in the winter. J. M.

ROSE NIPHETOS.

What a charming white rose this is. My gardener, a few years ago, put in a plant in one corner of my little peach house, it has now grown to a good size, and in early spring and all through the autumn this plant furnishes me with dozens of its beautiful flowers, which I like to cut myself just as the buds begin to unfold their petals. They are then very charming, as the colour is so pure; much more so than from a plant which I have against an open wall. We grow a few other roses in pots and planted out, but if I had only room for one I should prefer the lovely Niphetos. Laura L——.

CHEAP FLOWERS.

In the spring of the present year I obtained from Messrs. Van Roozen, of Overween, Haarlem, a collection of cheap gladioli bulbs and dry dahlia roots. As they came to me in paper bags, so they remained on a shelf in a rather warm room for fully two months, by which time I was prepared to find them much the worse for their dry condition. But when I turned them out, early in April, they appeared perfectly sound, though more or less inclined to grow. I planted them where they were to remain, and that is absolutely all I did for them. The result has surprised me, for it has been my practice through long years to do things well, and I treated these things to the rough-and-ready method, because I had no time to do better, and it was somewhat of a wonder that I could spare an hour to put them in the ground. I repeat that the result has surprised me, for every root grew and every plant flowered; the gladioli were a delightful lot, that finished flowering at the end of September; but the dahlias, most of which are large bushy plants, are at this time (October 25) still flowering, and have given me bushels of blooms, that I have cut for my daughter's table. This I regard as reducing floriculture to the simplest elements: I take dry roots out of paper bags, I plant them in haste, and I do no more. For this small trouble I have heaps of glorious flowers.

J. E. Saunders.

CATTLEYA GASKELLIANA.

The last spike of this species is now on the wane in our collection. We have but six plants, and they have continued to produce flowers since July. It is now the 19th of October. The old autumn flowering form of C. labiata and this species flower together. Those who cannot afford, or who do not care to spend, twenty guineas for a small specimen of the latter, may enjoy the sweet perfume and richly-coloured flowers of the former for the expenditure of a few shillings. Moreover, C. Gaskelliana is one of the most vigorous and free-flowering of orchids. J. D.

ORNITHOGALUMS.

It is not pleasant for an old gardener to have to confess that he has been beaten in any part of his work, and especially when it relates to such ordinary plants as ornithogalums. But I certainly must confess to failure in regard to at least two varieties of these bulbs. Two years ago last spring I saw them in flower in another garden, and as they were interesting plants I thought I would cultivate them in pots. So at the proper time I ordered a dozen of O. arabicum, and the same number of O. lacteum, which were duly potted and placed in a cold pit where they received proper attention. As spring advanced I began to look for some signs of life in them, but none appeared—there was not even a sign of a leaf, much less a flower, which was disappointing. However, I made up my mind to wait. But summer came, and not a leaf or flower appeared. So I turned them out in the open with the chrysanthemums, taking care that they had water regularly. On examining the bulbs in the autumn I found them plump and sound, although they had neither sent out roots nor leaves. In the spring I thought to myself they will surely flower if I treat them kindly. So I stood them on the floor of a late peach house, where they remained all last winter. But this kind of treatment made no difference; they did not flower in the spring as I had hoped, and worse than that they showed no signs of life in either roots or leaves, although the bulbs were sound. In this condition they remained, and are now, at the end of October, which is two years since they were potted. After all, it may only turn out to be a case of suspended animation. If so be well, and I shall, perhaps, not be beaten. At the same time, the chances are to all appearance against me. Therefore, if any one can tell me in what way I have erred in my treatment, I shall be glad; for in truth, I shall sleep better if I know my failings, and how to avoid them. R. H. B.

ONCIDIUM MACRANTHUM.

The spikes are now pushing out from amongst the sheathing leaves of the half formed bulbs of this species, but careless cultivators may never see them developed. Why? Because the slugs are so fond of them when they are an inch long. Daily and nightly watchings may save them, or some arrangement whereby the slugs will have to swim to get at them. We stand our plants on inverted pots, the inverted pots being in saucers of water. This hint may be useful. It is timely.

J. D.

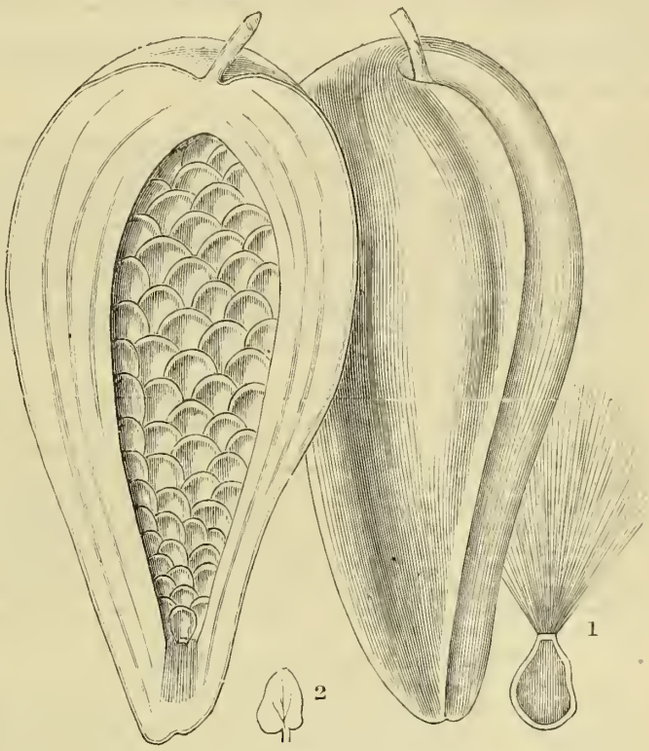
PEA ABUNDANCE.

I am pleased to find that Mr. George Bunyard, of Maidstone, has proved that this pea ranks as one of the best of the dwarf varieties; and as I have grown it for two seasons, I can most fully and unhesitatingly endorse Mr. Bunyard's statement with reference to the good qualities of "Bliss's Abundance." I had the seed last year, 1885, from Howcroft and Watkins', Covent Garden, and I have no hesitation in saying that the description they gave of this pea falls very little short of the good character they gave when they first introduced it in their seed list. It is certainly a fine, robust grower, about two and a-half to three feet high, very prolific, and the flavour excellent.

Lewisham. George Fry.

STEPHANOTIS FRUITING.

Is it much of a novelty to see the fruit or seed pod of the Stephanotis? I had the pleasure of taking a note of a fine specimen yesterday at Myn Park, Northaw, the residence of A. J. Kidston, Esq. Mr. Chandler, the head gardener there, informed me that he first observed this fruit about three weeks ago, and that it was then about the size of a large gooseberry. The growth since then must have been very rapid, as the fruit measured yesterday about five inches in length by as much



Fruit of Stephanotis floribunda. 1, seed; 2, embryo.

in circumference. The shape is somewhat like a Moore's cream marrow, rather thicker at the stem end than the point, and the colour is about that of a green walnut. The plant bearing this specimen is in a most healthy and thriving condition. It is trained to wires near the glass in a plant stove, and has continued in bloom this season for a considerable time. Mr. Chandler intends, if possible, to ripen seed and try the experiment of raising the Stephanotis in that way.

E. Abel.

[The fruiting of the Stephanotis can scarcely be regarded as an uncommon occurrence, for in certain places seeds are often obtained and plants are raised from them, a temperature of 70 deg. sufficing to ensure germination. Very many gardeners who have charge of the plant have never seen the fruit, and with such, as a matter of course, when a fruit appears, a new interest is awakened. In the G. M. of October 20, 1877, the fruit and the downy coma of the seed were figured by Mr. F. W. Burbidge, curator of the gardens of Trinity College, Dublin. We reproduce here the figures, but must refer to the number cited for Mr. Burbidge's description.]

A WORD TO WIVES.—*Beware of Spurious Imitations.*—For 50 years Horniman and Co. have advocated the benefits of Pure Tea, rejecting that "artificially coloured" on the surface of the leaf. The difference in quality is so great, and the flavour of genuine tea so superior, that it has become a household word, where "*Horniman's tea is once used it is always used.*" The pleasure of partaking of tea, free from adulteration, facing powder, or foreign admixture, is realized by many thousands of tea drinkers, who annually consume many millions of packets of Horniman's Pure Tea. See list of Agents in all newspapers, and at railway stations, or apply by post to Horniman and Co., 29, 30, 31, 32, and 33, Wormwood Street, City, London.—[Advt.]

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Conservatory.—Maintain a genial temperature in this structure, and keep the atmosphere dry, now that the Chrysanthemums are coming into flower, Also open the ventilators early in the morning whenever the external air will admit of its being done with advantage to the inmates.

Greenhouse.—Attend to former directions, and preserve a pure atmosphere by the aid of occasional fire-heat and judicious ventilation.

Pelargoniums to be kept rather dry at the roots, and the plants near the glass, as too much moisture at the roots and a close confined atmosphere are the principal causes of the disease commonly known as "spot," which frequently makes its appearance at this season of the year on the leaves of the show and fancy varieties.

Scarlet Salvias may be kept in bloom a considerable length of time in a warm light place in the conservatory, especially if rather pot-bound, and kept in vigour with liquid manure.

Spring Flowers to be thought of now, so as to secure a proper succession of Cyclamens, Primulas, and Cinerarias. The chief point in managing these things is to keep them as near the glass as possible. Give water very carefully, to guard against damp at the collar, and let them have as much air as possible, consistent with their forwardness and the state of the weather. Those to be pushed on for a first supply keep in warm greenhouse temperature, and constantly look out for fly, which will revel amongst them if not checked in time.

Succulent Plants must now be arranged in their winter quarters. In a mixed collection the best place for them is a top shelf in the full light, and where they are not likely to suffer by drip. The requirements during the winter are a dry position, plenty of light, air when needful, and security from frost. Give them no water from this date, or at most water with caution only such as obviously need it; and any in active growth or flower keep warm until they go to rest.

Violets potted now, by taking up strong runners, will bloom early and be of service. Use plenty of charred rubbish to lighten the soil, which should be rich.

Zonal Pelargoniums potted from the borders to be pruned in, but not severely—sufficient only to remove soft sappy growth, as severe pruning would cause them to grow again too quickly.

STOVE AND ORCHID HOUSE.

Orchid House.—All orchids requiring rest now should have less water and a cooler and drier atmosphere, and a more liberal ventilation, than in the growing season. Evergreen kinds will require a moderately warm position. It is at this time of the year that rot and spot begin their havoc in the orchid house. Both of these maladies are the result of improper treatment by the cultivator, one cause of both diseases being the continuance of too high a temperature with much moisture during the period when the plants ought to be at rest, and another frequent cause is too much damp when the temperature is low. The drip from the glass falling on the pseudo-bulbs frequently causes rot, and whenever rot appears the parts affected should be cut clean away, and the wounds filled up with sulphur. Discolouration of the pseudo-bulbs is one of the indications of approaching decay.

Flower Forcing to be commenced now. First clean the glass, to make sure of the utmost possible amount of light; then get together the fermenting materials—leaves and sweet dung chiefly—and over this lay six inches of tan or spent hops to plunge the pots in. Put in nothing but what has been prepared for the work, and has ripe wood and well-formed flower-buds. Azaleas, Camellias, Gardenias, Roses, hybrid Rhododendrons, double Plums and Peaches, double Cherry, Weigelas, Tree Pæonies, Chimonanthus fragrans, Rhododendron ciliatum, Cytisus Atleeana, Kalmias, Andromeda floribunda, Daphnes, and Jasminum nudiflorum are all cheap and easy subjects to force, and all beautiful in their season. It requires more skill and a good stove to manage Poinsettias and Euphorbias; but these may be forced in dung-heat where there is plenty of room, plenty of material, and some experience at command for the purpose.

FORCING AND ORCHARD HOUSES.

Pines require careful attention at this season of the year. Fruiters to be started early in the ensuing spring must be kept rather dry at the roots, and in a comparatively low temperature. Others now swelling their fruit must have the benefit of a brisk temperature of about 75 deg., and a bottom heat ten degrees higher. All the young stuff must be kept quiet in a temperature of about 65 deg., and rather dry. Too much water just now will do an immense amount of mischief.

Vines.—Prune these as fast as the crops are cleared off, to give the wounds ample time to heal over before the sap gets into circulation again. This is especially important in the case of vines intended to be forced early.

FLOWER GARDEN AND PLEASURE GROUNDS.

Auriculas.—Damp is now the great enemy of Auriculas, and yet water must be given, if they want it, at the root. Keep the glass over them, and give air liberally. Remove dead leaves and guard against drip.

Carnations and Picotees to be kept comparatively dry, and very freely aired. Prepare the compost for next season's potting by chopping over two parts yellow loam with plenty of fibre in it, one part rotten cow-dung, and a half part of fine siftings from old plaster or road sand. Lay this up in a ridge, and let it be several times turned during the winter, especially with a view to get the whole mass two or three times frozen through.

Hollyhocks of choice kinds should be taken up and potted, and a few of the shortest shoots taken from each and put round the sides of pots as cuttings; they will root without the aid of heat in a frame or pit.

Lobelia cardinalis and its varieties should be lifted and the roots placed in a cold frame, and covered with coal-ashes to keep out the frost; they can also be preserved out of doors in a dry corner by covering them with ashes, and a little straw or a few boards to keep out the wet.

Rosery.—Plant Rose stocks without delay; the most desirable are those with green bark and formidable spines, and reject all which have grey bark and are hide bound; for it is simply impossible for them to produce a vigorous growth accompanied with fine fully-developed flowers. Roses planted now will begin to make fresh roots at once, and the sooner all alterations in the rosery are completed the better. Never mind their still having leaves on them. Where the planting cannot be done now, manure and trench the ground in readiness.

Turf.—This is the best season of the whole year for laying turf. Let the ground be dug up deeply, and then made perfectly level and beaten hard. Secure the turf from common or pasture land which is free from coarse-growing grasses, and contains a plentiful proportion of clover; and after laying it give it a thorough beating.

FRUIT GARDEN AND ORCHARD.

American Blight.—Scrub old apple trees that are infested with blight with a strong brine, rather warm, and stop the holes with a mixture of clay, sulphur, soot, and cow-dung, beaten together into a tenaceous paste.

Plantations to be made ready for planting without delay. Let the earth be deeply stirred. Stubborn clays are greatly improved for planting fruit trees by digging in plenty of broken oyster shells, half-inch bones, and building rubbish from which all large bricks and stones have been removed. Of course drainage is the first requisite of success. Put stakes to everything fresh planted, or better still, three lengths of tarred rope fastened to pegs driven firmly in the ground.

Pruning should soon be proceeded with as opportunities offer, and as much good wood as possible laid in, and where standards have got crowded thin out the heads, but be very cautious about cutting large boughs from healthy bearing trees. Bush fruits should be pruned and the ground forked over between the rows. Burn the prunings and strew the ashes over the newly-forked surface. Red and white Currants must be cut back to skeletons; the chief of the fruit-buds being at the junction of the new wood with that of last year, leave only three or four joints beyond that point, and cut clear away at the base every branch that is ill placed or that chokes up the centre. Black Currants do not like the knife. Trim the branches to regular distances, and shorten the longest back to good joints, but preserve plenty of young wood, leaving the plumpest branches nearly their full length, and cutting all weak ones clean away. Treat Gooseberries in the same way; they never bear well if severely pruned.

KITCHEN GARDEN AND FRAME GROUND.

Asparagus and Seakale for the first supply to be put in at once. All that is wanted is a mild sweet bottom-heat. A melon-bed still retaining some warmth may be revived by turning it over, and mixing with the dung a good proportion of leaves, straw, grass mowings, and other fermentable litter. A bottom heat of from 50 deg. to 60 deg. will be ample. Place the roots close together, and cover with light soil. Seakale must be shut up close and dark; asparagus will want air and light; the latter to be cut when the plump purple crowns are two or three inches long above ground.

Early Peas and Beans.—A sowing of first crop Peas and Magazan beans may be made in high and dry localities. A certain risk is attached to the crops sown now, especially if the garden abounds with slugs and snails; but as the cost of the seed is so trifling, and as the crops will, if not destroyed, come in earlier than the spring-sown ones, it is worth the trial. A border facing the south is the most favourable position for the early crops of these vegetables. Snails and slugs are now very active, and a sharp look out must be kept up, or they will devour wholesale the young cabbage and lettuce plants which are remaining in the seed bed, as well as those planted out.

MORPHOLOGY OF SUPERIMPOSED STAMENS.

At the meeting of the Botanical Section of the Academy of Natural Sciences of Philadelphia Mr. Thomas Meehan remarked, with reference to this matter, that Sachs teaches that stamens "must be considered morphologically as foliar structures, and make it convenient to term them Staminal Leaves," * and Dr. Asa Gray defines a stamen to be "one of the elements or phylla of the andrœcium." † So far as the speaker knew, no botanist regards the stamen as an axial development, yet there are occasional phenomena that seem to be inexplicable on any other hypothesis. We have to admit that a flower is not merely composed of modified leaves, but is a modified branch; the branch, arrested in its development, produces sepals and petals in the order and in the place where leaves might have been. Occasionally, however, the usual order of phyllotaxis seems broken. Stamens will spring from the base of petals, and opposite, where we looked for them to alternate; and then for the sake of consistency with the phyllal hypothesis, we have to assume that one theoretic whorl has proved abortive, or that there has been a multiplication of whorls, the superimposed one being the extra. This introduction of an extra series, immediately over the lower, not provided for in the original phyllotaxy, has, I think, never been seen in the normal condition of the branch, and it is difficult to conceive how this could occur under the arrestation of axial growth that transforms the branch into a flower. On the other hand, if we take the petal to be the analogue of the leaf on the elongated branch, there seems no reason why there should not be, theoretically, an axial bud to the petal; and, should this bud develop, it would be the superimposed stamen. Branching and articulated stamens are frequent in those families that have these organs spring, as it were, from an axial bud at the base of the petal, as in a diminutive or suppressed secondary branch we might expect them to do.

The flowers of *Mahernia verticillata* Cav., a well-known Byttneriaceous plant from the Cape of Good Hope, common in cultivation, seem to indicate that its superimposed stamens are really arrested branches. The genus is separated from *Hermannia* chiefly by a cup-shaped gland at the middle of the stamen. A comparison with the axial development of the inflorescence shows the stamen to be formed on precisely the same plan as the bi-flowered peduncle. Really the flowers are axillary—a single flower being produced from the axil of each leaf. What appears to be the "two-flowered peduncle" of authors is simply a diminutive branchlet. After forming one node the longitudinal development becomes nearly arrested, and we have only a shortly-pedicliate and slowly developing flower. The bud in the axil of the bracteolate leaflet, however, makes another and stronger attempt at growth, and pushes up and over the one which terminates the first growth.

In the development of the stamen we read much the same language. The lower leaf from which the short though main peduncle in the inflorescence appears, is typified by the petal. The common peduncle is represented by the filament, and the cup-like gland at the middle stands for the bracteole of the bi-pedicels. Here one of the flower buds—probably the outermost and weakest in the normal development—wholly disappears, the innermost becomes the upper part of the filament, the next node may be at the connective, and then the theoretical floral leaves proceed to form the anther. The incised

* Text Book, English ed., p. 473. † Structural Botany, p. 435.

bract is reduced to the fringed cup-like gland from which the stamen proper springs.

A close examination of the stamen gives some further facts in support of this theoretical view. When a branchlet is produced from a branch, it is necessarily more slender than the parent branch. The upper half of the *Mahernia* filament is more slender than the part beneath the gland, and, while the lower portion is smooth and membranous, the upper is minutely hispid—variations which we might only expect in distinct internodes. Only for its actual office in supporting and appearing in the direct line of the stamen, we might critically call the lower portion a peduncle, and the portion above the gland the stamen proper.

And we may conclude, after a whole study of the subject, that in many cases superimposed stamens are the development of theoretical axial buds at the base of the petals, and not the result of an interjection of an extra whorl of leaves for which there would be no warrant in phyllotaxy.

RECLAMATION OF THE DUNES OF BORDEAUX.

The following is supplied as an appendix to Dr. Poore's interesting "Story of Bremontier," published in the *G.M.*, October 23:—

By the kindness of Mr. Jenkins, the Secretary of the Royal Agricultural Society, I have been enabled to obtain from Paris the following extract from the memoirs of the Agricultural Society of the Seine. This short biographical notice of Bremontier is from the 13th volume of the Transactions of the Society (for the year 1810), and has been most courteously extracted by M. Laverriere, the Librarian:—

"Nicolas Thomas Bremontier was born at Quavilly, near Rouen, July 30th, 1738, and soon manifested great aptitude for the exact sciences. He was very young when he entered the school of the "*Ponts et Chaussées*," and at 18 he went to the College of the Marine Artillery at Toulon, to teach applied mathematics. This school, established by M. Choiseul, was broken up a few years later, and Bremontier went as Engineer of Roads and Bridges, first to Perigueux, and then to Bordeaux. Here he was actively engaged in his profession, and published papers on the drainage of marshes in the neighbourhood of Bordeaux, on the cleansing of Bordeaux harbour, and on the methods of restraining rivers and torrents to their proper beds. His energy was inexhaustible, and in his leisure he taught himself the principles of music, and became in this direction most efficient. Promoted to be Inspector of Roads and Bridges, he went to Britanny to make a canal to join the Rance to the Villaine. Thence he was sent to Normandy to make a canal from the Orne, by Caen, to the sea. At Caen, he reconciled the differences which had arisen between the provincial magnates and the officers of the Ponts et Chaussées, and his judgment and conciliatory spirit had proved useful in a similar way at Bordeaux. When, therefore, the post of Engineer-in-Chief for Guienne became vacant, he was appointed in obedience to the wishes of the locality.

"Bremontier joyfully accepted this post, not merely because it was at once a professional and social promotion, but mainly because while formerly living at Bordeaux he had been a witness of great troubles for which he believed he had found a remedy; at least his early experiments (conducted at his own cost) gave him strong cause for hope. Bremontier felt that here was to be the theatre of his greatest and most useful labours. Possibly, we might believe, he thought to earn an unperishable fame, for self-interest, we are prone to think, is the main spring of good works. Bremontier had less need of such a spur than most men.

"He had visited the sand hills of Gascony during his first sojourn at Bordeaux, and bewailed the misery caused by those moving mountains thrown up by the sea and driven by the west wind, which had already smothered a vast tract of cultivated land, as well as rural inhabitants and villages, and threatened to cover the more fertile districts and advance even on Bordeaux itself.

"The idea of arresting this devastating power took possession of Bremontier, and the hope of success occupied entirely his brain and hands. He studied the nature and the movements of the sand, he measured their extent, and noted their ravages past and to come.

"He recognized their vegetative power, and from the year 1787, he knew that a great number of plants and especially resinous trees could find nourishment in them. He made experiments at his own cost to get some definite facts. He perfected his method of procedure, and at last, certain of success and feeling that such an enterprise was beyond the power of a single man, he sought the help and succour of the Government. His assertions were not credited, and his project shared the fate of many other creations of genius which are repelled at their birth by the ignorant, until the results become so numerous and evident as no longer to be neglected.

"After Bremontier's first attempt the solid basis of procedure was found, and the extension of his work alone was necessary. What proportion was there between the few acres planted at the cost and by the care of one man, and that vast stretch of country extending from the Gironde to the Adour, nearly 180 miles long and averaging three or four in breadth, all exposed to the action of the detructive sand and in part covered by it?

"During his second residence at Bordeaux he renewed his application to Government, this time still more certain of the success of his project.

"In a short notice like this it is not possible to enter into all his trials and difficulties, nor to dilate upon the dangers to which he and his works were alike exposed during the period of anarchy to which France at that time was a prey.

"The genius who then controlled the destinies of the Empire appreciated the value of Bremontier's projects, and in the year IX. (1801) allotted 50,000 francs for the continuance of the work, and a similar sum has been allotted to it in each succeeding year.

"Bremontier now began to enjoy the fruits of his labour, and in 1808, 3,700 hectares of land (about 9,000 acres) had already been sown. Honoured by the esteem of the department of *Ponts et Chaussées*, he had been promoted to the rank of Inspector-General, and he was chosen by his fellow citizens at Bordeaux to be one of a deputation to wait upon the Emperor at Bayonne. He had then the happiness to submit to this great ruler his future projects and his past success, and felt assured that from that time the great work to which he had devoted himself would not be abandoned, and that its future success was assured. The reclamation of the whole of the Dunes is now ranked among the great public benefits to which Napoleon with the instincts of a genius gave his support. Bremontier in his dying hours was doubtless consoled by this pleasing prospect, and he breathed his last surrounded by his friends, and with the calmness and resignation of a true philosopher."

Chrysanthemum Exhibitions.

Tuesday, November 2, and Wednesday, November 3.—Corn Exchange.—Chrysanthemum Show.

Tuesday, November 2, and Wednesday, November 3.—Ealing Horticultural Society.—Autumn Exhibition.

Wednesday, November 3, and Thursday, November 4.—Havant Chrysanthemum Society.—Annual Exhibition.

Thursday, November 4, and Friday, November 5.—Stoke Newington Chrysanthemum Society.—Annual Exhibition.

Thursday, November 4, and Friday, November 5.—Brixton Chrysanthemum Society.—Annual Exhibition.

Friday, November 5, and Saturday November 6.—Crystal Palace.—Exhibition of Chrysanthemums.

Monday, November 8, and Tuesday, November 9.—Surrey Chrysanthemum Society.—Annual Exhibition.

Monday, November 8, to Wednesday, November 10.—Lambeth Chrysanthemum Society.—Annual Exhibition

Tuesday, November 9.—Royal Horticultural Society.—Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.

Tuesday, November 9.—St Neots' Chrysanthemum Society.—Annual Exhibition.

Tuesday, November 9, and Wednesday, November 10.—Kingston Chrysanthemum Society.—Annual Exhibition.

Tuesday, November 9, and Wednesday, November 10.—Southampton Horticultural Society.—Autumn Exhibition.

Wednesday, November 10, and Thursday, November 11.—Croydon Horticultural Society.—Autumn Exhibition.

Wednesday, November 10, and Thursday, November 11.—National Chrysanthemum Society.—Annual Exhibition.

Wednesday, November 10, and Thursday, November 11.—Bath Floral Fete.—Chrysanthemum Exhibition.

Thursday, November 11, and Friday, November, 12.—Tunbridge Wells Chrysanthemum Society.—Annual Exhibition.

Thursday, November 11, and Friday, November 12.—Portsmouth Chrysanthemum Society.—Annual Exhibition.

Thursday, November 11, and Friday, November 12.—Richmond Horticultural Society.—Autumn Show.

Thursday, November 11, and Friday, November 12.—Bury and West Suffolk Horticultural Society.—Chrysanthemum Exhibition.

Thursday, November 11.—Hammersmith.—Chrysanthemum Show.

Friday, November 12.—Devon and Exeter Chrysanthemum Society.—Chrysanthemum Exhibition.

Friday, November 12, and Saturday, November 13.—Huddersfield Chrysanthemum Society.—Annual Exhibition.

Friday, November 12, and Saturday, November 13.—Canterbury Gardeners' Society.—Exhibition of Chrysanthemums.

Friday, November 12, and Saturday, November 13.—Lewisham District Floral Society.—Chrysanthemum Exhibition.

Friday, November 12, and Saturday, November 13.—Cheshunt Chrysanthemum Society.—Annual Exhibition.

Monday, November 15, Tuesday, November 16.—Sheffield and Hallamshire Gardeners' Society.—Chrysanthemum Exhibition.

Tuesday, November 16, and Wednesday, November 17.—Putney Chrysanthemum Society.—Annual Exhibition.

Tuesday, November 16, and Wednesday, November 17.—Southend Chrysanthemum Society.—Annual Exhibition.

Tuesday, November 16, and Wednesday, November 17.—Winchester Horticultural Society.—Annual Exhibition.

Tuesday, November 16, and Wednesday, November 17.—Brighton Chrysanthemum Society.—Annual Exhibition.

Tuesday, November 16, and Wednesday, November 17.—Watford Chrysanthemum Society.—Annual Exhibition.

Tuesday, November 16, and Wednesday, November 17.—Teddington Chrysanthemum Society.—Annual Exhibition.

Tuesday, November 16, and Wednesday, November 17.—Twickenham Horticultural Society.—Chrysanthemum Exhibition.

Wednesday, November 17, and Thursday, November 18.—Bristol Chrysanthemum Society.—Annual Exhibition.

Wednesday, November 17, and Thursday, November 18.—Newport and County Horticultural Society.—Chrysanthemum Exhibition.

Wednesday, November 17, and Thursday, November 18.—Ascot and Sunninghill Chrysanthemum Society.—Annual Exhibition.

Wednesday, November 17, to Friday, November 19.—York Society of Ancient Florists.—Annual Exhibition.

Thursday, November 18.—Hitchin.—Chrysanthemum Show.

Thursday, November 18, and Friday, November 19.—Hull Chrysanthemum Society.—Annual Exhibition.

Thursday, November 18.—Taunton Chrysanthemum Society.—Annual Exhibition.

Thursday, November 18.—Chiswick Horticultural Society.—Autumn Exhibition.

Friday, November 19, and Saturday, November 20.—Sheffield and West Riding Chrysanthemum Society.—Annual Exhibition.

Saturday, November 20.—Pudsey Chrysanthemum Society.—Annual Exhibition.

Saturday, November 20.—Ramsbottom Floral Society.—Autumn Exhibition.

Saturday, November 20.—Kettering Chrysanthemum Society.—Annual Exhibition.

Monday, November 22, and Tuesday, November 23.—Leeds Chrysanthemum Society.—Annual Exhibition.

Tuesday, November 23.—Borough of Hanley Chrysanthemum Society.—Annual Exhibition.

Tuesday, November 23.—Oxford Chrysanthemum Society.—Annual Exhibition.

Tuesday, November 23, and Wednesday, November 24.—Manchester Botanical and Horticultural Society.—Chrysanthemum Exhibition.

Tuesday, November 23, and Wednesday, November 24.—Liverpool Horticultural Association.—Exhibition of Chrysanthemums.

Wednesday, November 24.—National Chrysanthemum Society.—Floral Committee, 1.30 p.m.

Wednesday, November 24, and Thursday, November 25.—Birminoham Chrysanthemum Society.—Annual Exhibition.

Wednesday, December 1.—Tadcaster Chrysanthemum Society.—Annual Exhibition.

TRADE CATALOGUES.

John Fraser, Leyton.—*General Descriptive Catalogue.*

James Cocker and Son, Aberdeen.—*Select Roses.*

Eugene Verdier, 37, Rue Clisson. Paris.—*New Roses*, 1886-7—*New Gladioli*, 1886-7.

Ewing and Company, Havant, Hampshire.—*Roses, Hardy Trees and Shrubs, &c.*

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, October 26 and 27.

Exhibition of Chrysanthemums and Vegetables.

The exhibitions of the Royal Horticultural Society for the current year were brought to a close on Tuesday and Wednesday with an excellent display of chrysanthemums, and one of the finest exhibitions of vegetables that has yet been held in the metropolis. The classes provided by the society were supplemented by a series of liberal special prizes, and as the competition was very keen throughout, the contributions were so numerous as to fill to overflowing the whole of the available space within the conservatory. The vegetables were not less remarkable for their high quality than for their numbers, and no better proof could possibly be desired of the high state of perfection to which the culture of esculents has now been brought than was afforded on this occasion.

Chrysanthemums.

Although there were but two classes for chrysanthemums, these flowers were so well represented as to produce a very beautiful display, and surprise not a few of the visitors. There were four competitors in the class for a group of plants, and the collections from Mr. N. Davis, Lilford Road Nursery, Camberwell, and Mr. G. Stevens, St. John's Nursery, Putney, who were first and second respectively, were so good as to be deserving of the highest praise. In both collections the plants were remarkable for the amplitude of their leafage and the superb quality of their flowers, and the arrangement was in each case such as to reflect credit on the taste of the exhibitor. Mr. J. Townsend, Providence Nursery, Putney, was third with a bright and effective group, and Mr. J. Simkins, gardener to R. J. Measures, Esq., Cambridge Lodge, Camberwell, had an excellent group, consisting chiefly of white varieties.

There were seven entries in the class for twenty-four cut blooms, without restriction as to the type of flowers shown, and for so early in the season the collections did great credit to the cultural skill of the several exhibitors. The first prize was awarded to Mr. J. Ridout, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, for a stand consisting exclusively of superbly-developed blooms of Japanese varieties, the names being as under: Madame de Sevin, Dr. Macary, Lady Selborne, Mons. Freeman, John Laing, Criterion, Le Triomphante, Madame B. Rendatler, Lakmé, Comte de Germiny, Bouquet Fait, Phœbus, Coquette de Castile, Mdlle. Lacroix, W. Robinson, Jeanne Delaux, Elaine, Mons. Turin, Triomphe du Nord, Chang, Maiden's Blush, and Dormillion; Mr. E. S. Cole, Woodside, Bristol, was a capital second with flowers of high quality of Japanese varieties; and Mr. J. McKenzie, Linton Park, Maidstone, was third with a good stand, consisting of equal numbers of incurved and Japanese varieties.

Vegetables.

There were twenty-six classes devoted to vegetables, and in all of them the competition was very sharp and spirited, especially in those allotted to potatoes, which were shown in splendid condition, and formed quite a feature in themselves.

Celery was exhibited in fair condition, and the competitors numbered fourteen. The most successful was Mr. W. Pope, Highclere Castle Gardens, Newbury, who showed Major's Clarke's Red, in good form, the centre solid, and the sticks close and firm; Mr. R. Timbs, Hammersley Lane, Amersham, came second, with creditable but rather lanky examples of the same variety; the third position was occupied by Mr. G. H. Richards, Somerley Gardens, Ringwood, who had Standard Bearer, also a red variety. Mr. T. A. Beckett, Cole Hatch Farm, Amersham, put up six solid sticks of a white celery, and deserved, in our opinion, a place in the prize list.

Parsnips made a great show, as the roots were large, and, in most cases, of good shape. Mr. W. Meads, gardener to Viscount Barrington, Beckett Park, Shrivenham, staged six fine roots of the well-known Student, which, when well shown, as it was in this instance, is conspicuous for its handsome shape and solidity. Mr. R. Lye, gardener to W. H. Kingsmill, Esq., Sydmonton Court, Newbury, put up smaller, but very satisfactory, examples of Elcomb's Improved, and was placed second; the third award being made in favour of Mr. G. Bloxham, gardener to Sir P. Duncombe, Bart., Buckhill Manor, Bletchley, who showed heavy, clean, and shapely roots of the Maltese parsnip.

Carrots added colour to the show, and they were exhibited largely and in first-rate condition; indeed, we have seldom seen them shown to better advantage. There were twenty-seven competitors, and it was a difficult matter to decide which should be placed in the prize list. Mr. J. Neighbour, Bickley Park, Chislehurst, occupied the post of honour, showing in excellent condition Sutton's New Intermediate, a variety distinguished by a bright red skin, and handsome shape; Mr. W. Robins, gardener to E. D. Lee, Esq., Hartwell House, Aylesbury, was a close second; and the third award was made in favour of Mr. J. Baker, Bampton, Oxford.

Turnips figured prominently, and there was an absence of huge coarse roots, the whole of the lots put up possessing great merit. There were twenty-two competitors, and the post of honour was occupied by Mr. J. May, gardener to Captain C. Blanc, Northaw House, Barnet, who exhibited medium-sized, smooth, shapely roots of Snowdrop; indeed, they were models of perfection; Mr. E. S. Wiles came second with Early Six Weeks, a useful and excellent variety, but the roots lacked finish. Early Snowball Turnip, a beautifully formed variety, with solid, snow-white roots, was exhibited by Mr. G. Bloxham, who was placed third.

Onions were well represented, the competitors being twenty in number. The first prize went to Mr. W. Finlay, The Gardens, Lees Court, Faversham, who exhibited an onion named Sheldwick, which is large, solid, and handsome; Anglo-White Spanish, one of the best-known of all, was exhibited by Mr. G. Neal, gardener to W. P. Southby, Esq., Bampton, Oxon, who was awarded the second prize; Mr. S. Haines occupied the third place, putting up the "Wroxton," a medium-sized, globular onion, with a rich, brown-coloured skin.

Brussels Sprouts were exhibited largely, the competitors being seventeen in number. The first prize went to Mr. W. Finlay, who showed compact, medium-sized sprouts of the Wroxton variety; the famous Aigburth kind was exhibited by Mr. R. Lye, who was adjudged the second place; the third award was made in favour of Mr. W. Pope. There were in this class few indifferent exhibits.

Beet showed up well, as there were no less than twenty-five competitors in the class devoted to this esculent. The first place was occupied by Mr. J. Neighbour; the second prize going to Mr. C. J. Waite, who had Pragnell's Exhibition; and the third to Mr. Haines, who put up the well-known Pine Apple.

Cauliflowers were presented in fine condition, and the first prize went to Mr. A. Miller, gardener to W. H. Long, Esq., M.P., Reed Ashton Park, Trowbridge, who exhibited Autumn Giant, the head being pure white, well set, and of medium size; the second prize was won by Mr. G. T. Miles, The Gardens, Wycombe Abbey, High Wycombe; and the third award was gained by Mr. W. Meads. The competitors in this class numbered sixteen.

Leeks were well shown, but the competition was not so strong as in the other classes. The winner of the first prize was Mr. G. T. Miles, the exhibit being highly creditable; while the second and third awards went to Mr. C. Ross and Mr. C. J. Waite respectively.

Tomatoes were exhibited in first-class condition by Mr. R. Farrance, Chadwell Heath, Essex, who, in the class for twelve, was placed first. The variety shown was Trophy, and was represented by twelve excellent fruits, which were smooth, symmetrical, and of a rich deep crimson colour; Mr. F. Hughes, gardener to J. Smith, Esq., Wallington, Surrey, was a close second, the variety shown being Reading Perfection, which has become famous by reason of its fine globular form, smooth outline, and bright crimson colour; Mr. W. Meads came third. There were thirteen competitors in this class.

There was strong competition in the class for a collection of vegetables, eight distinct kinds, and the exhibits were noticeable for good all round quality, inferior examples being few and far between. Mr. G. T. Miles was placed at the head of the prize list, and he showed, in superb condition, Leicester Red celery, Imported Brussels sprouts, Autumn Giant cauliflower, Stamfordian tomato, Cave's Pinesfield onion, New Intermediate carrot, Lyon leek, and Chancellor potato; Mr. J. Neighbour was adjudged the second prize; and the third place was occupied by Mr. Haines, both staging collections of great merit.

Potatoes, as mentioned in the introduction to the report, were exhibited largely and in splendid condition. The competition was tremendous, especially to the class for a collection of twelve distinct kinds, nine tubers of each. The principal prize winner was Mr. J. Hughes, gardener to Colonel Wright, Eydon Hall, Byfield, who exhibited clean, shapely tubers of Hughes's Purple Perfection, Mr. Bresee, M.P., Chancellor, Adirondack, London Hero, Reading Russet, Sutton's Seedling, Edgcote Purple, fine, skin profound purplish violet colour; First and Best, and Prizetaker. The winner of the second prize was Mr. E. S. Wiles, gardener to R. A. Cartwright, Esq., Oxon, who put up The Dean, Abundance, Blanchard, Schoolmaster, Edgcote Purple, Reading Giant, Reading Russet, Sutton's Favourite, Mr. Bresee, Edgcote Seedling, Crimson Beauty, and Fidler's Prolific; these were a remarkably fine lot. Mr. W. Kerr, Dargarvel, Dumfries, N.B., and Mr. W. Ellington, Mildenhall, Suffolk, were placed equal thirds; the first-named exhibitor putting up Mr. Bresee, Menhattan, Vicar of Laleham, Queen of the Valley, and Schoolmaster, of good quality, while in the collection staged by the last-named exhibitor, Adirondack, The Colonel, Tremont, Beauty of Hebron, and Fidler's Prolific figured prominently. There were twenty-one competitors in the class for six dishes, distinct varieties, nine tubers of each, Mr. J. Hughes again occupied the post of honour, exhibiting clean, handsome tubers of Chancellor, Hughes's Purple Perfection, London Hero, Reading Russet, Mr. Bresee, and Sutton's Seedling. Mr. S. S. Wiles put up Blanchard, Snowdrop, Sutton's Favourite, Reading Russet, Mr. Bresee, and Abundance, and was placed second, the third prize going to Mr. C. W. Howard, Canterbury, who had Adirondack, The Colonel, Harvester, The Dean, Abundance, and Schoolmaster.

Special Prizes.

There were several special prizes offered, and as the competition was very severe, the productions formed a prominent feature of the exhibition.

The prizes offered by Messrs. Sutton and Sons, Reading, were very numerous. For the best dish of Sutton's "Seedlings" and the best dish of Sutton's Abundance potatoes, Mr. E. S. Wiles was first, with smooth, clean, handsome tubers; Mr. J. Hughes being a close second. There was an unusually strong competition for nine dishes, and the winner of the first prize was Mr. J. Hughes, who staged clean, smooth, shapely tubers of Sutton's Favourite, Prizetaker, Woodstock Kidney, Reading Russet, Abundance, Lady Truscott, Sutton's Seedling, Early Regent, and Reading Ruby. The second award was made in favour of Mr. E. S. Wiles, who showed First and Best, Reading Russet, Abundance, Reading Ruby, Favourite, Woodstock Kidney, Sutton's Seedling, Prizetaker, and Early Regent. Mr. E. Chopping, Periwinkle Mills, Sittingbourne, third; and Messrs. G. Allen, W. Meads, C. W. Howard, and S. Haines were fourth, fifth, sixth, and seventh in the order of their names. For the three best sticks of Sutton's "White Gem" celery there was spirited competition, the premier award being made in favour of Mr. G. H. Richards; the second prize went to Mr. C. Osman, Sutton, Surrey; and the third to Mr. C. J. Waite. In the class for six roots of Sutton's Dark Red Beet there was again keen competition, the premier prize going to Mr. C. J. Waite, the second to Mr. J. Hughes, and the third to Mr. G. T. Miles. For six roots of Sutton's "New Red Intermediate" carrot the prizetakers were Messrs. J. Neighbour, W. Robins, G. H. Richards, and J. Baker, in the order of their names. For six specimens of Sutton's Prizetaker leek Mr. C. J. Waite was awarded the premier prize, the second award being made in favour of Mr. G. T. Miles, and the third place was assigned to Mr. Spottiswood. There was sharp competition in the class for six parsnips, the first prize going to W. H. Kingsmill, Esq., the second to Mr. G. H. Richards, and the third to Mr. S. Haines.

Mr. C. Fidler, Friar Street, Reading, offered the subjoined prizes, for new dishes of potatoes, the varieties to include Fidler's "Reading Giant," Fidler's "Show Queen," and Fidler's "General Gordon," there was good competition. The first prize was awarded to Mr. E. S. Wiles, who had, besides those above-named, Champion, Reading Russet, Abundance, Edgcote Purple, and Reading Giant; Mr. J. Hughes came second; Mr. G. Allen, third; and Mr. Wm. Kerr, fourth. For six dishes, to include Fidler's Reading Giant and Fidler's Perfection, Mr. J. Hughes came first, showing also Reading Russet, Perfection, London Hero, Snowdrop, and Crimson Beauty; Mr. E. S. Wiles was a close second; and the third and fourth prizes went to Messrs. C. Ross and G. Allen respectively. In the class for three dishes, to consist of Fidler's General Gordon, Perfection, and Bountiful, the prizetakers were Messrs. E. S. Wiles, J. Hughes, and G. Allan, in the order of their names.

Messrs. J. Carter and Co., High Holborn, offered prizes for the best four dishes of potatoes, to comprise Carter's Ashtop Fluke, Sukreta, Village Blacksmith, and Cetewayo, and the prizetakers were: Messrs. J. Gilbert, Freshwater, Isle of Wight, T. A. Beckett, C. J. White, and W. Jacob, in the order of their names.

Mr. H. Deverill, Royal Seed Stores, Banbury, offered prizes for six each of

the following varieties: Deverill's Rousham Park Hero, Anglo White Spanish, Main Crop, and The Wroxton. Mr. H. Wingrove, gardener to R. N. Byass, Esq., Rousham, Steeple Aston, Oxon, was first; Mr. James Bunney, Sussex, second; and Mr. T. Doherty, gardener to Lord North, Wroxton Abbey, Banbury, third

Floral Committee.

Present: G. F. Wilson, Esq., in the chair; Dr. Masters, Major Lendy, Dr. Lowe, Rev. W. Wilks, and Messrs. Shirley Hibberd, R. Dean, H. Bennett, W. Bealby, G. Duffield, J. Hudson, T. Baines, W. Holmes, H. Low, H. Ballantine, J. Douglas, H. M. Pollett, J. O'Brien, H. Turner, E. Hill, C. Noble, H. Cannell, and Amos Perry.

The contributions to the meeting of the committee were fully equal to the average in point of numbers, and included a comparatively large number of novelties possessing much merit.

Mr. B. S. Williams, Victoria and Paradise Nurseries, Upper Holloway, contributed an attractive group of autumn-flowering amaryllis, which comprised well-bloomed examples of Mrs. Garfield, Mrs. W. Lee, Solandræfolia reticulata, and Pioneer, all of which have been raised at Upper Holloway. The first two have been so recently referred to in these pages as to render further description unnecessary; the third has flowers of a rich rose-pink hue, and the colour of the last-mentioned is bright carmine-red. Mr. J. C. Cowley, gardener to F. G. Trantz, Studley House, Hammersmith, exhibited the charming Odontoglossum Clepharicanthum, on which the distinction of a first-class certificate was conferred; and a very fine specimen of the richly-coloured Dendrobium superbiens, for which he was accorded a vote of thanks. Messrs. H. Low and Co., Upper Clapton, exhibited a good example of Warsewiczella cochelaria, a distinct and beautiful species; the flowers large in size, the sepals and petals white, and the labellum rich violet. Mr. Simpkins, gardener to R. T. Measures, Esq., contributed several finely-developed spikes of the beautiful Cattleya bicolor marginata, and was accorded a vote of thanks; and Mr. Park, gardener to H. M. Pollett, Esq., Fernside, Bickley, submitted a pure white form of Cattleya Eldorado, which received the distinction of a certificate.

Messrs. J. Veitch and Sons, Chelsea, contributed a group of novelties comprising several new Japanese chrysanthemums, examples of the elegant Amasonia punicea, and fruiting branches of the handsome Cratægus tartaricus. G. F. Wilson, Esq., Weybridge, submitted a small example of Primula Reidi, a quite distinct and handsome species, which had a botanical certificate conferred upon it. This species, Mr. Wilson states, has a vigorous habit, and will, he believes, prove of the highest value for the border. Mr. R. Dean, Bedfont sent cut flowers of primroses and polyanthuses. From Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, were exhibited a fine dark form of the beautiful Colchicum speciosum, and several examples of Saxifraga Fortunei, certificated at a recent meeting. From Messrs. W. Cutbush and Son, Highgate and Barnet, came several baskets of seedling Pernettyas, which were exceedingly well-fruited, and afforded an excellent idea of the attractiveness of these fine evergreens when grown under conditions favourable to the production of a good crop of berries. Messrs. Paul and Son, Cheshunt, exhibited a basket of plants of Erica Maweana, a handsome species with rich purple flowers; and a bouquet of Paul's Single white rose, a charming variety with rather large, pure white, single flowers, and evidently free-blooming until late in the year.

Chrysanthemums submitted to the committee included several varieties of great promise. Mr. Stevens, Putney, sent cut blooms of William Stevens and Martha Harding, two Japanese varieties of great excellence. Messrs. H. Cannell and Sons, Swanley, staged a collection consisting chiefly of varieties of recent introduction which were tastefully set up in bouquets with foliage. From the same firm came also two specimens of a double white begonia, which cannot fail to prove of great value for decorative purposes. Mr. Beckett, Aldenham Park, Elstree, exhibited cut blooms of his fine sport from Baronne de Prailly, Carew Underwood, and under the designation of Marie Louise, Mr. E. Molyneux, Swanmore Park, Bishops Waltham, Hants, sent a beautiful delicate rose-lilac sport from Bouquet Fait. Mr. Molyneux also exhibited flowers of Le Triomphante, a new Japanese variety, the blooms of rather large size and a pleasing pink colour. Mr. N. Davis sent a specimen of Alice Butcher, an orange-coloured sport from Lyon, which in due course will take a leading position amongst the early pompons. Mr. Moore, Richmond Road Nursery, Putney, sent several seedling chrysanthemums which belong to the Japanese section, and appear to possess considerable promise. Mr. R. Owen, Maidenhead, sent cut flowers of three or four beautiful varieties of Chrysanthemum carinatum and C. coronatum, a box of begonia blooms and several new pompon and Japanese chrysanthemums, two of the pompons being selected for certificates. The pompons included, in addition to those certificated, William Bealby, a beautiful variety, the flowers of medium size, reflexed, and of a pleasing creamy white colour.

Messrs. Hooper and Co., Covent Garden, and Twickenham, sent an attractive group of tree carnations and several boxes of cut blooms, in which were represented A. Alegatiere and other first-class varieties.

Fruit Committee.

Present: Mr. T. F. Rivers (in the chair), and Messrs. R. D. Blackmore, T. B. Haywood, T. J. Saltmarsh, A. W. Sutton, H. J. Veitch, G. Bunyard, J. Roberts, J. Woodbridge, W. Denning, G. T. Miles, J. Ellam, C. Silverlock, C. Ross, and G. Goldsmith.

Several collections of potatoes were shown, amongst them being a collection of about one hundred and twenty varieties from Messrs. Sutton, of Reading, arranged according to the purpose for which they are best adapted. Amongst sorts selected for flavour were fine samples of Bedfont Prolific, Veitch's Ashleaf, Ross's M.P., Fidler's Prolific, Fidler's Perfection, Rector of Woodstock, Chancellor, Snowdrop, Standard, Pride of Eydon, Miss Fowler, Lifeguard, Prime Minister, and Midsummer Kidney. The varieties selected for exhibition included International, Radstock Beauty, Sir Garnet Wolseley, The Dean, Edgecote Purple, Wonderful Red, Cricket Ball, Beauty of Kent, Snow Queen, Lady Webster, Lord Rosebery, Salmon Kidney, Fidler's Success, W. E. Gladstone, Village Blacksmith, and Vicar of Laleham. The varieties sent out by the firm formed an important group, chief amongst them being Magnum Bonum, Hundredfold, King of Potatoes, Berkshire Kidney, Reading Russet, Lady Truscott, Early Regent, Reading Hero, Reading Ruby, Magnet, Ringleader, Abundance, Prize-taker, Eclipse, and Fillbasket. There were about thirty dishes of seedlings, the majority being remarkable for their beauty; and about twenty dishes of varieties of American origin. Messrs. J. Carter and Co., High Holborn, exhibited a collection of upwards of fifty dishes of potatoes, in which the leading varieties in cultivation were represented by excellent samples. Messrs. Carter also contributed a very interesting collection of seventeen varieties of tobacco, grown on their experimental farm in Kent. Mr. Fidler, Reading, had a large collection of potatoes, in which Imperator, Success, and other of the fine varieties he has introduced were adequately represented. Mr. Deverill contributed well-grown bulbs of Rousham Park Hero, Improved Wroxton, and other onions.

Messrs. J. Veitch and Sons exhibited a tree in bearing and fruit of Bismarck apple; Mr. D. Kemp, The Gardens, Coolhurst, Horsham, presented a dish of exceptionally fine fruit of Hollandbury apple; Mr. W. Roupell, Roupell Park, Brixton, staged two trees of the Melon apple, carrying heavy crops of fine fruit, and a basket of Muscat of Alexandria grapes, Mr. Dean sent clusters of the Madresfield Court grape from an open wall at Bedfont; Mr. Divers, Kelton Hall, Stamford, submitted an excellent dish of the Salway peach from trees in a cool house; and Mr. Laxton, Bedford, submitted a dish of Richard Thompson pear, a large handsome fruit of a bright green colour.

Novelties.

First-class certificates we granted as under:—

To C. R. S. Dickens, Esq., Coolhurst, Horsham, for

Bignonia Chamberlayni.—An old and attractive species, producing large flowers of a pale yellow colour.

To Mr. G. Stevens, Putney, for

Chrysanthemum William Stevens.—An excellent Japanese variety; the flowers rather large, and of a bright orange-red colour, the backs of the florets golden yellow.

To Messrs. J. Veitch and Co. for

Rhododendron jasminiflorum carminatum.—A very beautiful hybrid; the flowers of medium size and fine form, the colour brilliant carmine-red.

Cratægus tartaricus.—A very handsome species, with ample leafage, and bearing large ovate fruits.

Chrysanthemum Buttercup.—A fine reflexed variety, raised by Mr. A. Salter; the flowers are above the medium size, rather regular in shape, and of rich yellow colour.

To Mr. H. M. Pollett for

Cattleya Eldorado virginalis.—A beautiful variety of this well-known species, the sepals and petals pure white, the labellum white with orange-yellow throat.

To F. G. Tantz, Esq., for

Odontoglossum blepharicanthum.—A beautiful species of moderate growth; the flowers of comparatively small size, and freely spotted and blotched with bright red on greenish white ground.

To Mr. R. Owen for

Chrysanthemum Flambeau Toulesaine.—A beautiful pompon, with rather small and finely-formed flowers of a bright purplish rose colour, full, and of good form.

To Messrs. H. Cannell and Sons, Mr. Owen, Mr. N. Davis, and Messrs. J. Laing and Co., for

Chrysanthemum Mdlle. Elise Dordans.—An exquisitely beautiful pompon, bearing medium-sized flowers, perfect in form, and of a pleasing shade of rose pink.

NATIONAL CHRYSANTHEMUM SOCIETY, October 27.

A meeting of the Floral Committee of the National Chrysanthemum Society was held at the Royal Aquarium on Wednesday, when, as on the last occasion, a comparatively large number of novelties were submitted. There were present: E. Sanderson, Esq. (president of the society), in the chair, and Messrs. R. Ballantine, R. Dean, G. Stevens, George Gordon, C. Herrin, J. Wright, N. Davis, C. Swift, H. Cannell, J. P. Kendal, and William Holmes. The following were the most important varieties placed before the committee:

Buttercup.—A beautiful reflexed variety, raised by Mr. A. Salter. The flowers are rather large, of good form, and of a very rich shade of yellow. First-class certificate. Exhibited by Messrs. J. Veitch and Sons, Chelsea.

Phœbus.—A superb Japanese variety. The flowers rather large, with long reflexed florets; colour bright golden yellow; valuable for its effective colour. First-class certificate. Exhibited by Mr. J. Martin, gardener to C. W. Kidd, Esq., West Hill House, Dartford, and Messrs. J. Veitch and Sons.

La Triomphante.—A superb Japanese variety in the way of Dr. Macary, but much larger and of higher quality than that variety. The flowers are large and full, with long sword-shaped florets; colour delicate rose. First-class certificate. Exhibited by Mr. Martin and Mr. Shoesmith, Hythe.

Marie Louise.—A beautiful Japanese variety, which originated with Mr. Galton, Shalford House, Winchester, as a sport from Bouquet Fait, two or three years since, and has been certificated by the society. It was presented on this occasion to show its constant character.

Flambeau Toulousaine.—An exquisitely beautiful pompon, with medium-sized and finely-formed flowers of a bright purplish rose hue. First-class certificate. Exhibited by Messrs. H. Cannell and Sons, Mr. R. Owen, and Mr. Davis.

William Bealby.—A distinct and beautiful pompon, with medium-sized reflexed flowers of a rich cream colour, shading to pink. First-class certificate Exhibited by Mr. R. Owen and Mr. N. Davis.

William Stevens.—A remarkably fine Japanese variety, the flowers large in size, very full, and of good form; colour bright orange-red. First-class certificate. Exhibited by Mr. G. Stevens.

Janaira.—A beautiful Japanese variety in the way of Madame de Sevin, and differing but little in colour. Commended. Exhibited by Messrs. J. Veitch and Sons.

Lilacea.—A distinct and handsome pompon, the flowers rather small, globular, and of a deep purple hue. Commended. Exhibited by Mr. N. Davis and Messrs. H. Cannell and Sons.

Crème.—A pretty little pompon; the flowers cream colour, tinted rose. Commended. Exhibited by Messrs. H. Cannell and Sons.

Precocite (Delaux).—An excellent pompon with rather large flowers of a bright crimson hue. Commended. Exhibited by Mr. N. Davis, Messrs. H. Cannell and Sons, Messrs. Watson and Son, Bowes Park, W., and Mr. H. J. Jones, Lewisham, the last mentioned staging a well-grown specimen.

Cincinnecti.—A distinct and beautiful large anemone, the flowers of full size, and with good centre and guard florets; colour bright rose. First class certificate. Exhibited by Messrs. H. Cannell and Sons.

Temple of Solomon.—This fine old yellow flower was well shown by Mr. N. Davis, and a commendation voted.

Messrs. H. Cannell and Sons, Swanley, exhibited a large and attractive collection of chrysanthemums and two good specimens of the beautiful double white begonia, mentioned in the report of R.H.S. For the latter the firm was granted a first-class certificate. Mr. R. Ballantine exhibited a golden sport from Pynaert van Geert, and was accorded a vote of thanks.

Replies to Queries.

Tomatoes sent in a tin box show no signs of disease; they are, in fact, perfectly healthy, but small, and green. To ripen them they should be cut with a length of stem, and kept in full light in a warm room. They will acquire colour, but will not be good enough for any purpose but soup.

Greenhouse.—Ross may be advised not to drive posts into the ground, for that is the kind of action that begets a question of ultimate proprietorship. What is on the ground may or may not be movable. What is in the ground is not movable.

Grapes.—J. M. may attribute the injury of the crop to painting the house when the vines were growing. The water from the pond that has green "slime" in it is probably not all in fault, for what is called slime, is healthy vegetation. It may be too muddy to syringe with, for the clearest water is necessary for that purpose.

Names of Plants.—Constant Reader.—Hæmanthus coccineus albiflos. A. W. D.—Cymbidium pendulum. W. Harker.—1, Aster grandiflorus; 2, Aster longifolius; 3, Chelone barbata; 4, Helianthus lætiflorus. R. M. C.—The double Anemone japonica occurs occasionally, but is not constant. If you can fix a good double it is likely to be appreciated, but we doubt if you can do it, but by all means try.

Names of Fruits.—W. M.—1, Mere de Menage; 2, Lord Derby; 3, Striped Beefing; 4, Red Ribbed Greening; 5, not known; 6, Round Winter Nonsuch; 7, Sturmer Pippin; 8, Reinette de Caux; 10, Royal Russet. The pear is Pitmaston Duchess. Pears in square wooden box—1, Marie Louise; 2, Louise Bonne of Jersey; 3, Marechal de la Cour. J. W.—1, Triomphe de Jodoigne; 2, Jean de Witte; 3, Easter Beurré; 4, Vicar of Winkfield; 5, Napoleon; 6, Beurré de Capiaumont; 9, Emilie d'Heyst.

Fruit for Back Wall of Vinery.—The inquiry of "Try," page 634, is very important, as many persons who have back walls would be glad to grow some kind of fruit upon them. Then the question arises what to choose? I, therefore, hope that all who have been successful in utilizing back walls for fruit culture will give us their experience in the Magazine, at the same time stating the amount of light which reached the plants, as it is more a question of light than heat. In all ordinary vineries, where the roof is quite covered with the growth of the vines up to the top of the rafter, gardeners are content to see the back wall bare because they know it is useless to attempt to grow sun-and-light-loving plants in such a position. If "Try" wishes to succeed even with tomatoes or figs he must have at least three feet of the top of the roof-lights free, so as to diffuse a good body of light down the wall. So far as my experience goes he is not likely to succeed with any kind of fruit so well as he will with Black Hamburgh or Foster's Seedling grapes, which should be trained as vertical cordons against the wall. J. Macdonald.

Lawn Tennis Ground.—L. T.—By all means use the turf at your command unless it happens to be coarse and foul with large weeds. In such a case sowing seeds would be preferable, and you would, by exercising patience, secure a fine and beautiful turf. On the other hand if your own turf is good enough you save time and money by using it, and the time is the more important of the two, because a lawn made from seed should not be played upon until after one year of free growth with good management, whereas a lawn from turf laid now should be in fine condition by next summer. This is the best season for the work, for although a severe frost might somewhat damage the newly laid turf, the risk is not a great one, and there is risk of some kind in every business. The advantage of laying the turf now is that the winter rains will settle the ground, and the turf will get a good foothold before the spring, when any hummocks or hollows can be rectified, and coarse weeds may be cut out. The turf will improve under the machine and the roller, and therefore if not now so fine as may be desired, good keeping will much improve it.

STOVE AND GREENHOUSE PLANTS IN FLOWER.

The houses are decidedly dull, and we should make our poverty in autumn-flowering plants too evident were there no chrysanthemums, celosias, and salvias at command. It will be advisable to name as many subjects as possible, as it is impossible to make a long list, and everthing that is possible has a value now. The beautiful *Plumbago capensis* is still in flower; Fuchsias, Hydrangeas, Tea roses, and Pelargoniums make a pleasing display of colour.

Hibbertia contributes the ever useful, both in leaf and flower, *Hibbertia dentata*, one of the best of plants for a rafter or to grow as a specimen. *H. saligna* and *H. virgata* are in flower, but the first is sufficient for moderate appetites.

Costus gives a series of good plants to the stove, but *Costus igneus* is worth a leading place for its gay colour and distinct appearance.

Ixoras are not wanting in flowers, but they look poor in the present subdued sunlight. By timing the pruning and potting, a fair supply of these showy shrubs may be had in bloom during the dull months, but they never show to advantage, because one remembers but too well their summer splendour. One of the best now is *Ixora Pilgrimi*, the colour orange scarlet; *I. Williamsi* is certainly as good *in extenso*, but at this time is weak in colour. *I. picturata* and *Duchess of Teck* appear to be the most accommodating for giving a good head of flowers in autumn or winter.

Hedychiums have had their day, but *H. flavescens* and *H. Gardnerianum* are still showing flowers. The plants are usually kept too dry; they like abundance of moisture and a warm berth.

Tachiadenus may be spoken of as a genus unknown, but when met with the plant now in flower, *Tachiadenus carinatus*, may be mentally associated with the lobelias. It is a gentian wort, and a proper thing for an odd corner in the stove, where it will make a little mat of greenery covered with a nice display of rosy purple flowers.

Allamandas compel attention, and therefore we may at once say that the best at this time is *Allamanda Hendersoni*, which is still flowering freely, and makes a feature most valuable at this season. The beautiful *A. nobilis* also is still showing flowers.

Asparagus seems quite out of place in this list, but why, why, should we ignore the fact that the lovely *Asparagus plumosus* is freely dotted with its tiny, delicate, fairy-land lilies. If they are not true lilies, they are near enough to bear the name in a "general way." Nobody looks for the flowers of this favourite, consequently nobody knows what we inform everybody that the beauty is now in full flower, and is worth exploring with the aid of a lens.

Pleromas are like the good wines that speak for themselves, and in both cases you must secure them to hear them speak. There is no lovelier plant in the houses now than *Pleroma macrantha*, with its great blue banner, but *P. Benthamiana* and *P. Gayanum* are not out of flower. As for the plant first named it is in many places labelled *Lasiandra macrantha*, and there are said to be two varieties, but we suspect cultivation makes all the difference.

Æschynanthus is an accommodating genus of gesneriworts that may be had in flower at almost any time with suitable management. We are now rejoicing in flowers of *Æschynanthus speciosus*, brilliant red and yellow; *Æ. Horsfieldi*, scarlet; *Æ. grandiflorus*, scarlet; and *Æ. radicans*, full red.

Hibiscus can never escape attention while in flower, and we have now the brilliant colours of the series of *Hibiscus roseo-sinensis* to light up the stove. The variety with deeply cut petals is conspicuous for fantastic beauty. *H. mutabilis*, with white flowers, will presently be in condition, and *H. Lindleyi* will follow closely.

Dichorisandra, so iris-like, but truly of the spiderwort order, gives us now *Dichorisandra vittata*, a rather gawky plant with slaty-blue flowers; *D. discolor*, and *D. thyrsiflora*. The last is the only one that should have place in a moderate collection; it is handsome and useful, the deep rich indigo colour very acceptable.

Salvias now flowering include the beautiful *Salvia splendens*, a plant that all prudent gardeners grow in plenty for autumn and winter flowers; and *S. Betheli*, a most delightful plant, as easily managed as any in the list.

Cestrum has its claims because the ever-flowering *Cestrum aurantiacum* is still gay with its orange-coloured flowers. Its near relations of the *Habrothamnus* persuasion are still showing flowers and ripe fruits, and only lack of solar light will stop them, for it is their nature to flower without ceasing.

Nerines have been very gay, and *Nerine amabilis* is still in good condition, the rich rosy pink flowers being as good for the house as those of *Amaryllis belladonna* are for the warm border. *N. Fothergilli* has but just parted with its best colour; and *N. humilis* and its variety *cærulea* are in good condition. The last has a curious tinge of lurid blue on the edges of its rosy purple flowers. What a pretty group would these be, including N. coruscans and a few more to plant in the same sheltered, dry-footed border as Amaryllis belladonna thrives in. They are probably quite as hardy.

EXPERIMENTS IN MANURING GRASSES.

At Dyson's Wood, Kidmore, Mr. Martin John Sutton has carried out a series of experiments on the effects of different manurial applications upon permanent and temporary pasture grown upon poor land having a chalky subsoil, and also with reference to the comparative values of ryegrass and cocksfoot, in mixtures for such a soil. Observations were made of the first cutting of grass for hay, and these have now been followed by others on the aftermath. Plots of six different kinds of pasture were most carefully treated both without manure and with five different manurial applications. In the *Times* of October 25 the proceedings are reported at length. The following is a summary of the results: All the manures were applied in the second week of April. The best result in augmentation of weight of crop was not always due to the same manurial application. On the old permanent pasture kainit and superphosphate of lime were of great effect, sulphate of ammonia moderate, and nitrate of soda the weakest. On the four-year-old pasture superphosphate of lime, nitrate of soda, and kainit were most powerful, kainit and sulphate of ammonia moderate, and superphosphate of lime and kainit weakest. On permanent pasture without ryegrass nitrate of soda and also sulphate of ammonia by themselves gave the highest results, and superphosphate of lime and kainit gave the lowest. On the plot of same pasture retaining ryegrass, sulphate of ammonia and kainit gave the highest; and superphosphate of lime and kainit, and also sulphate of ammonia by itself, gave the lowest. On the three years' ley, with ryegrass, nitrate of soda by itself produced the highest, sulphate of ammonia the second best, kainit, superphosphate, and nitrate of soda a moderate result, and superphosphate and kainit the worst. And on the three years' ley, without ryegrass, the results were in exactly the same order. Of course, from the different prices of the manures, the money gains did not correspond to the weights of hay produced; and in the tables a column states the percentage proportion which the net gain bears to the outlay in manure in each case. The proportion of profit on the old pasture is greatest from sulphate of ammonia by itself, and second best from superphosphate of lime and kainit together. On the four-year-old pasture the profit realised from nitrate of soda was as 367 to an expenditure of 100; sulphate of ammonia gave 300 for an outlay of 100; superphosphate and kainit together gave 230 for 100 spent; kainit and sulphate of ammonia together gave 200 for 100 spent; and the weakest result was 143 for 100 from a dressing of superphosphate, nitrate of soda, and kainit. On the three-year-old ley, both with and without ryegrass, the returns from an outlay of 100 were 300 up to 328, the nitrogenous manures only procuring such good profit. The gain from the manures may be considered as extraordinary. Owing to the drought which prevailed in the district down to the first week of October, the aftermaths have been very slight upon all the plots. The results show that the nitrogenous manures, whether with or without the potash kainit, have had the effect of almost totally killing out the clover plants; further, that where kainit and superphosphate of lime were applied alone, the clovers smothered the grasses; and that the unmanured plots in each series are most healthy and varied in the character of the herbage presented by the aftermath.

CHRYSANTHEMUMS.

These are a week later this year than last in coming into flower with us. This appears difficult to explain, seeing that we have had a fairly warm summer and autumn, and the plants have certainly prospered. In regard to earliness, the Japanese are getting ahead of the incurved, and even many of the Pompones. But I do not think that is any advantage, because we do not want chrysanthemus until November.

J. C. Clarke.

Obituary.

On the 14th instant, Mr. Bradley, formerly gardener at Powis Castle, Dropmore, Somerleyton, and Preston Hall, Aylesford. During the past seven years he had a farm on the Preston Hall Estate.

On the 22nd of September, Mr. George Knight, during 52 years gardener to W. Peachey, Esq., Ebernoe. He had reached the age of 77 years.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. temp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
7	S	**20th Sunday after Trinity.**	7 5	16 10	4 23	3 4	1 58	10 54	11 24	7 45	8 19	44·1	Angraecum bilobum	Cape Coast.	311
8	M	Cambridge Michaelmas Term divides (noon).	7 7	16 6	4 22	3 26	3 2	11 52	—	8 49	9 17	43·8	Angraecum sesquipedale	Madagascar.	312
9	Tu	Birth of Prince of Wales, 1841.	7 9	16 1	4 20	3 50	4 7	0 13	0 33	9 38	9 58	43·5	Barkeria Skinneri	Guatemala.	313
10	W	Martin Luther born, 1483.	7 10	15 56	4 19	4 15	5 11	0 53	1 10	10 18	10 35	43·3	Cattleya Eldorado virginalis	Mexico.	314
11	Th	○ Full Moon, 7h. 7m. morn. *St. Martin.*	7 12	15 49	4 17	4 44	6 19	1 28	1 45	10 53	11 10	43·1	Lycaste Deppi	Xalapa.	315
12	F	Baxter born, 1615.	7 14	15 42	4 16	5 16	7 25	2 2	2 17	11 27	11 42	42·8	Odontoglossum Alexandræ	New Grenada.	316
13	S	*Britius.*	7 16	15 34	4 14	5 55	8 33	2 34	2 52	11 59	—	42·5	Pleione Reichenbachiana	Himalayas.	317

ROYAL HORTICULTURAL SOCIETY. SOUTH KENSINGTON, S.W.
NOTICE!—COMMITTEE MEETINGS: Scientific, at One p.m., in the Lindley Library; Fruit and Floral, at Eleven a.m., in the Conservatory, on TUESDAY next, NOVEMBER 9.

HULL AND EAST RIDING CHRYSANTHEMUM SOCIETY.—THE ANNUAL GRAND EXHIBITION will be held in the ARTILLERY BARRACKS, HULL, on THURSDAY and FRIDAY, NOVEMBER 18 and 19, 1886, when Prizes to the value of £175 will be offered for Chrysanthemums alone.
1—48 Blooms, 24 to be incurved in not less than 18 varieties, 24 to be Japanese in not less than 18 varieties ... ... £10 £8 £5 £2.
2—24 Blooms, 12 to be incurved in not less than 9 varieties, 12 to be Japanese in not less than 9 varieties ... ... £5 £3 £1 10.
The SILVER CHALLENGE VASE, value 15 Guineas, will be offered with the 1st Prize in Class 1. Entries close NOVEMBER 11. Schedules may be obtained from the Hon. Secs., R. FALCONER JAMESON and WM. HAWKSWORTH, Queen's Dock, Hull.

KINGSTON and SURBITON CHRYSANTHEMUM SOCIETY.
The TENTH ANNUAL EXHIBITION will be held in the DRILL HALL, KINGSTON, on TUESDAY and WEDNESDAY, NOVEMBER 9 and 10, when, in addition to valuable money prizes, the CHAMPION CHALLENGE VASE, value 25 guineas, and TWO CUPS, value 5 guineas each, will be offered. Entries close NOVEMBER 4.
Schedules and further particulars of
T. JACKSON, Hon. Sec., Fife Road, Kingston-on-Thames.

LEWISHAM and DISTRICT FLORAL SOCIETY.—CHRYSANTHEMUM SHOW, NOVEMBER 12 and 13, at the LADYWELL PUBLIC BATHS, LEWISHAM. £5 offered for 48 cut blooms, 24 Japanese and 24 Incurved. Various other open prizes. Mr. HENRY DRAKE, Hon. Sec., 64, Limes Grove, Lewisham.

READING CHRYSANTHEMUM SOCIETY.
The next ANNUAL SHOW will be held in the TOWN HALLS, READING, on NOVEMBER 12. Schedules and all information can be obtained from the Secretary,
Mr. W. SMITH, 97, London Street, Reading.

THE LUTON HORTICULTURAL SOCIETY will hold their ANNUAL CHRYSANTHEMUM SHOW, 17th and 18th NOVEMBER, in the PLAIT HALLS.

THE WALTON and WEYBRIDGE CHRYSANTHEMUM SHOW, in the PUBLIC HALL, WALTON, THURSDAY, NOVEMBER 11.
GEO. MASTERS, Secretary, East Moulsey.

WATFORD CHRYSANTHEMUM SOCIETY.—President, The Right Hon. the EARL of CLARENDON.—The FIRST ANNUAL SHOW of CHRYSANTHEMUMS and other AUTUMNAL FLOWERS and FRUIT will be held in the AGRICULTURAL HALL, WATFORD, on TUESDAY and WEDNESDAY, NOVEMBER 16 and 17, 1886. Schedules can be obtained on application to the Hon. Sec. and Treasurer, CHAS. R. HUMBERT, Watford. Entries close on November 11.

Exhibitions and Meetings for the Ensuing Week.

MONDAY, NOVEMBER 8, AND TUESDAY, NOVEMBER 9.—SURREY CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
MONDAY, NOVEMBER 8, TO WEDNESDAY, NOVEMBER 10.—LAMBETH CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 9.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.
TUESDAY, NOVEMBER 9.—ST NEOTS' CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 9, AND WEDNESDAY, NOVEMBER 10.—KINGSTON CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 9, AND WEDNESDAY, NOVEMBER 10.—SOUTHAMPTON HORTICULTURAL SOCIETY.—Autumn Exhibition.
WEDNESDAY, NOVEMBER 10, AND THURSDAY, NOVEMBER 11.—CROYDON HORTICULTURAL SOCIETY.—Autumn Exhibition.
WEDNESDAY, NOVEMBER 10, AND THURSDAY, NOVEMBER 11.—NATIONAL CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
WEDNESDAY, NOVEMBER 10, AND THURSDAY, NOVEMBER 11.—BATH FLORAL FETE.—Chrysanthemum Exhibition.
THURSDAY, NOVEMBER 11, AND FRIDAY, NOVEMBER, 12.—TUNBRIDGE WELLS CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
THURSDAY, NOVEMBER 11, AND FRIDAY, NOVEMBER 12.—PORTSMOUTH CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
THURSDAY, NOVEMBER 11, AND FRIDAY, NOVEMBER 12.—RICHMOND HORTICULTURAL SOCIETY.—Autumn Show.
THURSDAY, NOVEMBER 11, AND FRIDAY, NOVEMBER 12.—BURY AND WEST SUFFOLK HORTICULTURAL SOCIETY.—Chrysanthemum Exhibition.
THURSDAY, NOVEMBER 11.—HAMMERSMITH.—Chrysanthemum Show.
FRIDAY, NOVEMBER 12.—DEVON AND EXETER CHRYSANTHEMUM SOCIETY.—Chrysanthemum Exhibition.
FRIDAY, NOVEMBER 12, AND SATURDAY, NOVEMBER 13.—HUDDERSFIELD CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
FRIDAY, NOVEMBER 12, AND SATURDAY, NOVEMBER 13.—CANTERBURY GARDENERS' SOCIETY.—Exhibition of Chrysanthemums.
FRIDAY, NOVEMBER 12, AND SATURDAY, NOVEMBER 13.—LEWISHAM DISTRICT FLORAL SOCIETY.—Chrysanthemum Exhibition.
FRIDAY, NOVEMBER 12, AND SATURDAY, NOVEMBER 13.—CHESHUNT CHRYSANTHEMUM SOCIETY.—Annual Exhibition.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London, E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

No. 1,123, NEW SERIES.—VOL. XXIX.

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The Gardeners' Magazine.

SATURDAY, NOVEMBER 6, 1886.

THE DAHLIA HAS HAD A LONG AND BRILLIANT SEASON; it has never, in recent years, made a more effective display; new varieties have not been wanting to sustain the interest that springs from curiosity, and the old varieties have vindicated their history by publishing in gardens and exhibitions their several splendid qualities. Whatever may be the tastes of individuals, few will dispute that the dahlia is one of our noblest garden flowers, and, as now representing years of care bestowed upon it, is in a satisfactory, not to say triumphant, position. It may be compared, as regards variety, floral quality, and what is understood as usefulness, with the rose, the gladiolus, and even with the chrysanthemum, without fear of losing any share of its importance as the result of the comparison. It may be grown to perfection in places where roses would not live, and in a fairly favourable season it produces flowers through such a length of time as to be distinguished by the quality of productiveness.

The restoration of this noble flower to the exhibition stage is a matter worthy of special, and, we might say, joyful consideration. Whatever may be needed to keep it well before the public and to ensure the raising of new varieties that will combine high quality with new characters should have the best attention of the lovers of the flower, and more especially of those who are known as its representatives. There is one thing that all concerned will acknowledge to be of importance, and that is the keeping up to the highest possible standard of efficiency the National Dahlia Society, for to that organisation the public is indebted for the magnificent exhibitions that during the past few years have been held in the Crystal Palace, Sydenham. But if this is acknowledged by all, the question will arise, Why mention it? The truth must be told that our friends the dahlia growers have not quite realised all that was expected of them in respect of their support of this society. We shall hope to prove correct in saying that all the special societies representing florists' flowers are doing well with the sole exception of the one that is now before us. It is true none of them are doing more than living from hand to mouth; but the Dahlia Society can hardly be said to be doing that, but a very little difference would turn the scale. There is really not much in the way of money wanted to keep such a thing in health. We are bound to believe that the growers of dahlias—comprising, of course, the amateurs as well as the traders—would not willingly allow the society to fail of its purpose or but half accomplish it through lack of means. Therefore we will look for a change for the better in the financial part of the business, and for every other part there will always be at command the strength that is needed. The judges have always given of their time freely, the Crystal Palace Company has been generous, and there remains but little to do by the great community of lovers of these flowers.

There is growing a desire for a new classification of dahlias; change for the sake of change is not to the liking of practical men; but dahlia growers are not exactly formed after the model of the Medes and Persians. The accepted classification is extremely simple, and yet there are not a few who make mistakes in setting up their flowers, a fact that gives excuse to lookers on who make mistakes in criticising them. The desire of the reformers is to sweep all tipped and striped flowers into one class, and this would remove from the technology the terms "show" and "fancy." In the proposal that

is current there would be two classes, comprising *self-coloured* and *parti-coloured* flowers, and the necessary sub-divisions would probably make and explain themselves. We should prefer to see this matter settled by the National Society "in council assembled," because an authoritative decision by men who are known to understand the flower would place the matter beyond further dispute, and all would be clear for the show table. But if left to settle itself, difficulties and vexations will arise, and the dahlia will suffer. We are not to be understood as declaring for the change, but two things we do desire—first, the triumph of common sense; and next, the declaration by the National Dahlia Society of what is common sense in the classification of dahlias.

Books on the Chrysanthemum are like most other books in this respect, that they may be classed as good, bad, and indifferent. The good books predominate, for in respect of promoting the spilling of ink the chrysanthemum has been far more fortunate than the potato. There may be no proper reason for comparing the two subjects that in all obvious characters are widely separated; but we cannot help it; accidents are so common as to rank among normal expectations, and chrysanthemums and potatoes have given birth to vast numbers—numbers beyond counting—of books that are books and books that are called books. We repeat the chrysanthemum has been fortunate, because in its own literary world there is not a bad book to be found, but we are afraid to say how many bad books—very bad because stupid and mischievous books—have been written on potatoes. Some day, and at a day not far distant, the glorious autumnal and winter flower, of which the "shooting season" has pleasantly begun, will demand large literary treatment. The materials for large treatment abound, but the talent to handle such materials does not abound. A succession of writers may be appealed to, and the answers will be found somewhat vague when the sifting process is performed with due severity. For literary purposes the treatise by John Salter will perhaps be entitled to a first place, and Mr. Burbidge's admirable work will run well for a second. There is some curiosity just now for a bibliographical review of the subject, but there is a difficulty as to obtaining the material. It needs not be said that the several books are at command in the library of the British Museum, but the fact is busy men cannot afford to touch books by such a slow process as the national library provides, and prefer to pay any price for them when money will command them rather than waste precious time in that way. It is to be feared that many of the tractates that have historical value are now in the position of literary curiosities that even bookish people cannot obtain. The very first treatise on the cultivation of the flower, written by the late Mr. George Taylor, of Stoke Newington, about 1846, has been seen by but few of the present generation. Another Stoke Newington treatise, that by Mr. Shirley Hibberd, published in his series of "Garden Favourites," in the year 1857, has been long out of print, though perhaps it might be now reprinted and prove not far behind the times, though written before the Japs were invented, and when Duraflet and Chevalier Domage were types of the leading classes. The very best summary obtainable of the literature of the subject is that in Mr. Harman Payne's "Short History of the Chrysanthemum," published at this time last year.

It may be possible for the future history to divide the books on the subject into at least two classes, the Historical and the Practical. A splitter of hairs might make any number of classes, as for example, the Botanical class, the Local class, and the Universal class. In the first the books are few and unimportant. In the second they are almost as numerous as the established exhibitions, the late Mr. Samuel Broome having led the way in showing how to turn an honest penny at the doorway of a show. The local books are mostly good compilations and serve a good purpose, but they cannot rank as important items in the history of the chrysanthemum. In the third category nearly all the books known may be classed, but a book may be universal in aim without being so in usefulness, and as a matter of fact there are not many universal books on this universal flower. Happily we can name one that has the double merit of newness and fulness; to which we will add plainness and the evident desire to take the reader into complete confidence. This is the work of one of our leading exhibitors, the "hero of a hundred fights," Mr. Molyneux, whose name is necessarily familiar to all our readers as one of the few who in this connection can say *veni, vidi, vici.**

It is important to observe in respect to Mr. Molyneux's book that it is the most distinct and defined in purpose of all that have appeared on the chrysanthemum. It sounds large to say so much, but look at it and note the truth. It is entirely occupied with the practical part of the subject, which is treated in the simplest and at the same time the fullest manner. We have not seen the equal of it whether old or new; and therefore we are not to make allowances for lapse of time to authors forgotten, and we are not to demand of the author before us prophetic notice of things to come. In a word, Mr. Molyneux has written a model treatise on the cultivation of the chrysanthemum, and has thereby made it a very difficult task for any one to write another without going to him for the inspiration and perhaps the whole routine of the practical business. Thieves abound, as we know to our cost, and we advise Mr. Molyneux to take the best care possible of his own property.

* *Chrysanthemums and their Culture. A Practical Treatise*, &c., by Edwin Molyneux, gardener at Swanmore Park. (171, Fleet Street.)

Messrs. Sutton and Sons have been awarded a gold medal for display of seeds, &c., at the Edinburgh International Exhibition.

Annual Sale at Ascot Nurseries is fixed for November 9 and 10; the auctioneers are Messrs. Protheroe and Morris.

Mr. M. Williams succeeds Mr. Wright as head gardener to W. H. Grenfel, Esq., Taplow Court, Maidenhead.

Jasminum nudiflorum and Spiræa Thunbergi are flowering freely near London.

Messrs. F. and A. Dickson, of Chester, have been awarded a gold medal at Liverpool International Exhibition for their exhibition of trees and shrubs.

Mr. Thomas Laxton is retiring from the horticultural business, and his nursery stock at Girtford will be sold by Protheroe and Morris, November 18.

Mr. J. Sanders, formerly at Broadlands, Romsey, Hants, has been appointed head gardener to H. S. Stanley, Esq., Paultons, Romsey, Hants.

Mr. H. Reynolds has left Upper Grove House Gardens, Roehampton, to take charge of the gardens of R. Kershaw, Esq., Crownest Park, Halifax.

Richmond Chrysanthemum Show, to be held in the Castle Hotel on Thursday and Friday next, will be opened at three p.m. on Thursday by H.R.H. the Princess Mary and H.S.H. the Duke of Teck.

Mr. R. C. Williams (foreman in the gardens of Howell Gwyn, Esq., The Duffryn, Neath) has been appointed head gardener to the Earl of Lisburne, Crosswood Park, Aberystwith.

National Rose Society.—A meeting of committee will be held at 1, Henrietta Street, Covent Garden, on Tuesday next at 3 p.m. The principal business will be to arrange for exhibitions in 1887.

Horticultural Club Dinner and Conversazione will take place at 1, Henrietta Street, Covent Garden, on Tuesday next at 6 p.m. The subject for discussion will be Aphides, to be introduced by the Rev. H. H. D'Ombrain.

Tobacco Growing in Kent is the subject of a series of illustrations in the *Illustrated London News* of October 30. The scene of the operations represented is the plantation of Mr. Faunce de Laune, Sharsted Court, near Sittingbourne.

Mr. Robert Sydenham was wrongly placed in our memorandum last week, through misapprehension of the purport of his letter. Mr. Sydenham cultivates at Roseleigh, Edgbaston, various florists' flowers, and Thomas Nash is the gardener there.

The Closing of the Colonial and Indian Exhibition is so near at hand that public curiosity is quickened for a reply to the question, What next? Will the proposed Imperial Institute be the old show with a new name, or shall we witness the birth of a great scheme accomplishing, or tending to accomplish, a true federation of imperial interests—the union of the monarchy at home with the empire beyond the seas? It is time the public were informed, and the reticence of those who should speak painfully suggests that they do not know their own minds on the matter.

Autumnal Colours are now boldly displayed in the woodlands, and there is but little difference in the relative splendours of north and south. As a matter of course leaves are everywhere falling fast, but there appeared to be a reluctance of the trees to put on their proper autumnal colours before ringing for the curtain to fall. However, as everything comes to those who will wait, the brilliant tones of orange and auburn and fiery red and delicate amber have come at last, and "the fiery hand of Autumn" is not wanting to warm the closing scene. *Now*, if ever, townsmen should turn out to see what the world is made of.

Button-holes come into our field in a flowery way, and we have frequently the delight of reporting on them. But between adorning a button-hole and making one there is a difference. Now, the making of button-holes is certainly not in our line, but we are bound to place on record the complete triumph of machinery in this peculiar branch of work. We have seen in operation the "Eclipse Button-hole Worker" in connection with the "Lock-stitch" sewing machine, and the button-holes were made with astonishing rapidity, and the work appeared perfect. On the technical points we offer no opinion; we record only that we have seen button-holes made by a very simple machine.

Mr. Witherspoon, of Chester-le-Street, has obtained for his Rose Boiler a silver medal at the Liverpool Exhibition. This boiler has obtained some special attention in consequence of the inventor's demonstration of the possibility of utilizing the heat in immediate proximity to it. We are favoured by him with a bunch of well grown Gros Colmar grape, "grown right over the boiler," and we find them to be of excellent quality. The Red Rose Boiler having won for Mr. Witherspoon many medals and certificates, we shall indulge the hope that it may secure for him the more substantial rewards of an appreciative public.

The Mighty Leek succeeds the gigantic gooseberry. In Messrs. Dobbie and Co's seed grounds at Rothesay a specimen may now be seen, the blanched part of which measures 12 inches in length and 9 inches in circumference. One of the leaves laid out flat measures 15 inches in breadth and 3 feet in length. The variety is Dobbie's Champion.

Can it be True?—Our much respected contemporary, the *Gardeners' Chronicle*, declares "that the tree pruner, with his knife and saw, has ceased from troubling" the trees on the Victoria Embankment. We are afraid to believe it; but we promise to cultivate the virtues of faith, hope, and charity in respect of the statement, the trees, the pruner, and the Metropolitan Board. Were a judicious removal of about one-third of the whole number of the trees at once effected, and those remaining left to grow naturally, there is time even now for the Embankment to become respectable.

A Biography, accompanied with Portrait, of Mr. George William Johnson, the founder of the *Cottage Gardener*, appears in this week's issue of the *Journal of Horticulture*, which is practically the same work with a larger title, and a larger style. The deceased gentleman is referred to as an effective public speaker. We are thereby reminded that we heard him deliver a most original and fascinating lecture on the characters of plants at the Birkbeck Institute, Chancery Lane, somewhere about the year 1846. His "History of Gardening" is of great value as a key to sources of information. Of his labours and personal character, Dr. Hogg has the best right to speak, and in a spirit that commands our sympathy and respect he has endeavoured to do justice to his life-long friend and sometime partner.

The rate of speed of a pigeon on the wing is a matter of considerable interest. In a contest at Turin lately there were 280 pigeons on trial. The bird that obtained the gold medal made the journey from Turin to Modena, a distance of 162¾ English miles, at the rate of 34·82, or nearly 35 miles an hour. The silver medal was awarded to a bird belonging to the same town, which attained a speed of 34·67, or a little over 34½ miles an hour. The pigeons that had shorter distances to fly attained a higher speed, one of these winning the gold medal for a speed of 38·71, say, 38¾ miles; and the silver medal bird made 35·28, or 35¼ miles. Recently a report of an inquest was despatched to the *Advertiser*, a Wrexham paper, by four homing pigeons. The report was written on tissue paper, and made 250 lines of printed matter.

Open Spaces in London.—In the annual report of the Metropolitan Board of Works a list is given of the acreage of the various parks, commons, and open spaces under the control of the Board, as follows: Finsbury Park, 115 acres; Southwark Park, 63; gardens on the Victoria. Albert, and Chelsea Embankments, and in Leicester Square, 14; Blackheath, 267; Hampstead Heath, 240; Shepherd's Bush Common, 8; London Fields, 26½; Hackney Downs, 41¾; Wells Street Common, 20¾; North Mill Field, 23¼; South Mill Field, 34¼; Clapton Common, 7½; Stoke Newington Common, 5¼; Tooting Beck Common, 144; Tooting Graveney Common, 63; Clapham Common, 220; Bostall Heath, 55; Plumstead Common, 100; Shoulder-of-Mutton Green, 5; Wormwood Scrubbs, 193; Eel-brook Common, 14; Parson's Green, 4; Brook Green, 7; Peckham Rye, 64; Goose Green, 6¼; Nunhead Green, 1½; Streatham Common, 66; Highbury Fields, 25½—total, 1,834½ acres.

The Pure Organic Manure offered by Viccars, Collyer, and Co., belongs to an important series of manufactures that deservedly obtain increased attention. The progress of sanitation favours the production of such articles, and the demand is likely to keep pace with production, for, with every year that passes, we are thrown more and more upon our own resources to maintain the fertility of the land. Since guano vanished from the market a substitute or successor has been wanting, and this "Concentrated Organic Manure" has a fair prospect as a candidate for the succession. The manufacturers have taken the course we have always insisted on as necessary to the advocacy of a special manure—they have published an analysis, which has a legal as well as a commercial value. This analysis shows that the preparation is a distinctly phosphatic and nitrogenous manure, containing about fifteen per cent. of ammonia, and such is the kind of fertilizer that is most wanted.

LILIES AT HEATHERBANK, WEYBRIDGE HEATH.

By George F. Wilson, Esq., F.R.S.

In a note on our lilies written in July (page 394), I proposed adding a few particulars later in the season. Lilies in the open may be considered over for the year, as only a few chance ones remain in flower. I will begin with what is usually considered the Queen of lilies, L. auratum, though some good judges consider L. speciosum rubrum in its best form, and others L. candidum simplex, have at least equal right to the title.

Lilium auratum have, on the whole, succeeded well with us this season, though some beds were more cut than usual by spring frosts. *L. auratum Rubro-vittatum* was finer than we ever had it before. Among our few plants which have been in the open border since 1881, one had eight, and another seven flowers. This is a truly gorgeous lily, with its broad stripe of crimson, but after some days, while the flower seems still fresh, the crimson turns to a dull, stale claret colour, and then most of the beauty is gone. The next finest of the family is *L. auratum Platypetalum*, of which there appear to be two varieties, the one variety known as *L. auratum Macranthum* being low-growing.

The first examples of L. auratum Platypetalum exhibited were almost without spots, like L. auratum Virginale, but the species includes all varieties of colour up to Pictum. Two small clumps of L. auratum Macranthum were most beautiful, and were much admired; a petal from one of these measured 3⅞ inches broad. The bulbs should be planted wide enough apart to prevent their knocking against one another in high winds; ours were not so.

Our two finest of the ordinary *L. auratum* both bloomed in the wood at the Weybridge Cottage garden; one seemed to dwarf all the flowers about it; one of the petals measured was 7½ inches long; it was, therefore, 15 inches across the flower. In another bed one grew to 9½ feet in height, and yet was so well proportioned that it looked neither drawn up nor gawky. *L. Pardalinum* and *L. Californicum* were cut by spring frosts in some beds, and bloomed well in others a few yards off, where the frost wind had not reached them. *L. speciosum Rubrum* and *L. speciosum Album* were very fine, and so were *L. Leichtlini* and *L. longiflorum albo-marginatum*, or, as I suppose it ought to be called, *L. longiflorum foliis albo-marginatis*. In good soil *L. Szowitzianum* always does well. *L. Hansoni* were moderately good. *L. Krameri* were fine, and seeded freely. *L. giganteum* bloomed well, but was not very tall. *L. cordifolium*, the Japanese dwarf form of giganteum, was cut down by spring frosts in our Wisley Wood, as it was not sheltered from the sun which followed quickly on the frost.

In the orchard-house at Weybridge, in a pot, it had eight good flowers on a stem. *L. longiflorum* bloomed well in some places, best in shelter, but failed in others. *L. chalcedonicum* did not bloom well, but the bulbs are strong and healthy; they were in full sun. I have moved them into a sheltered place. All the *L. martagons* bloomed well; also *L. superbum*.

The question as to the relative merits of full sun, or shade and shelter, for lilies, especially for L. auratum, crops up from time to time in the different gardening papers. It is not an easy one to solve; L. auratum often blooms thoroughly well in complete shade, and also in full sun. Rhododendron beds, as I have often before said, are the easiest places to grow it in, and the question of the necessity of sun to ripen the bulbs is settled by my friend Mr. McIntosh's lilies, which themselves, or their children, have thriven for more than a dozen years in the full shade of the Rhododendrons. I believe the two great points to aim at are, to prevent the *bulbs* getting too wet, or the *roots* too dry, and especially to keep clear of many tree roots, which dry the soil as well as exhaust it. Rhododendrons keep their roots to themselves, and do not interfere with the lilies, unless, indeed, they are grown very strong and very close. In our little field of L. auratum, in full sun, though with some shelter from wind by hedges, many hundreds bloomed well. Some not more than a foot high, with stems not thicker than a tobacco pipe, had two fine flowers; many had one. I have made no mention of tiger lilies; they always bloom well. I do not think the species without stem bulbs, *L. tigrinum Jucundum*, is sufficiently known and grown; it is a beautiful form for cutting.

THE BEST OF THE GARDEN BLACKBERRIES.

It is a question with some good men if any blackberries are worth growing in gardens. Having grown a collection of all the sorts I could obtain, I can say, after five years' experience of them, that as a collection they are not worth much. But it is not prudent to judge them as a collection, especially since our *G. M.* has so often told us that collections usually comprise more bad things than good ones. Let us then consider them in detail. Then, to make short work of it, there are two worth garden cultivation, and they are the Lawton and the Wilson Junior. It is an advantage when witnesses can be brought into court to substantiate one's assertion, and I shall name two in support of what I now say, speaking solely for the public advantage. A few years since Mr. T. S. Ware, of Tottenham, planted out all the varieties of American blackberries, and left them to grow in their own way, and had tremendous crops of fruit. He found the Lawton a superb variety. In the season that has just closed Messrs. Smith and Co., of Worcester, have had a collection, and the new Wilson Junior has beaten everything in the class, giving a wonderful crop of large, handsome, delicious blackberries. There seems to be nothing wanting to render this new variety perfect for what it professes to be—a blackberry. It is hardy, free in growth, requires no attention, is best left alone, and it fruits freely, the fruit being extra fine. It does demand a good soil, and therein it agrees with nearly all the good things known to this terrestrial sphere. Tell your readers it is a grand addition to our resources in the way of fruit, and brings in for household use a class of fruit that is in universal favour. W.

POMPON CHRYSANTHEMUM, MDLLE. ELISE DORDANS AND FLAMBEAU TOULOUSAINE.

Under the above names these two chrysanthemums were exhibited at the National Society's Committee meeting, October 13, by two exhibitors, namely, Mr. Wright and Mr. Davis. They were certificated as one variety. The committee arrived at the conclusion that they were synonymous by judging them as they appeared. With me they are very distinct, which I have proved by exhibiting blooms of both at the Royal Horticultural Gardens, on Tuesday, October 26, and at the Royal Aquarium, on Wednesday, October 27. *Mdlle. Elise Dordans* is a much lighter flower in colour than *Flambeau Toulousaine*, but the same shape and size. The habit and foliage are quite distinct, also the colour of its flowers. Flambeau Toulousaine is one of the most distinct and pretty of pompons I ever grew. The general character of the plant resembles the pompon variety Inimitable, and the flowers, in colour and markings, are like Model of Perfection. To my taste, however, they are much superior to that well-known variety. There must be a grave error somewhere, which must be cleared up. Robt. Owen.

Floral Nurseries, Maidenhead.

MR. HENRY EVERSHED, OF HURSTMONCEUX, ON THREE ACRES AND A COW.

AT the opening of the winter session of the Farmers' Club, at the Salisbury Hotel, Salisbury Square, Fleet Street, Mr. W. C. Little, of March, Cambridgeshire, presiding, the subject dealt with was "Allotments and Cow-plots," by Mr. Henry Evershed. Among those present were Lord Onslow, Mr. Finch-Hatton, M.P., Sir Baldwyn Leighton, Mr. Albert Pell, Mr. James Howard, Mr. C. S. Read, Mr. P. Phipps, Mr. W. Wells, Mr. W. Stratton, Mr. Druce, Major Craigie, and Mr. T. H. Bolton.

The Chairman opened the proceedings by referring to the harvest, the reports of which he said had been too sanguine, while the prices of both corn and meat were disastrously low.

Mr. EVERSHED then read the paper he had prepared on the subject. He began by stating that those who best understood the wants of farm labourers had always attached great importance to the provision of sufficient gardens and allotments for them, and years ago some of those great landowners whose names were known for their services to agriculture were among the most active promoters of allotments. Nearly thirty years ago the subject was dealt with in that club, and an association, lately revived, was then founded to extend the system. At Chippenham, Wilts, an estate had 700 allotments. As regarded the beneficial character of affording such means of employment, it was stated that the parish of Alconbury, Hunts, was so notorious for badly-conducted labourers that the saying ran, "As bad as the parish of Alconbury," and that the complete regeneration of the people was held to date from the time when the Bishop of Durham offered land in allotments, the change being attributed to the magic in the spade when used by the poor man in his garden. The speaker enumerated many of the Acts of Parliament which dealt with allotments, and said that these indicated how much had been said in Parliament on the subject compared with the very little that had been done; but, as there were Greeks before Agamemnon, so there were farm labourers' friends before Mr. Jesse Collings—(hear, hear)—as was to be seen from the fact that in 1843, when Lord Ashley (afterwards Lord Shaftesbury) introduced a Bill to permit parishes to take land for allotments—not compulsorily, but with the rent secured on the rates—the leading politicians of the day gave the project their support. Experience showed that the intervention of the parochial authorities had not usually proved successful in extending allotments. On this point the Poor Law Commissioners pronounced very strongly in 1834. After stating that "the immediate advantage of allotments was so great, that if there were no other mode of supplying them they thought it would be worth while, as a temporary measure, to propose some general plan for providing them," they added, in reference to the use of local machinery for the purpose, "Where the system has been carried on by individuals it has been generally beneficial, but when managed by parish officers it has seldom succeeded." In point of fact the experiment of setting out allotments under the Act (Sturges Bourne's) of 1819 was tried in a number of parishes, especially in the south-western counties, and was soon abandoned as a failure. At Saffron Walden, however, the allotments proved successful, owing to the special management which was there adopted. The Parliamentary 20 acres of land were obtained, and a great deal more through the co-operation of the neighbouring landlords. The success of the experiment was secured by the appointment of a committee, who managed the business. At the present time, the first field which was laid out in allotments in 1829, under the provisions of Sturges Bourne's Act, was still in allotments, and in 23 adjoining parishes there were 223 acres laid out in upwards of 1,300 allotments of one-sixth of an acre to half-an-acre each, and let generally at from 1½d. to 4½d. per rod, the rates and tithes, as well as the cost of maintaining the fences, being in every instance paid by the owners of the land. This was a very encouraging example to those who interest themselves either in public or private works of beneficence. Coming, then, to the recent agitation, and the consequent founding of the Land and Glebe Owners' Association for the Voluntary Extension of Allotments, with Lord Onslow for its honorary secretary, he stated that Lord Onslow obtained from the owners of 2,441,620 acres—or of one-fourteenth of the whole of the cultivated land in England and Wales—an expression of readiness to meet the demands for allotments by persons residing on their estates. The grievance as to want of allotments had now become a very light one, as was shown by facts and figures. The Commission on the employment of persons in agriculture in 1867 recommended that an annual return of the quantity of land held in allotments should be collected with the agricultural returns by the officers of the Inland Revenue, but the earliest return was deferred till 1873, when the number of allotments in England and Wales was 246,000, the number of agricultural labourers, according to the census of 1871, having been 962,348. According to the returns of 1886, the number of agricultural labourers had decreased to 870,798, while the allotments had increased to 356,458, the total number of plots of land cultivated by labourers, including potato grounds, cow runs, and cottage gardens, being, in England and Wales, 739,246. A country labourer, however, was not necessarily a farm labourer, and, on the other hand, agricultural labourers were not all of them occupiers of cottages needing gardens or allotments. The speaker discussed the question of size of allotments, and pointed out that this must depend upon circumstances. As regards cow-plots, the most remarkable example of cow-keeping by cottagers was that on the estate of Lord Tollemache, in Cheshire, where the system had now taken such deep root that its permanence seemed assured. A cow-plot for labourers must be a pasture. Large dairies might prove successful on arable land, but in the case of a dairy of one cow kept by a farm labourer pasture land was absolutely indispensable. A cow-plot, therefore, could only be available in districts suited to grass and not too bare of dairymaids. The number of cottages on the famous estate in Cheshire was about 300, and the number of cottagers keeping cows about 260. The best of the three methods of cow-keeping for farm labourers, or for their exclusive benefit, was that customary on the estates of Lord Tollemache, Viscount Hill, of Hawkstone, Shropshire, and many others. Three acres of Cheshire pasture, or sometimes rather less, were allotted to the cottage, about an acre of it was mown for hay for the support of the cow during the winter, and the rest was either entirely in pasture for the summer grazing, or perhaps a quarter of an acre was gardened, and on this part a little straw might be grown for the sake of litter. The cottage and its pasture were usually hired from the landlord on short notice, an arrangement as to tenure which the farm tenants preferred because it relieved them of responsibility in the event of their having to dismiss a servant and plot-holder. As to rent, he remembered visiting a number of cow-plots near Cardigan, where every married man kept a cow, hiring the land of his master, and it seemed rather strange that the farmers of Wales, who usually preferred the reduction of rents, had raised them in the cow-plots to a level which precluded the poor men from making any profit. That a farm tenant should push up rents was a most unnatural proceeding, and in order to prevent it the plots should be held direct of the landlord, and the rents should be the same per acre as those paid for the adjacent farms. He urged that the system of allotments made the agricultural workers law-abiding, depauperised them, and benefited all classes. He added that there were still many places where the tenants and landlords were unaware of the advantages of affording allotments to labourers. In conclusion he referred to the strong desire of the country and the urgent necessity in the interest of agriculture, that the rural population should be increased. Ours, he said, was a country of large farming, and was likely to remain so for economic reasons. But in many districts there was room for a large increase of village industries, of small farms, and cow-plots, all of which would assist in improving the quality of the population as well as its quantity. It was true that cow-keeping was not the habit of some neighbourhoods, but habits could be changed, and quickly too, for the sake of a personal advantage. They might not expect a rapid increase of that most desirable class of labourers who had reached a position which tied them by interest and affection to the land. But such a class, and the small farmers who might grow from it, would always prove the best allies of agriculturists, and would form for the country a strong backbone and a needful element of conservation.

The discussion was opened by Mr. Trethewy, of Ampthill, who, in moving a vote of thanks to the lecturer, insisted that the true allotment question was limited to that amount of land which a labourer could cultivate after giving labour to his employer; but he was not averse to see a man gradually "launching out" in taking land and filling up his time in jobbing.

Mr. Bowen-Jones, of Shropshire, seconded the motion, and stated that Mr. Evershed had been greatly instrumental in arousing healthy public opinion on this subject.

Lord Onslow remarked that Mr. Evershed had placed in an excellent form all that was being discussed by farmers' clubs and labourers. He was of opinion that the allotments should be near the labourers' homes, as Lord Tollemache had done in many cases. But where this could not be done it was well to set a field apart for allotments, and not only the farm labourers, but the carters and the shopkeepers could cultivate plots. As to the rents to be paid for allotments, the most valuable lands were those near the roads, and of course the value would have to be paid. He was quite sure that the landlords of England were quite prepared to grant all the demands for allotments in rural districts.

Sir Baldwyn Leighton pointed out that the dairy plot system was not suited to all soils, and said if it was generally tried there would be wholesale failure. The system could be best carried out by thrifty people, who were the best servants and workers, and whose good qualities became hereditary.

Mr. Finch Hatton, M.P., Mr. C. S. Read, and Mr. J. Howard, having taken part in the discussion, thanks were voted to Mr. Evershed.

POTATOES ROTTING IN STORE.

PERHAPS no one was ever so disappointed as I have been this season with potatoes, as I generally exhibit at Gloucester and Cheltenham root and grain exhibitions, and grow for the purpose about fifty of the leading varieties. This season our crop was far above the average, in fact, I was so pleased with them that I had made up my mind to show some at South Kensington. Now I do not think that I need remind the readers of the *G.M.* of the valuable hints given in the same from time to time for the welfare of the noble tuber, especially as regards the lifting and storing of the crops. Those who can carry out those good hints will not find themselves far wrong in the end. We began to lift our crop about August 18, although the tubers were not quite ripe. They were carefully taken up and left in the sun for a few hours; not more were turned out in one day, which is done in the early part of the day, than could be conveniently picked up in the afternoon, beginning with those that were turned out first. I go over them first and select such tubers as I might think fit for the exhibition table. These are put away in a dry room, not thick. After two or three days they are covered up with some fine soft hay. The seed is also picked up and stored the same way. The next sample is for table use, but these are put away rather different from the others; they are put into a dry shed, and as there are not large quantities of any of the sorts, they are put one on top of the other, or, in other words, close together, divided with some hay or straw. I find them keep just as well as the others, but, of course, it would not do to store large quantities like this. The straw keeps them from heating or sweating. Now I will go back to the lifting. This went on well till the first or second of September. When our crops were about half lifted and stored for several days the tops had been going very bad. But we had not found many diseased tubers. On the fourth and fifth we had very heavy thunderstorms, which, no doubt, washed the disease from the tops down to the tubers, which will be seen by my remarks. As soon as possible we began to take up the remainder of our crop, but how different! Only a few days before we could scarcely find a diseased potato, and now we found many. Not one variety was free from it. Although many tubers were bad, we managed to get a fair sample for exhibition. These were served the same way as those taken up before the storms, only we were more careful in picking them up not to get any diseased tubers, and to see that they were quite dry before being stored. I was sorry to find a fortnight ago that I could not pick from some of the varieties three sound potatoes out of twenty of those taken up and stored since the storms. On the other hand, those taken up before were nearly all sound; in fact, I could not pick a bad one out of fifty. I think this will plainly show what effect thunderstorms and heavy rains have on a crop of potatoes after the disease has made its appearance in the tops.

I shall conclude these notes by naming a few varieties which I can highly recommend for cropping and table qualities. Chancellor is one of the best with me both for a crop and for table; Fidler's Prolific is not far behind; Fidler's Success is an excellent table potato, but not so good a cropper with me; I may make the same remark for Carter's Ashtop Fluke and Sukreta. Woodstock Kidney still does well with me. Three good potatoes will be found in Lady Truscott, Seedling M.P., and Sir Walter Raleigh. Wheeler's Double Gloucester is good in all ways, and well adapted for general cultivation. Rector of Woodstock is a good potato for table, but the tubers run small. The Village Blacksmith is a very rough-skinned potato, but those who like a dry, floury, and good-flavoured sample will do well to give it a trial. General Gordon has done well, the tubers are not large, the table quality excellent. These are a few of the very best grown here this season.

The Gardens, Hasfield Court, Gloucester. JOHN APPIN.

SELECTIONS OF DAHLIAS.

Pompon or Bouquet Dahlias.

I heard it remarked at a recent dahlia exhibition that the pompon and bouquet dahlias were driving the single dahlias out of our gardens. There is something of an anachronism in such a statement, because the bouquet dahlias have been in cultivation for years past, but sadly neglected, and when the single varieties called forth so much popular fervour the pompon varieties naturally enough came to the fore also.

Now I found, when looking over the Slough collection a few days ago, that anyone desirous of making a selection of varieties for garden decoration must not be satisfied with seeing them in a cut state at dahlia shows. There they are, set up in charming bunches, and while the visitor can get a good idea of the size and colour of the flowers his fancy favours, he cannot possibly derive any reliable idea of the habit of growth of the plants, and especially their heights. Consequently, I have known amateurs with small gardens order pompon dahlias, and find them to be too tall for the space they could afford them, and consequently they suffer disappointment. Thus the question arises, what are the best varieties to grow for garden decoration? Let me try and enlighten your readers upon this point. When I was at the Royal Nursery, Slough, a few days ago, I took the trouble to go very care fully through the collection of bouquet dahlias. I found them divisible into two groups, one of plants about 3½ feet in height, with a free erect growth, and with remarkably profuse buds of bloom, thrown well above the foliage; the other of various heights of growth, some tall, some dwarfer, and with larger flowers, freely produced in many cases, but lacking that adequate balance between habit of growth and flowers so conspicuously seen in the varieties I have put into the first group. Now I am of opinion that the flowers of a good many of our pompon dahlias are too large for general decorative and cutting purposes, and therefore I favour those having small, compact, finely-formed blossoms on erect stem. It is such types as these, added to a dwarf, compact, free habit of growth, that I have put into my first group. Here is a list of twenty-four pompon dahlias as perfect in all respects, I think, as any reasonable person can desire: Comtesse Von Sternberg, yellow and white; E. F. Jungker, rather tall, erect growth, very free, colour amber, very pretty; Ernest (Glasscock), crimson maroon, very bright, free, and good; Fanny Werner, yellow, with reddish buff tip, tall, but very erect, and wonderfully free; Fashion, orange and buff; Favourite, rich, bright crimson, shaded, perfect in form, a little tall; Garnet, light orange-scarlet, a model variety in all respects; Gem, very bright scarlet, a little tall, but very free and fine; Grass au Wien, shaded buff, or lovely terra-cotta; Hedwig Polwig, crimson tipped with white; Henriette, yellow, tipped and suffused with crimson-purple; Hilda, pale citron ground, tipped with bright rosy purple, small, very free, a little tall; Lady Blanche, a perfect white pompon dahlia. Little Duchess, black ground, heavily edged with crimson purple, a little tall, but remarkably good; Little Princess, blush, tipped with bright rosy scarlet; Louis Rodani, white, deeply edged and suffused with purple, a little tall, but good; Mdlle. Valentine Faconet, white, tipped with purple, erect, and very free; Nemesis, marone, tipped with white, pretty fringed petals; Princess Sophie Sopicha, wine crimson, the reverse of the petals lilac; Professor Bergeat, bright rosy crimson; Thomas Moore (Rawlings), yellow, deeply edged with red; Titania, yellow, slightly tinged with brownish or bronzy red; White Aster, with pretty fringed petals, very free; and Ivanhoe (Turner), new of this year, lemon and white, distinct, and very pretty.

The second group, comprising varieties generally of taller growth and larger flowers, are suitable for border decoration, but not so desirable for exhibition and cutting purposes. They are: Amelie Barbiere, flesh, tipped with rose; Darkness, crimson marone; Dora, pale primrose and white; Fair Helen, white, tinged with lilac; Golden Gem, yellow; Little Willie, Lady Jane, Prince of Liliputians, very dark marone; Profusion, crimson, tipped with white; Rosalie, pale primrose, tinted with rose; Rosetta, rosy purple; the Khedive, white, heavily edged and suffused with deep crimson; Wilhelm Nitsche, red, tipped with white; and Carl Mendel,

PLUM RIVERS'S MONARCH (first year of fruiting). (See page 674.)

which Mr. Turner includes very properly among the bedding dahlias, the flowers rich crimson, full in shape, dwarfish, very erect growth, and wonderfully free. There was a row of twenty plants of this variety at Slough, and it formed a floral sight long to be remembered.

Mr. Turner has this season flowered for the second year some new pompon varieties that are very promising. They include Ivanhoe, referred to above, a flower that may prove a little changeable in character, but it will be always very pretty and acceptable; Eccentric, well named because the flowers come so varied in character. Some are white, tipped with scarlet; others orange and lemon; some bronzy red in part; 2½ ft. to 3 ft., very fine form, remarkably free and erect growth. Don Juan, bright marone, shaded with crimson; small, fine form, very free, erect growth, 3½ ft. Gazelle, yellow ground, tipped with bright purplish magenta; erect, very free, 4 ft. Chameleon, yellow ground, heavily edged with lake; good habit, 3 ft. Lothair, pale ground, heavily edged with purple, 3 ft. Dandy, bright crimson, shaded with magenta; very erect growth and remarkably free, 4 ft.; and Mignon. very bright crimson scarlet, erect, very free, 3½ ft. Mr. Turner may be credited with an evident desire to maintain a race of erect, fairly dwarf, and small flowered varieties of the best form, these being the main characteristics of the preceding new varieties.

Bedding Dahlias.

This is a section of very dwarf free-flowering varieties, from two to three feet in height, and some less, throwing their flowers on erect stems well above the foliage, and admirably adapted for the centres of large beds, and for a back line in riband borders. They have become much neglected of late; the prominence given to the single varieties—but few of which are really adapted for bedding purposes—having thrown the useful bedding dahlias into the shade. A time of revival is surely coming for them; meanwhile, it is well to indicate a few of the best of the select group grown for the purpose. I may state that Mr. H. Turner classes the pompon variety, Carl Mendel, among the bedders, and it certainly is the most effective for the purpose. Here is a list of eleven other, making twelve in all—viz.: Cloth of Gold, bright yellow; Crimson Gem, rich crimson; George Thomson, pure yellow, one of the very best; John McPherson, rich violet purple; John Wyatt, crimson scarlet; Marguerite Bruant, white, the best of this colour; Mont Blanc, white; Rising Sun, intense scarlet, sometimes tipped with white; Scarlet Globe, bright orange scarlet, extra good; Yellow Pet, pure yellow; and Zelinda, crimson-purple, an old but valuable variety. All the foregoing are very free, but in order that the bloom be continuous, the decaying flowers should be cut away as soon as their beauty has passed. R. D.

AUTUMNAL FLOWERS.

Strelitzias.

One of the most generally admired flowering plants in our hot-house during the winter months is the old *Strelitzia Reginæ*. It is a large specimen, and has been grown for upwards of ten years, from an imported plant. It is not only a very handsome plant, but the quaint and peculiar looking flowers arrest attention. The flowers appear one after the other from their sheath, and are of a bright orange colour. The conspicuous arrow-shaped nectary is of a deep azure blue colour. This species was figured in the *Botanical Magazine* in 1791. The plant itself was introduced into the Royal Gardens, Kew, by Sir Joseph Banks in 1773. It was at that time described as one of the most magnificent plants ever introduced into this country, and seems to have created just such a sensation as the Victoria regia did when its discovery was announced by Sir Robert Schomburck, in 1837. The first was named after Queen Charlotte, and the latter after our present Queen. The Strelitzia Reginæ is not so well known now as it ought to be. Its culture is so easy that any one can grow it on the let alone principle. So as to do well it requires plenty of pot-room in good turfy loam, to which has been added a little peat. This compost suits it admirably. It can be left without any further disturbance, in the same pot for three years. Propagation by division is rather a slow process, but when a plant is once obtained it lasts a lifetime, and when it is large enough to be divided, the process is easily accomplished by cutting it from the parent plant with a small portion of roots attached. New roots are soon formed, and the young plant quickly becomes established.

Strelitzia augusta.—"The Great White Strelitzia," introduced at the end of the last century, is much more seldom seen in cultivation. Probably because it is an unmanageable plant, growing about twenty feet high before it produces its flowers, which are not on a long stem rising from the base like the other, but on short stems from the top of a caudex or trunk, which in its native country rises to the height of eighteen feet. From this point the leaves are produced, and at their base the large white flowers emerge from a deep, purple-coloured, broadly lanceolate spatha.

S. Nicolai was introduced so recently as 1860. The whole of the remaining species, six in number, that have been introduced to this country have purple and yellow flowers, and are all South African weeds. It is very suggestive to be told, as we have been, that "every plant is a weed somewhere."

Amasonia punicea.

This is one of the most striking plants we have in flower at present. It is easily grown, but requires a high temperature to bring out the rich colour of the floral bracts; their crimson sheen affords a striking contrast to the small, pendulous, creamy white flowers. The plant can be propagated and grown much in the same way as the Poinsettia pulcherrima. It is altogether more elegant than this popular plant, and will probably become even more popular than it is now. This has been recently introduced by Messrs. Veitch from British Guiana, and is a plant for the famous house to be proud of.

Salvia Pitcheri.

This fine plant is quite a distinct feature now in the greenhouse, and has been in blooming beauty for many weeks. The plants are propagated from cuttings over a hot-bed early in the year. They are repotted as they require it, and after a while the pots containing the plants are placed out of doors on a hard bottom of ashes. All that they require is a liberal supply of water, and when the first flowers open place the plants in the greenhouse. They grow with rather tall slender stems, but it is easy enough to place the pots amongst other plants, and allow the beautiful azure blue flowers that come in rather dense spikes to hang over them. There are none other such pretty blue flowers to be seen anywhere at this season, for flowers are scarce and blue flowers very scarce. J. Douglas.

GRAPE JOTTINGS.

It is so long since I found myself in the pages of the Gardeners' Magazine that I, with your permission, hasten to put this in print.

Were the question put to me, Which grape has given me the most satisfaction, without hesitation I should say,

Gros Maroc.—I have this growing in three houses, all under very different treatment, yet all have done well. True, my first planted vine, with three rods, owing to it being in what I always call my worst corner (north-west, and extreme return end of pipes), which is always the coldest with least sun—the colour of these is not so dense, but then the crop is too weighty. My best examples are growing on a grafted Buckland Sweetwater, though I have them good on Black Hamburgh stock; a very heavy crop, but being a lean-to, facing south, they have finished well. Flavour is far in advance of those grown on own roots, but how they will keep is another matter. Gros Maroc grafted on Black Hamburgh requires more thinning, the foot-stalks being so much shorter and stouter. On their own roots the berries find room for themselves, so to speak, without crowding berries out of shape. As I have in time gone by said, this must be a very popular variety, it being amenable to very ordinary treatment; then it colours well and quickly, and for present purposes, if put in market with good Black Hamburgh will fetch much more money. Several times now it has brought in double value to me. I am well aware the better it is grown the better the result, but am sure if an amateur were to grow this with Black Hamburgh he would be surprised. Gros Maroc is not so sweet as B. H., but it is not every palate that requires a sweet grape, and in Gros Maroc there is more to taste, and certainly a much bolder berry.

Alnwick Seedling.—One vine has a bunch on every lateral—twenty-three all told—of the bluest colour of all grapes, and the bunches are a nice size for keeping, though some are double. When once it is made to do well I am sure it will hold its own. Flavour of this is very piquant, even in March, and well worth eating. I set my crop with feather brush, using Lady Downe's and Alicante pollen. It requires rather hard rubbing to loosen the caps, and the pollen of itself is very scant. I syringed one bunch, but never more; this will not do here.

Lady Downe's is a full, noble crop, and laterals bearing two bunches, of which I have a quantity, quite equal to single ones. Scald does not trouble me, as I well ventilate with plenty of fire. On the first sunny days after a dull time there were several attempts at cracking, but nothing serious. I think this hangs the most regular, perfect crop of bunches I ever saw, and berries good. It is interesting to note that one vine with a single rod carries only a fair crop—some two dozen bunches—with no better berries than vines with two and three rods, each rod though having about the same number of bunches. But, of course, the single rod carries the best finished bunches; all the rods have three feet between.

Alicantes on own roots for large bunches and berries are far before the grafted ones on Black Hamburgh and Buckland Sweetwater. The grafted bunches seem better shaped for keeping, and colour is good. I have proved in every case that grafting does alter the character of each variety.

Madresfield Court.—Of this I have an enormous crop, not black, but they are sound, and having cut the largest half of crop, shall keep remainder for a month. No doubt weight of crop is one step towards prevention of cracking, but with me, unless I were to do without water at roots, and also to cover up to prevent evaporation, it would still crack. Opinions, or rather I might say, practical men, differ on this point, but there it is: I can and do grow a crop of sound Madresfield Court under my system.

Barbarossa is just a fair crop of good keeping bunches, but not one large bunch.

Gros Colmar I have left to the last, as it is the last in ripening. The crop of this is regular, of stuff that gives every promise of keeping. I might say a fairly well coloured lot too, and, to my thinking, better than usual, and as for the first time for seven years I have been able to keep foliage good I expect even the worst to get better, especially as we are getting a fair amount of sun, which is very hot while it lasts. What I should wish to see is a crop of black Gros Colmar *now*. But having to keep on vine till Christmas I hardly see my way to have them earlier. Hard forcing (though they like plenty of fire) does not suit them. Foliage is very free from curl and red spider, which is so soon at home if once established. No grape, not even Gros Maroc, compares with this for grand appearance. Berries cut in two cover a florin; this is the general size, but, of course, I have some larger than this. Have had this variety well in hand for fourteen

years in largish quantity, yet I never have considered myself master of it. Seven months it will take to finish a crop, and an additional month if very heavy. But with a light crop they will be black in six months. My deepest blacks are on Muscat of Alexandria roots, and they look very striking growing side by side on same roots with bunches of Muscats white. In some cases the grafts were heavily laden, so I cut the Muscats early to give them a chance, and even the ill-used canes are doing well, much better than I expected a month since. These loaded ones, however, are touched with spider, and I must sulphur the pipes to keep them in check. A blazing hot sun after a cloudy sky for a day or two, with perhaps not quite as much water at the roots as they require, soon breeds red spider. Gros Colmar requires very liberal feeding with abundance of fire, water, and ventilation. This treatment, with a fair weight of fruit according to strength of vine, will prove satisfactory.

Having noted the chief of my blacks, will now turn to the whites.

Buckland Sweetwater is quite a telling grape here; it fruits very freely, berries are very large, and colour very fine indeed. I am always sorry when these are cut, they being so very attractive and striking in appearance. Some I know experience a difficulty in getting a crop; here the bunches show at every lateral. I make sure of a set by not only tapping the wires, but go over them with a brush.

Foster's Seedling I must give up. The crop is good, but berries small, and they do not improve by hanging. The flavour is good, but it is not a good market grape.

Muscat of Alexandria always holds its own, even if only grown moderately well. I am still a learner over this precious grape, but suppose I must be an old man before I get it to my liking. My crop is good—in some instances too heavy—of not large size, but nice sized bunches for keeping. This must be a good pot-vine, especially for mid-season crop, as I have here, in a very confined space, the best crop of three houses. Limited root room means more attention and more water, but the results are profitable. No doubt, in our changeable summer, early starting will produce best grapes; but early starting does not mean hard forcing. Shanking generally, especially in old vines, makes sad havoc with the bunches, but keep the roots in bounds, and this is one step to reduce this evil. All my Muscats fruit freely, quite as well as Black Hamburgh. The season for all late grapes has been very catching—first hot and then cold, and so many changes during a day. I see there are some who grow without ventilation, or at least without any special attention: these are lucky if their crop is satisfactory and foliage good. Stephen Castle.

West Lynn.

CONTINENTAL ROSES 1886-87.

The following is a complete list of the new roses now being sent out by the French raisers:—

Hybrid Perpetual.

A. Drawiel (Lévêque).—Vigorous; flowers large, double, and globular; colour bright red shaded dark carmine.

Ali Pacha Cherif (Lévêque).—Very vigorous; flowers large and double; fiery red shaded velvety purple.

Baron de Saint-Didier (Lévêque).—Vigorous flowers, large and full; reddish crimson shaded purplish lilac.

Bijou de Courson (Vigneron).—Very vigourous; flowers large and full; bright velvety red.

Comte de Paris (Lévêque).—Robust; flowers of full size, and of good form; red shaded purple-crimson. This is the third hybrid perpetual that has been sent out under this name.

Dr. Antonin Joly (Besson).—Vigorous; flowers large, full, cupped; bright rose shaded with salmon. Said to be a seedling from Baronne Adolphe de Rothschild.

Duc de Bragance (E. Verdier fils).—Vigorous; flowers large and globular; bright red shaded violet.

Duchesse de Bragance (E. Verdier fils).—Vigorous; flowers extra large and full; satiny rose.

Edouard Lefort (E. Verdier fils).—Vigorous; flowers large and quite full; crimson scarlet shaded and spotted with purple.

Emile Masson (Liabaud).—Robust; flowers of full size and quite double; crimson purple.

Jean-Baptiste Casati (Veuve Schwartz).—Vigorous; flowers large and very full; rose-lilac shaded tender rose.

Jules Barigny (E. Verdier fils).—Robust; flowers of average size, quite full, and globular; red carmine; very fragrant.

Jules Deroudilhe (Liabaud).—Strong in growth; flowers of medium size; purple crimson.

Louis Rollet (Gonod).—Robust; flowers of full size and double; reddish purple.

Madame Bois (Claude Levet).—Vigorous and free flowering; flowers very large and of a delicate shade of rose.

Madame Désir (Pernet père).—Moderately strong in growth; flowers large and very double; bright rose shaded orange salmon.

Madame Edouard de Bonnières (Lévêque).—Vigorous; flowers of full size; red amaranth shaded carmine.

Madame Edouard Michel (E. Verdier fils).—Vigorous; flowers large, of fine form, and with the perfume of the tea-scented varieties; bright rose.

Madame Léon Halkin (Lévêque).—Vigorous; flowers large and globular; red crimson shaded purple.

Madame Lureau-Escalais (B. Maindron).—Vigorous; flowers large, full, and of good form; bright rose shading to tender rose.

Madame Marcel Fauneau (Vigneron).—Moderately strong in growth, flowers of average size, and globular in form; bright rose lilac.

Madame Thiebaut aîné (Lévêque).—Vigorous; flowers large and full; rose cerise shading to silvery rose.

Madame Treyve-Marie (Liabaud).—Robust; flowers large and double; bright red shaded bronzy red.

Mdlle. de la Seiglière (B. Maindron).—Vigorous; flowers large and double, globular cup-shaped; bright rose shading to silvery rose.

Mdlle. Marie Dauphin (Liabaud).—Robust; flowers very large and full; tender rose with lilio reflex.

Mons. Mat. Baron (Veuve Schwartz).—Moderately strong in growth; flowers of full size; violet red.

Mons. Richard (Vigneron).—Strong in growth; flowers large; fiery red shaded velvety red.

Orgueil de Lyon (Besson).—Vigorous; flowers of medium size; velvety crimson with scarlet reflex.

Prince Henri d'Orleans (E. Verdier fils).—Vigorous; flowers large, and of fine form; cerise carmine.

Princesse Hélène d'Orleans (E. Verdier fils).—Vigorous; flowers large, cup-shaped; bright rose; very fragrant.

Princesse Louise d'Orleans (E. Verdier fils).—Vigorous; flowers of average size and good form, with fine petal; bright rose shaded silvery rose.

Souv. de Captaine des Mares (Moreau-Rehert).—Vigorous; flowers extra large, globular; bright cerise shaded crimson red.

Stéphanie Charreton (Gonod).—Robust; flowers large and very full; bright rose passing to delicate rose.

Theodore Liberton (Soupert et Notting).—Vigorous; flowers of full size; carmine red, shading to rose with purple reverse.

Vicomtesse de Terves (Moreau-Robert).—Robust; flowers very large; delicate rose, deep rose in centre.

Tea Scented.

Archiduchesse Marie Immaculée (Soupert et Notting).—Vigorous; flowers of average size; chamois-yellow with vermillion centre.

Baronne de Fonvielle (Gonod).—Vigorous, and very free flowering; coppery yellow, reverse of petals red; very fragrant.

Château des Bergeries (Ledechaux).—Vigorous; flowers large, full, and globular; bright canary yellow. This variety was awarded the silver medal of the National Hortioultural Society of France during the past summer.

Directeur Bernard (Soupert et Notting).—Vigorous and free blooming; flowers of average size, and with imbricated petals; magenta rose shaded silvery rose.

Docteur Grill (Bonnaire).—Vigorous; flowers of full size; coppery yellow shaded rose.

Duchesse de Bragance (Dubreuil).—Vigorous; flowers of full size; centre, canary yellow passing to pale yellow.

Lady Stanley (Nabonnaud).—Vigorous; flowers very large and full; lilac, shaded yellow and margined with purple.

Lady Zoé Brougham (Nabonnaud).—Robust; flowers large, double, and imbricated; chamois yellow, bright yellow at the margin of the petals.

Luciole (Guillot et fils).—Vigorous; flowers of average size, buds rather long; tender rose tinted saffron-yellow; very fragrant.

Madame Agathe (Nabonnaud).—Robust, and continuous in flowering; flowers globular with ovate buds, flesh colour; very sweet.

Madame Chauvry (Bonnaire).—Robust and free flowering; flowers large, and somewhat cup-shaped; bright nankin yellow shaded rose-pink.

Madame Dellespaul (Veuve Schwartz).—Vigorous; flowers of average size; centre salmon passing to yellowish-white.

Madame Etienne (Bernaix).—Vigorous; flowers large, cup-shaped, with fine petal; rose-crimson shading to pale rose. Awarded the silver medal at Lyons, June, 1885.

Madame Honoré Defresne (Claude Levet).—Vigorous; flowers large and full; yellow shaded coppery yellow.

Madame Marguerite Large (Nabonnaud).—Robust; flowers large, and of distinct shade of rose.

Madame Scipion Cochet (Bernaix).—Vigorous; flowers large, very full, with imbricated petals; apricot-yellow with purplish reflex. Awarded the bronze medal at Lyons, June 7, 1885.

Mdlle. Claudine Perreau (Lambert).—Vigorous; flowers of medium size; bright rose, passing to tender rose. Seedling from Souvenir d'un Ami.

Mdlle. Elisabeth de Gramont (Claude Levet).—Robust, and free flowering; flowers of full size, and good form; rose tinted coppery yellow. Awarded the silver medal at the Lyons Exhibition, 1886.

Marie Lambert (Lambert).—Vigorous; flowers of medium size and the purest white. Seedling from Madame Bravy.

President Constant (Nabonnaud).—Robust; flowers of full size; rose shaded coppery-yellow and red.

Princess de Hohenzollern (Nabonnaud).—Vigorous; flowers of full size and good form; bright red.

Princess de Radziwill (Nabonnaud).—Vigorous; flowers of average size and full; red shaded coppery-yellow.

Vicomtesse de Wautier (Bernaix).—Vigorous; flowers large; the buds long and conical; rose, tinted yellow, and shading to white at edge of petals.

Viscomtesse Dulong de Rosay (Nabonnand).—Robust; flowers large; rose petals bordered with white.

Hybrid Teas.

Attraction (Dubreuil).—Moderate in growth; flowers of medium size; bright carmine shaded pink.

Madame Joseph Desbois (Guillot et fils).—Robust; flowers large and of fine form; flesh colour with salmon centre.

Madame Schwaller (Bernaix).—Moderate; flowers of medium size, cup-shaped, and produced in large clusters; deep flesh colour.

Bengal.

Nabonnaud (Nabonnand).—Robust; flowers large; velvety-purple shaded coppery yellow.

Bourbon.

Gloire d'Olivet (Vigneron).—Moderately vigorous; flowers large and globular; delicate rose lilac.

Madame Chevallier (Pernet pére).—Moderate in growth, but free and continuous in flowering; flowers large and of a bright rose colour.

Polyantha.

Polyantha grandiflora (Bernaix).—Vigorous; flowers comparatively large; pure white.

Perpetual Polyantha.

Mdlle. Josephine Berland (Bernaix).—Dwarf in growth and free in flowering; white shaded rose.

CHERRIES AND PLUMS IN THE ORCHARD HOUSE.

By William Cole, The Grove Vineyard, Feltham.

In the Gardeners' Magazine, of October 23, I directed attention to a few of the more important points in the construction and keeping of orchard houses, and briefly referred to the cultivation of peaches and nectarines in pots. I now return to the question of orchard house management, for the purpose of giving directions for the pot culture of cherries and plums, which can be grown with a full measure of success under glass, and by a course of procedure certainly not more difficult than that by which excellent crops of peaches and nectarines are obtained. Both cherries and plums bear abundantly when grown in pots under glass, provided they receive the care necessary to their maintenance in a vigorous state of health, and can be depended upon to give an ample return for the attention they have received. There is not, perhaps, a more satisfactory way of growing cherries than in the orchard house; their flowers are protected from the spring frosts, and, what is of equal importance, the fruit is more effectually protected from thrushes and other birds when ripening than is practicable when the trees occupy positions in the open quarters. Moreover, the season for both plums and cherries may be materially prolonged.

The directions given for the potting, watering, and top dressing of the peach and nectarine trees at page 642 apply with equal force to the cherry and plum. In the selection of the trees preference should be given to those of pyramidal outline, as they give a larger surface of bearing wood in proportion to the space occupied than bushes, and the fruit is more fully exposed to the light and air. With reference to stocks, the cherry trees selected may be either on the Mahaleb or on the common cherry; but the best results are obtained by growing the varieties of the May Duke type on the Mahaleb, and the Bigarreau and Heart varieties on the common stock. The growth of the cherry trees should be regulated almost exclusively by summer pinching, and in carrying out this operation care must be taken to keep it sufficiently thinned to moderately expose the fruit. The summer pinching should be commenced when the shoots have each five or six joints, and the first step will be to thin out the shoots where crowded, which is best done by cutting them off close to the base. The shoots remaining are then to be pinched back to immediately above the fourth leaf from the base of each. The laterals that are produced subsequently should be stopped in a similar manner. The shoot forming the leader of each tree should have its point nipped out when eight or nine inches in length. On the trees attaining the desired height the leaders must be stopped in much the same manner and at the same time as the side shoots. When due attention has been paid to stopping the growth during the summer the winter pruning will consist simply in thinning out the shoots where crowded, and shortening back the others to a length ranging from four to six inches. Usually when cherries are grown in pots they bear such heavy crops that, unless the fruit is thinned when it has set freely, it will fail to attain its full size, and be, moreover, of indifferent quality. Therefore, when the trees are well furnished with fruit some amount of thinning must be done, the best time for the removal of surplus fruits being immediately on the completion of the stoning process, as indicated by their commencing to swell freely.

CHERRY BELLE MAGNIFIQUE (second year of fruiting).

The plums differ but little in their requirements from the cherries, and it is not, therefore, necessary to refer to their cultivation in detail. The young growth should be stopped about the same time as that of cherries, but instead of pinching them back to the fourth or fifth leaf it is advisable to shorten them to the second or third. Plum trees may be placed out of doors to ripen their fruit as, for example, when the house is small in proportion to the number of trees grown. The middle of June is a very good time for taking them outside as the season is then sufficiently advanced for removing them from under glass without any risk of their being injured by the exposure. In northern districts the finer kinds, such as Coe's Golden Drop and Jefferson, should remain under glass throughout the summer, as the fruit attains to a much higher degree of maturity in the orchard house than when the trees remain in the open during the ripening process.

Both cherry and plum trees are very susceptible to the attacks of green and black fly, and, therefore, a sharp look out for these pests must be kept. They are not particularly difficult to keep in check, provided remedial measures are resorted to as soon as they make their appearance. Both black and green fly can be destroyed by either fumigating with tobacco or tobacco-paper, syringing with some approved insecticide, or dusting with tobacco-powder. In all cases it will be advisable to proceed cautiously in the destruction of either of the two pests mentioned, as an overdose of tobacco smoke or too strong a solution of the insecticide used will do an immense amount of mischief to the young growth, and probably destroy the greater portion of the crop.

In selecting cherries the following should have the preference: Bigarreau Napoleon, Bigarreau Noir de Schmidt, Early Rivers, Elton and Governor Wood, Archduke, Empress Eugénie, and May Duke.

The plums that can be specially recommended are: Coe's Golden

Drop, Bryanston Green Gage, De Montfort, Ickworth Imperatrice, Oullin's Golden, Jefferson, Kirke's, Reine Claude de Bavay, and Transparent.

WINTER WORK IN VINERIES.

By J. C. Clarke.

For some reason which it is difficult to explain, such late keeping grapes as Lady Downe's seedling and Mrs. Pince's muscat were late in ripening this season. One can hardly understand such a circumstance, seeing that we had a fair amount of sunshine during the summer. I can only account for it from the fact that, with part of the roots in an outside border and a rather heavy rainfall during the months of August and September, the vines continued to make lateral growth later than usual, which, probably, somewhat retarded the ripening process. However, in our case, the grapes were sufficiently ripe by the 20th of October, and we were enabled then to discontinue fire-heat. They are now plump and sound, but owing to the vigorous condition of the growth we shall have to be careful to keep the temperature as low as is consistent with safety. A maximum of 50 degrees by day and a few degrees lower at night is what we aim at in all houses in which there are grapes hanging after the 1st of November. This very often necessitates a gentle warmth being kept up in the heating medium, because we always ventilate freely both night and day when it is not raining or freezing. Rain and frost, of course, keep the temperature down, although there may be a nice warmth in the hot-water pipes.

It is very desirable now to let in all the light possible to the grapes, by cutting back the shoots as far as it is safe to do so. Those branches on which grapes are hanging should have two leaves left beyond the bunch. The others may be cut back to within one foot of the old rod. This cutting back of the branches not only lets in light, but it allows the air to circulate more freely about the bunches, which is a very important matter, for nothing is so injurious to the keeping of grapes at this season of the year as a confined damp atmosphere. If there is a suitable room in which grapes can be kept they may, if desired, be cut and placed in bottles or troughs at once, but those intended to be kept till February and later are best left on the vine until the end of December. Grapes may be kept in any ordinary room that is dry, and where there is no dust, if a fire can be lighted or a large lamp kept burning for a few hours two or three days a week. The temperature should not be raised above 55 degrees, and a little air should be admitted when the fire is burning to allow all impurities to escape.

CHERRY BLACK HAWK (third year of fruiting).

Inside vine borders should now receive attention in all cases where the grapes are cut. A good soaking of water will be necessary in most cases, as it is very important that the roots should have sufficient, although the leaves may be falling. In our own practice, instead of letting the manure water run to waste, we have given our inside borders hundreds of gallons within the past fortnight. Having adopted this practice many years ago with good results, I have great faith in supplying the roots of vines with some stimulating liquid. The surface dressing of the borders is also an important part of the details that should be attended to every year as soon as the fruit is cut.

The way we proceed is to take off about three inches of the old surface soil. This is done very carefully with forks and trowels, so as not to injure the roots, for we invariably find a network of fibrous matter. The material best suited for surface dressing is equal quantities of turfy loam and good fat manure. Unless the vines have a large root run, the borders should not be trodden upon at any time. If the surface must be utilized for any purpose, it should be protected by trellis work, for it should be remembered that the area of inside borders is generally restricted. Therefore it is that the roots require all the care and attention it is possible to give them. With plenty of manure water and annual surface dressings, it is possible to keep vines in a vigorous condition, although the root space may be limited. But even these necessary attentions will fail to keep the vines in that state if they are overcropped. With this caution I will proceed to other matters.

The preparation of vines that are to be forced early must be completed at once. All vines should be pruned at least six weeks before forcing commences. In pruning for early forcing I do not like to cut back quite so close as in the case of those that are allowed to come on

naturally. I find I get the largest bunches from the bud which has been accompanied by the first fully-developed leaf on the shoot. It generally happens that the first leaf is the smallest, and for naturally-grown vines it is quite safe to cut back to that bud. But in other cases the second or even the third bud is preferable; the bunches produced beyond that are, if large, generally loose, with ill-formed shoulders. After being pruned, the rods should be dressed with a solution of Gishurst compound, at the rate of four ounces to one gallon of water. The solution is readily applied with a painter's brush. The dressing will destroy most insects, as well as their eggs or broods. All vines should be pruned as soon as the fruit is cut and the leaves have fallen.

The treatment of outside borders for vines that have to be forced early differs from that of those not forced, as the roots of those that are to be forced require to be protected from frost and rain. In other words, they require to be kept warm. Our own practice is to allow the border to have all the rain of autumn and early winter, and then to cover it up as soon as fire-heat is applied. For the earliest house, which is expected to be ripe about the middle of May, we begin to apply fire-heat in the middle of November. At the same time we attend to the border by covering it up with a layer of freshly gathered leaves about one foot in depth. Wooden shutters are then placed on the leaves for the purpose of keeping off rain and snow, as well as confining the warmth, which such a thickness of leaves will be sure to generate. Once effectually covered up in this way, the border will not require any further attention until the fruit is ripe, when it may be gradually removed. In the early part of my life I used to consider it necessary to renew the fermenting materials two or three times during the season, but I do not do so now, as I have proved that one effectual covering is all that is necessary.

The temperature for early forced vines is a matter of great importance; cultivators differ a little in the degree of heat they give their vines when they first start them. For vines started in November some are content to begin with a temperature of 50 degrees, and by gentle stages raise it to 60, but a rather long experience has satisfied me that 50 degrees is not enough; it so nearly represents the outside temperature, that it has no effect on the vines, and I have before now been thrown out of my calculations as to the time the grapes should be ripe by having adopted the low temperature rule. It follows that if the vines are late in breaking they must be late in ripening, unless hard forcing is adopted later on, and that is a dangerous proceeding. I therefore start my early vinery in November with a temperature of 60 degrees, both night and day, until the young shoots have grown out two inches long. The night temperature is then reduced to about 54, with an increase of two degrees in the day. The day temperature I have given is, of course, by fire-heat. But in a great measure the heat during the day is regulated by the weather. On bright clear days I like to see the thermometer rise six or eight degrees higher, and in a like manner it is allowed to run down lower in dull and foggy weather. Such has been my practice of late years in regard to the temperature for early forced vines, and I have every reason to be satisfied with it.

CHRYSANTHEMUM ECHOES.

Among the various disadvantages experienced by persons dwelling in retired suburban neighbourhoods two of the most important must be paramount in the minds of those occupied in quiet pursuits. The first is the peripatetic harmony of that nocturnal fiend, the London cat. In this locality their name is legion, and they inflict upon their unwilling hearers orchestral entertainments principally characterized by an exemplary attention to the rules of crescendo and diminuendo. The other is the patrol of gangs of intoxicated, coarse-mouthed ruffians, who make night hideous by howling music hall choruses and other blatant ribaldry with force of lung as surprising as it is revolting.

From distractions caused by these interesting creatures it is in a great measure that I suffer when seated down for the purpose of doing a little reading or writing. I was, therefore, not at all astonished when, within a few hours of the publication of the first instalment of the Echoes, an old and valued friend admonished me in terms of soft reproof on the score of having given a much shorter list of the earlier blooming varieties than their merits entitle them to. Small wonder, dear reader, that my errors of commission and omission began so soon, still less if they do not continue. Having pleaded guilty to the soft impeachment, but urging the foregoing paragraph as extenuating circumstances, I will frankly atone for my shortcomings by acknowledging that Madame C. Desgranges, its golden sport, Lyon, La Vierge, Mrs. Cullingford, Alice Butcher, Flora, Mdlle. Jolivart, Fred Pelé, Alexandre Dufour, and Fleur d'Eté should all have received honourable mention. But remember, I owned being prejudiced, and do not profess to be a connoisseur of that class; and if even now all your favourites do not appear—and I am sure they do not—be pleased to add to the number as you jointly and severally may think fit.

By the time this appears in print there will be many more incurved blooms expanded than now. Had we nothing else to depend upon, the season would, of course, not begin till November, as in the good old days of yore; but the Japanese have helped to upset everything that was once right, proper, and orthodox. On the Surrey side of the water it is pretty generally known that Mr. Bunn, the valuable incurved flower, was raised by an old member of the Lambeth Amateur Chrysanthemum Society. And we have this year another sport from the same parent, by a member of that association.

I saw it about five days ago, and there is every probability of its turning out to be a good thing. At Bermondsey, a place generally supposed to be more celebrated for smoke, tan pits, leather dressers, and other kindred unpleasantnesses than for anything in the floricultural line, is a little band of chrysanthemum growers who, for years past, have had the fever very bad. It is in the collection of one of these that the sport took place, and in precisely the same way as with Mr. Bunn. As a new incurved flower is a matter of comparative rarity, and for the benefit of those who complain of the superabundance of Japanese importations, a brief account of its origin is here inserted.

Early in 1885 the possessor of this sport took three ordinary root cuttings of Golden Beverley to grow on for the year, and was agreeably surprised to discover when the blooming season came that one of the three had developed flowers in other respects like what be expected, but of a deep bronzy hue. From this sporting plant he took a score of cuttings last spring, and it is highly satisfactory to find that out of that number only two have thrown back. He has now eighteen healthy plants, with blooms in a state of semi-expansion, and the new colour most clearly defined. The two exceptions in their then condition seemed rather paler than the parent variety, but possibly by this time they show no signs of variation. I should imagine that a root sport must be much more certain to fix than one from a branch.

I have just had one peep at the Temple. From what had previously been said I was afraid there was but little to see. A good display of colour, however, now rewards the visitor for his journey, and the incurves are coming on fairly well. It is really shocking to observe the rough and ready manner in which some of the visitors handled, nay, clutched at the blooms. One old gentleman nearly tumbled me head foremost into the righthand group in his frantic endeavours to discover the label of an unnamed Chevalier Domage. His progress was temporarily arrested by my meekly informing him the name of the flower; but had the collection been mine, I should have simply ordered him out of the greenhouse, with the intimation that flowers were not grown for him to smash.

Many years ago, before the railway, steamboats, telegraphs, and other modern conveniences were invented, when footpads infested the public highway, and traitors' heads were considered a proper embellishment to Temple Bar (Oh! those good old times!), when even chrysanthemums had not been imported from the far East to make life endurable, there was an interesting official in kingly establishments known as the whipping boy. That office, however, has long been rendered unnecessary, because modern princes have long since ceased to be naughty or require correction. But with the mediæval prince things were different, and when he, in the exuberance of his youthful spirits, had committed any serious offence rendering him liable to condign punishment, the necessary castigation was administered, not upon his princely person, but upon the body of his deputy, the whipping boy. What an excellent arrangement for the recalcitrant prince; but we cannot say ditto for the other party. As the secretary of the N.C.S. Catalogue Committee, I am in a somewhat similar position to the whipping boy, the society being the prince.

It was well known that I had in my possession a vast amount of material in the shape of continental catalogues and reference books on the chrysanthemum, and the supervision of the French spelling was left almost entirely in my hands. This brings me to our friend the anonymous critic who, as it happens, has already received a severe drubbing from one of my colleagues, and serve him right. People who rush into print without taking the pains to ascertain whether they are right or wrong, and who misspell the names of varieties they refer to while accusing other folks of a like error, deserve small pity at the hands of those who for months were engaged in patiently and laboriously searching every available record for the purpose of compiling a thoroughly trustworthy and reliable catalogue. It remains, however, only for me to point out that this gentleman of the cock-sure stamp after making a series of charges against us, veiled in the form of inquiries, sums up the result of his profound researches by assuming he is quite correct, and adds "these are a few cases which I have noticed in looking through the work, but *doubtless there are many others.*" The italics are mine, and as it is in sections III. and IV. that the French names predominate, I challenge him to prove the truth of his assertion. In these two sections the French names average more than twenty per page, and I invite you, Mr. Critic, to find four blunders in French spelling in those pages, if you can; but remember we have a right to ask for your authority in every instance.

C. Harman Payne.

Correspondence.

EARLY FLOWERING CHRYSANTHEMUMS.

I see that Mr. C. Harman Payne, in speaking of early flowering chrysanthemums, seems to make the mistake that October flowering sorts are early. What I understand by early in this respect are those that flower before October, and such as are fit for the open garden to flower without the buds being picked off. Now the sorts he mentions are not one of them other than semi-early or October flowering kinds, and with the exception of Isidore Feral and Roi des Precoces, do nothing worth speaking of without disbudding. Mandarin, too, grows six or seven feet high, and what can you do with that in the open garden? What I mean by early garden sorts are those that will do well in the open generally, very dwarf and stout, Nanum, the Sistou of the French, if struck the summer before, will bloom at the end of May and during June, and many others now before October. Madame Piccol and its red sport are very early, and so is Jeanne Consinié, also the new L'Ami Conderchet. I feel certain many of these great chrysanthemum men like Mr. C. H. Payne do not understand the vast mass of these plants grown, though not in their way. Early chrysanthemums can be grown in the quality way with the labour, but quantity and fair quality for use in a hundred ways not fit for the exhibition table, are the vocation of these plants.

Mr. Payne says, too, that these sorts were sent out about thirty years ago. Well, that might be, but Mr. Watson, sen., the oldest living grower I can hear of or know, did not know anything of them till about seventeen years ago, when he first obtained old Illustration, the Marie Longarre of the French. What Mr. Payne says may be quite true, just as that the Northmen discovered America years before Columbus, or that Mdme. Desgranges was on the French catalogues, and over here years before Mr. Robert Parker discovered it in Wales in 1879, and I first grew it from him, and had it first in bloom, August 5, 1880. I feel very much obliged to Mr. Harman Payne for the knowledge he has distributed, but the tone of the article seems to show that he views the chrysanthemum from the exhibition point of view, but these early sorts are grown in acres, and are cut by cart loads now. I am aware, therefore, that my labour in their behalf has not been in vain. In a week or two I will show the vast advance in these in this one last season.

89, *West Road, Forest Hill, S.E.* W. Piercy.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Camellias are well set with buds in most places and should have the most careful attention. Complaints are being already made of the premature shedding of the buds. We have frequently advised the use of liberal waterings after the buds are set and the wood as hard as necessary, and we can only repeat that in the majority of cases the buds drop because the roots are dry. But watering on the ordinary plan is not always a remedy, for while the plants were out of doors in the summer the soil about the roots may have become hard and impervious to water, and now when water is given it all runs away next the side of the pot without moistening the roots at all. The remedy is easy enough where the plants are of moderate size. Fill a tub with soft water, to which add a quart or so of boiling water, to make the whole nearly tepid. Then lower the plants into it a few at a time, and then let them soak for half an hour. The rush of air bubbles from the pots will prove what a dry state the roots had come to. After this soaking they will take water kindly until they receive their next drying, which, we shall suppose, will not take place till next summer again. All hard-wooded plants that have been some time in the same pots and have become dust dry may be plunged in water as advised for camellias, as it is next to impossible to prevent the occasional hardening of the earth about their roots, and this sometimes happens in winter when, owing to long-continued frost, water is withheld for a week or two.

Cinerarias have now their seasonal ordeal to pass through, and must have every proper attention, or mildew will seriously injure them. Sulphur them if there is the least sign of the plague, and give plenty of air. Train specimen plants into shape, and put the early ones into their blooming pots; stop ten days after shifting.

Frost should now be prepared for, and pits and frames containing tender plants be regularly covered at night with protecting materials. The frames must be ventilated freely according to the state of the weather. The cultivator must always bear in mind that plants kept dry and well aired can endure two or three degrees more frost than plants of the same kinds in a more damp condition. As with the best precautions valuable plants will sometimes become wholly or partially frozen, a word of advice now may be useful all the winter through. To recover half-hardy and greenhouse plants that are frozen, the safest procedure is to keep them in the dark till they thaw, and to let the thawing take place slowly. A dry still air is also essential; a frozen plant placed in a draught, in the sunshine, or in undue warmth, even if in darkness, will probably go to a pulp as soon as it is completely thawed; but if thawed slowly in dark and stillness will recover, if the freezing has been only to a moderate degree.

STOVE AND ORCHID HOUSE.

Stove.—Hardwooded plants that have become infested with mealy bug or thrips should be pruned moderately and be carefully and thoroughly sponged with some approved insecticide.

Orchids of deciduous habit to have little or no water, and no more heat than will suffice to keep them in health. Plants in a growing state must have enough water to prevent exhaustion. Young specimens may be kept growing freely in the warmest part of the house.

FLOWER GARDEN AND PLEASURE GROUNDS.

Auriculas, Carnations, Picotees, and Pansies in Pots, to have air frequently, to prevent mildew; slight frosts will not hurt them so much as a confined and damp air. Take off the lights in the morning, and keep them off till the sun is nearly quitting the frames, then shut up, and there will be enough warmth retained to counteract the frost without. In damp dull weather tilt the lights only to admit a small current of air through, and at every opportunity when the weather is genial take the lights off, clear away dead leaves, gently stir the surface of the soil in the pots, and give a little water if needed.

Hardy Bulbs must be planted as quickly as possible, where still out of the ground, as they will suffer severely if left out of the ground for any length of time after this date. A sound loam moderately manured will grow any of the kinds ordinarily used in beds and borders. Large bulbs place with their crowns four inches from the surface, small ones two inches.

Dahlia and Marvel of Peru roots to be taken up. Dry carefully, and store safe from frost.

FRUIT GARDEN AND ORCHARD.

Planting and Pruning should be commenced at once. Old apple trees infested with vermin should be well scrubbed with a hard brush dipped in warm brine, and all the holes stopped up with a paste made of clay, sulphur, soot, and cow-dung. Plant at once all bush and tree fruits. Stake newly-planted trees. Put in cuttings of gooseberry and currant trees.

Raspberries to have the old canes cut away, the new canes thinned to three or four of the strongest to each stool, and a good mulch of half-rotten dung laid down over their roots, and the ground between them not to be dug at all.

Siberian Crabs are well worth preserving, a fact which should be generally known. One method is to place them in jars quite dry, and pour boiling honey over them. In due time they are taken out, and used for open tarts, and are in this way *delicious*. Another good use for them is to make jelly. The little apples are stewed till quite soft, but are not allowed to break, in as much water as will just cover them. They are then strained off, and squeezed, and thrown away. The liquor is then boiled with sugar, at the rate of three-quarters of a pound of sugar to every pint of the juice. Flavouring may be added, if desirable, but a little lemon-peel and lemon-juice are all the flavourings required. After simmering half an hour, the liquor is poured into moulds, where it becomes a transparent jelly, of most delicate flavour and elegant appearance.

KITCHEN GARDEN AND FRAME GROUND.

Asparagus beds to be cleaned, the weeds raked off, and a heavy coating of half-rotten dung laid on. Over the manure throw a sprinkling of earth from the alleys.

Seakale may be planted now in thoroughly-prepared ground in well-drained positions; where the soil lies low or damp, however, it should not be planted till the spring. In any case the ground must be deeply trenched and liberally manured, and the manure thoroughly incorporated with the soil. Place the seakale pots over as many stools as are to be started now, and cover with a mixture of stable-dung that has been once turned, and leaves, straw, and other litter, beating it firm as you proceed, and leaving the whole smooth and tidy nine inches above the top of the pots.

Seakale may be forced very conveniently and cleanly in pots when small quantities are required. Put the roots, which must have good crowns, singly in 24-size pots, in a mixture of leaf-mould, rotten dung, and sandy loam, equal parts. Place the pots on the top of a brick flue or on a gentle hotbed, the bottom-heat not to exceed 60 deg. Invert over each pot another empty pot, stopping the hole of each with a piece of flat tile, or with a lump of clay.

Vegetables in Season comprise Beet, Cape Broccoli, Brussels Sprouts, Cauliflowers, Cabbages, Carrots, Potatoes, Salsify, Spinach, Tomatoes, and Turnips.

AMONGST THE CHRYSANTHEMUMS.

Crystal Palace.

For several years past considerable attention has been paid by Mr. Head, the able garden superintendent, to the cultivation of chrysanthemums, and, as the result of the high degree of success achieved, the exhibitions of these flowers annually held at the Crystal Palace are unsurpassed, both in importance and attractiveness. This year is no exception to the general rule, for the plants grown exceed in numbers those of any previous years, and the flowers are throughout remarkable for their splendid development. The exhibition, notwithstanding its magnitude, does not impress the visitor at first sight in the same manner as a collection of plants arranged in a medium-sized structure without the addition of palms or other ornamental-leaved plants. There is not at any point a great display of colour without the relief of a scrap of foliage other than that of the chrysanthemums, of which but little is seen when the plants are so arranged as to form a solid block in accordance with the practice that obtains in most places. Taking advantage of the space and materials at command, Mr. Head has set himself the task of showing that chrysanthemums present the most pleasing appearance when arranged somewhat thinly and in conjunction with palms, tree-ferns, and other subjects grown for nobility of aspect or the beauty of their leafage, and in this, as in the growth of the plants, he has been eminently successful. The plants are arranged in a series of groups on either side of the promenade, extending the whole length of the building, and in a broad belt along the front of the great orchestra, and the effect produced is extremely satisfactory. Moreover, the visitors have the best possible opportunity for making the acquaintance of the several varieties. As indicating the extent of the exhibition, it may be mentioned that there are upwards of four thousand plants of the large-flowered varieties carrying about six blooms each, and five hundred pompons, which have been grown naturally and moderately disbudded.

In so large a collection, all the leading varieties in the several sections are strongly represented, and there are a goodly number of interesting kinds not usually met with either in private gardens or at public exhibitions. Chief amongst the Japanese or tasselled varieties are Elaine of which there is an immense number of magnificent blooms. Lord Beaconsfield, very attractive when at its best as at the Crystal Palace, but seldom seen in first-class condition; George Gordon, one of the best of the October varieties with crimson flowers; Bouquet Fait, a beautiful rose-coloured flower; Lady Selborne, an exceedingly beautiful variety of great value for decorative purposes early in the month; Mons. Ghys, a distinct variety, not of much value for competitive purposes in a cut state, but useful for the quaint form of the flowers; Fair Maid of Guernsey, one of the most effective of the white flowers; Criterion, Oracle, a useful flower of a deep purple colour; Tokio, a very distinct variety, the flowers of medium size, and the most brilliant crimson, useful for decorative purposes; Thunberg and Soleil Levant, two valuable yellow flowers; Dr. Macary, a very useful variety, remarkable alike for its distinctness and high quality; Madame Audiguier, so well known for its effectiveness; Mons. Monrsillac, Henri Jacotot, and Val d'Andorre. Especially good amongst the anemone varieties are Sœur Dorothée Souille, which is singularly beautiful, when well grown; Madame Clos, a very free blooming variety, and especially useful; and Fabias de Maderanaz, so well known for its distinct character, and great beauty. The incurved varieties are particularly good, prominent amongst them being: Queen of England, Empress of India, Lord Wolseley, Lord Alcester, Lady Hardinge, Princess Beatrice, Princess of Wales, Prince of Wales, Mrs. G. Rundle, and Mrs. Dixon.

Finsbury Park.

The exhibition of chrysanthemums, which Mr. Cochrane has provided for the entertainment of visitors to this admirably managed park, is so great a success that it will not fail to enhance the popularity of those annual displays or bring additional credit to the cultural skill of Mr. Mardlin, by whom the plants have been so well grown.

As in previous years the show is held in the spacious exhibition house on the eastern side of the park, near the Manor House gates, and the plants, of which there are nearly two thousand, are arranged to form a broad bank on either side of a broad central pathway. In previous years the roof of the house was supported by a row of iron pillars down the centre of the path which detracted considerably from the general effect, and greatly inconvenienced the visitors. This year the pillars have been swept away and the roof strengthened by light cross ties of iron, which in no way interfere with the full enjoyment of the flowers. At the present time there are several thousand blooms, fully developed, and, as the majority are of exhibition quality, and the several varieties have been arranged with due regard to the contrast of colours, the effect produced is at once rich and tasteful. The plants are rather dwarfer than in previous years, and range from thirty inches to four feet six inches in height, and are furnished with healthy foliage to the base of the stem. The plants are, indeed, as remarkable for the amplitude and deep colour of the leaves, as for the immense size and high finish of the flowers, and fully testify to the skill and care that have been brought to bear upon them. Complaints are being made in some quarters of the flowers of the Queen of England and the sports from it coming with indifferent centres, but here are dozens of blooms of Queen of England, Emily Dale, and Alfred Salter of the largest size, and the most perfect finish. Bronze Queen of England, which was sent out last spring, has proved rather disappointing, owing to a want of substance in the flower. But this, Mr. Mardlin thinks, may be due to the plants not being quite so strong as those raised from cuttings at home. The blooms of Empress of India, Golden Empress of India, Lord Alcester, Mr. Bunn, Mrs. George Rundle, Prince Alfred, Refulgens, Princess Beatrice, Mrs. Dixon, Princess of Wales, and Lady Hardinge are also remarkable for their numbers and their excellence. The most conspicuous of the Japanese varieties is, perhaps,

Comte de Germiny, of which there are between twenty and thirty blooms, ranging from eighteen to twenty inches in diameter. Other varieties, of which special mention may well be made, are Mons. Tarin, Marguerite Marrouch, Madame de Sevin, Bouquet Fait, Mons. Henri Jacotot, La France, Elaine, Mons. Astorg, and Mdlle. Lacroix. The anemone-flowered varieties are adequately represented, and the flowers of Gluck, Sœur Dorothée Souille, Madame Johvart, and George Sands may be mentioned for their great excellence. The beautiful rose-coloured sport from President, which originated in Finsbury Park, and is known as Mrs. Mardlin, well maintains its character, and fully justifies the action of the Floral Committee of the National Chrysanthemum Society in conferring a first class certificate upon it last year.

Messrs. J. Veitch and Sons, Chelsea.

In accordance with their usual custom, Messrs. J. Veitch and Sons have an exhibition of chrysanthemums in their nurseries at Chelsea, and the display produced, as in previous years, is in every way worthy of the establishment. This season is especially worthy of attention for the number of new English raised flowers it contains, and the success which has been achieved in carrying out the practice of cutting down the plants during the summer. The plants, which fill a spacious span roof house, and the available space in the large camellia house, which forms the entrance to the nurseries from the Brompton Road, are admirably grown, the leafage being in the best possible condition, and the flowers of large size and high quality. Those which were cut back in the second week in May are arranged on either side of the central path in the camellia house, and afford the best proof of the results that may be obtained from cutting the plants back when they are under the charge of a master of their cultivation. The examples range from two to three feet in height, are well furnished with leaves to the rim of the pot, and carry five or six blooms each. They are, in fact, the most suitable plants that could be had for home decoration where the space at disposal is somewhat limited, and are consequently particularly deserving the attention of those who grow chrysanthemums exclusively for the embellishment of the conservatory.

The novelties comprise several very fine varieties raised by Mr. Alfred Salter. These include Aspasia, a beautiful reflexed flower of large size, good form, and a pleasing shade of blush pink. Buttercup, a superb reflexed flower of a rich yellow colour, which has been certificated by the R.H.S. and N.C.S. Irene, a finely-formed, blush-white, reflexed flower, and Janira a handsome Japanese variety with large flowers of a rich amaranth purple colour, the backs of the petals white. Lady Rosebery, a Japanese variety, raised by Mr. A. Salter, and sent out by Messrs. Veitch, is also well deserving of attention; the flowers are of large size, with broad flat petals, and are of a delicate satiny rose colour. Ruby, an incurved flower also raised by Mr. Salter, is very promising and likely to prove useful for the front row. The flowers are of medium size, and a rich ruby red colour. Mrs. J. Crossfield is a promising incurved flower of a pleasing blush colour, as yet but little known, and well-deserving of attention.

Conspicuous amongst the varieties now generally known are Val d'Andorre Comet, Jupiter, Maiden's Blush, Mons. Astorg, Ruy Blas, John Laing, Beauté des Jardins, Mons. Monrsillac, Bras Rouge, Gloriosum, a very fine yellow variety; Madame Marie Clos, a superb lilac-coloured flower; Mdlle. Paule Dutour, a rose-coloured flower of high quality; M. Weick fils, Thomas Ware, Rosain Boncharlet, and Phœbus, a remarkably fine flower of a rich yellow hue. The incurved varieties are equally as well represented as those forming the Japanese section, and there are large numbers of blooms of Queen of England, Empress of India, Mrs. Heales, Jeanne d'Arc, and other of the finest varieties.

Mr. N. Davis, Camberwell.

The large, admirably grown, and thoroughly representative collection of chrysanthemums in the Lilford Road Nurseries is now in perfection, and fully sustains the high reputation which Mr. Davis has so long enjoyed as a trade cultivator of these flowers. The plants are, as usual, arranged in the spacious exhibition house erected a few years since, and the display of colour produced by the vast assemblage of highly developed flowers is surprisingly rich and beautiful. In a collection so extensive as this, all the more popular incurved, Japanese, reflexed, and anemone flowered varieties are, as a matter of course, well represented, and it will suffice to mention a few of the more important of those of recent introduction. Bronze Queen of England, a very distinct and effective sport from Queen of England, is here remarkably good, and the number of fairly-developed blooms testify to its value for exhibition. Mdlle. Paule Dutour and Edouard Audiguier must have special mention, for they are so distinct and good that they must be considered two of the best varieties of their season. Mdlle. Paule Dutour has much the character of Belle Paule (Syn. Belle Pauline), which excited so much interest last year, but the flowers are larger and more massive; the colour, blush, tinted with lilac. E. Audiguier is unquestionably a decided acquisition, and probably the most important of the two varieties; the flowers are of immense size, very solid, and of a very rich purplish mauve hue shaded black, back of florets bright rose. Carew Underwood, a fine sport from Baronne de Prailly, which was certificated by the N.C.S. at a recent meeting, was represented by cut flowers of superb quality; D. Hellier has proved with Mr. Davis identical with John Laing; Mdlle. Crouzette is a medium-sized flower, of a pleasing blush colour, and useful for decorative purposes; Mdlle. Marie Clos is also a light variety of the most pleasing character; Charlotte de Montcahrier is a beautiful variety, the flowers of average size and good form, and of a bright pink hue; La Marguerite, a recent addition to the anemone-flowered section that must not be overlooked; the flowers are of medium size, and both ray florets and disc are of a rich magenta hue. The blooms are hardly so large as could be wished, but they will probably be of sufficient size to do good service in the front row. Ornement, a bright crimson tasselled flower, must be mentioned for its value for decorative purposes both in the conservatory and indoors. Yellow Globe is an excellent addition to the incurved section, as the flowers have the high quality of the White Globe, and afford a very distinct and pleasing shade of yellow. La Triomphante, a beautiful light Japanese variety of recent introduction, is well represented, and an excellent opportunity afforded for determining its merits. The pompons particularly noteworthy are Delaux's Precocité, an effective crimson variety; Mdlle. Elise Dordans and Flambeau Toulousaine, which have been recently fully described in these pages.

Temple Gardens.

Mr. Newton's exhibition in the gardens of the Inner Temple has a new and special advantage in being located within a few yards of the broad footway of the Embankment. It is, therefore, more convenient for the general public, and on each occasion when we have "dropped in," we found the crowd sufficient, and more than sufficient, for the accommodation. The walk in old times through the narrow lanes from Fleet Street had its compensations in the picturesque quaintness of the architecture and the memories it awakened. But the green grass and free daylight that now aid the show are of some importance. Another point of interest is the numbering of the specimens in agreement with Mr. Newton's excellent list. In respect of the flowers, they are certainly good, but they do not surprise us. There is to be no show in the Middle Temple, which we regret, because Mr. Wright, the gardener there, is a master of specimen culture.

PLANTS OF THE ALPS.

By H. Correvon, Director of the Jardin d'Acclimatation, Geneva.
Translated by R. Irwin Lynch, A.L.S., Curator of the Botanic Garden, Cambridge.
(*Continued from page 654.*)

Cistineæ.

Helianthemum oelandicum, D. C.
,, *serpyllifolium*, Mill. (Austrian Alps).
,, *grandiflorum*, D.C.
,, *canum*, Dun.

The rock-roses love lime-stone and exposure to the south.

Violarieæ.

Viola pinnata, L.
,, *palustris*, L.
,, *elatior*, Fries.
,, *sciaphylla*, Koch.
,, *Thomasiana*, Perr and Song.
,, *biflora*, L.
,, *alpina*, L. (Eastern Alps).
,, *calcarata*, L.
,, *lutea*, Hudo.
,, *heterophylla*, Bert. (lime-stone; Tyrol).

The genus Viola, from the point of view of an amateur, is classed into pansies and violas. While the first six species are considered as violas, the four last, no doubt on account of the relative size of their corollas, are generally called pansies. All are pretty and interesting; they like a cool soil rich in humus, and a slightly shaded position.

Viola cenisia, L.

This particularly pretty species is very stoloniferous, and can only live in a soil formed of stony and granitic detritus. It prefers sun. I have not yet succeeded in flowering it.

Polygaleæ.

Polygala Chamæbuxus, L.

This plant is rather capricious. It succeeds sometimes very well in ordinary soil, provided it has shade, while in other cases it cannot be made to grow in spite of all precautions. In general, it likes a turfy, peaty, and moist soil, with sun. I have succeeded with it by seeds, and cultivate this plant in light soil mixed with sphagnum.

Caryophylleæ.

Gypsophila repens, L.

This plant belongs to calcareous districts, but it increases itself so freely that it is found everywhere, even in granitic districts. It is one of the best plants for cultivation upon rockwork; it flowers from May to November, and agrees with all soils and every exposure. It is also used as a drooping plant on account of its long stems, which fall, covered with flowers, producing a fine effect.

Tunica saxifraga, L.

Culture as for the preceding species; suitable for edgings

Dianthus atrorubeus, L.
,, *neglectus*, Louis (Mount Cenis).
,, *alpinus*, L. (Eastern Alps, lime-stone).
,, *glacialis*, Hænke (Eastern Alps, granite).
,, *subacaulis*, Lois (Daupbiné Alps).
,, *caesius*, L.

These like a stony, light soil, composed of one-third peat, one-third leaf-soil, and a third of sand or broken stone. It is necessary to drain well, and to plant in full sun.

Dianthus sylvestris, Jacq.
,, *Balbisii*, Ser. (Maritime Alps).
,, *monspessulanus*, L.
,, *superbus*, L.
,, *carthusianorum*, L.
,, *deltoides*, L.

These succeed in all light soils, in the sun.

Saponaria ocymoides L.
,, *lutea*, L. (Mount Rosa).

Dry position, exposed to the sun.

Silene alpestris, Jacq. (Tyrol, lime-stone).
,, *quadrifida*, L.
,, *rupestris*, L.
,, *Saxifraga*, L.

These Silenes like an exposure to the sun, and a soil rich in humus. S. quadrifida, however, prefers moderate moisture.

Silene Pumilio, Wulf. (Tyrol).
,, *Elizabethæ*, Jan (Southern Tyrol, lime-stone).
,, *acaulis*, L.
,, *exscapa*, All.

These four species of Silene like a stony soil. They belong to the category of rock species; S. Pumilio and S. Elizabethæ grow in the clefts of rock, from which there is much trouble in getting them out. To make them succeed well it is necessary to plant them on slopes, and even in a perfectly perpendicular position, in order that water may not be able to get into the tufts, and cause them to rot.

Lychnis alpina, L. (granite).
,, *Flos Jovis*, L.

Whilst the first of these plants requires a light soil of little depth and well drained, the second, which is very voracious, should have a deep and nourishing soil.

Sagina bryoides, Reichb.
,, *glabra*, Koch.
,, *marcocarpa*, Maly.
Alsine rupestris, Scop.
,, *Gerardi*, Wahlb.
,, *decandra*, Reichb.
,, *mucronata*, L.
,, *biflora*, Wahlb.
,, *laricifolia*, L.
,, *liniflora*, L.
,, *austriaca*, Jacq.
,, *Villarsii*, Balb.
Cherleria sedoides, L.

The species of these three genera are cultivated like the Silenes. They like, however, a more stony soil, and are contented with a soil less rich in humus and more sandy. Some of them extend widely on rockwork.

Moehringia muscosa, L.
,, *glaucovirens*, Bertol (Tyrol).

These like moderate moisture and stony soil.

Arenaria alpina, Gand.
,, *biflora*, L.
,, *ciliata*, L.
,, *multicaulis*, L.
,, *grandiflora*, L.
,, *graminifolia*, Ard. (Southern Tyrol).

Dry exposure, sun, light soil, of little depth, well drained.

Cerastium lanatum, L.
,, *grandiflorum*, W. & Kit.
,, *latifolium*, L.
,, *uniflorum*, Murr.
,, *alpinum*, L.
,, *carinthiacum*, Vest.

Conditions the same as for the last.

LINEÆ.

Linum alpinum, Jacq.

Sun; not particular as to soil.

(*To be continued.*)

Notes of Observation.

WINTERING VEGETABLE ROOTS.

The plan of lifting such roots as carrots, beets, salsify, and scorzonera, and laying them in again on a sheltered border is not nearly so usually practised as I think its merits deserve. We protected a greater part of our crop of the former in that way last year, and were well pleased with the result, and we intend to further extend the practice to the beet and other roots this year. It is surprising how fresh and plump such roots are, compared with those that have been preserved in dry earth in draughty sheds, which is often the best accommodation under cover available. Where a good cool cellar is at command, probably it would answer well, but where such is not at hand, I would advise those who have occasion to store roots to give the above practice a trial. It is not necessary to remove the tops of crops preserved in this way, for you may bury the crowns a few inches under the soil. In frosty weather they will need protection, and nothing is better for that purpose than a covering of bracken. They may be laid in thickly, so need not take up much room. C. Warden.

TOMATO, SUTTON'S ABUNDANCE.

Herewith I send you a bunch of tomatoes, which, perhaps, may interest you, for it shows that Sutton's Abundance, that you have recommended, is enormously fruitful, the bunch sent being a fair sample of the crowded racemes of fruit produced, the fruits averaging 8 to 12 in a bunch. Tomatoes have done well this season, never better, perhaps, on the open wall. They are even now growing freely, for there has been no frost to hurt them. Sutton's Abundance has surprised me by its vigour and productiveness. The plant would top a wall of eight or nine feet, and give fruit at every joint. I quite expect that with good management under glass it would bear almost indefinitely. As regards quality it is excellent.

Somersham, Hunts. W. H. Smith.

MUSHROOMS UNDER GREENHOUSE STAGES.

We have quite dispensed with our mushroom-house for mushroom growing, and now depend wholly for our supply from under the stages in the greenhouse, and those from beds out-of-doors on the same principle as that advocated in Mr. Wright's book, "Mushrooms for the Million." We find that beds on the latter principle serve us best from Christmas onwards, and up to that date we depend principally for our supply from beds under greenhouse stages. Though we believe in a humid atmosphere for this esculent we do not approve of drip, so that the beds are always covered with some material that will shoot off the wet. In our case it is the Willesden waterproof paper, which is light and easily removed. When spawning the beds we never break the bricks smaller than six, often not more than four pieces, and ordinary garden soil is the material we cover it with. This is patted down firmly with the back of a spade when a little moister than what we should use for potting purposes. After the heat is spent we always cover the surface with some hay, which is not removed when watering is done, but watered over, and is lightened up again with a stick when the water is drained out of it. C. Warden.

"A SIMPLE FACT ABOUT" KEATING'S COUGH LOZENGES. Ask throughout the world, in any country that can be named, you will find them largely sold. There is absolutely no remedy that is so speedy in giving relief, so certain to cure, and yet the most delicate can take them. One Lozenge gives ease. Sold in 13½d. tins.—[Advr.]

Exhibitions and Meetings.

EXETER APPLE AND PEAR SHOW.

The exhibition of apples and pears recently held in Exeter was the largest exhibition of its kind that has yet been held in the City, and did honour to the administrative abilities of the executive and the cultural skill of the large body of exhibitors who took part in the competition for the prizes. The place of exhibition was the Fore Street Market, which was liberally decorated with plants of various descriptions from the nurseries of Messrs. R. Veitch and Son and Messrs. Lucombe Pince and Co., and presented a very bright and attractive appearance. Large as is the market building, the space it affords was so fully taxed that a very considerable number of the late entries had to be refused, the executive finding it impossible to provide accommodation for them. In point of quality the fruit shown compared favourably with that staged last year, both apples and pears being remarkable for high finish.

Apples produced a highly effective display, and comprised excellent examples of all the principal dessert and culinary varieties. There were nine classes for collections, and in that for twenty-four dishes the first place was occupied by Messrs. G. Bunyard and Co., the Old Nurseries, Maidstone, with remarkably good fruit of Beauty of Kent, Lane's Prince Albert, Gloria Mundi, Grenadier, Melon Apple, Lord Derby, Reinette du Canada, Cellini, The Queen, Lord Suffield, Pott's Seedling, Cospatric, Warner's King, and other first-class kinds. Mr. Watkins, Pomona Farm, Withington, Hereford, was a very close second, his fruit being uniformly good; and Mr. C. Sclater, Heavitree, Exeter, was third. For twelve Messrs. G. Bunyard and Co. and Mr. Watkins were again first and second with excellent collections; and Mr. H. Berwick, Sidmouth Nurseries, was third, his fruit also being remarkably good. Messrs. Bunyard were first also for twelve culinary varieties and for twelve dessert kinds. In the first-mentioned of the two collections were very fine examples of Ecklinville, Gloria Mundi, Loddington Seedling, Lord Derby, Stirling Castle, Beauty of Kent, New Hawthornden, Cox's Pomona, and The Queen. Chief amongst the dessert varieties were Blenheim Pippin, Cox's Orange Pippin, Colonel Vaughan, Ribston Pippin, King of the Pippins, and Worcester Pearmain. Other successful competitors in these classes were Mr. C. Sclater, Mr. Watkins, Mr. D. C. Powell, Powderham Castle, Exeter, and Mr. J. Scott, Merriott Nurseries.

In the classes in which the competition was limited to private growers, Mr G. Brooks, gardener to A. Vaughan Lee, Esq., Dillington Park, Ilminster, was one of the most successful exhibitors, taking first prize for eighteen varieties, and for nine sorts suitable for dessert. Especially good in his collection of eighteen dishes were the examples of Cellini, Mère de Ménage, Emperor Alexander, Royal Russet, Alfriston, Peasgood's Nonesuch, Cox's Orange Pippin, and Lady Henniker. Mr. Garland, gardener to Sir T. Dyke Acland, Killerton Park, Exeter, was second in both classes with good collections. In competition for the prizes for nine varieties of culinary apples, Mr. A. Trueman, Topsham, was first, and Mr. Williams, gardener to W. C. Sim, Esq., Clyst, St. George, second.

The classes for single dishes, of which there were twenty, were all well filled, there being upwards of thirty entries in three or four. The most successful exhibitors in these classes were Mr. G. Brooks, Mr. J. Beer, Cullompton, Mr. D. C. Powell, Mr. J. Stenner, Mr. W. R. Baker, Messrs. Bunyard and Co., Mr. J. Bogridge, Mr. B. C. Ridley, Mr. J. Fryer, Mr. A. Trueman, and Mr. C. Sclater. The best dish for flavour was that of Cox's Orange Pippin, from Miss C. Matthews; and the heaviest dish was that of Warner's King, shown by Mr. W. Blackmore.

Pears were generally good, and the whole of the prizes were keenly contested. For twelve kinds Messrs. Bunyard and Co. were first with a collection in which were fine samples of Doyenne du Comice, Beurré Bachelier, Durondean, Beurré Superfin, Marie Louise d'Uccle, Louise Bonne of Jersey, and other well-known kinds. Mr. Garland and Mr. C. Sclater were second and third respectively. For six dishes the prizes were awarded to Mr. R. Salter, gardener to J. Carver, Esq., Mr. Garland, and Mr. H. Berwick; and in the two classes for three dishes to Mr. D. C. Powell, Mr. A. C. Williams, Mr. G. Morrinder, and Mr. W. S. Lee. There was a keen competition in the classes for single dishes, the most successful of the competitors being Messrs. G. Bunyard and Co., Mr. A. C. Williams, Mr. Brooks, Mr. R. Smith, Mr. Garland, Mr. J. Searle, Mr. Trueman, Mr. J. Ham, and Mr. Geeson.

Miscellaneous Collections included large and excellent collections of apples and pears from Messrs. Lucombe Pince and Co., and Messrs. R. Veitch and Son, Exeter.

EALING HORTICULTURAL SOCIETY, November 2 and 3.

This ably-managed and flourishing society held its annual exhibition of chrysanthemums, fruit, and vegetables on Tuesday and Wednesday, and the various subjects invited by the schedule were admirably represented. As in former years the show was held in the Lyric Hall, Ealing, and the large hall in which the groups, specimens, and cut blooms of chrysanthemums were arranged, presented a very bright and attractive appearance, whilst the reception-room and saloon, which were devoted to the fruit, vegetables, and cottagers' produce, afforded abundant interest to visitors. The arrangements were admirably carried out under the direction of Mr. Richard Dean, the indefatigable honorary secretary, and it may be mentioned, as a matter of some importance, that the whole of the judging was completed and the prize tickets affixed to the collections by the time the doors were opened for the admission of visitors at noon.

Cut Blooms produced a very bright display of colour, the Japanese and pompon varieties being particularly meritorious. In competition for the prizes for twelve blooms of incurved varieties, Mr. H. Davis, gardener to H. G. Lake, Esq., Fairlawn House, Chiswick, was first with finely-developed flowers, the varieties being: Empress of India, for which he was awarded the bronze medal of the National Chrysanthemum Society, offered for the best incurved flower in the exhibition; Lord Wolseley, Jeanne d'Arc, Golden Empress, Queen of England, Mr. Cobay, Beverley, Prince Alfred, Lord Alcester, Alfred Salter, Angelina, and Mr. Bunn. Mr. C. Long, gardener to E. B. Bridger, Esq., Orchard Dene, Ealing, was second with medium-sized blooms; Mr. H. Collyer, gardener to Mrs. Murrell, Ealing, third; and Mr. Stanton, gardener to H. Smith, Esq., Chiswick, fourth. The silver medal of the N.C.S., offered as the premier prize for nine incurved flowers, was awarded to Mr. F. Milsom, gardener to W. Lindell, Esq., Manor House, Drayton Green, for capital blooms of Empress of India, Lady Hardinge, Prince Alfred, Nil Desperandum, Jeanne d'Arc, Alfred Salter, and Mrs. Dixon; Mr. A. Wright, Devonhurst, Chiswick, was second; and Mr. J. Hudson, gardener to H. J. Atkinson, Esq., M.P., Gun-

nersbury House, Acton, was third, both staging excellent stands. For six incurved Mr. H. Collyer, Mr. Long, Mr. G. Elliott, gardener to J. Moore, Esq., Melbourne Lodge, Ealing; and Mr. E. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill House, Ealing, were the prizetakers in the order of their names.

The Japanese varieties were remarkably good in the whole of the classes, and as the result they received a full share of attention. In the class for twelve Mr. C. Long was at the head of the several competitors with a stand in which were superbly-developed blooms of Dolores, Elaine, Jeanne Delaux, Fulton, Comte de Germiny, Meg Merrillies, Mons. Astorg, Hivor Fleuri, Boule d'Or, Criterion, Mdlle. Lacroix, and Madame Audiguier. The bronze medal of the National Chrysanthemum Society, offered as the prize for the best Japanese flower in the exhibition, was awarded to Mr. Long for his fine bloom of Elaine. Mr. Stanton, Mr. Collyer, and Mr. Davis were second, third, and fourth respectively. In the class for six Japanese varieties Mr. J. Hudson was first with capital blooms of Fulton, Elaine, Madame Audiguier, Madame de Sevin, Incomparable, and Triomphe du Nord; Mr. F. Milsom second; and Mr. Passey, gardener to T. Nye, Esq., Oakville, Ealing, third.

The stands of pompons were of a high degree of excellence, and those consisting of flowers that had not been disbudded were especially attractive. In the class in which disbudding was allowed, Mr. H. Collyer, Mr. W. Passey, and Mr. E. Chadwick, were the prizetakers in the order of their names, with stands consisting exclusively of finely-developed blooms, and differing but little in relative merit. In the second of the two classes, Mr. F. Milsom was first, closely followed by Mr. E. Fountain, gardener to Miss Wood, The Elms, Hanger Hill, and Mr. H. Collyer for the second and third place. Reflexed flowers were admirably shown by Mr. Long and Mr. Collyer, and large anemone-flowered varieties were represented by fairly good stands from Mr. W. Passey, Mr. F. Milsom, and Mr. Fulford.

Groups of Chrysanthemums formed a very important and highly attractive feature. Mr. Wigmore, gardener to F. Hicks, Esq., Oakhurst, Ealing, was first with a group remarkable for the high quality of the flowers, and Mr. Baird, gardener to C. A. Daw, Esq., was a very close second with an arrangement evincing much taste. Mr. Fulford, gardener to J. Boozey, Esq., Hill House, Acton, was third with a very pleasing group.

Specimen Plants contributed their share to the attractions of the exhibition. The most successful of the exhibitors in the several classes were Mr. W. Wright, gardener to G. P. Greenfield, Esq., The Spring, Hanwell; Mr. Chadwick, and Mr. G. Fulford, were the principal prizetakers in the several classes.

Miscellaneous Plants and Flowers were plentiful and good. Mr. J. Roberts, Gunnersbury Park, Acton, contributed a large collection of flowering and ornamental-leaved plants, which, arranged to form a broad bank in the front of the stage, produced a very beautiful effect. Mr. Fountain contributed a large and effective group of ferns; Mr. J. Hudson had several beautiful boxes of cut flowers; and Mrs. H. B. Smith, Ealing Broadway, presented several tastefully arranged baskets and stands of chrysanthemums.

Fruit.—For three bunches of grapes, Mr. J. Hudson was first, for a good cluster of Alnwick Seedling, and two grand clusters of Alicante; Mr. Milsom and Mr. J. Baird were second and third respectively. For three dishes of pears Mr. Garlandroy was first, with good fruit of Beurre Diel, Pitmaston Duchess, and Mons. Leon Leclerc; Mr. Milsom and Mr. E. Chadwick were second and third. In the class for three dishes of culinary apples Mr. E. Chadwick was first, with Minchall Crab, Emperor Alexander, and Dumelow's Seedling; Mr. Hudson and Mr. A. Wright were second and third respectively. In the corresponding class for dessert apples Mr. Hudson was first, with Ribston Pippin, Scarlet Nonpareil, and Gravenstein, in the best possible condition; Mr. A. Wright and Mr. E. Chadwick were second and third respectively. Messrs. C. Lee and Son, Hammersmith, Mr. Hudson, and Mr. Garlandroy, staged, not for competition, large collections of apples, which contributed materially to the interest of the gathering.

Vegetables, which are grown with much success in the district, were as usual staged in large quantities, and in a condition that did credit to the exhibitors, Mr. E. Fountain, Mr. Milsom, and Mr. Simmonds were the successful competitors in the class for a collection of six kinds of vegetables. There were about twenty competitors for the prizes offered by Messrs. Sutton and Sons for four dishes of potatoes, and the whole of the tubers were more or less good. The prizes were awarded to Mr. C. Sargood, Mr. E. Chadwick, Mr. J. Fardon, Mr. Goldsworthy, Mr. W. Wright, and Mr. Baldwin, in the order of their names. The varieties shown in the first prize lot were London Hero, Queen of the Valley, Snowdrop, and Radstock Beauty.

MR. JOHN WALKER'S ROOT SHOW, THAME, OXON, November 2.

In glorious open weather, marred only by flying showers, the above far-famed South Oxon exhibition was held in the High Street, in front of Mr. Walker's seed stores and the neighbouring premises on either side. The display was a large one, and, in point of quality, has not been equalled during the past ten years. The whole of the roots were of fine symmetrical form, and many of considerable bulk. Mr. Walker, in promoting and sustaining this annual show, affords his customers an opportunity of competing in a genial sort of way at a time of year when the other exhibitions in the county are past and gone; it also proves to a demonstration the quality of the seeds sent out from his stores. The schedule comprised two divisions, the first being limited to growers "who cultivate at least six acres of roots on their farms," the awards being made to the following:—

Six Long Red Mangolds.—First, Mr. Richard Kimbell, Worminghall, Bucks (weight 144 lbs., heaviest root 32½ lbs.); second, Mr. Timothy Dodwell, Long Crendon, Bucks (weight 142 lbs.); other meritorious exhibitors in this class being Mr. Thomas Latham, Harlesford, Tetsworth, Oxon (124 lbs.); Mr. John Beeson, Haddonham, Bucks (98 lbs.); and Mr. John Perkins, Chilton, Bucks (88 lbs.).

Six Turnips.—First, Mr. W. Collett, Stafford Farm, Stow Wood, Headington, Oxon (weight 115 lbs.); second, Mr. Wiggins, Thornley Hall, Bucks (weight 88 lbs.); the next best being Mr. David Dodwell, Long Crendon (88 lbs.); Mr. Neighbour, Postcomb, Oxon (81 lbs.); and Mr Henry Reynolds, Notley Abbey (123 lbs.); the roots comprising this last exhibit being deficient in shapeliness, otherwise they were excellent, the heaviest root turning the scale at 24 lbs.

Six Swedes.—First, Mr. James Crook, Long Crendon (100 lbs.), a very handsome lot; second, Mr. Hitchman, Little Milton, Oxon (97½ lbs.); others deserving of notice being Mr. Timothy Dodwell (129 lbs.), a trifle rough, the heaviest root in this lot being nearly 25 lbs.; Mr. Henry Castle, Thame (84 lbs.); Mr. Kirman, Stoke Fields, Oxon (80 lbs.); Mr. T. Latham (78 lbs); and Mr. Malins, Easington (72 lbs.).

Six Globe Mangolds.—First, Mr. Timothy Dodwell (137 lbs.); second, Mr. R. Kimbell (116 lbs.); others deserving commendation being Mr. Treadwell, Standhall, Oxon (121 lbs.); Mr. T. Latham (92 lbs.); Mr. H. Newitt, Thame (89 lbs.); and Mr. North, New Close Farm, Kingsey, Bucks (84½ lbs.).

Division II. open to "cultivators of not more than six acres, and which which may be grown in a garden."—

Three Long Red Mangolds.—First, Mr. Fred White, Lubbersdown Hill, Bucks (84 lbs.), with a very handsome triplet of straight roots; second, Mr. George White, Lubbersdown Hill (83 lbs.); and among the seven competitors not placed were Mr. E. Hawes, Worminghall (77 lbs.); Mr. James Joiner, Worminghall (67 lbs.); and Mr. Roberts, Bledlow, Bucks (59 lbs.).

Three Globe Mangolds.—First, Mr. George White (76 lbs.)—these three roots were perhaps the handsomest and most spherical in the whole show; second, Mr. E. Hawes (71 lbs.); the other lots claiming special attention for form came from Mr. J. Joiner (67 lbs.); Mr. F. White (58 lbs.); and Mr. Roberts (54½ lbs.).

One interesting exhibit which drew most of the farmers and dealers from the market to inspect was a small truss of silo hay, the production of Mr. John Beeson, Haddenham. It weighed 50 lbs.; was remarkably sweet, although its appearance was anything but attractive. Mr. Beeson says: "It was made from meadow grass picked up as soon as cut, was stacked in a barn in the middle of June last, was pressed down by boards weighted with staddle stones, and opened this week. The sample had been taken from within six inches of the top, was of a dark olive green, and emitted a peculiar sweet perfume. The cost of mowing, carting, and stacking was 10s. per acre, and from about eight acres 40 tons of silo hay have been produced." As the cattle eat it with eagerness, such a simple process should be a means to the end of securing meadow grass in wet weather (when hay-making is next to impossible) as winter food for store stock.

Many of the visitors to the root show also made an inspection of Mr. Walker's nurseries, which were gay with dahlias in the open, and with a rare display of zonal pelargoniums and chrysanthemums in the glass structures. All the nursery hands were in full swing, lifting and packing roses, fruit, and forest trees, which abound here.

HIGHGATE CHRYSANTHEMUM SOCIETY, Nov. 3 and 4.

A brilliant future seems before this young but vigorous society, judging from the second annual exhibition which was larger in extent and more varied than the one of 1885. It was held in the Northfield Hall, Highgate, a well-lighted building, but, as it proved, too small to hold the exhibits a marquee was erected at one end, and this was comfortably filled with specimen plants and well-arranged groups. There was a strong balancing element in the foliage plants, vegetables, and fruits, but naturally, the chrysanthemums were the most prominent feature, and this district evidently possesses men who are well acquainted with the requirements of the gay and popular flower. If the society continues to hold such bright and picturesque exhibitions as that of 1886, it will in a short time occupy a high position amongst kindred associations round the metropolis, and we heartily wish it prosperity.

Cut Blooms were shown to advantage, especially the Japanese, but the incurved varieties, with one or two exceptions, were below the average. The leading class was for thirty-six, eighteen incurved and eighteen Japanese, and the winner of the first prize was Mr. B. Calvert, gardener to G. Kent, Esq., Northwood, Highgate, who showed both classes well, the incurved being of medium size, but well-finished. The Japanese comprised fine flowers of Margot, Curiosity, La Rouge, Mdlle. Lacroix, Madame C. Audiguier, Fulton, L'Admirable, Comtesse de Beauregarde, Criterion, Bouquet Fait, Joseph Mahood, Mons. Astorg, Mons. Moursillac, Mons, Tarin, Elaine, Val d'Andorre, Peter the Great, and William Robinson. The incurved varieties exhibited comprised Queen of England, John Salter, Emily Dale, Prince Alfred, Lord Alcester, Jeanne d'Arc, Lord Wolseley, Princess of Wales, Empress of India, Alfred Salter, Mrs. Heale, Lady Slade, White Beverley, Nil Desperandum, Mr. Bunn, Refulgens, Lady Hardinge, and White Venus. The second place was occupied by Mr. J. Brittain, gardener to F. Reckitt, Esq., J.P., Caen Wood Towers, Highgate. The Japanese varieties in his stand were noticeable for high quality, especially Baronne de Prailly and the snow white Elaine. Mr. B. Calvert came to the front in the class for twenty-four incurved, but the flowers were rough and loose. They comprised Lord Alcester, John Salter, Jeanne d'Arc, Alfred Salter, Emily Dale, Prince Alfred, Queen of England, Empress of India, Mrs. W. Shipman, Lady Slade, Princess of Wales, Hero of Stoke Newington, Lady Hardinge, Nil Desperandum, Mrs. Heale, Mr. Bunn, White Venus, George Glenny, Princess Teck, Mrs. Dixon, Mr. Brunlees, Mrs. G. Rundle, Barbara, and Eve. The second place was assigned to Mr. J. Brittain. In the class for twelve, Mr. T. L. Turk, gardener to T. Boney, Esq., Cholmely Lodge, Highgate, won the first prize, showing good blooms of Jeanne d'Arc, Prince Alfred, Mr. Bunn, Prince of Wales, Nil Desperandum, Empress of India, Barbara, White Beverley, Mrs. G. Rundle, Lady Hardinge, Lord Dorby, and George Glenny. Mr. W. Theobald, gardener to A. Goslett, Esq., J.P., West Hill, Highgate, was second; and Mr. H. Neary, gardener to the Rev. R. Powell, Holy Innocents' Vicarage, Hornsey, third. For six, Mr. T. L. Turk was again the most successful competitor, putting up Jeanne d'Arc, Prince Alfred, Prince of Wales, Nil Desperandum, Barbara, and White Beverley. Mr. T. Carver, gardener to A. G. Meissner, Esq., Woodlynch, Hornsey Lane, came second; and Mr. H. Neary, third. For the special prize offered for six incurved, one variety, Mr. J. Brooks, gardener to Walter Reynolds, Esq., The Grove, Highgate, was first, putting up well-formed flowers of Boothoven. Mr. B. Calvert came second with Queen of England; and Mr. T. L. Turk with White Beverley. For six blooms of Empress of India the first place was secured by Mr. B. Calvert; and the second by Mr. J. Brittain.

There was spirited competition in the classes allotted to the Japanese varieties, and for twenty-four the premier award was made in favour of Mr. W. Theobald, who had good blooms of Madame C. Audiguier, Val d' Andorre, Comte de Germiny, Elaine, Mons. Tarin, Margot, Mdlle. Lacroix, Madame B. Rendatler, Bouquet Fait, Carmen, Mons. Astorg, Source d'Or, James Salter, Madame Sevin, Soleil Levant, Triomphe du Nord, Fair Maid of Guernsey, Revorie, Richard Jervoise, Alba plena, Peter the Great, and White Swan; Mr. J. Brittain, whose stand contained excellent flowers of Elaine, White Swan, Fanny Boucharlat, Mons. Ardene, and Val d'Andorre, was placed second; and the third award was made in favour of Mr. B. Calvert. In the class for twelve Mr. J. Brittain headed the prize list, showing fresh well-developed blooms of Mons. Astorg, Nil Desperandum, Soleil Levant, Duchess of Albany, Elaine, Val d'Andorre, Peter the Great, Source d'Or, Bouquet Fait, Mdlle.

Lacroix, Bend d'Or, and Fair Maid of Guernsey; Mr. B. Calvert and Mr. T. Taylor, gardener to J. Johnstone, Esq., Upper Terrace House, Hampstead, were second and third respectively. The exhibits in the class for six Japanese, one variety, made a bright feature, Mr. W. Theobald, who was accorded the premier prize, exhibiting superb blooms of Madame C. Audiguier. Elaine was well-shown by Mr. J. Brooks and Mr. T. Turk, who were placed second and third. For six, distinct varieties, Mr. T. L. Turk came to the fore with Val d'Andorre, Elaine, Madame B. Rendatler, Margot, James Salter, and Mons. Moursillac; Mr. T. Caryer second, and Mr. H. Neary third. A special prize was offered for twenty-four Japanese, and the prizetakers were Messrs. J. Brooks, W. Theobald, and J. Brittain in the order of their names. For twelve anemone-flowered Mr. W. Theobald occupied the post of honour; Mr. J. Brittain coming second, and Mr. J. Brooks third. For twelve flowers, no restriction as to section, Mr. W. Theobald was first, Mr. T. Caryer second, and Mr. J. Hutt third.

Plants gave variety to the show, and the most important class was for a group of chrysanthemums. Mr. J. Brooks put up a good arrangement; the plants being well grown and remarkably fine flowers were noticed. Mr. J. H. Witty, Highgate, was second, and Mr. J. Brittain third. For six specimen incurved, Mr. J. Brooks again proved the most successful, exhibiting moderately well-grown plants of Mrs. G. Rundle, Mr. Corbay, Dr. Sharpe, Mrs. Dixon, and Prince of Wales. Mr. W. Theobald came second, and Mr. C. Shepherd, gardener to Mrs. Horwood, South Grove, Highgate, third. For a single specimen, Mr. J. Brooks won the premier prize, showing a well-grown plant of Chinaman, a variety with flowers valuable for their reddish crimson colour. Mr. W. Theobald and Mr. B. Calvert were second and third respectively. For six Mr. J. Smith secured the first place, and in the class for two specimens, naturally grown, the prizetakers were Messrs. J. Brooks, C. Shepherd, and H. W. Rowson, gardener to J. H. Lloyd, Highgate, in the order of their names. For six specimens, Japanese, Mr. W. Theobald came first, and for six specimen pompon the most successful exhibitor was Mr. J. Brooks, the second prize being taken by Mr. W. Theobald. Foliage plants were well shown by Mr. J. Brittain and Mr. W. Theobald, who in the class for six were placed first and second respectively.

Fruit and Vegetables made a good feature. Apples and pears occupied a prominent position, and in the class for three dishes of culinary apples Mr. B. Calvert was first, Mr. J. Hutt second, and Mr. W. Theobald third. In the corresponding class for dessert varieties, the winner of the first prize was Mr. Wilkinson, Mr. J. Hutt coming second, and Mr. W. Theobald third. For three dishes of dessert pears Mr. Wilkinson came first, Mr. J. Hutt second, and Mr. J. Brittain third. For a dish of tomatoes Mr. T. L. Turk was the most successful. Black grapes were exhibited by Messrs. J. Brittain, B. Calvert, and W. Theobald, who, in the class for three bunches, were placed first, second, and third respectively.

Vegetables were quite up to the average, and in the principal class allotted to them Mr. W. Theobald came to the front, Mr. T. L. Turk and Mr. J. Brooks being second and third respectively. For six dishes of potatoes the prizetakers were Messrs. J. Brooks, C. Shepherd, and W. Wilkinson in the order of their names.

Miscellaneous Contributions came from Messrs. W. Cutbush and Son, Highgate; Mr. B. S. Williams, Victoria Nurseries, Upper Holloway; Mr. W. E. Boyce, Archway Road, Highgate; and Mr. A. R. Rundell, the hon. treasurer.

CORN EXCHANGE CHRYSANTHEMUM SHOW.

The Corn Exchange Annual Chrysanthemum Show was held at the Exchange Hotel, Mark Lane. There was a very fair attendance throughout the day. The results of the competitions, Mr. Norman Davis having been appointed judge, were as follows: Class 1 (open to amateurs and nurserymen).—Twenty-four distinct blooms, viz., twelve incurved and thirteen Japanese, T. Bettersworth, gardener to Mr. R. Ewing, first; J. P. Kendal, gardener to Mr. H. L. Holland, second. Class 2.—Twelve distinct named blooms, incurved, Mr. F. Woodley, first; J. Aste, second. Class 3.—Twelve distinct named blooms, Japanese, A. Margetson, first; Kendall, second. Class 4.—Twelve distinct named blooms, viz., four incurved, four Japanese, and four reflexed or anemone, Kendall, first; T. Wickham Jones, second. Class 5.—Six distinct named blooms, incurved, C. Lambert, first; J. Aste, second. Class 6.—Six distinct named blooms, Japanese, A. Margetson, first; M. F. Woodley, second. Class 7.—Six distinct named blooms, anemone, no entries. Class 8.—Six bunches of pompons, any sort, distinct named varieties, three flowers of each, with foliage and buds as cut, to form a bunch, O. T. Hodges, first; J. Spiers, second. Class 9.—Six blooms of one named sort, J. Aste, first; C. Lambert, second. The exhibition has been in existence four years, having emanated from the rose show which is held in the summer. The proceeds are devoted to the funds of the Corn Exchange Benevolent Society. The show was under the management of Mr. Henry Robins, secretary of the Exchange.

BRIXTON HILL CHRYSANTHEMUM SOCIETY, November 4 and 5.

The high position which the Brixton Hill Chrysanthemum Society has so long enjoyed for the great excellence of its annual exhibitions was fully maintained by the show of this year, which was held on Thursday and Friday last. The Lecture Hall of the Congregational Church, in which, as for several years past, the exhibition has been held, was filled to its utmost capacity with productions that presented unmistakable proofs of their having had cultural skill of a very high order brought to bear upon them. The society very wisely endeavours to make its shows as interesting and comprehensive as possible, and accordingly makes ample provisions in its schedule of prizes for miscellaneous plants, fruits, and vegetables. As the result of this liberal policy, a much larger body of supporters is obtained than would be the case were the show devoted exclusively to chrysanthemums, and the sympathy and substantial support of cultivators of all classes secured. As from a very early period in the history of the society, the chrysanthemums, which are especially well-grown in the district, were on this occasion supplemented by a display of fruit, vegetables, and miscellaneous flowering and ornamental-leaved plants, that was so thoroughly good as to be deserving of the highest praise. Orchids were especially well shown, and primulas, which have long constituted an important feature of the Brixton Hill exhibitions, were presented in a manner that did great credit to those who took part in the competition for the prizes offered for them. With reference to the chrysanthemums, it must be stated that both specimen plants and cut blooms were fully equal to the high average of former years. The arrangements were admirably carried out, and brought much praise to Mr. W. Hall, the honorary secretary, and the other members of the executive.

Cut Blooms constituted a very important and attractive feature; for, of the showy Japanese varieties, there was an immense display of grandly developed blooms. In the great class for twenty-four incurved varieties, Mr. C. J. Salter, gardener to J. Southgate, Esq., Selborne, Streatham Hill, was first with medium-sized and highly finished blooms of Lord Wolseley, Mrs. J. Crossfield, Sir Stafford Carey, Beverley, Mr. Brunlees, Jeanne d'Arc, John Salter, Mrs. Dixon, Refulgens, Jardin des Plantes, White Globe, Prince of Wales, George Glenny, Cherub, Mrs. George Rundle, Lady Hardinge, St. Patrick, Mrs. Heale, Mr. Bunn, Lord Derby, Reine des Blanches, Nil Desperandum, and Prince Alfred. Mr. T. Sadler, gardener to C. Lambert, Esq., Streatham, was second with blooms of average size and good quality; and Mr. J. Howes, gardener to Mrs. Bennett, Tulse Hill, was third, with a stand of neat flowers.

In the open class for twelve incurved blooms, Mr. C. J. Salter was again first, staging superbly finished flowers of Prince of Wales, Jeanne d'Arc, Mrs. Dixon, Beverley, Mr. Brunlees, Mrs. Heale, Nil Desperandum, Mr. Bunn, Lady Hardinge, Prince Alfred, Refulgens, and George Glenny. Mr. J. Howes was a close second, and Mr. W. Howe was third with an excellent stand. For six incurved Mr. Salter occupied the first place, and the second and third prizes were awarded to Mr. T. Sadler and Mr. D. Gibbons, gardener to Lady Pollock, Clapham Park. In the class for twelve incurved, in which the competition was limited to exhibitors who had not previously taken a prize, Mr. W. Hill, gardener to G. W. Ryder, Esq., Telford Lodge, was first, and Mr. Sandy, gardener to Mrs. Coles, St. Julian's Road, Streatham, second, both staging flowers of so high a quality as to justify the expectation that they will next year take a foremost position in the division set apart for cut flowers.

The competition was very keen in the class for twenty-four Japanese varieties, and the post of honour was occupied by Mr. T. Mursell, gardener to Mrs. Burton, Streatham, who had a magnificent stand, the blooms being alike remarkable for their large size, fine form, and bright colouring; the varieties were Le Triomphante, L'Adorable, Belle Paule, Val d'Andorre, Madame J. Laing, Source d'Or, Coquette de Castile, Jupiter, Mdlle. Lacroix, Madame de Sevin, Sarnia, Mons. Burnet, Peter the Great, Ferdinand Feral, Boule d'Or, Jeanne Delaux, Mons. Astorg, Margot, Elaine, Madame C. Audiguier, L'Incomparable, Marguerite Marrouch, Dr. Macary, and Mons. N. Davis. Mr. T. Sadler, gardener to C. Lambert, Esq., Streatham, was a close second with large, fresh, and well-finished blooms; and Mr. Salter was third with a very fine stand of flowers. Very spirited also was the contest for the prizes in the class for twelve Japanese, the several stands differing so little in relative merit as to occasion considerable difficulty in making the awards. Mr. G. Pell, gardener to A. Margetson, Esq., Streatham, occupied the first place with very large and superbly-developed blooms of Marguerite Marrouch, Boule d'Or, Val d'Andorre, Bouquet Fait, Mdlle. Lacroix, Japonaise, Elaine, Soleil Levant, Maiden's Blush, Criterion, Mons. Astorg, and Jeanne Delaux; Mr. W. Howe, gardener to H. Tate, Esq., Park Hill, Streatham, was a very close second, staging fine blooms of Elaine, Val d'Andorre, Fair Maid of Guernsey, Criterion, Bouquet Fait, The Cossack, Madame C. Audiguier, Soleil Levant, Chinaman, Source d'Or, Bismarck, and Cry Kang; Mr. T. Mursell was third with an excellent stand, in which there was a grand bloom of Le Triomphante.

Large anemones were well represented, and the premier award in the class for twelve was made in favour of Mr. J. Swain, gardener to E. Jones, Esq., Clapham Park; Mr. C. Livermore, gardener to F. Webb, Esq., Brixton Hill, was second, and Mr. F. Fulbrook, gardener to B. B. Baker, Esq., Roupell Park, third. In the corresponding class for pompon anemones Mr. C. Livermore had the premier award made in his favour for a capital stand. The successful competitors in the class for reflexed flowers were Mr. Sadler, Mr. W. Howe, and Mr. C. Livermore.

Specimen Chrysanthemums were plentiful and good, and both large flowered, and pompons were adequately represented. To the class for six large flowered varieties, Mr. E. Cherry, and Mr. J. Weston, gardener to D. Martineau, Esq., Clapham Park, contributed excellent collections which were very closely matched in relative merit. In the result, Mr. Cherry was first, and Mr. Weston, second; the third prize being awarded to Mr. A. Luff. For three large flowered, Mr. R. Clarke, Mr. Weston, and Mr. A. Luff, were the prizetakers in the order of their names. At the head of the competitors in the class for six pompons, was Mr. J. Weston, who had large, splendidly developed specimens; Mr. Cherry, second; and Mr. Luff, third. Mr. Weston was first also for three pompons; Mr. Clarke and Mr. Luff being second and third respectively. Pyramidal pompons were well shown by Mr. A. Luff, Mr. E. Cherry, and Mr. Livermore, to whom the principal awards were made.

Orchids were strongly represented, and formed an immensely attractive feature. For six Mr. Salter was first with large finely flowered examples of Vanda cærulea, bearing a spike of twenty flowers; Cattleya gigas, C. Dowiana, Cypripedium Harrisianum, and Cymbidium giganteum; Mr. Luff, second with a collection in which Vanda cærulea was especially good. Mr. Salter was first also for three, his best specimen being Cypripedium Spicerianum. Mr. Luff, second, staging a very fine example of Oncidium tigrinum; and Mr. Guyett was third, his example of Oncidium varicosum being especially good. The premier award for a single specimen was made in favour of Mr. Salter, who staged a magnificent variety of Phalænopsis grandiflora.

Fruit was as usual plentiful and of high quality. In competition for the prizes for six bunches Mr. W. Howe was first with large superbly-finished clusters of Alicante and Muscat of Alexandria; Mr. Salter second with Gros Colmar and Muscat of Alexandria. For three bunches of black grapes Mr. W. Howe and Mr. A. Wing were first and second with Alicante, in high-class condition, and Mr. Mursell was third with Black Hamburgh in excellent condition. In the class for white grapes Mr. Salter and Mr. W. Howe were first and second with the Alexandrian muscat.

There was a severe contest in the classes for apples and pears, and the principal awards were made in favour of Mr. W. Collins, Mr. A. Sandy, Mr. Guyett, and Mr. Sadler. Mr. W. Roupell contributed excellent apples and pears, and was awarded a certificate of merit.

Vegetables had two classes provided for them, and in both the collections were very numerous and highly meritorious. For twelve varieties Mr. Howe was first with a collection in which the tomatoes, mushrooms, and cauliflowers were particularly good; Mr. H. Wright was second; and Mr. E. Cherry third. In the class for eight kinds Mr. Sandy, Mr. A. W. Moorcock, and Mr. T. Sadler were first, second, and third respectively.

The judges were: Mr. T. Todman, Mr. J. Wright, and Mr. George Gordon.

STOKE NEWINGTON AND HIGHBURY CHRYSANTHEMUM SOCIETY, NOVEMBER 4 and 5.

This old-established society appears as vigorous as ever, if we may judge from the exhibition held on the above dates in the Highbury Athenæum, a place well adapted for a show of this description. Although the hall is of large size, it was well filled, and owing to the judicious arrangement of the various exhibits presented an attractive and picturesque appearance. Specimen plants were seen to great advantage, although not very numerous, but in several instances they were models of good culture. Cut blooms made a decided feature, being not only shown largely, but the flowers of both incurved and Japanese varieties were noticeable for freshness and high finish. Indeed, except in the classes devoted to Anemone flowered and pompons, which were miserably represented, but few, of what we may call inferior flowers, were to be seen. The executive and those interested in the welfare of the society may well congratulate themselves on the exhibition of 1886. We hope, however, that the present objectionable system of numbering the exhibits and placing the cards, with prizewinners and name of exhibitors, on the stands after the judging is quite completed, will in future be abolished. It entails a needless amount of time and labour.

The incurved were shown to conspicuous advantage, the flowers in the winning stands being noticeable for freshness and high finish. Mr. J. Bettesworth, gardener to R. Ewing, Esq., Burton Grange, Cheshunt, came first in the class for thirty-six blooms, not less than eighteen varieties, or more than two blooms of one variety, exhibiting Empress of India, Lord Wolseley, Jeanne d'Arc, John Salter, Queen of the Isles, Mrs. Heale, Nil Desperandum, St. Patrick, Mr. Bunn, George Glenny, Golden George Glenny, Queen of England, Prince Alfred, Rev. C. Boys, Novelty, Golden James Salter, Refulgens, Mrs. G. Rundle, Golden Eagle, Golden Empress, Princess of Wales, Prince of Wales, and Abbe Passaglia; the second prize was awarded to Mr. H. Davis, gardener to H. G. Lake, Esq., Fairlawn House, Chiswick, who also had neat well-formed flowers, the best being Lord Alcester, Golden Empress of India, Empress of India, Refulgens, Jeanne d'Arc, Nil Desperandum, Prince Alfred, and Novelty. In the class for twelve, the most successful exhibitor was Mr. W. Monk, gardener to W. Fowler, Esq., Forest House, who put up small, but well-finished blooms of Prince Alfred, Jeanne d'Arc, Lord Wolseley, Princess Imperial, Mrs. G. Rundle, Lady Hardinge, Prince of Wales, Queen of England, Refulgens, Nil Desperandum, Mrs. Hallihurton, and Antonelli. Mr. W. Martin, gardener to H. Matthew, Esq., The Cedars, Finsbury Park, was a close second, showing in fair form John Salter, Queen of England, Alfred Salter, Mrs. Heale, Golden Empress, Refulgens, Jeanne d'Arc, Prince of Wales, Lady Hardinge, George Glenny, Nil Desperandum, and Mrs. G. Rundle; the third award was made in favour of Mr. Osborne, gardener to J. Larkin, Esq., Highbury New Park. For six, Mr. W. Davey, gardener to C. Paine, Esq., Stamford Hill, came to the fore, putting up medium sized, but symmetrical, flowers of George Glenny, Prince Alfred, Prince of Wales, Golden George Glenny, Mr. Bunn, and St. Patrick; Mr. A. Osborne was second, and Mr. G. Saunders, gardener to J. Patterson, Esq., Stamford Hill, third.

The Japanese made a prominent figure, and were characterised by freshness and all-round good quality. The first prize stand in the class for twenty-four, distinct varieties, put up by Mr. T. Bettesworth, gardener to R. Ewing, Esq., Cheshunt, contained remarkably fine blooms. The varieties exhibited comprise Mons. Brunant, Mons. Tarin, Elaine, Madame B. Rendatler, Belle Pauline, Madame C. Audiguier, Duchess of Albany, Mdlle. Lacroix, Fanny Boucharlat, Oracle, Boule d'Or, L'Ebouriffe, Soleil Levant, Bouquet Fait, Criterion, Mons. Delaux, Comte de Germiny, Hiver Fleur, Balmoreau, Garnet, Val d'Andorre, Album plenum, Marguerite Marrouch, Safranot. Mr. A. Smith, gardener to W. H. Sewell, Esq., Warren Hill, Loughton, who was placed second, also showed flowers of good quality, the most noticeable being Comte de Germiny, Fair Maid of Guernsey, Madame de Sevin, Mons. Astorg, Tarantula, Bismarck, and Ferdinand Feral. Mr. W. Monk, third. Splendid blooms were exhibited in the stands shown in the class for twelve varieties. The winner of the first prize was Mr. Smith, who had good blooms of Mons. Tarin, Elaine, Dormillon, Comte de Germiny, Madame C. Audiguier, Bismarck, Fair Maid of Guernsey, Peter the Great, Margot, Tarantula, Madame B. Rendatler, and James Salter. A close second was Mr. S. Gilbey, who had in fair condition Peter the Great, Val d'Andorre, Mdlle. Lacroix, and Dr. Macary. Mr. W. Martin and Mr. W. Davey were awarded equal thirds. For six Mr. A. Smith occupied the post of honour, showing Madame C. Audiguier, Madame B. Rendatler, Lady Selborne, Madame de Sevin, Margot, and Elaine. Mr. W. Martin put up small but fresh blooms, and was adjudged the second place; Mr. C. Jones, gardener to J. Gohle, Esq., Oldington House, Stoke Newington, was third.

The anemones and pompons were not up to the mark. In the class for twelve large-flowered anemones, distinct varieties, Mr. A. Osborne was first, showing moderately good blooms of Lady Margaret, Madame Cabrol, Fabias de Maderanaz, Madame Clos, Marguerite d'Anjou, Fleur de Marie, Emperor, Sœur Dorothée Souille, George Sand, Prince of Anemones, King of Anemones, and Duchess of Edinburgh. The second award was made in favour of Mr. G. Chalkley, gardener to J. R. Droop, Esq., Stamford Hill. In the class for twelve anemone pompons the most successful exhibitor was Mr. G. Chalkley.

PLANTS, on the whole, were surprisingly good. The leading class was for a group, and the winner of the first prize was Mr. J. Wittey, Highgate Cemetery, who put up a capital arrangement. The flowers were, on the whole, remarkably good, and the plants well grown. The second award was made in favour of Mr. A. Osborne. In the class for nine trained specimens, large-flowered varieties, Mr. W. Monk was deservedly placed first, his plants being models of perfection, the foliage good, and the outline almost faultless. The varieties were Cossack, Lady Hardinge, Prince of Wales, Elaine, Dr. Sharpe (splendid), Mr. G. Rundle, Chevalier Domage, Madame de Sevin, and Golden Empress. The second award was made in favour of Mr. K. Bass, gardener to Miss Cotton, Leytonstone, who also staged well-grown plants, and the third prize went to Mr. W. Davey. For four trained specimens, large flowered, Mr. S. Gilbey was first with well-grown plants of Bouquet Fait, Source d'Or, L'Ile des Plaisirs, and Mdlle. Lacroix. Mr. Drain was second. In the class for four standards, large flowered, Mr. S. Gilbey was to the front, Mr. Lovegrove coming second. For four standard pompons, Mr. S. Gilbey was again the most successful, Mr. W. Davey being second, and Mr. H. Lovegrove third. For three trained plants, any varieties, Mr. G. Saunders was first. Ferns and foliage plants gave variety. In the class for the former Mr. Challis, gardener to H. Dare, Esq., Albion Lodge, Park Lane, was the principal prizetaker, Mr. J. Davey coming second. In the class for foliage plants the prizetakers were Mr. W. Challis and Mr. W. Davey, who were first and second respectively. In the class for eight plants for table decoration Mr. S. Gilbey came first.

In the amateur classes excellent cut blooms were noticeable, especially in the class for twelve incurved, in which Mr. F. Bingham was the most successful.

Epergnes for table decoration were tastefully arranged, and the winner of the principal prize was Mr. A. Clarke.

Miscellaneous contributions included fine stands of chrysanthemums, and single and decorative dahlias from Mr. T. S. Ware, Tottenham; wreaths, &c., from Mr. J. B. Chard, Brunswick Nursery, Stoke Newington; and plant composts and fertilizers from Messrs. Wood and Son, Wood Green, London.

Replies to Queries.

Acquaintance.—We do not know how many "bothy chaps" there are. The drainage of the cricket ground cannot be properly done with coal ashes; proper pipes laid to a proper fall and at from one to three feet deep, the depth to be in part determined by the position of the outlet. The "Garden Oracle" for 1885, gives tables of costs of making drains.

Worms on Lawn.—G. Y.—The best way to reduce the number of worms is to give the ground a moderate soaking with lime water, which is easily made by putting newly slaked lime in soft water. The water will only take up a limited quantity, therefore there is no fear of it being too strong. It is not agreeable to see the result of the application, for it never fails of effect. We have had but one letter from you, that dated Nov. 1.

Pear Tree.—W. E.—It is difficult to assign a reason for the barrenness of a tree that every year flowers freely. It may be too much exposed to cold winds in spring, or it may be impoverished at the root, for a pear tree not only requires a good soil, but a certain amount of moisture, and many pear trees fail because of over dryness at the root. We shall be glad to advise if you will let us know something of the conditions, and more especially as to the degree of exposure.

Names of Fruits.—R. F.—The bronzy pear is Beurré Rance, in use from February to April. J. W. S.—1, not known; 2, Yorkshire Beauty. The smaller fruit marked 2 is like Orange Goff, but if from the same tree as the other the name remains Yorkshire Beauty, as we have doubt about the larger fruit. The pear is Beurré Diel, in season during November. Pears in Cadbury cocoa box; 3 and 6, not known; 8, Uvedale's St. Germain; 9, Beurré de Capiaumont; 10, Calebasse Bosc; 11, Easter Beurré; 12, Eyewood; 13, Bonne d'Ezée.

H. C. S. Pilgrim.—We do not know of a thoroughly good book on the subject, and, moreover, we do not believe such a book will ever be written, because success in the conversion of tropical products to commercial uses turns much upon knowledge acquired in the several fields of labour, and there are trade secrets that none would put in print. After all, probably the great dictionaries of Ure and McCulloch continue the best material for education in these matters. The "Tropical Agriculturist," published at Colombo, may be referred to with advantage.

Grapes in cool Greenhouse.—E. F. T. sends samples of black grapes ripened in a house facing south without the aid of fire-heat. They are excellent examples of cool culture, but they lack the piquant flavour of the growth that is aided by artificia heat. E. F. T. is in trouble about a pear tree that produces fruit which attains almost full size and then cracks and falls off. There is no mystery in the matter at all. The tree exhausts the food at its command, and breaks down because of exhaustion. A liberal (very liberal) supply of water to the roots while the crop is progressing, would make the difference that, of course, is much desired.

Narcissi.—Ralph is advised to plant as soon as possible. It is true these bulbs may be kept almost any length of time without absolute loss of vitality, but it is bad practice to keep them out of the ground for any length of time, for, in fact, they prosper more completely when left alone for some years than when periodically lifted, showing that within the earth is their "native air." In respect of what this correspondent calls "investing," we cannot profess to advise, but we will say two words that may have an indirect bearing on the subject. As regards the expensive sorts, then it should be remembered that they are not essential in the formation of a moderate collection. As regards the cheapest sorts, also, there is just a prospect of a rise in commercial values. The sorts that are subjected to forcing for early flowers are likely to become dearer, because forcing exhausts the stock, the bulbs being useless after being forced.

TRADE CATALOGUES.

FRANK CANT, COLCHESTER.—*Roses.*

JAMES DICKSON AND SONS, NEWTON NURSERIES, CHESTER.—*Hardily-Grown Forest and Ornamental Trees.*

Obituary.

ON the 30th ult., Mr. GEORGE W. JOHNSON, of Winchester, formerly co-editor of the *Cottage Gardener* and *Journal of Horticulture.* He retired from editorial labours in 1880, leaving to Dr. Hogg, his former partner in the business, the entire burden of its cares. He was in his 84th year.

RECENTLY, at 11, Pembroke Road, Earl's Court, Mrs. JOHN SALTER, relict of Mr. John Salter, formerly of the Versailles Nurseries, Hammersmith, in her 86th year.

ON the 3rd instant, at his residence, Oak Hill, Surbiton, Mr. GEORGE CLOWES, head of the eminent firm of printers in Stamford Street, London. His age was 72 years

"PROOF MAKES FAITH."—If for fifty years an article has been known, used, and appreciated by the public; it is *proof* of their confidence in, and preference for, its good quality and value. For nearly half a century Horniman's Pure Tea has been known to teadrinkers, and gained their preference and esteem, because it is exceedingly strong, *has a rich and delicious flavour*, and is free from the injurious mineral facing powder (*Prussian blue, gypsum, and plumbago*) used by the Chinese to palm off inferior brown leaves to injury of consumers.—The price is printed on each packet of Horniman's Tea, and appointed agents (*Chemists and others*) sell it in all parts of the country. See agents' names advertised in all papers and at the Railway Stations.—[ADVT.

D. of M.	D. of W.	ANNIVERSARIES, FESTIVALS, OCCURRENCES, HISTORICAL NOTES, &c.	SUN. Rises.	SUN. Souths After Noon.	SUN. Sets.	MOON. Rises. After.	MOON. Sets. Morn.	HIGH WATER AT London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. tmp. avrg. of 40 yrs. Chiswick.	ORCHIDS IN FLOWER.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
14	S	**21st Sunday after Trinity.**	7 18	15 24	4 12	6 43	9 36	3 10	3 28	0 17	0 35	43·1	Cypripedium Swanniananum	Gar. hyb.	318
15	M	*Machutus.*	7 19	15 14	4 11	7 37	10 34	3 47	4 7	0 53	1 12	42·8	C. insigne purpureum punctatum.	Sylhet.	319
16	Tu	Battle of Lutzen, 1632.	7 21	15 4	4 10	8 41	11 27	4 26	4 48	1 32	1 51	42·5	Cœlogyne Cummingi	Singapore.	320
17	W	*Hugh, Bishop of Lincoln.*	7 23	14 52	4 9	9 50	After.	5 8	5 33	2 13	2 33	42·3	Oncidium ornithorhynchum	Mexico.	321
18	Th	☾ Last Quarter, 10h. 40m. after.	7 25	14 39	4 8	11 4	0 48	5 59	6 26	2 58	3 24	42·2	Pleione maculata	India.	322
19	F	Cardinal Pole died, 1858.	7 27	14 26	4 7	Morn.	1 22	6 59	7 33	3 51	4 24	42·1	Pleione lagonaria	India.	323
20	S	*Edmund, King and Martyr.*	7 28	14 12	4 6	0 20	1 50	8 8	8 50	4 58	5 33	42·0	Zygopetalum Mackayi	Brazil.	324

BOROUGH OF HANLEY ANNUAL CHRYSANTHEMUM SHOW, held in SKATING RINK, TUESDAY, NOVEMBER 23. Class 9, 24 Incurved Blooms, distinct, 1st £3, 2nd £2, 3rd £1. Class 10, 24 Japanese Blooms, distinct, 1st £3, 2nd £2, 3rd, £1, Over £100 in Prizes. Schedule and entry forms from Jos. S. MOSS, Sec., 76, Charles Street, Hanley.

GRAVESEND and NORTH KENT CHRYSANTHEMUM ASSOCIATION.—The THIRTEENTH ANNUAL CHRYSANTHEMUM, FRUIT, and VEGETABLE EXHIBITION of this ASSOCIATION will be held in the MILTON HALL, GRAVESEND, on TUESDAY and WEDNESDAY, NOVEMBER 16 and 17, 1886. Tickets of admission and all information may be obtained of the Secretary, JOHN FAIREY, 16, Primrose Terrace, Gravesend.

SOUTHGATE and DISTRICT CHRYSANTHEMUM SOCIETY.—FOURTH EXHIBITION, VILLAGE HALL, SOUTHGATE, NOVEMBER 12, 13.

THE DOME, ROYAL PAVILION, BRIGHTON and HOVE FOURTH ANNUAL CHRYSANTHEMUM SHOW, TUESDAY and WEDNESDAY, NOVEMBER 16 and 17. Entries close by Sunday post. Hon. Sec., MABE LONGHURST, 18, Church Road, Hove, Sussex.

THE LUTON HORTICULTURAL SOCIETY will hold their ANNUAL CHRYSANTHEMUM SHOW, 17th and 18th NOVEMBER, in the PLAIT HALLS.

Exhibitions and Meetings for the Ensuing Week.

MONDAY, NOVEMBER 15, TUESDAY, NOVEMBER 16.—SHEFFIELD AND HALLAMSHIRE GARDENERS' SOCIETY.—Chrysanthemum Exhibition.
TUESDAY, NOVEMBER 16.—YEOVIL CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 16.—DEVIZES.—Chrysanthemum Show.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—SOUTHGATE CHRYSANTHEMUM SOCIETY.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—LINCOLN CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—PUTNEY CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—SOUTHEND CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—WINCHESTER HORTICULTURAL SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—BRIGHTON CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—WATFORD CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—TEDDINGTON CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
TUESDAY, NOVEMBER 16, AND WEDNESDAY, NOVEMBER 17.—TWICKENHAM HORTICULTURAL SOCIETY.—Chrysanthemum Exhibition.
WEDNESDAY, NOVEMBER 17.—DUBLIN.—Chrysanthemum Show.
WEDNESDAY, NOVEMBER 17.—LUTON.—Chrysanthemum Show.
WEDNESDAY, NOVEMBER 17.—CHELMSFORD HORTICULTURAL SOCIETY.—Chrysanthemum Exhibition.
WEDNESDAY, NOVEMBER 17, AND THURSDAY, NOVEMBER 18.—BRISTOL CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
WEDNESDAY, NOVEMBER 17, AND THURSDAY, NOVEMBER 18.—NEWPORT AND COUNTY HORTICULTURAL SOCIETY.—Chrysanthemum Exhibition.
WEDNESDAY, NOVEMBER 17, AND THURSDAY, NOVEMBER 18.—ASCOT AND SUNNINGHILL CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
WEDNESDAY, NOVEMBER 17, AND THURSDAY, NOVEMBER 18.—HAMPSTEAD.—Chrysanthemum Show.
THURSDAY, NOVEMBER 18.—HITCHIN.—Chrysanthemum Show.
WEDNESDAY, NOVEMBER 17, TO FRIDAY, NOVEMBER 19.—YORK SOCIETY OF ANCIENT FLORISTS.—Annual Exhibition.
THURSDAY, NOVEMBER 18, AND FRIDAY, NOVEMBER 19.—HULL CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
THURSDAY, NOVEMBER 18.—TAUNTON CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
THURSDAY, NOVEMBER 18.—CHISWICK HORTICULTURAL SOCIETY.—Autumn Exhibition.
FRIDAY, NOVEMBER 19, AND SATURDAY, NOVEMBER 20.—SHEFFIELD AND WEST RIDING CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
SATURDAY, NOVEMBER 20.—PUDSEY CHRYSANTHEMUM SOCIETY.—Annual Exhibition.
SATURDAY, NOVEMBER 20.—RAMSBOTTOM FLORAL SOCIETY.—Autumn Exhibition.
SATURDAY, NOVEMBER 20.—KETTERING CHRYSANTHEMUM SOCIETY.—Annual Exhibition.

Auction Sales for the Ensuing Week.

MONDAY, NOVEMBER 15.—Mr. J. C. Stevens, 38, King Street, Covent Garden; Dutch Bulbs.
WEDNESDAY AND SATURDAY, NOVEMBER 17 AND 20.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Dutch Bulbs, Roses, Fruit Trees, Border Plants, &c.
THURSDAY, NOVEMBER 18.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids, and 5,000 Lilium auratum from Japan.

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ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, NOVEMBER 13, 1886.

THE CLOSING OF THE COLONIAL AND INDIAN EXHIBITION is an event of the highest importance in connection with the industrial life of the larger Britain. It should be exceeded in importance, however, by the opening of the proposed Imperial Institute that is to remain as a living and permanent memorial of the jubilee year of the happy reign of Queen Victoria. The rule *ex pede* may be allowed to justify the expectation, as well as the hope that the thing that is coming will far exceed in grandeur and usefulness the thing that is past. *Ex pede*! Yes: the foot was a broad one, and the whole figure, when developed, will be the surprise and delight of mankind. As we know not what a day or an hour may bring forth, we must wait for the building up of the statue, of which we have seen the foot; and rejoice that the promise is so cheerful. Of the exhibition, it must be said that with all its faults and shortcomings, with all the display that was not instructive, and all the shoppiness that damaged the display, it was beyond all question the greatest success hitherto accomplished in this country in the way of an exhibition. If it had not the freshness of '51, which was impossible, it was more distinct in purpose, more unified in expression, more brilliant in recreative features, and only a little less successful in the number of the visitors, a point in which we recognise the difference between the appeal to the world in the first show, and the appeal to ourselves in the last. An exhibition is not a museum, or a school, or a shop, or an office for samples. It may be all these combined in more or less degree; but they must all be subservient to the governing idea of an Exhibition, from which the visitors may derive instruction, perhaps, but from which they are expected, and indeed required to derive amusement. There must be display of some kind first and foremost, and if that can be accomplished in a way to be edifying, so much the better.

The affair on which the doors were closed on Wednesday has proved immensely entertaining, powerfully instructive, and has made wide and deep impressions, favourable to improved relationships of all imperial interests. At the closing of the doors there was no formal declaration of future policy, and at this moment we have nothing before us but the vague declaration of the royal president, that an Imperial Institute shall be founded with the view of binding the colonies and the mother country more closely for mutual defence, and for intellectual and commercial advancement. The public expectation suffers somewhat of a shock; there is a general sense of disappointment, and the colonies themselves, not knowing what is to be done, are in a state of doubt as to what they themselves shall do. The promise of a prince—even such a prince as ours—is not enough to make the institution he has projected, or to render the way perfectly smooth for complete success. But this disappointment though widely felt, may be but an error of the moment, and the appointment of a commission to frame a scheme gives the word of warning to all to exercise patience, and hope for the best.

The homely advice to "first creep and then go" may be applicable in this case. The course of procedure at present determined on appears to be to leave things alone until the general plan of the Institute is defined. It is, therefore, within expectation that the exhibition will be reopened in May next, but with a larger object in view than to provide entertainment for millions of shilling visitors. The visitors, indeed, will be wanted, and their shillings

will be useful; but the invitation must be of a different character, and we do hope that business will stand before pleasure in all the leading features of the thing that is to be. The subjects of Queen Victoria have to earn their bread before they can spare a farthing for amusements. The true basis of an Imperial Institute in the interests of the Colonies and India is the commercial idea. The federation of the scattered peoples of the Greater Britain can be best secured by establishing a community of interests in a centre accessible to all; and London, as the world's market and place of exchange, is the proper place for it. A comprehensive commercial museum, or, say, a magazine of samples, with illustrations drawn from nature, may certainly be established with the aid of the exhibition, as it stands, to supply a basis of operations; the existing material to be added to or subtracted from as may be rendered necessary by the larger and more scientific scheme. To distribute the exhibition hastily would be a grievous mistake; for, while the samples already display the inexhaustible wealth and self-sustaining power of the British Empire, the ethnological, and geographical, and geological embellishments are of the utmost value; and, in fact, they are such as no other nation could command as representing its own political and commercial affairs only.

These considerations may reconcile us to the continuance of the exhibition as a thing to be modified and expanded; and may even justify its occupation of its present site at South Kensington. But it scarcely admits of a doubt that whatever is henceforth attempted there should be tentative, and in view of ultimate settlement nearer to the true commercial centre—as, for example, on the Thames Embankment—where there is space with suitable surroundings for a grand architectural pile to serve as an office for the colonies and a memorial of the Queen's Jubilee. We will cherish the hope that we shall see something better than an exhibition, and in some better kind of shelter than the sheds at South Kensington.

Many of our readers are asking what is to become of the Royal Horticultural Society? That is in the same unhappy state of provisional existence as the Imperial Institute. It is certainly in a most unsatisfactory state as regards the outlook for the future; and even with the growing prospect of continuance at South Kensington, its hand-to-mouth life should not be longer suffered by the Fellows. It is in want of a home of its own on the face of the earth; it lives as it does by sufferance and not by right, and there is no hope of better things until the Fellows shake off the incubus of a self-elected council. So far as the case allows, the society is admirably governed, and even if a note of complaint is occasionally heard, that must happen under any government, and does happen in every Society at this time or that. Indeed, considering the nature of the case, the council give their hearts and minds to their work more earnestly and self-sacrificingly than the Fellows deserve; for, generally speaking, they are content to pay their subscriptions and let all things drift. But there is wanted a council representing the whole body, and it is the system and not the men, the charter and not the council, that needs amending to ensure to the society the life it sighs for, and thus far has sighed for in vain. A system which should require the Fellows to nominate a certain number of members of council would give an interest to the annual meeting, and to the working of the whole concern such as it has never had. While the council is virtually self-elected, the society is, in some sort, an imitation of Old Sarum, and the wonder is that it is not quite so dead as it deserves to be.

Southgate Chrysanthemum Show, November 16 and 17.

The Order of the Chrysanthemum has been conferred on H.R.H. the Prince of Wales by the Mikado of Japan.

Preston and Fulwood Horticultural Society will hold its next spring exhibition March 17 and 18, 1887.

Scottish Horticultural Association will hold an exhibition of chrysanthemums December 7 and 8.

Lamarck's Herbarium has been purchased by the executive of the Jardin des Plantes from the University of Rostock.

Mr. Peter Blair has been appointed to the charge of the Trentham Gardens in succession to the late Mr. Stevens.

Borough of Hanley Chrysanthemum Society will hold its annual exhibition on the 23rd inst.

Banbury Chrysanthemum, Fruit, and Potato Show.—First hibition, Wednesday, November 24.

Aylesbury Chrysanthemum Society.—Annual show, Thursday, November 25.

The Sale of Nursery Stock at Girtford, near Sandy, Beds, on account of Mr. Laxton's relinquishment of the nursery business, is announced for Thursday next, Nov. 18. The auctioneers are Messrs. Protheroe and Morris.

Carters' Provident Society held its first annual meeting on Monday, the 8th instant, and it was announced that 268 members have been enrolled, all being in the employ of Messrs. J. Carter and Co., High Holborn. The report shows a considerable balance in hand.

The fine Variety of Phalænopsis grandiflora to which reference was made in the report of the Brixton Hill Chrysanthemum Society was exhibited by Mr. Guyett.

A Horticultural Congress will be held in Paris in May next in connexion with the exhibition of the spring show of the National Horticultural Society of France.

Dahlias and Chrysanthemums are not often seen together on the show table in November, but this time the concurrence has been common. A magnificent group of both, displaying a glorious mass of colour, was put up by Mr. Ware, of Tottenham, at the Stoke Newington Show.

The First Frost occurred on the night of Sunday last, when dahlias and other plants of like habit were blackened from head to foot and disposed of for the season. This frost was more general than is the case generally with the first event of the kind, but there will be found, still bright and flowery, many dahlias, cannas, and the like in the south and west, where, indeed, the summer bedders are now scarcely less gay than in August.

Mr. G. A. Sala is human, and therefore makes mistakes. In last week's *Illustrated London News* he assures us that Falstaff was well acquainted with *Solanum tuberosum*, and had it in view when he said, "Let the sky rain potatoes." If Mr. Sala will seek for Falstaff's potato in the Central Avenue of Covent Garden Market, he may at discretion discover it, purchase it, cook it, and eat it. The thing is now known as the *Sweet Potato*. It is not a solanum, but a convolvulus, and is known by its original Indian name of *Batatas*.

Primula capitata major is a remarkably fine form of one of the choicest of Indian primulas. On Tuesday it was presented in full splendour of its rich purple colour to the Floral Committee by G. F. Wilson, Esq., F.R.S., the examples shown having been raised from seed obtained direct from the Himalaya. Mr. Wilson described it as a very robust form as free as the type, and perfectly hardy, the flowers on the table having experienced on the night of Sunday last a temperature of 27 degrees. A first-class certificate was awarded by an unanimous vote.

At Heathlands, Highgate, chrysanthemums are admirably managed. A correspondent reports that the plants are allowed to carry more than the usual average of flowers, and the quality being good, the effect is at once rich and distinctive. Mr. Tribe, the gardener, has successfully practised the cutting-down system. He performs the slaughter at the latter end of May, and there is hope of a chrysanthemum that, if it be cut down, through the scent of water it will bud as freely as Job's tree. The result of the treatment adopted is a grand lot of plants, with shorter legs than usual.

Clerodendron nutans, in the form of a neat specimen in flower, was presented by the Crystal Palace Company at the meeting of R.H.S. Floral Committee on Tuesday last. It is an exceedingly beautiful shrub, with opposite or ternate leaves, oblong, dark green; the flowers in loose hanging panicles, white, inodorous, conspicuously beautiful, and freely produced. It is a native of Sylhet, on the north-east side of Bengal. It was first flowered in this country in 1830, from seeds sent by Dr. Wallich, and was figured in B.M. t. 3,049, where it is described as "one of the most beautiful and desirable of shrubs." A first-class certificate was awarded by the committee.

Society of Arts will commence operations in the theatre on Wednesday next, Nov. 17, when Captain Douglas Galton, F.R.S., will open the 133rd session with an address. Amongst arrangements made we note the following subjects and dates as likely to interest our readers: Nov. 24, Mr. William Anderson on Purification of Water; Dec. 1, adjourned discussion on Dr. Tidy's proposal for purification of Sewage; Jan. 24 and 31, Feb. 7, three lectures on the Diseases of Plants by Dr. T. L. W. Thudicum; Feb. 14, 21, 28, March 7, four lectures on Building Materials by Mr. W. Y. Dent, F.C.S., &c. The juvenile lectures, Jan. 5 and 12, 1887, will be by Professor A. W. Reinold, F.R.S., on Soap Bubbles.

A New Mode of Training Specimen Chrysanthemums has been admirably carried out by Mr. Mardlin, who has charge of the fine collection of these flowers at Finsbury Park. They are spread out on a kind of espalier trellis, in a flat face, and in a form nearly circular. As a matter of course, they are adapted only for certain special purposes, such as decorating a stage on the occasion of a concert, or for staircases, ball-rooms, and other places where space cannot be afforded for round-bodied plants of the usual pattern. This style of training merits attention for its peculiar usefulness. Some examples shown at Stoke Newington last week were highly commended by the judges, and would have obtained a more substantial form of approval had the terms of the schedule permitted.

Green Fruit Market.—Messrs. Keeling and Hunt report that the orange season has now commenced, fair quantities having been sold during the week from Malaga and Lisbon, also a few from Valencia and Sicily. Quality is good, but at present the fruit is rather pale. The colour will doubtless improve with each arrival. Lemons are lower in value; the quality of the Malagas, owing to the closing of the season, being poor. Very few from Sicily have yet arrived. Grapes are selling freely, but at moderate rates; quality is fair, and stocks are lighter than usual at this time of the year. Lisbon shipments have practically ceased for the season, very few now coming forward. Apples of good colour and quality are in demand, and meet with a ready sale at good prices. The bulk of the shipments up to the present from the States and Canada have been poor in every respect. Fresh walnuts are now over. Chestnuts are in good demand. Pine apples, bananas, and melons are still cheap.

SEEDLING CHRYSANTHEMUMS.

Your last week's leading article on the chrysanthemum called attention to myself, and placed my name in a prominent position as one of the raisers of seedlings. In thanking you for thus noticing my efforts in that line, I would add a few words to say that although since the death of the late Mr. Salter and Mr. Forsyth's removal to New Zealand I have done but little in the seedling line, yet I have never given up that very pleasant occupation, but have continued to raise a few every year.

During the last few years I have done but little, feeling that the very great improvements that annually take place in the Japanese are, for the present, putting aside the old style. I have therefore saved but little seed. Whilst mentioning this subject, I would suggest to those who intend trying their hand at seed-saving to follow my plan. I never get seed from large show flowers that have been disbudded. I find that by their being grown for size they are overfed, and the petals, being so large and numerous, cause, on their giving up, the inside of the bloom to damp off. Small plants in five-inch pots, pot bound, and not disbudded, give the greatest amount of seed, which I only gather from the first bloom. Besides, being in small pots you can keep them together and the more easily fertilize them. The best for seed are *Venus, Lady Slade, Barbara, Refulgens*, and *Princess of Wales*. You can nearly always rely on them. The difficulty I find is the getting the seed from the pod after they are dried off. The pods get so full of dust from the petals, &c., that it is difficult to separate it, and if you sow the dust and seed together I find the former rots the latter.

I find seed-saving a most troublesome job. As I never benefited pecuniarily by any of my productions I have made it my rule never to offer any seedling to any one unless it was in reality an improvement. Those raised during the last few years have not been better, or I may say so good, as *Mrs. Rundle* (which I gave to Mr. Forsyth) or *Le Grand, Pink Perfection, Beauty of Stoke* (which I have lost), *Mount Edgecumbe, Arganum* (also lost), the best light pink out, but the habit bad, the shoots being weak. Those and many others of mine sent out by Mr. Forsyth and Mr. Salter many years since still hold their ground. I intend this season to again go in for seedlings, and I hope my labours may be successful, the more especially as so few of the old style have been improved upon, Japanese monopolizing the field.

George H. E. Rundle.

Arganum Villa, Stoke, Devonport.

A ROSE HEDGE AND PROTECTION FOR BULBS.

While experimenting at Oakwood, I have come upon two notions which I think are worth publishing. The first is a new hedge; we tried a small one in front of the cottage, and this succeeding, we have now made one above a hundred yards long of Japanese rose, *Rosa Rugosa*. The beauty of its flowers, fruit, and foliage, of the last while green and afterwards in its golden state in autumn, makes it ornamental, while its quick growth and close thorns make it useful. The plants of our last hedge are seedlings taken out of a seed bed not more than two and a-half yards square. This hedge has a backing of cut furze. I expect in three years it will be a well-grown hedge. Notion No. 2 is a substitute for snow as a protection for some bulbs and plants. Snow, as is well known, owes its efficacy to the air contained in it. I have tried many experiments to get something that would take its place. Finding that plants sowed themselves on our gravel walk, and came up better than in the seed beds, I used a surface of fine sifted gravel with good results, and now believe that for bulbs which it is undesirable to plant very deep, and yet which must not be frozen, a covering of three to four inches of sifted gravel stones about an inch long would hold air enough to prevent frost getting down into the ground, and could be easily removed in spring. With some precious bulbs and deciduous plants I have put a surrounding of bricks edgewise, filling up the enclosed space with these gravel stones. Smaller stones may be better; this is a subject for experiment.

G. F. Wilson.

Heatherbank, Weybridge Heath.

NEW FRENCH GLADIOLI.

Dictateur.—Flowers large and of good form; bright lilac, with white centre, and feathered with carmine-red

Enchantresse.—Flowers of medium size; delicate satiny rose, striped with violet.

Fra Diavolo.—Flowers of large size and of a rich rose colour, feathered with reddish violet.

L'Esperance.—Flowers large and of fine form; lilac-rose, spotted with carmine-red; the centre yellowish white, and the lower segments bordered with rose.

Magicien.—Flowers of full size and of a bright rose, shading to pale rose.

Magnificus.—Flowers large and of fine form; cinnabar-red, blotched with white, and bordered with violet.

Marguerite Cadeau.—Flowers large, pure white, shaded and feathered rose-lilac.

Minos.—Flowers large, and of a pleasing salmon-rose hue, striped and feathered cerise-red and amaranth.

Pasteur.—Flowers of full size and fine form; bright rose shaded orange, striped cinnabar red, and blotched with ivory white.

Pollux.—Flowers very large, semi-double; bright carmine-rose, feathered and bordered bright red.

Sirius.—Rose, striped and feathered carmine, and blotched with white.

Splendens.—Flowers of medium size and of a bright cinnabar-red colour, blotched with pale yellow.

"THERE IS UNQUESTIONABLY" no better remedy in the whole world for all cough and throat troubles than KEATING'S LOZENGES—any medical man will assure you of this fact. Relief is speedy; they contain no strong acting, but only simple drugs; the most delicate can take them. Sold everywhere in 13½d. tins.—[Advt.]

SOUTHAMPTON CHRYSANTHEMUM EXHIBITION.

The ninth grand exhibition of chrysanthemums and fruit by the Royal Horticultural Society of Southampton, was held in the Skating Rink, on November 9 and 10. The weather was not at all favourable, but it is to be hoped that, being held under spacious covering, many of the townsfolk did not allow the little damp to deter them from visiting and seeing what was pronounced one of the best shows of fruit ever brought together. The exhibition of chrysanthemums was fully up to the average, if not better than usual. In some of the classes the competition was very keen, and the entries numerous. We are pleased to be able to add that the society is in sound financial circumstances.

Plants.—In the principal class for the best collection of chrysanthemums grown in pots and arranged in a space 8 feet by 5 feet, first prize, presented by Local Committee of Royal Counties Agricultural Society, Mr. J. Allan, gardener to J. Bailey, Esq., Enfield Hill, was deservedly placed first, the growth of plants and quality of bloom were in every way good; Mr. G. Busby, gardener to F. Williams, Esq., Hill Park, Bitterne, was a good second; Mr. Wills, gardener to Mrs. Pearce, The Firs, Basset, was third; and Mr. N. Blandford fourth. For six plants, incurved or reflexed, first prize, presented by Mr. Jonas Nichols, Mr. W. Joy, nurseryman, Hill Lane, was deservedly placed first, having a fine plant of Mrs. Dixon, bearing a great number of handsome blooms, Mrs. Sharpe, Mrs. Forsyth, Dr. Sharpe, G. Glenny, and Golden Christine, all handsome and well flowered; Mr. E. Wills followed, his best plants being Cullingfordi, Pink Christine, Mrs. Dixon, and Mrs. Sharpe. For a like number of Japanese Mr. Joy was again to the fore, having Bouquet Fait, Peter the Great, Bertier Rendatler, Cossack, and Soleil Levant, all good. For a single specimen, Japanese, Mr. Joy again led, showing a grand plant of Lady Selborne; and Mr. Wills again followed showing a fine plant of Hiver Fleur, six feet across; and Mr. J. Busby third, with Hiver Fleur. For single specimen, incurved or reflexed, Mr. Joy was again victorious, having a grand plant of Mrs. Dixon; Mr. Wills followed, with Mrs. Sharpe; and Mr. Busby was awarded the third prize. For four plants of any variety Mr. G. Busby was the only exhibitor, showing Mrs. Forsyth, Cossack, Elaine, and Golden Empress in good style, taking first prize well. In the class provided for four plants (amateurs) Mr. W. Reeves, Brinton Road, was placed first; and Mr. T. Green, Firs Grove Road, Freemantle, was second.

Cut Flowers.—In the principal class for twenty-four out blooms of all the large classes there was a keen competition of six competitors. Mr. W. Wildsmith, gardener to Viscount Eversley, Heckfield, Winchfield, was awarded the first prize, showing Maiden's Blush, Madame C. Audiguier Japonnais, Thunberg, Meg Merrilies, Bertier Rendatler, Madame Laing, Boule d'Or, Golden Empress, Baron Beust, Princess Teck, King of the Crimsons, Beauty, Queen of England, Empress of India, Emily Dale, fine, Chernb, Jardin des Plantes, Jeanne d'Arc, Lord Wolseley, Lord Eversley, Cullingfordi, and Lady Hardinge. Mr. E. Wills was a good second, and Mr. Neville, gardener to F. W. Flight, Esq., Cornfields, Winchester, was third; and Mr. C. Penfold, fourth. In the next class for twenty-four blooms, Mr. J. Allan was deservedly placed first, having Meg Merrilies, Comte de Germiny, Jeanne Delaux, Boule d'Or, Fair Maid of Guernsey, Japonnais, Madlle. Lacroix, Queen of England, Empress of India, Lord Wolseley, Lord Alcester, King of the Crimsons, Prince Alfred, Mrs. Shipman, Mrs. Heale, John Salter, Princess Teck, Mr. Bunn, and Hero of Stoke Newington. Mr. H. W. Ward, gardener to the Earl of Radnor, Longford Castle, Salisbury, was placed second with a very meritorious stand, in which Japanese predominated. Mr. Wills and Mr. Wildsmith followed in the order of their names. For twelve cut blooms, no less than eight varieties, Mr. Budd, gardener to F. G. Dalgety, Esq., Lockerly Hall, Romsey, was placed first, showing good Mdlle. Lacroix, Fingal, Mrs. Cunningham, Thunberg, Jeanne d'Arc, Chevalier Domage, Lord Wolseley, Jardin des Plantes, King of the Crimsons, and Dr. Sharpe. Mr. West, gardener to J. R. Wigram, Esq., Northlands, near Salisbury, second; and Mr. C. Chapman, gardener to Colonel Knatchbull, third. In the class for twelve incurved blooms distinct, Mr. W. Wildsmith was well to the fore, showing in good style Golden Empress, Queen of England, Lord Wolseley, Empress of India, Jeanne d'Arc, Princess Teck, Prince of Wales, Lord Alcester, Beauty, Rev. J. Dix, Mr. Bnnn, and Beethoven; Mr. J. Allan second, and Mr. E. Wills third; and for a corresponding number of Japanese, Mr. H. W. Ward was placed first in a competition of no less than eleven stands, having good blooms of Triomphe de la Rne des Chatelets, Thunberg, Fair Maid of Guernsey, Duke of Albany, Mdlle. Lacroix, Jeanne Delaux, Boule d'Or, Mons. Burnet, Madame B. Rendatler, Comtesse de Beauregard, Val d'Andorre, and L'Adorable. Messrs. Allan, Wildsmith and Wills, followed with little inferior exhibits. For twelve cut blooms, anemone flowered, distinct, Mr. C. Penfold was placed first; Messrs. Neville, Wills, and Ward followed in the order of their names. In the corresponding class for twelve reflexed, distinct, Mr. Allan was placed first, Messrs. Wildsmith, Ward, and Wills followed as given; and for twelve pompons, Mr. Neville was awarded the first prize, and Mr. H. Guillaume was second. For twelve cut blooms no less than eight varieties, open to exhibitors who had not taken a first prize at any chrysanthemum show, Messrs. Warden, West, and Besley were the successful competitors. In the classes provided for amateurs, twelve blooms, Mr. Carter was the most successful, and for six blooms Mr. W. Reeves was awarded the first, there being but one entry.

Fruit.—This was in every way good, there being but very few inferior exhibits, and the whole showed a marked improvement on that of last year. In the principal class for grapes there were nine competitors, Mr. T. Hall, gardener to Captain Davison, South Southampton House, being placed first, showing Black Alicante, Muscat of Alexandria, and Barbarossa. Mr. E. Molyneux, gardener to W. H. Myers, Esq., Bishop's Waltham, was a close second. Mr. C. Warden, gardener to Sir F. H. Bathurst, Bart., was third, showing Gros Colman, Muscat of Alexandria, and Alicante. For three bunches of black grapes, any variety, Mr. Molyneux was a good first, having Barbarossa, each 6 lbs. weight, and of fine colour. Mr. T. Hall followed with grand bunches of Allcante, 4 lbs. each, and Mr. Ward third, with Mrs. Pince; and for three bunches of any white variety Mr. J. Chalk, gardener to J. Read, Esq., Westwood, Wilton Road, Salisbury, was deservedly first, having three of the finest bunches of Muscat of Alexandria it has ever been our good fortune to see at this late season. Mr. Budd and Mr. Ward followed with the same variety. In the class for two bunches of black Mr. Penfold was placed first with good Allcantes. Mr. Warden and Mr. Allan followed with the same variety; and for two bnnches of white Mr. Penfold was again to the front, followed by Mr. A. Hook and Mr. H. Harris; and for the heaviest bunch of any variety quite an exciting scene took place, as it was found that the bunches staged by Mr. Ward and Mr. Molyneux were so close that it was necessary to weigh

them again, when it was found that Mr. Ward's bunch had a little advantage over his formidable compeer. For one pine apple Mr. Wildsmith was placed first, followed by Mr. Richards, gardener to the Earl of Mornington, Somerley Ringwood, and Mr. Ward third. For four dishes of apples Mr. T. Hall was placed first; Mr. W. G. Pragnall, gardener to J. D. W. Digby, Esq., Sherborne Castle, Dorset, second; Mr. Sanders, gardener to J. East, Esq., Longstock House, Stockbridge, third; and Mr. Tilford fourth. For three dishes, dessert kinds, Mr. S. Chapman was first, showing Cox's Orange, Kerry Pippin, and Ribston Pippin; Messrs. Wildsmith and Tilford followed; and for three dishes, distinct, kitchen apples, Mr. T. Hall scored another first; Messrs. Tinder, Pragnall, and Baily followed. For four dishes of pears the competition was very close. Mr. W. Sanders was first, showing fine Pitmaston Duchess, Beurré Bachelier, General Todleben, and Uvedale's St. Germain, and all the fruits were clean and handsome; Mr. A. W. Hook, Mr. G. Tinder, and Mr. A. West followed, in the order of their names; and, again, for three dishes of pears, Mr. Sanders came to the front; Messrs. Hook, Pragnall, and Tinder followed, in order given.

Vegetables.—For a collection of eight varieties of vegetables, Mr. Sanders was first with good Prizetaker Leek, Autumn Giant Cauliflower, fine Intermediate Carrot, Rousham Park Hero Onion (very fine), Pragnall's Exhibition Beet, Perfection Tomato, and Reading Russet Potato. Mr. Pragnall and Mr. Molyneux followed, all being good and but little inferior in merit to the first lot.

Miscellaneous.—To pass the beautiful stand of single-flowered chrysanthemums, not for competition, staged by Mr. Molyneux, would not be doing justice to the autumn show of the above society, as they attracted considerable notice, being at once novel and pretty. The following were the most conspicuous varieties: Oscar Wild, Mrs. D. Duke, Miss Gordon, Grace Darling, Patience, Meteor, Mrs. Langley, Crushed Strawberry, Lady Brook, and Nelly. For a collection of orchids, Mr. T. Osborne, gardener to H. J. Buchan, Esq., J.P., Wilton House, Southampton, was awarded the first prize for a very meritorious group containing many rare and valuable varieties. Among other exhibits was a group of stove and greenhouse plants from Messrs. J. C. and H. Ransom, nurserymen, Hill Lane.

RICHMOND HORTICULTURAL SOCIETY, November 11 and 12.

The chrysanthemum exhibition, held on the above dates in the Assembly Rooms, Richmond, was of a decidedly high-class character, and it is plainly evident that the gay flower is not neglected in this neighbourhood, as there was keen competition in the majority of the classes, and the exhibits were on the whole of superior excellence. Especially noticeable for good quality were the incurved, while the Japanese were not below the usual standard of merit. The Japanese anemones, we may remark, were of better quality than we are accustomed to see, as these and the pompons are, as a rule, miserably represented. The exhibition of 1886 will doubtless be remembered as one of the brightest and most interesting yet held under the auspices of the society, and both the executive and the energetic secretary, Mr. Ford, have good cause to be gratified.

Cut Blooms were well shown, especially the incurved, which were noticeable for freshness and finish. Mr. E. Coombes, gardener to W. Furze, Esq., Roselands, Teddington, won the first prize with Golden Empress of India, Queen of England, Empress of India, Lord Wolseley, Princess of Wales, Prince Alfred, Jardin des Plantes, Jeanne d'Arc, Baron Beust, Novelty, Lady Hardinge, Prince of Wales, Lord Alcester, John Salter, Mr. Bunn, Cherub, Refulgens, and Pink Venus; Mr. M. Sullivan, gardener to D. B. Chapman, Esq., Downshire House, Roehampton, second, also with meritorious blooms; and the third award was made in favour of Mr. James Carter, gardener to H. J. Parrey, Esq., Heathside, Wimbledon Common. In the leading class for thirty-six (eighteen incurved and eighteen Japanese) there was good competion. Mr. E. Coombes won the premier prize, staging satisfactory incurved flowers of Golden Empress of India, Lord Alcester, Queen of England, Lord Wolseley, Prince Alfred, Princess of Wales, John Salter, Jeanne d'Arc, Mr. Bunn, Lady Slade, White Beverley, Baron Beust, Cherub, White Venus, Jardin des Plantes, Princess of Wales, Empress of India, and Emily Dale; the Japanese included Mons. Burnet, L'Ebouriffe, Madame C. Audiguier, Val d'Andorre, Meg Merrilies, Duchess of Albany, Boule d'Or, Madame J. Laing, Madame Moulise, Mons. Tarin, Japonnais, Flamme de Punch, Curiosity, Baronne de Prailly, La Triomphante, Sultan, and Mdlle. Lacroix; the second award was made in favour of Mr. M. Sullivan, who had an excellent stand of well-developed flowers; and the third prize went to Mr. W. Bates, gardener to Mrs. Meek, Poulett Lodge, Twickenham. For twelve incurved, distinct, the winner of the premier award was Mr. G. King, gardener to Mrs. Few, Wolsey Grange, Esher, who had even, large-sized blooms of Lord Alcester, Emily Dale, Golden Empress, Empress of India, Princess of Wales, Guernsey Nugget, John Salter, Mrs. Shipman, Lady Hardinge, Barbara, Mrs. Heale, and Prince Alfred; the second prize went to Mr. J. Munro, gardener to E. D. Paul, Esq., Cambridge House, Twickenham; and the third prize was taken by Mr. T. A. Benson, gardener to W. H. Roots, Esq., Canbury House, Kingston-on-Thames. In the class for six Mr. T. A. Benson was the most successful exhibitor, showing, in good form, Lord Wolseley, Prince Alfred, Lord Alcester, Queen of England, Empress of India, and Jeanne d'Arc; Mr. C. Slade, gardener to Lady Bowater, Richmond Park, and Mr. J. Carter were second and third respectively. For six (one variety) Mr. J. Munro was first, and Mr. T. A. Benson second.

There was sharp competition in the class for twenty-four Japanese, not less than eighteen varieties, the premier prize going to Mr. G. King. The flowers were of superb quality, and comprised Madame C. Audiguier, Soleil Levant, Val d'Andorre, Boule d'Or, Bronze Dragon, Meg Merilies, Japonais, Baronne de Prailly, Joseph Mahood, F. A. Davis, Triomphe de la Rue des Chatelets, Mons. Burnet, Flamme de Punch, Elaine, Garnet, Mons. Astorg, Comte de Germiny, Yellow Dragon, Mons. Burnet, Source d'Or, and Arlequin. Mr. J. Munro was second, and Mr. J. Child, gardener to Mrs. Slade, Claygate, Esher, third. For twelve Japanese, distinct, Mr. C. J. Waite, gardener to Colonel the Hon. W. P. Talbot, Glenhurst, Esher, came to the front, putting up Fair Maid of Guernsey, Thunberg, Flamme de Punch, Triomphe de la Rue de Chatelets, F. A. Davis, Val d'Andorre, Marguerite Marrouch, Comte de Germiny, Madame C. Audiguier, Mdlle Lacroix, and Madame B. Rendlatar. Mr. J. Munro was a close second, and the third award was made in favour of Mr. T. A. Benson. For six, the most successful was Mr. G. King, who had good flowers of Baronne de Prailly, Boule d'Or, Comte de Germiny, Val d'Andorre, Soleil Levant, and Elaine. Mr. J. Carter, was second, and Mr. C. Slade third. For six Japanese, any variety, Mr. G. King was first, with fine blooms of Japonais, Mr. J. Munro second, with Soleil Levant, and Mr. C. Slade third, with Madame C. Audiguier.

Anemone flowered were shown in good condition, especially in the class for twelve, in which Mr. J. Child came to the front with Fables de Maderanaz, Madame B. Pigmy, Madame Clos, Mdlle. Cabrol, Sœur Dorothée Souille, and Minnie Chate; the second award was made in favour of Mr. G. Woodgate, gardener to Lord Wolverton, Warren House, Kingston; and the third prize went to Mr. C. Slade.

Plants made a fine feature. There was strong competition in the class for a group, the first prize going to Mr. J. Rook, who had a showy arrangement; Mr. J. Waldie, gardener to J. Bigwood, Esq., J.P., Twickenham, was second; and Mr. W. Campin, gardener to T. Cave, Esq., J.P., Queensbury House, third. In the class for a group of miscellaneous plants, Mr. S. Osborne, gardener to the Earl of Fife, East Sheen, was first; and Mr. G. Filsell, gardener to G. R. Geaves, Esq., Cambridge Park, second. For a basket of plants Messrs. Hooper and Co., Twickenham, came first; and Mr. W. Bates second. In the class for six trained specimens, Mr. G. King was first with handsome, well-trained specimens. For six trained specimens of pompon, the premier award was made in favour of Mr. J. Child; and for three standards, incurved, the first prize went to Mr. H. Elliott, gardener to Mr. L. Harrison, Leyden House, Mortlake.

Table Decorations and Bouquets made a bright and pleasing display, the principal prizewinners in the various classes being Mr. J. R. Chard, Miss C. R. Little, Miss Bowell, Mrs. H. Chapman, Mr. W. Bowell, and Miss A. Heath.

Vegetables and Fruit were shown in good condition. Mr. C. J. Waite was first in the class for a collection of six; Messrs. C. Garrod and J. Coombes being second and third respectively. The chief prizewinners in the classes for pears and apples were Mr. W. Davies, gardener to T. Chappell, Esq., Teddington; Mr. C. J. Waite; and Mr. T. Buckland, gardener to G. Atkins, Esq., Cambridge Park, Twickenham.

A collection of orchids containing choice kinds came from Mr. F. Hill, gardener to H. Little, Esq., Twickenham; winter flowering carnations from Messrs. Hooper and Co., Covent Garden; and a basket of new chrysanthemums from Mr. G. Stevens, St. John's Nursery, Putney.

Replies to Queries.

A. H. Woburn.—The report referred to will be published in due time: we have quite enough of reports for the present. A variegated parsley, has, we believe, been heard of before, but the thing is uncommon. You say you have enclosed a leaf, but we found none in the letter.

Exposed Fruit Wall.—Norton Hall,—We cannot advise you to adopt a glass coping, for it will cost money and probably make no return. Indeed, glass copings are often injurious. The Darlington wall cover is the sort of thing for you, as it would make you safe for peaches, nectarines, and plums. Probably pears would not need such help in your place. Ironwork for glass is often adapted from angle iron. Before you proceed write to Richardson, of Darlington, for prospectus of wall cover.

North Border.—B. P. must not expect many gay flowers on a north border, but as some north borders obtain a fair share of sun, it may happen to suit a few good subjects. You may plant with reasonable expectation of success the following: Lily of the Valley, Solomon's Seal, double Butterup, three or four sorts of Periwinkles, Caucasian Doronicum, Forget-me-nots, the large-leaved Saxifragas, and any of the herbaceous Spiræas. If there is a fair share of sun on the border you may plant carnations, pinks, the great crimson Thrift, a few of the more showy Pyrethrums, Phloxes, and hardy Geraniums.

Cockroaches.—W. D. will find it impossible to protect orchids and other plants from these vermin, but on the other hand, it is quite an easy matter to get rid of the destroyers. A mixture of arsenic and sugar is an effectual poison that they never refuse. The dangerous mineral is so serviceable that we must be permitted to mention it, and there should be no need of extra caution on our part to warn those who use it against such accidents as occasionally result from carelessness. During the past few months we have had to take measures against cockroaches and found Penny's Magic Paste an effectual and very convenient settler. The instructions are to spread it on bread and butter, but we find it answer perfectly if put on small pieces of white paper in lumps about as large as a filbert or walnut. It should be put down at night, for if put down earlier it loses its killing power before night comes, the phosphorus in it causing it to burn away. It is more readily attractive to the vermin on white paper than any other way.

How many beans in a pod?—The following, from B. C. Mettesham is a sort of eye-opener:—"At our village show a prize was offered for broad beans. The award of the judge was made to a dish of Longpods containing several beans in each pod. This award caused considerable surprise, as the exhibitors—villagers generally—were of opinion that the prize ought not to have been awarded to a dish containing more than two beans in a pod. Will you say if the decision of the judge was right or wrong?" We do not remember to have heard the question raised as to the number of beans in a pod, but the question, being raised, is quite within the domain of reason. The finest type of bean is the Broad Windsor, which does not often contain more than three beans in a pod, and the broadest and boldest pods usually contain only two. As compared with a fine dish of Windsor, a competent judge would not give preference to an average dish of Longpod. But we know not how the case stands, except on the point stated, and our answer is that we cannot decide as to the action of the judge, but we cannot recognise any limit of the number of beans in a pod.

Walnut Trees have been planted in the public streets of the fine old Belgian town of Ypres, so that there, at least, we must not expect to hear the familiar cry of "Worn'ts ten a penny." It is dreadful to meditate on the possible demoralization of the boys at Ypres: their case is worse than that of our boys with the horse-chestnuts.

"PROOF MAKES FAITH."—If for fifty years an article has been known, used, and appreciated by the public; it is *proof* of their confidence in, and preference for, its good quality and value. For nearly half a century Horniman's Pure Tea has been known to tea-drinkers, and gained their preference and esteem, because it is exceedingly strong, *has a rich and delicious flavour*, and is free from the injurious mineral facing powder (*Prussian blue, gypsum, and plumbago*) used by the Chinese to palm off inferior brown leaves to injury of consumers.—The price is printed on each packet of Horniman's Tea, and appointed agents (*Chemists and others*) sell it in all parts of the country. See agents' names advertised in all papers and at the Railway Stations.—[Advt.

EARLY-FLOWERING CHRYSANTHEMUMS.

This has been a good season here not only in respect to the rapid strides they are making in general favour, but in the many new sorts of good quality that have become visible. The summer has been a sunny one, with sufficient wet to fully develop the plants. I know it has been more sunny than last, not only by these plants, but by the measure of open-air grapes growing beside them.

Now for the progress; we have had the usual show at the Crystal Palace, Sydenham, on September 3 and 4; at which Mr. Davis, of Camberwell, took the first prize, and which he well deserved, myself the second, and Mr. H. James, of Norwood, third; besides these this show was marked by a group shown by Mr. Head himself, on behalf of the company. We were given first-rate places at this show, though we were rather at a disadvantage in respect that we had to make a round show instead of one with one face or a back to show against. It will perhaps be well here, to again mention that for the future it will be very much better if we were allowed there to show in 16 size pots instead of being bound to show in 24 size. This is likely to conduce to the welfare of the exhibition in other seasons to come, more than in the past; now that the National Chrysanthemum Society have started an early show, where no restriction is put on the size of the pots, though it may be taken for granted that larger than 16 size would not be used. If these larger pots were had at the Crystal Palace, some might show there who contemplated showing at the National Society's Show; the same plants in some cases doing double service.

There is one little thing to mention in connection with this Palace Show, as I shall not here mention the new sorts we were able to put up for the first time in public in England. It was that on the second day of the exhibition Mr. Davis, of Camberwell, brought one single flower of the new American variety, Mrs. J. R. Pitcher. This I believe to have been the very first flower ever shown in public in this country, and I put it on record because I think this kind will, in years to come, prove to be one of the grandest early chrysanthemums ever grown.

The next thing to notice is the First Early Show of the National Chrysanthemum Society, at the Aquarium, Westminster, held on September 9 and 10. It has been said that this was a fortnight too early, but I should rather say a week, or the middle of the month, not only for the season, but, supposing the Palace Show to be held when it is, it would allow more rest for those concerned between the two shows, as well as be likely to permit other plants to come to perfection for the purpose.

The grand feature of this show was the banks or groups of flowers, the first prize for which was justly given to Mr, Davis, of Lilford Road, Camberwell; and, I believe, this was the finest bank of early flowering chrysanthemums ever put up in this country. It was truly grand, not only as a show, but containing plants of the new red sport of Lyon, Alice Butcher, plants of Mrs. J. R. Pitcher, which latter were the first *plants* of this kind ever shown in England. It also contained a plant in bloom of the new crimson, William Holmes, the first one ever flowered in England, but not quite out. This attracted much attention, owing to its striking colour and large flower.

The second and third prizes went to Mr. Stevens, of Putney, and Mr. Wright, gardener to the Inner Temple, both of whom put up grand banks of flowers, whose only failing was rather too many Desgranges, but this did not detract from the grand solidity of the petals of this variety, which in all cases seemed to have stouter and thicker petals than usual this season. We want more colour badly, and should the new sort, Wm. Holmes, shown by Mr. Davis for the first time, prove early enough, it will fill the vacancy so obvious in the crimson line.

It has again been repeated that these early sorts are not wanted, and I can only say that people do not generally buy what they do not want, and they buy these because they will do what no other flowers and plants will. In the open ground alone they will produce such masses of flowers with so little labour; moreover, they last in water more than double the time of many cut blooms. Dahlias, to wit, last no time thus; besides, for town and suburban growing I think they have no equals. It should be remembered, too, that such plants as gladioli, &c., produce only one spike of flowers and are done, while Flora will keep on blooming for months. Where, too, are their equals for harvest festivals? All this some people know and others do not, hence these remarks.

At the Aquarium show class 6 was for collections of cut chrysanthemum flowers, and both Mr. Davis and myself considered that the main use of this class was to put up as many varieties as possible to represent the condition and advance of this culture, and he exhibited by far the very best collection in this respect, showing 24 kinds with their names on, of which *ten were new* sorts in fine state. I was able to show nineteen kinds, of which *nine were new*. All these sorts had their names attached. The first prize was given to a row of about one dozen blooms of Madame Desgranges, with a few tiny bunches without the names on at the back of them. Now, of course, this sort of judgment either exhibits incompetence or something worse, and in either case must tend to damage this particularly useful class of the exhibition, if not put a stop to it as a representative one altogether. What is the use of us trying to instruct if our efforts are ignored in this way?

I will now try to do what I have done in former years in these papers—to point out the new sorts of this season, and say a word or two on those not sufficiently developed of last season, and of most merit. I am perfectly well aware that, though so much has been written, many in the trade, as well as others, do not really know the merits of the new sorts, or I should not receive the catalogues I do from prominent establishments in which the poor old sorts figure where the new ones should have place instead.

Last season's good opinion of Blushing Bride is fully borne out this; it is a fine thing. Piercy's Seedling is again just as good as its first season. Roi des Precoces is rather later, and on October 5 was not out. Jeanne Cousinié has surpassed itself. It is very good, indeed, but not so robust as some. It is the colour of Mdme Piccol, but a better flower and earlier. Toréador does not so much resemble F. Pelé as I thought last time. It is a downright good red in many respects, the very best Early Red Pompon, it renders Pompon Toulousain unnecessary. I regard it and my Mr. Piercy the two best reds up to last season. I have come to the conclusion that Mignon is not Filberta; it is better by not being so tall, easier to propagate, and earlier. I may mention here too that Salter's Early Blush is coming much into favour for large quantities of cut flowers, for where grown in the open garden in a rough, little-cared-for way it does admirably. So much then for last season.

As for the discoveries of this season I put as the very first *Mrs. J. R. Pitcher* (Pitcher). This was sent to me last season by Mr. Thorpe, of the firm of Hallock, Son, and Thorpe, of Queen's, New York, U.S.A., but being packed in wooden boxes they came so dried and dead that they barely lived, and were a long time before they grew strong, which they did at last; but when the end of the season arrived and no bloom appeared I concluded they were late sorts, and gave them all away; among others part was given to Mr. Ware, of Hale Farm Nurseries, Tottenham, and upon a visit there on July 23 they were in bloom. These plants were said to be spring struck cuttings, and if that was so then it is one of the very early, as well as the very best, sorts. It grows about 3 or 4 ft. high, with leaves a good bit like Madame Desgranges, of which it appears to be a hybrid or seedling. The flower is a slight blush in the open, but a delicate white under glass. It is quite unlike Madame Desgranges in appearance, and is slightly incurved, very effective, and beautiful. Probably it will come to be as generally grown as Madame Desgranges.

The second find of importance is *Alice Butcher*. This is a red sport, I call it, of Lyon. Mr. Davis, who brought it out, calls it Bronze. Purchasers can decide for themselves. It is in every respect like the original but the colour.

Pierre Verfiel is another new and capital bright red pompon, blooming in September; the colour and flower much resembling Alice Butcher. Grows 27 inches high; flowers two inches across; petals reflex; very profuse bloomer. Will be very good for cut flowers. Better to propagate than Lyon or its sport.

Red Luxembourg.—This is a bright red sport of the old Mrs. Wood, but as that is now better known by its new name through its new yellow sport we have given it the name, as above, for the purpose of its most easy recognition. I think it very likely this will come to be one of the most favourite reds for florists' purposes, as the colour is good. It is rather a deeper shade than Pierre Verfiel or Alice Butcher, and it is exceedingly robust and good for rough culture and rapid propagation.

Golden Luxembourg.—Sport of Mrs. Wood, now wrongly called Luxembourg. Plant as good, robust, and dwarf in every way as the original, but having flowers of a bright yellow instead of a dull bronze. This stands wet and bad weather well, and is good to cut in a wet state.

L'Ami Conderchet.—One of the most beautiful early pompons ever introduced. It is a very stout grower; about 20 inches high. Flowers of a pale primrose colour, most profuse in quantity and good in quality; size from two to two and a-half inches across. Excellent grower; blooms in August.

Mademoiselle Leoni Lassali.—A very fine new ivory-white and large-flowered and particularly bushy plant, grows about 18 inches high. Will be admirable for a bedder. Blooms about three inches across; begins to flower in July.

Blanch Columbe.—A very good new dwarf white, growing 18 inches to two feet high. The flowers are about two and a-half inches across, with a very straight petal standing out like a star. Very robust. Blooms in August.

Flocon de Neige (there are two others of this name).—One of the most beautiful and exquisitely white pompons ever seen. Grows about 18 inches high, and has flowers one and a-half to two inches across. Blooms in July and August.

Sussex.—New English seedling. A good stout, robust-growing white pompon, with a pale yellow middle. Blooms in September; 16 inches high; flowers two inches across; handsome foliage.

Hermine.—A white, small pompon, very dwarf; one foot to 16 inches high. Flowers one and a-half to two inches across. Blooms in August.

Canarii.—This is a very good and dwarf pompon of a yellow colour, like a canary bird. It very much resembles the new yellow sport of Petite Marie, but is very good to propagate, while Petite Marie is bad for that purpose. Canarii is a flatter flower, and is about two inches across. The plant grows one foot high or a little more. It is a little beauty.

Petillant.—Is a nice stout-growing white pompon. Grows two feet high, and has flowers two and a-quarter inches across, with very stout, thick petals. Ivory-white. Blooms in September.

Deuil du Pere.—A not very bright crimson pompone, two feet high; flowers two inches across, rather flat. Blooms in August.

L'Avenir.—A very good sort, growing two feet high, of very good habit, bearing flowers two and a-quarter inches across, the colour of Madame Piccol, than which it is a better plant to propagate and of stronger constitution. Blooms in August.

Gentillesse.—This is a most profuse blooming pompon of a pink colour, growing about three feet high, and having flowers about one

and a-half inches across, a good robust grower. Blooms in August; old plants will flower twice in the season.

Precocite Japonaise is a very strange, quaint-looking flower about two and a-half to three inches across. The petals are a deep kind of pink at the base, shading off at the ends to nearly white. It is a good out-of-doors plant. About three feet high and blooms in September.

Roi d'Ete is a new pink pompon with a small flower, blooms in September; E. G. Henderson and Son. Is a plant of a poor thin habit with a poor thin flower; it is a yellow Japanese, blooms end of September; and while I write to say what is good, I may as well speak of the rubbish to avoid; and such as are not fit for the open garden, as it is for those I mostly write. This is, it should be remembered, such a very different thing to the general idea and practice with chrysanthemum growers, that the judgment would generally go against such plants as I grow. We want for garden decorative purposes and masses of cut flowers, handsome plants with branches and plenty of leaves, as well as flowers well diffused over them; but we have often to be judged by the minds formed from exhibition plants, tall and leggy, with a few fine flowers at the top and from which most of the buds have been picked; a weak plant will often grow good flowers that way, but such treatment is quite out of the question in the open garden, hence we want plants that are strong enough to perfect a large number of flowers of their own force. I have grown many plants commonly considered good, but when grown without disbudding are very poor indeed, not properly robust enough to stand the open air, far too tall to keep up, and not having the power to perfect all the buds into fair flowers.

I may here just mention one sort which, though perhaps it ought hardly to be included in the early kinds, but probably it may come earlier another time. It is *Mons. Cossart*, a fine, strong plant, with good stout flowers, large and very full, a kind of orange yellow; seems to bloom at the end of September. Grows three to four feet high. Blooms three to four inches across.

Precocité of Delaux.—This, too, is barely early, not blooming till the end of September or beginning of October, but as this is its first season in England it may come earlier next time. It is a stout dwarf pompon with handsome foliage growing about three feet high and bearing a profusion of very bright crimson flowers about two inches across. I think this will prove very useful.

The following are early, but some of them are not, and some are old with new names. A Villatte des Pruges and Mdme. Hoste, not early; W. E. Boyce, not so good as Isidore Feral, but much the same colour; G. Wrigley, Mons. Hoste, and Wm. Bealby, not early.

Annita came out old Madame Dufoy, the Jardin des Plantes, of Parker; Reine Blanche is old La Vallee; Yellow Perfection is Flora; Madame Lebois is St. Mary (souvenir d' un Ami); Chilou Chilard is a poor tall straggler, and shy bloomer; Comptesse de Morny (there are others this name) is late; Commandant Rives is a poor weak plant; Dame Blanche, not early, but good, white large flowers; Gremillette is poor rubbish; General Duret is the same as Mons. Dufoy, sent over here last season with the new name Petit Mignon.

We have this year had reports of two sports of Madame Desgranges. The first from Brighton, called Mrs. Burrell. I have seen flowers of this exhibited at the Crystal Palace, and the Aquarium, Westminster, and a fine one sent direct to me, and think that it is not a sport. We must bear in mind that the air of Brighton, when not passed over the town, is charged with ozone from the sea; this would naturally bleach flowers and make them lighter as this is, and if at the same time we consider that these fine flowers are finished under glass, it will wholly account for the primrose shade of this, and that, if this should be grown inland, and in the open air it will probably show no difference from the original. I will not pronounce for certain till next season, when I will try to grow it beside the parent. The second claimed to be darker, and came from Putney, but I can see no shade of difference in it.

In conclusion, I must thank all my kind friends for their assistance, financial and otherwise, and will in the future as in the past, so far as in my power lies, do justice with the money, and to the plants or seeds I may receive. It is by organised action as well as individual force, that so much progress is attained, for the time is past when snubs and indifference can prevent early flowering chrysanthemums taking their proper place in the English Garden.

89, *West Road, Forest Hill, London, S.E.* W. Piercy.

EARLY PEAS.

By J. C. Clarke.

Winter Sowing.

The time for sowing early peas has once more come round, and the business of the cultivator of peas must begin in earnest. This applies of only to such of them as make a point of sowing peas in November and December. Whether it is a good or bad practice to sow peas at this time must be decided by climate and the character of the soil as well as by individual circumstances. If I were called upon to have peas as early as possible, and I lived in a favourable climate, and had rather a light and well-drained soil, I would certainly sow my earliest crop in November. But then I should look upon it only as a chance crop. I should be careful to sow another lot as early in February as the weather would permit. In cold districts, and even in warm ones, if the soil inclines to clay I do not think there is any gain by sowing before the beginning of February. In any case if I were much troubled with vermin that would injure the crop in its early stages, and had the convenience, I would not sow until the first day of March, and then I would raise them in heat, and transplant them at the end of three weeks. About twenty seeds sown in a 4½ inch pot will fill the pot full of sturdy plants that may be divided and planted in favourable weather in March, and they will feel the move as little as a well-established pelargonium that is turned out at the end of May.

Best Early Sorts.

The first step will be to select the best sort to grow. To a great extent the selection should be determined by individual circumstances If it is desired to have the earliest without regard to their table quality a round white sort must be chosen. There are many, perhaps too many, sorts of this description of peas, but they are only varieties of that old sort known as Sangster's No. 1, whether the name be Ringleader, or First Crop, or the Earliest and Best. If they belong to the type there is no difference as to their earliness or any other quality, so that for all practical purposes the name is of no consequence. My opinion of the table quality of these early white round peas is that they are very poor, especially if we should get a week of hot and dry weather in the middle of June.

Notwithstanding this they are indispensable where it is desirable to get a dish of peas at the earliest moment, and they are certainly useful for sowing in November. The best early round green sorts are Kentish Invicta and William I. The first named is the earliest, and decidedly superior in flavour to the white rounds. It is also a good cropper, except that it is three or four days later. William I. is the best table pea, as it is larger and the colour a good dark green when cooked. This is also the best cropping pea of any of the early section amongst dwarf early sorts. Abundance is no doubt a few days earlier than the rest, but the peas are small in size and not first-rate in flavour. American Wonder is my favourite as an early dwarf sort, but it goes out of bearing so quickly that I do not set a very high value on it. Its chief merit is, if desired, it may be grown without the support of sticks. But peas always pay for being supported by sticks, and with a sort that does not grow more than eighteen inches high there is less difficulty in affording some support. Of the many different sorts of early peas there is none equal to Laxton's Alpha as regards size and flavour. But it is unfortunately ten days or a fortnight later than any of those named above. But it is so superior as a table pea that if I had only to study my own taste I should not grow any other. Being a wrinkled pea it is not so hardy as the round varieties, and should not be sown before the middle of February or there will be danger of the seed rotting in the ground before there is warmth sufficient for it to vegetate. This sort grows about two feet high.

The Place for the Early Pea Crop.

The warmest position that the garden affords must be devoted to the early pea crop. In the majority of gardens there is a south border which is sheltered by a wall or fence that can be spared for peas, which should always have the preference. Next to a sheltered situation is a deeply dug and fairly rich soil. The safety of standing through the winter and the ultimate productiveness of the crop depend, in my opinion, more on the depth of well-moved soil than on its richness. A soil that is trenched up two spits deep for the reception of the crop will cause any excess of surplus water to drain away from the roots. Consequently they will be kept warmer than those in a medium that is inefficiently drained. A deep tilth also benefits the crop in another way. It sustains it through a time of heat and drought, which not unfrequently occurs just at the time they are in full bearing. If the roots have not had the chance of getting down out of the reach of the drought the crop quickly gives out, and the peas produced are little better than grapeshot to eat when cooked. I do not consider that early peas, as a rule, pay for watering and mulching, as the later crops are sometimes treated, although during exceptionally dry weather in May it will be sometimes necessary.

Manner of Sowing.

In regard to the manner of sowing early peas, I am satisfied that this operation should be regulated quite by the character of the soil. On land that is heavy and inclined to retain too much moisture, they should be sown on the surface and covered up with some fine soil. When so treated they are not so liable to rot before the seed vegetates. A covering of soil one inch thick is enough at first, and as soon as the tops appear through the first earthing, another of the same depth should be given. In dry warm soils they may be sown in shallow drills, but in any case the drills ought not to be more than two inches deep. Where mice are troublesome, I know of no better way of stopping their depredations than to colour the seed with a little red lead before sowing them. This is an easy matter. The peas should be placed in a large saucer or pan and then damped. Some red lead is then shaken over them, and by moving them about in the pan, all will be more or less coloured with the lead. I have seen it stated that soaking the seeds in petroleum is an effectual remedy against mice; and so it is so far as my experience goes, for when I tried it the mice did not eat the peas. But it destroyed their vitality, for not ten per cent. of the seeds grew, which had been steeped in the stuff for only a few minutes. I therefore cannot recommend any one to try it.

Protection.

For the sake of affording them all the protection possible it is a good plan to put the sticks to such as are to have them as soon as the peas are well through the soil. The sticks will in some measure shield them from frost, as well as break the force of the wind. As to any other form of protection, the less of that the better. I have in my time tried protecting early peas with evergreen branches and similar make-shift systems during periods of frosty weather, but I always found them to do more harm than good. After they have been protected for a few days they become so tender that the first cold wind that comes after the protection is removed injures them more than if a sharp frost had overtaken them before the protection had been put on.

TEA-SCENTED ROSES IN THE GARDEN.

By W. Bradbury.

Those with whom the tea-scented roses are special favourites can hardly have failed to notice with satisfaction the high degree of popularity to which they have attained of late years. They now form a very large part of all the exhibitions, as compared with the position they occupied at competitive gatherings from ten to fifteen years since, and they are certainly to be seen in much greater numbers in the gardens of those who take special interest in roses. They have indeed come forward with leaps and bounds, and surprised not a few of the older rosarians by the position they have taken. But popular as they have unquestionably become, it cannot as yet be said that they are regarded with too much favour. It would, indeed, be nearer the mark to aver that by the great body of cultivators they are not sufficiently appreciated. However that may be, the finest of the varieties are so free and continuous in blooming, and the flowers are so exquisitely beautiful and delightfully fragrant that we could not well have too many of them. In the length of time over which their flowering season extends they are certainly not surpassed, if equalled, by any other section of the great family to which they belong. This year we had an abundance of flowers for fully six months, and if any one has had flowers in plenty from other of the roses for so long a period, the readers generally of the Gardeners' Magazine, as well as myself, would probably be glad to hear something about them. The autumn was, it must be confessed, very favourable to the development of late blooms; but, on the other hand, the spring was decidedly unfavourable to the production of early flowers, and if we balance one with the other we shall have a season differing but little from the average. As facts are of some importance in this case, it may be stated that we began to cut blooms, not in twos and threes, but by the dozen, from plants of that fine old variety, Gloire de Dijon, growing against a south wall, in the first week of June; and were able to gather huge bouquets of flowers from a considerable number of varieties at quite the end of October. Between the beginning of the first and the end of the second of the two months mentioned there was at all times plenty of flowers. The losses which were experienced by growers in years gone by, when so large a proportion of the then available varieties were very tender, have until quite recently assisted to very materially check the cultivation of the teas; for, as in the case of other things, there has been some difficulty in effacing the impression which the general body of cultivators had as to their hardiness. Happily the feeling is rapidly passing away that they are utterly unable to battle with the adverse influences to which they are exposed in our uncertain climate. Not less satisfactory is it to know that judges are beginning to understand that a great mistake has been made in past years in regarding the production of their flowers as such a difficult matter that an indifferent tea should in all cases have a higher estimate placed upon it than a grandly developed hybrid perpetual.

In the cultivation of tea-scented roses the circumstances of each case must have due consideration, and the course taken be determined in accordance therewith. In no place, perhaps, do the more robust growing varieties of the Gloire de Dijon race appear to greater advantage than against a wall of moderate height or a rather tall, closely-boarded fence. Against either the wall or fence they can be depended upon to grow vigorously and well ripen their wood, and during severe weather it is a comparatively easy matter to protect them from frost. We have an oak fence six feet in height and about fifty yards in length, which is devoted to the teas, and very great is the satisfaction we derive from this way of growing them. The border in which they are planted is three feet in width, and along the front we have a row of dwarf tea roses, and hardy herbaceous plants, which are arranged rather thinly to allow room for a few zonal pelargoniums and other brightly-coloured summer bedders. A four-feet border would undoubtedly be preferable, but a walk running parallel with the fence prevents its being widened. To compensate the roses for the limited root-space, we manure more liberally than would otherwise be necessary. The plants were in the first instance placed about four feet apart, but a few that have acquired exceptional strength have now a space eight feet in width.

Previous to planting the border it was covered with a thick layer of old hot-bed manure, and was trenched over to a depth of nearly two feet. Since they were planted we have each autumn applied a moderate top dressing of manure of a similar description to that employed in the first instance, and the growth has been as vigorous as could possibly be desired. During the summer the shoots are allowed to grow somewhat naturally, but in the autumn they are tucked in to admit of their being more readily covered during the winter. To protect the roses from severe frosts we hang bunches of spruce fir along the fence in such a way as to cover the greater part if not all the trees, and they serve the desired purpose admirably. They afford efficient protection from frost, and at the same time allow a free circulation of air amongst the branches. Bracken or mats would also answer very well, but the spruce branches are the most readily put up, are less unsightly than either, and as we have a plantation from which unlimited supplies can be drawn they have the preference. The pruning is done towards the end of March or early in April.

In some places tea roses are grown as standards, but very little indeed can be said in their favour. When the heads are allowed to extend freely they are not wanting in attractiveness during the time they are in full bloom, but at other seasons they present anything but a pleasing appearance. There is one very great objection to the growth of standards, and that is the difficulty of protecting them during the winter. It is usually advised that standards should be planted in a bed which can be covered in, and for protecting those occupying isolated positions on the lawn filling the head with bracken is recommended. To cover in beds filled with roses ranging from three to four feet high is not an easy task, and when accomplished the covering is invariably unsightly, as also are the single specimens with their heads stuffed with dead fern fronds. The best way of overcoming all difficulties in the way of sheltering teas when in open beds is to plant dwarfs. These are much more attractive, both when in and out of bloom, than the standards, and with the aid of bracken or fir branches they can be readily protected, and in such a way that the beds will not have an unsightly appearance. The dwarfs have a still further recommendation, and that is their lower price, the difference usually amounting to twenty-five per cent.

The beds selected for the teas ought not to occupy the most prominent position in the garden, because beds that are within a short distance of the windows of the dwelling-house, should not contain anything wanting the slightest protection at any time. As regards the preparation of the soil, it may be stated that there is no occasion to incur a heavier outlay for the teas than for the other classes of roses. They will thrive in ordinary garden soil that has been moderately enriched with manure and dug over deeply. Where the soil is naturally heavy and cold, it will be advisable to replace a portion of the most uncongenial of the staple with road drift, charred refuse, sweepings of the potting shed, and any other material that will assist in rendering the soil more friable. In these cases it will be an advantage to also raise the surface of the bed from six to twelve inches above the general level, as in beds so raised the plants will be placed under conditions more favourable to the ripening of the wood. The beds, whether the soil is heavy or light, should, previous to their being planted, receive a dressing of manure and be stirred to a depth of not less than eighteen inches. If the plants are obtained from the open quarters, the sooner they are obtained and bedded out the better; but the planting of examples from pots should be deferred until the spring. The best course in ealing with pot plants is to obtain them at once, because of the wider range for selection; then place in a cold frame where they can remain until April, when they should be transferred to their permanent quarters. Two feet each way is a good distance at which to plant dwarf teas.

Notes of Observation.

CETEWAYO POTATO.

It may interest your readers to know the extraordinary result obtained from a sample box consisting of four Black Cetewayo potatoes I had from Messrs. Carter in the spring. The potatoes were planted in the ordinary way in a drill, without any extra manuring. The produce consisted of 290 roots, large and small.

Summerfield, Dalkey. J. Anderson.

ROSE HEINRICH SCHULTHEIS.

Although this rose may not be new in colour, it possesses sufficient merit to be included in the most limited collections. Not the least of its merits is that it is delightfully sweet-scented. In colour it is pinkish-rose, and very delicately the colours are blended. The flowers too are large and full, and freely produced, both in summer and autumn. Altogether I am disposed to think very highly of this rose, and the sooner I can get it established on its own roots the better I shall be pleased, for I feel sure it will sustain its character when so grown.

J. C. C.

OWN-ROOT ROSES.

It is a pity that many should look upon own-root roses with indifference, under the idea that they do not grow sufficiently strong to be satisfactory. There cannot be a greater mistake in regard to the majority of the Hybrid Perpetuals, for when they are planted in a suitable soil, and allowed time to get well established, they grow with great vigour. At the present time I could cut out two or three faggots of the present year's growth from beds I planted twenty years ago, and still leave enough to furnish flowering wood for next year; and much of this growth is six feet long. Of course at the proper time it must be cut out; but at present it remains as a proof that the plants can be made to grow for a number of years with as much vigour as is necessary to produce plenty of flowers. I am quite aware that there are a few varieties in this section that do not grow so well as others when on their own roots. But there is such a number of them that do so that we can very well afford to do without the weak growers. Our beds of own-root roses get a heavy mulch of rotten manure laid on the surface once in two years, which, with the exception of pruning and pegging down the growth, is all the attention they have. J. C. C.

New Plants, Flowers, and Fruits.

Habenaria militaris (*G.C.*, 1886, ii., 518).—An interesting orchid from Cochin China.

Orchidantha Borneensis (*G.C.*, 1886, ii., 519).—A dwarf foliage plant, having the aspect of a small heliconia. The flowers are orchid-like.

Bignonia purpurea (*G.*, 567).—A handsome stove climber, with flowers of a soft rosy-purple colour.

Dendrobium smillieæ (*G.C.*, 1886, ii., 552).—A fine species, flowers light green, with dark tips of petals and sepals.

Dendrobium (Dendrocryne) inauditum (*G.C.*, 1886, ii, 552).—A fine dendrobe from Polynesia, flowers like those of *D. tetragonum*.

Esmeralda Clarkei (*G.C.*, 1886, ii., 552).—In the way of *Vanda Cathcarti*, and probably a form of it.

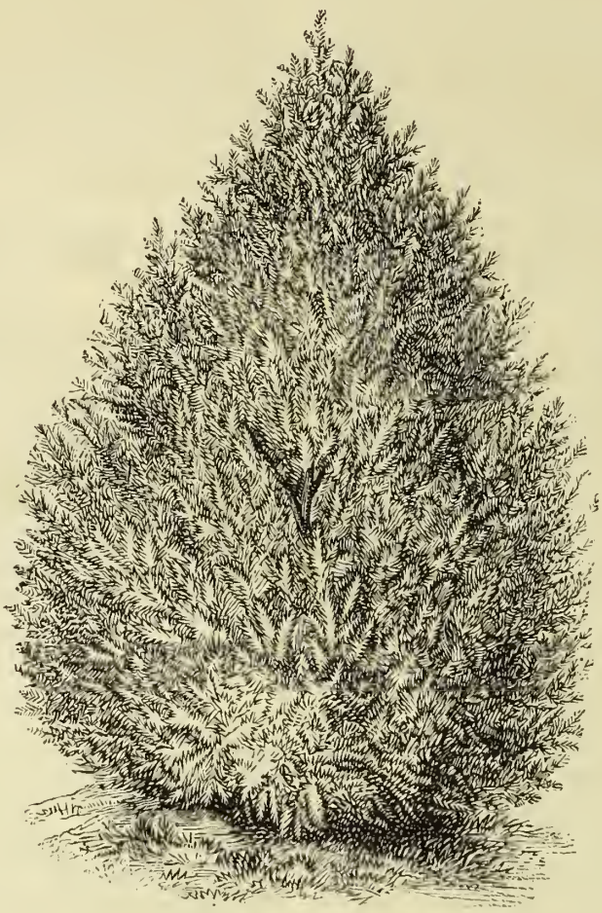
Sambucus Californicus (*G.M.*, 1886, 659).—A hardy, ornamental tree, the young shoots of which are clothed with white down, which give them a milky appearance.

SIBERIAN ARBOR VITÆ.

THE head line gives the familiar name of a variety of arbor vitæ, the book name of which is *Thuia occidentalis V. Siberica.* The figure shows its proper growth when allowed free development under favourable circumstances. It is the most useful of the considerable series of varieties of Western thuias, and particularly well adapted for such different purposes as to make a beautiful lawn tree or a dense evergreen closely clipped hedge, for it bears the shears or knife as well as hornbeam or privet. It is compact in growth and has the best green colour of any of its family, while as to soil it is not particular so that it be moist, and it is so hardy that no winter here has been known to harm it. In some nurseries it is labelled "Wareana" from having been raised by Mr. Ware, of Coventry. It is also known as "Biota tatarica" and "Thuia australis." We give it a prominent place here because of its proved usefulness and decided superiority.

STANDARD ROSES.

AMIDST the frequent condemnation of standard roses, we have always been careful to say that they have their uses, and would often be noble adornments of the garden if their owners would but encourage them to grow instead of resorting to ridiculous restrictions. The severe pruning and the fashioning of the trees to close round mop-heads is a baneful practice that every lover of the rose should repudiate. The trees are weakened by the suppression of the useful growth they make, and while their heads are made hideous by being modelled to an unnatural form, their roots, fretting under the restriction of the leafage required for vigorous action, endeavour to work revenge by throwing up a host of obnoxious suckers. These are of course cut away, and thus nature and man become engaged in a conflict in which nature triumphs at last by removing the rose tree from the land of the living, where it has been so systematically abused. It is only where severe pruning is practised that there is any serious mortality amongst standard roses. Generally speaking, when allowed freedom, the head and the stock grow together, and handsome and healthy trees produce abundance of flowers, and are things to be proud of. It is a folly to put weak sorts on the English brier; it requires a vigorous head to keep it in health, and save it the trouble of producing suckers.



SIBERIAN ARBOR VITÆ.

When visiting the gardens of Gunnersbury House in the rose season, we were much gratified with the rosery, which was a perfect paradise of flowers, and the standards were models of what such trees should be. Mr. James Hudson, the talented gardener there, has within the past ten years or so given up all restrictive pruning, and has an orchard of trees on the free long-rod system, that by their beauty and fruitfulness afford a brilliant commentary on the proposition that pruning is prohibitory of both growth and fruit. He carries his practice into the rose garden, and one reason of the exceeding beauty of his standard roses is that the trees are pruned the least possible, and, therefore, are in the best health possible.

We have figured one of these trees for the entertainment of amateur rosarians, who are often much exercised on the subject of pruning. It was originally worked in the usual way with two buds, and the lower one has made a somewhat independent growth, thus rendering it impossible for anyone to speak of it as mop-headed. The variety is Madame de Cambaceres. It should be added that the tree, as seen when sketched was much fuller than appears in the figure, for we have intentionally made it somewhat thin to show the disposition of the branches and to demonstrate the slightness of the pruning. As a matter of fact, the gaps seen in the figure were only just sufficient to give a picturesque contour consistent with a dense growth and a prodigious mass of flowers.

THE APPLE AND ITS CULTURE.

By JAMES DOUGLAS.

IT may by some persons be considered a very commonplace subject to write about apples. Every owner of a garden makes some attempt at cultivating apple trees, but not one in six has sufficient knowledge of their culture, or at least they do not by good culture develop the qualities of the fruit. Apples are, perhaps, the most useful of all fruits in the household, and the most beautiful in the garden, whether the tree is furnished with its beautiful blossoms in spring, or laden with its gold and crimson fruits in autumn. In order to obtain large and well-coloured apples, the trees must be clean and healthy to begin with, they must be planted in well-prepared ground, and be well managed afterwards. In many gardens the trees are planted anyhow, and with no special preparation of the ground, reminding one of the old laird of Dumbiedikes's advice to his son on his death bed: "Jock, when ye hae nacthing else to do, ye may be aye sticking in a tree; it will be growing, Jock, when ye're sleeping." I was engaged at one time sticking in trees on the Scotch hills. Our plan was to cut a slit in the turf with a spade; one stroke into the turf made the slit; the spade was next driven into the turf at one end of the slit, which made the form of a cross; the turf was raised, the roots of the tree pushed into the slit, and the turf trodden down on it again. This could not be called planting. The old laird's definition could be more truly applied to it. It does not take very long to plant an apple tree properly; and it is best to do this and all other details of the work in the right way. The culture of apple trees, like the culture of auriculas, is progressive. Apples, like auriculas, were cultivated more than a hundred years ago in English gardens, but the culture was not so well understood in those days, nor were the varieties anything like so good in quality as they are now.

The apple has a very ancient history. It was cultivated by the Romans, and was doubtless brought into this country by that warlike people. The Romans were long stationed near Hereford, and probably they cultivated apple trees there. One writer, Haller, stated that some of the apple trees in Herefordshire were 1,000 years old. Mr. Andrew Knight carefully studied the Herefordshire Pomona, and carefully conducted many scientific experiments, which did not always terminate in a satisfactory manner. The old apples he believed were in the last stages of decay, whether they were propagated by grafting on good young stocks or not. He remarked of certain old sorts that "the Moil and its successful rival the Red Streak, the Musts, and Golden Pippin, were in the last stage of decay, and the Stire and Fox-whelp were hastening rapidly after them;" and referring to his experiments in propagating some of these old sorts, Mr. Knight makes the following remarkable statement: "I am justified in the conclusion that all plants of this species, however propagated from the same stock, partake in some degree of the same life, and will attend the progress of that life in the habits of its youth, its maturity, and its decay;" and the respected President of the Horticultural Society thought it worth while to say further, "though they will not be any way affected by any incidental injuries the parent tree may sustain after they are detached from it."

Speechley, Williamson, and others took up the argument in the Hort. Trans. sixty years ago, and believed that the changes in our climate were the cause of deterioration in the fruit, and that the return of more genial seasons would cause the trees, young and old, to produce as good fruit as heretofore. London also considered Knight's doctrine contrary to the general analogy of vegetable life. It is a fair question to ask whether there is really any change in our seasons to speak of. There have been no very severe frosts since 1836, and certainly none in recent years to compare with that so graphically described in "Lorna

Doone," so long ago as the days of Judge Jeffreys. The seasons vary, of course, while draining and cutting down forests may influence the rainfall in certain districts, but not to any appreciable extent. It may be a safe assertion to make, that there never were such good apples grown in England as there are now, owing doubtless to improved methods of culture and better varieties of fruit. The dwarfing stock has made quite a revolution in the culture of both apples and pears. Of course, the foundation of a good tree is laid in the stock. It is the work of the nurseryman to see that the stocks are good and of the right kind for the trees, and the great competition in business will always ensure the sale of the trees at a reasonable price. Whether the garden to be planted is a new or an old one it should be trenched, and the depth of the trench must be determined by the quality of the subsoil. But to ensure perfect drainage is the first step to be taken before trenching or laying out of the ground.

Cultivators have to face many difficulties in preparing the ground for trees, and when the question arises of profit it will be necessary to calculate the expenses of preparation to see whether it will pay or not. I have in my mind two cases of apple culture; one of them is a good instance of the right way to deal with the ground for market purposes. About four thousand or five thousand trees were planted on soil well prepared by ploughing or cultivating about a foot deep. The trees were grafted on the dwarfing or surface-rooting stocks, and planted, in the first place three feet apart, requiring 4,840 trees to an imperial acre. After two years, each alternate row of trees was removed, which left the remainder six feet one way and three feet the other. This took away half of the trees, 2,420, which at six feet apart planted two acres of ground adjoining the first, which had been in preparation by manuring and cultivating with vegetables. The year following, each alternate tree in the rows three feet apart were removed, which gave 1,210 trees, enough to plant an acre at six feet apart; in this way there are four acres planted with healthy young trees; they were two years old at first, and at the time of the last transplanting were five years old, and were fine bearing

STANDARD ROSE, *Madame de Cambaceres* (Flowers rosy crimson).

trees. The first planted trees ought to be lifted and replanted, and if there is sufficient room for the growth of strawberry plants, these also should be planted; crops of lettuce, parsley, or any small-growing vegetables may be profitably grown. I may say that the trees I have alluded to very speedily grew too large for the space allowed them, although they bore good crops of fruit of excellent quality, and they were at last planted twelve feet apart each way, and sixteen acres were planted, 302 trees to the acre. When I last saw them they were in full bearing, and the quality of the fruit was exceedingly good. The manager told me that Cox's Pomona was as good a paying sort as any; it sold readily at a good price. This is a very good early kitchen apple, but sometimes it is used for dessert purposes. There were about 400 trees of this variety planted and 600 of Cox's Orange Pippin, without a doubt the best dessert apple for the southern districts of England. Another variety, of which about 300 trees were planted, was Lord Suffield. Wellington was also planted in considerable quantities. Were I about planting an acre of trees as above described for market purposes, I would not plant more than about a dozen varieties. A good deal has been said about the American apples, but as far as I know anything about them they are very dry and poor in quality as compared with our English-grown fruit. No apples can equal the kitchen apples grown in England, and none will fetch such high prices in the market when the quality is such as any one may produce in good soil. Some of the newer apples—such as the Queen (Saltmarsh), Prince Albert (Lane), the Sandringham (Veitch), the Schoolmaster (Laxton), and a few others—are likely to take a prominent position as market sorts. For garden culture a larger number of varieties may be desirable, as it is interesting to study the characteristics of each variety.

Gardeners undertaking the charge of gardens hitherto neglected have often considerable difficulties to contend with. The question of making the crops pay will intrude, but in many cases gardens are cultivated for the pleasure to be derived from them, although profit may not be altogether lost sight of. I had to do with a garden of large size, and in which the fruit trees had been allowed to grow in their own way for half-a-century, and they were in all stages of decay from canker, and the larvæ of the goat moth (Cossus ligniperda) tunneling into the trunks of the trees in all directions. When an old tree had to be removed in the last stages of decrepitude another was planted, which, in its turn, was in a few years badly cankered. The soil was bad, a shallow sandy loam on dry gravel—in some cases the gravel cropped up to within six inches of the surface. The state of about three hundred fruit trees, plum, pear, and apple, in all stages of decay, was enough to deter anyone but an enthusiast from undertaking to renovate the garden. We did undertake it, although the expense was considerable; but we managed for twenty years to produce excellent fruit, and the trees were to the last free from canker. This is how it was done: The first operation was to lay the garden out with walks where they were required. On each side of the walks, borders eight feet wide were marked out. The box edgings were laid first, and a quantity of good soil could be taken out, to be substituted with gravel. As the work of trenching proceeded to the depth of eighteen inches we found plenty of places where the gravel had to be removed to give us this depth. We could take out the gravel and make up the paths with it, and replace with the soil from the paths. The trenches were three feet wide, and into each trench we wheeled two barrow-loads of clayey loam and a good proportion of manure. When the work was completed, the borders all round were trenched to a uniform depth of eighteen inches, and the paths made up with gravel removed. Healthy young trees were planted of the pyramid form, worked on the Paradise stock, and six feet apart. They were in single lines on each side of the paths. There were also pears on the quince stock, cherries on the Cerasus mahaleb, and a few plums, all of the pyramid form. Many old trees in the way of the paths and borders had to be removed, but we had to save many near the borders which were likely to bear crops. When the trees were planted a few spades-full of good loam were worked amongst the roots. Next year I had all the trees lifted and the ground re-trenched. Each tree had formed a mass of fibrous roots into the new loam. In replanting the second time more loam was placed round the roots; and in subsequent years, instead of digging amongst the roots of the trees, I gave the borders an annual dressing of short manure in the winter. This encouraged the roots to work up near the surface, and in the whole twenty years three or four trees out of about one hundred and fifty showed signs of canker; they were lifted and replanted, and the canker disappeared. We had about fifty varieties of apples, the three that cankered being Wellington, Cellini, and Ribston Pippin. Six feet apart is not enough; nine is better. We have pursued the same system in our new garden, but have had to fight against desperate attacks of red spider. This had to be kept under by frequent syringing. In the other case the trees had to be watched for the larvæ of the goat moth, and also for the apple-boring maggot, a very troublesome pest. This is the larva or grub of the codlin moth (Carpocapsa pomonella). It eats into the fruit, causing it to drop off before it is ripe. We could find no cure for this except gathering the fallen apples, and picking from the trees those attacked and giving them to the pigs, which made short work of apples and grubs together at one meal.

The following is a list of the best kitchen and dessert apples for a large garden:—

Dessert (Summer).—Devonshire Quarrenden, Irish Peach, Kerry Pippin, Margaret.

Kitchen.—Keswick Codlin, Lord Suffield, Mank's Codlin.

Dessert (Autumn).—American Mother, Cox's Orange Pippin, Fearn's Pippin, Margil, Pitmarston, Golden Pippin, Ribston Pippin, Sykehouse Russet, Yellow Ingestrie.

Kitchen.—Bedfordshire Foundling, Cellini, Cox's Pomona, Ecklinville, Golden Noble, Loddington, Lord Derby, Wormsley Pippin.

Dessert (Winter).—Braddick's Nonpareil, Court Pendu Plât, Dredge's Fame, Lodgemore Nonpareil, Mannington's Pearmain, Ord's Apple, Summer Pippin.

Kitchen.—Alfriston, Brownlee's Russet, Dumelow's Seedling or Wellington, French Crab, Lane's Prince Albert, Norfolk Beaufin, and Northern Greening.

Other growers may give a different list, as the varieties are so numerous, and I have had no experience with scores of them.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Chrysanthemums may be maintained in trim to keep the houses gay for a long time, if a little care is bestowed from the first on removing dead leaves and keeping the foliage healthy. The whole stock should be looked over now to see that all the plants are tallied correctly, to prevent errors in propagating next spring. Put in cuttings at once of the varieties to be grown as specimens for next year. The mild heat of a bed of leaves will promote their rooting, and it is as well to give them a little help, for, if they remain in the cutting pots a long time before they make roots, they do not grow with proper vigour. Remember that small cuttings make the best plants. We believe a good deal of the difference in specimens exhibited is owing to the mode in which the cuttings were struck. As size is of great importance in specimen plants, the sooner the cuttings are put in the better, that they may have a long season of growth.

Greenhouse Plants in bloom comprise Acacia corymbosa, Camellias, Tree Carnations, Coronilla glauca, Correa pulchella, Chrysanthemums, Chimonanthus fragrans, Cyclamens in variety, Cytisus Atleeana, Erica gracilis autumnalis, E. caffra, Epacris nivalis compacta, Jasminum nudiflorum, Primulas, Roman Hyacinths, Salvia splendens.

STOVE AND ORCHID HOUSE.

Orchids are so generally at rest now that this is a most convenient season for a general examination of the stock, and the renewal of blocks, baskets, &c., for improving the effect of the grouping and arrangement. Repot any that require it, and let every plant undergo an examination, during which the surface material should be wholly or partially removed.

Orchids in Flower include Angræcum bilobum, A. sesquipedale; Barkeria Skinneri; Calanthe Veitchi; Cattleya Percivaliana; Cypripedium villosum; Dendrobium moniliforme, D. moniliforme majus; Goodyera discolor, G. Domini, G. pubescens; Grammatophyllum speciosum; G. Ellisi; Lælia albida superba, L. superbiens; Oncidium reflexum; Phalænopsis Sanderi, P. rotundifolia.

FORCING AND FRUIT HOUSES.

Cucumber Pit.—Cucumbers to be kept safe as to bottom-heat, or they will begin now to drop their fruit, or to show canker at the collar. Be prompt, therefore, to renew the linings, if needful, where fermenting material is used. Recently-collected leaves will, with the help of manure once turned, yield a very steady heat, and the better in large masses.

Forcing.—Refer to notes of past few weeks, give plenty of water to plants that have started away well, and syringe with tepid water on bright mornings, giving air afterwards when the leaves are thoroughly dry. Beware of high night temperatures; beginners in forcing invariably make their first mistake in using too much heat at night, and the consequence is spindling growths and ill-developed flowers.

Peach House.—Peaches to be forced early need now a thorough dressing; clean the house, prune the trees, tie in and wash the stems and branches, mulch the border, and give it a thorough good soaking with tepid water. Give the trees air on fine days, but shut up at night. This treatment will bring the roots into action in advance of the branches, and when the trees are started they will make safe and healthy growth

Pinery.—Pines require very careful management now, for we have warm sunshine one day and perhaps fog and frost the next. There ought to be a command of more heat than is absolutely required, which is easy enough with hot water, but not so easy with fermenting material, so as to keep the temperature of bottom and top pretty uniform, in spite of changes of weather. As a comparative state of rest will be good for all classes of pine stock now a bottom-heat of 65 deg. for a minimum, and 70 deg. maximum; top heat 55 deg. minimum and 65 deg. maximum, will be the safest for the plants. Supply water according to the state of the weather: take advantage of bright open weather to water pretty liberally, raising the heat and giving air at the same time; and when frost and darkness recur withhold it as long as will be safe, but not to cause exhaustion.

FLOWER GARDEN AND PLEASURE GROUNDS.

Roses are frequently left in "by the heels" for weeks together at this time of year. It is a very bad practice; the frost is sure to reach their roots, and in the event of mild and moist weather they are sure to throw out fresh roots, and those fresh roots are sure to be destroyed when they are removed to be properly planted. Therefore plant at once, tread the soil firm, and stake securely.

Tulip Beds containing show varieties now to have their hoops placed over, to be ready for mats or other covering in case of heavy rains. But the bed should be freely exposed for the present; there is nothing gained by covering too soon.

FRUIT GARDEN AND ORCHARD.

Planting Hardy Fruits.—The sooner all bushes and trees to be planted are now in their places the better. In forming new fruit gardens, select first the most noted of the established varieties before seeking after novelties. Perfect drainage of the soil is a matter of the utmost importance in districts where heavy loams and clays prevail; but on hot, chalky, and sandy soils drainage is seldom needed. All kinds of fruits require a substantial nourishing soil; apples, currants, and gooseberries will grow well almost anywhere, but better on a good loam in a warm climate than on a bleak sand. All stone fruits require a good loam, and on well-worked clay generally prosper. Soils containing calcareous matter are, if of good texture and substance, well adapted for the production of fruit; and in preparing old worn-out soils for fruit trees it would be well to add a liberal dressing of chalk or old mortar.

KITCHEN GARDEN AND FRAME GROUND.

Asparagus and Seakale may be forced by the roughest of methods where there are plenty of leaves and large deep pits. Anyone can make up a forcing bed on a plot of spare ground by means of a few boards to form the boundary of the pit, or turf walls where turf is plentiful. Five or six feet of leaves, without dung, will do very well, and when the roots are planted rough boards put aslope to carry off rain and snow may be used to cover in lieu of glass frames. During hard weather any amount of dry litter may be heaped over, and a supply of either of these delicious vegetables be had for the mere cost of the roots in the first instance. We need not here go into detail, but we mention this rough-and-ready method as a hint to amateurs who want a little work for the winter, and who have not conveniences for forcing by hot water and other expensive methods. Seakale will pay the poor man best to force by impromptu methods, and this should be completely blanched; but asparagus should have air and light when the shoots appear, as it is valueless unless the tops have two inches or so of green growth.

Paths should be turned, and protective materials made ready and kept under cover for use wherever wanted.

Peas and Beans for the first crop next season may be sown on well-drained ground; but where snails abound they are likely to be entirely eaten up before the new year. To sow now is altogether a speculation.

Vegetables in Season.—Beet, Broccolis, Borecoles, Brussels Sprouts, Carrots, Celery, Endive, Jerusalem Artichokes, Leeks, Lettuce, Onions, Parsnips, Potatoes, Spinach, Salsify, Tomatoes, and Small Salading.

CHRYSANTHEMUM ECHOES.

All who are interested in questions concerning the classification of the chrysanthemum should study an article dealing with that subject which appears in a recent number of the "Journal de la Société Nationale d'Horticulture de France." Monsieur Chargueraud, its author, devotes a considerable amount of attention to the matter, but as it would necessitate somewhere about three and a-half columns of this magazine for its reproduction, that is entirely out of the question, and more especially so as it would in all probability be attractive only to the minority of the readers.

There is however one paragraph I should like to quote. After telling us of Mr. Fortune's importation from Japan, and the revolution in the form and colour of chrysanthemum blooms caused thereby, he says: "Still it is interesting to remember that long prior to the introduction into France of these very curious Japanese varieties several horticulturists had already obtained varieties presenting the principal characteristics of those Japanese kinds." Such is, I think, indisputably the fact. The reader will recollect that I quite concurred in that opinion when the essay by Monsieur Ghys was reviewed in these pages last December. He, too, considered that the Japanese Chrysanthemum existed in form, if not in name, long before 1860, and as instances of ancient Japanese flowers, irrespective of some already referred to, it is only necessary to mention that Soleil Levant, and Fée Rageuse have been cultivated for the past three decades.

The publication of Mr. Molyneux's book has long been anxiously awaited by many of us. It was issued to the public on the 1st inst., and a capital little volume it makes. The type is clear and sharp, there are more illustrations in it than have ever appeared in any other work on the same subject. Inclusive of the frontispiece there are nineteen. It is neatly bound in cloth and tastefully lettered. There is plenty for the money—111 pages of closely-printed matter; and, indeed, in this respect it claims precedence over all others. Mr. Salter's contained but 75 pages, and Mr. Burbidge's 102. Mr. Molyneux's addition to the literature of this flower is in size much smaller than either of the other two, but it is all cultural information, and that will render it of inestimable value to those who want good, sound, practical advice to work by. Being something of a bibliophile I cannot refrain from giving utterance to a grumble at publishers turning out books with such niggardly narrow margins; no matter how good the type, how excellent the illustrations and other embellishments, the fact of an insufficiently wide margin simply ruins the appearance of the best got-up work that was ever issued. The style of Mr. Molyneux's book, to my mind, would have been greatly enhanced by the addition of half an inch more margin all round.

Belle Paule is causing a vast amount of trouble to growers on account of its buds not setting properly. I grew one last year, but the early September frosts played havoc with that and many others. This spring the old stool was planted out in the open and it soon began to grow apace, overtopping its fellows in a very few weeks. It was then cut down, and is now quite a bush, but the buds which were, as may be expected, rather late are full and sound, showing colour in a most promising way, and should the weather only favour us it will no doubt bloom equally as well as many others which are already out. It is only during the last two years that I have planted out a few surplus plants, more with the object of ascertaining their hardiness than otherwise.

It is just a twelvemonth since a stand of anemone blooms was disqualified at the Crystal Palace on the ground, it was alleged, that the variety Emperor included therein, and which had hitherto been admissible with the old show anemones, was really a Japanese anemone. Since then it has been asserted that the bloom in question was not the real Emperor but one of the others. I now learn upon good authority that no mistake was made by the exhibitor in the flower, but that it was actually the genuine Emperor and none other.

Mr. Owen's observations on Mdlle. Elise Dordans and Flambeau Toulousain in last week's Gardeners' Magazine are quite justifiable under the circumstances. At the floral meeting of the N.C.S. to which he refers, the exhibits under those two names were indisputably identical. Blooms of the first-named variety were shown in a cut state, the others on a plant. Comparison was made, not only by the committee, but by other gentlemen present. Both flowers presented the same peculiarities of shape, form of petal, and colour. The foliage was apparently the same, and the way the blooms were thrown up on peduncles about 2½ in. long convinced every one who examined them that there was no difference between the two. I observe that Flambeau Toulousain is described by the raiser as tipped white. If that means that the extremity of each petal is of that colour, then assuredly neither of the flowers in question were distinguished by that peculiarity.

The meeting at which the above-mentioned blooms were on view was an extremely interesting one in many ways. We were regaled with exhibits from several unexpected quarters. But the one that came farthest fared worse. M. Delaux's collection of about fourteen early-flowering varieties was in so indifferent a condition that it could under no consideration have been otherwise. I have heard that our French friends consider five or six inch pots quite large enough in which to grow their chrysanthemums.

I notice that Mr. Piercy rather objects to my referring to October-flowering sorts as early. What I understand, from an exhibitor's point of view, to be early varieties, however, are all those which bloom and are past their best by the last days of October, and thus unavailable for the regular shows. Did not Mr. Broome look upon them in the same light? I must look it up before next week. These varieties, I am quite willing to admit, may be sub-divided into summer-flowering and early autumn sorts; but still, again, from my point of view, August, September, and October blooming varieties are for all practical purposes early. I fancy Mr. Piercy did not quite so carefully read my remark as he should have done. He will notice that after the sorts quoted I added, "but these are properly only semi-early." I own that I only look upon the chrysanthemum from the exhibition standpoint; and, as chrysanthemum-growing with me is merely an amusement to fill up what little leisure my business arrangements permit me to have, there is no desire on my part to have them at any other period of the year than now. Others are quite welcome to have them all the year round if they so choose.

I do not quite understand whether Mr. Piercy, in referring to Mr. Watson, doubts whether the early blooming sorts were actually known in this country until seventeen years ago. They certainly were grown in France many years before that, and I am sure they were not unknown here in 1860. Between now and next week I promise to have a good hunt among my chrysanthemum lumber and shall be able to tell him more on this subject by the time the next instalment of the echoes appears.

It is a source of satisfaction to me to find that Mr. Piercy is an appreciative reader of some of the old chrysanthemum news that has been made public by me at different times. But I should like to add that what I have done hundreds of other people could also have done. For three months I was busy at the reading-room of the British Museum, daily looking up old horticultural books and other works of reference to ascertain something about the flower that was said to have no literature. It is no exaggeration to say that during that time I consulted more than three hundred different volumes where I thought information was to be gleaned. But I got weary of my self-imposed task, and am now having a rest. Some day I mean to begin again, and the public shall duly have the benefit of any interesting matter I may chance to come across.

C. Harman Payne.

Exhibitions and Meetings.

HAVANT CHRYSANTHEMUM EXHIBITION, November 3 and 4.

This young society held the third exhibition in the Town Hall, and was a decided improvement upon previous shows, both in extent and general quality of the exhibits, owing to the great emulation amongst gardeners in the neighbourhood to supersede each other in the cultivation of the Autumn Queen. The Japanese varieties were fine specimens, but there was a slight falling off in the incurved flowers. Extra good blooms of the Queen family were rather wanting, still enough were staged to render a capital show of cut blooms. Groups of chrysanthemums were a decided improvement upon other years; indeed some of the flowers therein staged would have done credit to many a stand of cut blooms. Grapes were few in number, but excellent in quality. Apples and pears were represented by good specimens. Vegetables were largely shown, and of excellent quality both in the large classes and in those set apart for amateurs and cottagers also. The Havant Chrysanthemum Society is to be congratulated upon having such an enthusiastic committee, and in the able hands of Mr. N. Fuller, the honorary secretary, and his efficient assistant secretary, the arrangements were most complete.

For the best group of chrysanthemums in pots, space not to exceed forty square feet, quality and effect to be the leading feature, Mr. A. Payne, gardener to Mr. E. Smith, Havant, was awarded first prize for a capital arrangement, the plants being of excellent quality both in foliage and flower, mainly composed of Japanese kinds; second, Mr. W. Roberts, gardener to E. R. Longcroft, Esq., Havant, the plants and flowers were good in quality, but the arrangement was not so effective as the first prize group; third, Mr. J. Agate, nurseryman, Havant, whose arrangement was particularly attractive, while the plants were well adapted for the purpose, but the blooms lacked size; fourth, Mr. W. Moseley, gardener to J. Taplin, Esq., Havant. For four plants of Japanese and the same number of incurved varieties Mr. C. Penford, gardener to Sir F. Fitz-Wygram, Bart., M.P., Leigh Park, Havant, was first with specimens three to four feet in diameter, each plant carrying from 70 to 80 blooms of good quality, Madame Bertie Rendatler and George Glenny being the best; Mr. Moseley was second, his plants being grown in a more natural manner.

Cut Blooms.—For twenty-four, twelve of which were Japanese and twelve incurved, brought out seven competitors, all a creditable lot, the best coming from Mr. Penford; his best blooms were Nil Desperandum (very fine), Prince Alfred (full), Jeanne d'Arc (rich in colour), Refulgens (neat), and Lord Wolseley (large), Madame Clemence Audiguier, Maiden's Blush, Margaret Marrouch, Criterion, and Val d'Andorre, were the best Japanese; second, Mr. A. Payne; third, Mr. C. Hoskins, gardener to J. Wilder, Esq., Stansted Park; fourth, Mr. W. Roberts. Mr. Penford also staged the best twelve Japanese kinds, similar in variety to the preceding class. Mr. Hoskins and Mr. Payne received the other awards in the order named. Mr. Penford again followed up his previous success by taking first prizes for twelve incurved varieties; second, Mr. R. Woodfine, gardener to C. P. Boyds, Esq., Havant; third, Mr. Roberts. For six Japanese Mr. Newell, gardener to H. M. Green, Esq., Havant, Mr. H. Garnett, gardener to Commander Arbuthnot, and Mr. T. Kinchott, gardener to Mrs. Hodgkinson, were the prizetakers, all staging blooms of superior quality. The best six incurved blooms came from Mr. Moseley, while Mr. Newell was second. For the best twelve reflexed kinds Mr. Penford was here again in the first position, Pink Christine being of large size; Mr. R. Woodfine had excellent blooms for second place, but the stand was marred somewhat by having a flower of Salteri, which was not considered

to be a reflexed variety; third, Mr. J. Agate, with blooms good in quality. Mr. Penford consummated his previous successes by taking first prize for twelve anemones, with magnificent flowers of Minnie Chate, Lady Margaret, Gluck, and Fabias de Maderanaz, as the most noteworthy; second, Mr. A. Payne; third, Mr. J. Agate, in whose stand was a very grand specimen of Empress. The Rev. J. Wells, Havant, was the principal prizewinner for cut blooms in the amateur classes with first-rate specimens. Mr. Hoskins had the best bouquet of chrysanthemums, followed by Mr. N. Fuller.

Table Plants were shown in large numbers and of excellent quality by Mr. Moseley as the best, while Mr. Hoskins had the best primulas, and Mr. Kinchott the most superior solanums.

For two bunches of white, and the same number of black grapes, Mr. Penford was invincible, showing Muscat of Alexandria and Alicante, the latter being first class in character in every respect.

Mr. Falla had the best four dishes of apples, fine produce. Mr. Roberts staged the best pears in the same number of dishes and good in quality.

For a collection of vegetables, eight varieties distinct, Mr. Fuller was first, having good celery, brussels sprouts, and carrots, as his best dishes; second, Mr. E. Smith, gardener to Mrs. Learmonth, Havant, with fine tomatoes and carrots.

For the best collection of salading much interest was manifested in this class, while the quality of the competing collections was quite first-rate and extremely close in point of merit; ultimately the first prize fell to Mr. E. Smith; second to Mr. Hoskins; and third to Mr. Penford.

CRYSTAL PALACE CHRYSANTHEMUM SHOW, November 5 and 6.

The magnificent display of chrysanthemums which was held at the Crystal Palace on the above dates, formed a very fitting close to the series of horticultural exhibitions that have formed such an important part of the multifarious attractions at Sydenham during the current year. To institute close comparisons with the corresponding shows of previous years may not be necessary, but it must be stated that it evinced a considerable advance both in magnitude and excellence on the best of those previously held. Ample provisions were made in the schedule for all the sections, and as the competition was of the severest in the whole of the classes, the show was as remarkable for its comprehensiveness as for its extent. The incurved flowers were staged in immense numbers, and included contributions from most of the principal growers, but they were on the whole rather below the average in size and finish. But on the other hand, the Japanese, reflexed, pompons, and anemone flowered varieties were so good as to show that if the atmospheric conditions of the season are not particularly favourable to incurved varieties, these sections have not suffered to any appreciable extent. The arrangements were admirably carried out by Mr. Head, and the attractions of the exhibition were materially enhanced by the very beautiful display produced by the plants grown in the Crystal Palace gardens to which a brief reference was made last week.

Cut Blooms had thirteen classes set apart for them, and the entries were very numerous throughout. In the great class for forty-eight blooms, to comprise equal numbers of incurved and Japanese varieties, there were twelve competitors, staging in the aggregate nearly six hundred blooms. The first prize of £10 was awarded to Mr. C. Gibson, gardener to J. Wormald, Esq., Morden Hall, Mitcham, who had a magnificent collection, the blooms being considerably in advance of those staged by other competitors, good as they unquestionably were. The incurved varieties represented were John Salter, Jeanne d'Arc (two blooms), Golden Empress of India, Empress of India (two blooms), Nil Desperandum (two blooms), Princess of Teck, Refulgens, Barbara, Golden Queen, Princess of Wales (two blooms), Prince Alfred, Cherub, Lady Hardinge, Princess Beatrice, Golden Eagle, Hero of Stoke Newington, Venus, Lord Wolseley (two blooms), and Queen of England. The Japanese varieties were: Comtesse de Beauregard, Grandiflorum, especially good (two blooms), Mons. Astorg, Val d'Andorre, Mons. Burnet, Golden Dragon, Comte de Germiny, Jeanne Delaux (two blooms), Thunberg, Elaine, Boule d'Or (two blooms), Maiden's Blush (two blooms), Ferdinand Feral, Mdlle. Moulise, Japonnais, Baronne de Prailly, Duchess of Albany, Mdlle. Lacroix, Madame Audiguier, and Marguerite Marrouch. Messrs. W. and G. Drover, Fareham, Hants, were second with a good collection, the varieties being, of incurved, Empress of India, Princess of Wales, Mrs. George Rundle, Lord Wolseley, Mrs. W. Shipman (two blooms), Alfred Salter (two blooms), Princess of Teck, Lady Hardinge (two blooms), Queen of England (two blooms), Nil Desperandum (two blooms), Prince Alfred, Beauty, John Salter, Baron Beust, Angelina, Jeanne d'Arc, Prince Alfred, George Glenny, and Lord Alcester. The Japanese varieties comprised Soleil Levant, Fair Maid of Guernsey, Marguerite Marrouch, Gorgeous, Val d'Andorre, Oracle, Gloriosum, Mdlle. Lacroix, Triomphe du Nord, Madame Deveille, Boule d'Or, Madame Audignier, Jeanne Delaux, Mons. Tarin, Japonnais, Criterion, Maiden's Blush, Fair Maid of Guernsey, and Mons. Burnet. Mr. F. Cornwall, Linton Park, Maidstone, was third with flowers not more than two points behind those forming the second prize collection, his blooms of Queen of England being especially good. Mr. Sullivan, gardener to D. B. Chapman, Esq., Downshire House, Roehampton, was fourth.

The competition was equally severe in the class for eighteen incurved, and at the head of the large body of cultivators were Messrs. W. and G. Drover, who had medium-sized and neatly finished flowers of Princess of Wales, Nil Desperandum, Lord Alcester, Mrs. Dixon, Lady Hardinge, Jeanne d'Arc, Queen of England, Mrs. W. Shipman, Prince of Wales, George Glenny, Lord Wolseley, Empress of India, Baron Beust, Prince Alfred, Alfred Salter, Beauty, and Mrs. George Rundle. Mr. Horsfield, gardener to Lord Heytesbury, Heytesbury, was second with rather small, but otherwise good blooms; Mr. J. W. Springbett, Holly Nursery, Cheshunt, was a very close third, with an excellent stand of bloom. In competition for the prizes for twelve incurved, Mr. J. Gore, gardener to Captain Taylor, Glenleigh, Hastings, occupied the first, with remarkably good blooms of Lord Alcester, Hero of Stoke Newington, Mrs. W. Shipman, Lord Wolseley, Jeanne d'Arc, Lady Hardinge, Empress of India, Prince Alfred, Novelty, Golden Empress, Princess of Wales, Nil Desperandum; Mr. J. Wyatt, gardener to J. Perry, Esq., Braddonhurst, Caterham, was a capital second; and Mr. E. S. Cole, gardener to W. Pothick, Esq., Woodside, Sneyd Park, Bristol, a good third. There was a sharp contest for the prizes for six blooms of any incurved variety; and the premier award was made in favour of Mr. Wyatt, who had six superb blooms of Nil Desperandum; Mr. Russell, gardener to Dr. Lewis, Broomfield, Henfield, Sussex, was second, with neat blooms of Jeanne d'Arc; and Mr. A. Holmes, gardener to A. B. Hill, Esq., Clapham Park, was third with Queen of England.

The Japanese varieties produced an extremely rich display of colour. In the class for eighteen varieties there were sixteen or seventeen varieties, and at the head of the competitors was Mr. J. Munro, gardener to E. J. D. Paule, Esq., Cambridge House, Twickenham, with magnificent blooms of Criterion, Fair Maid of Guernsey, Baronne de Prailly, Gloire de Toulouse, Marguerite Marrouch, Bouquet Fait, Boule d'Or, Madame B. Rendatler, Jeanne Delaux, Ferdinand Feral, Comte de Germiny, Mons. Ardene, Val d'Andorre, Comtesse de Beauregard, Mdlle. Lacroix, J. Laing, Soleil Levant, and Madame C. Audiguier. Mr. E. Wills, gardener to Mrs. Pearce, The Firs, Bassett, Southampton, was second with a superb lot of blooms, comprising Madame C. Audiguier, Triomphe du Nord, Hiver Fleur, Jeanne Delaux, Japonnais, Fair Maid of Guernsey, L'Adorable, Mdlle. Lacroix, Thunberg, Meg Merrilies, Comte de Germiny, Triomphe de la Rue des Chalets, Balmoreau, Boule d'Or, Val d'Andorre, Mons. Burnet, Mons. Astorg, and Criterion. Mr. H. W. Ward, Longford Castle, was there with a very fine lot of flowers. The premier award in the class for twelve was made in favour of Mr. H. Shoresmith, gardener to Rev. Canon Hodgson, Saltwood Rectory, Hythe, who had large, splendidly coloured blooms of Ferdinand Feral, Maiden's Blush, Jeanne Delaux, Criterion, Madame B. Rendatler, M. Ardene, Belle Paule, Boule d'Or, Madame C. Audiguier, Marguerite Marrouch, Mdlle. Lacroix, and Val d'Andorre. Mr. F. Moore, Blendon Hall, Bexley, and Mr. E. S. Cole, were second and third respectively, with remarkably good stands of blooms. In the class for six blooms of any one variety, Mr. Gibson occupied the first place with the finest blooms of Grandiflorum that have yet been placed on the exhibition stage; Mr. A. Elphick was third with good blooms of Madams C. Audiguier, and Mr. Shoesmith third with Elaine.

The reflexed flowers made a brave show, for the stands were numerous and the flowers were of great excellence. Mr. Neville, gardener to F. W. Flight, Esq., Constiles, Twyford, was successful in taking the first prize with grand blooms of King of Crimsons, Madeline Teizer, Emperor of China, Chevalier Domage, Dr. Sharpe, Cloth of Gold, Cullingfordi, Pink Christine. Mr. E. Wills was a close second, and Mr. C. Gibson third, both staging flowers of great excellence. Anemone pompons were highly meritorious, and at the head of the competitors in the class for twelve was Mr. J. Gore, who had superbly finished blooms of Madame Montels, Madame Chalonge, Antonia, Regulus, Mr. Astie, Firefly, Calliope, Marguerite de Coi, Madame Santir, and Perle. Mr. J. Howes, Tulse Hill House, was second with good blooms, and Mr. Chadwick, gardener to E. M. Nelson, Esq., Hanger Hill House, Ealing, third. In the corresponding class for large anemones Mr. Sullivan was first with Queen Margaret, George Sands, Gluck, Fleur de Marie, Empress, Marguerite d'Anjou, Reine des Avoles, and Lady Margaret; Mr. F. Moore, and Mr. C. Penford were second and third. The Japanese anemones were numerically strong, and of exceptionally good quality. For six blooms Mr. Gibson was first with superb blooms of Sœur Dorothés Souille, Madame Cabrol, Fabias de Maderanaz. Messrs. W. and G. Drover were second and Mr. H. W. Ward third. For twelve pompons the prizetakers were Mr. Neville, Mr. G. Duncan, and Mr. J. Gore, all of whom had excellent stands of blooms.

Trained Specimens were admirably shown, those of the Japanese varieties being especially bright and attractive. For six dwarf-trained specimens of Japanese varieties Mr. Portway, Daventry House, Upper Tooting, was first, his specimens being of large size, neatly trained, and almost solid with bloom. The varieties were: L'Ile des Plaisirs, Album Plenum, L'Africaine, Hiver Fleur, and Madame B. Rendatler. In the corresponding class for incurved varieties, Mr. E. Cherry was first with good examples of Barbara, Prince Alfred, Princess of Teck, Mrs. Haliburton, Lord Alcester, and Mrs. Dixon. For six dwarf-trained pompons Mr. Portway was first with large and very fine specimens of Marabout, St. Michael, Mdlle. Marthe, Dick Turpin, white Cedo Nulli, pink Cedo Nulli. Mr. Griffin and Mr. G. Kinson were also very successful in the plant classes.

Groups formed one of the most important features of the show. In the amateurs' class for a group occupying a space not exceeding sixty feet, Mr. Webster, Upper Norwood, was first with a highly-effective arrangement; Mr. J. Howes and Mr. Ball, Tooting Common, were second and third respectively. In the open class for a group of incurved varieties Mr. Towers was first, Mr. Davis, Camberwell, second, and Messrs. J. Laing and Co., Forest Hill, were third, the whole of the arrangements being remarkably good. The groups of Japanese varieties produced a very fine effect, the best being those from Mr. G. Edwards, Balham, Messrs. J. Laing and Co., and Mr. Davis.

Miscellaneous Contributions included a very fine collection of cut blooms, comprising several new varieties of great excellence.

Novelties were numerous, but a small proportion only were certificated. First-class certificates were granted as under: To Messrs. H. Cannell and Sons for *Elsie*, a very distinct reflexed flower, perfect in form, and of a rich cream colour; *Jane*, a distinct and beautiful single variety, the flowers rather large, with thread-like petals of the purest white, invaluable for decorative purposes; *Miss Cannell*, an exquisitely beautiful single variety, the flowers of medium size, perfectly circular in form, and of the purest white; *Cincinnati*, a large anemone of high class character, and pleasing rose colour; *William Holmes*, a handsome crimson flower, previously described, which will probably be eventually placed amongst the reflexed varieties. To Messrs. J. Laing and Co. for *Mdlle. Elise Dordans*, a distinct pompon, perfect in form, and exquisite in colour; and for *La Marguerite*, a distinct large anemone. The flowers rather below the average in size, of superb form, and a rich ruby-red colour. To Mr. Neville for *Mrs. Wright*, a Japanese variety, the flowers large in size, full, and of the purest white; promises to prove useful.

The judges were: Messrs E. Sanderson, J. Douglas, G. Gordon, R. Ballantine, W. Holmes, J. Wright, W. Earley, and R. Dean.

ROYAL HORTICULTURAL SOCIETY, November 9.

The conservatory on Tuesday last presented a strange contrast to the bright and gay appearance which has characterized it at the usual fortnightly meetings of the R.H.S. during the summer months. We missed the huge banks of dahlias and other flowers, but we did not expect to see them, as the season of frost and fogs has begun in stern reality. Although flowers were few, they were full of interest; and the lengthy list of novelties included several things of rare beauty. The immense display of Canadian apples, which invite attention for their brilliant colouring, and the quaint gourds and other roots from the same country, proved great attractions to the visitors, and added to the interest of the meeting.

Floral Committee.

Present: G. F. Wilson, Esq., in the chair; and Messrs. Shirley Hibberd, H. Bennett, W. Wilks, W. Bealby, George Duffield, H. Herbst, T. Baines, W.

Holmes, Charles Noble, H. Ballentine, John Dominy, H. M. Pollett, James O'Brien, Hugh Low, E. Hill, George Paul, H. Cannell, Major Lendy, and Dr. Masters.

An important contribution was the group of cyclamens from Mr. R. Clarke, Twickenham, which were well shown, considering the earliness of the season. Giganteum album is a variety of robust habit, and the flowers are noticeable for great substance and exquisite purity. A contrast to this is Albert Victor, a deep blood-coloured kind; and conspicuous for solidity of character and compactness is Giganteum compactum. It is evident that Mr. Clarke possesses a very fine and select strain of persian cyclamens. A bronze medal was awarded. Mr. A. Wright, gardener to S. Courtauld, Esq., Bocking Place, Braintree, exhibited Masdevallia achrocordonia, a singular species of botanical interest only, with a stout flower stem about twenty-four inches in height, and supporting a medium-sized flower of a dull brownish colour, saving the tails of the sepals, which are bright yellow. From Mr. J. C. Cowley, gardener to F. G. Fautz, Esq., Studley House, Hammersmith, came a variety of Cypripedium Lawrencianum and Cypripedium Leeanum superbum. The former possesses the ornamental foliage of the type, and the flowers are neat, and pleasing. The last mentioned bears bold, handsome flowers of cheerful colouring, especially the upper sepal, which is broad, and pure white, enlivened with crimson purple and pale pink. Mr. W. Bull, King's Road, Chelsea, showed several new chrysanthemums in pots; but they were not accounted sufficiently meritorious for special distinction. A chrysanthemum named Coquette de Castile, sent out in 1885 by M. Delaux, and shown by Mr. W. Holmes, Frampton Park Nursery, Hackney, obtained a first class certificate, and will be found described below. Messrs. Heath and Sons, Cheltenham, showed two new Ixoras, named respectively Splendens and Besti; but they were no advance upon the splendid kinds now in cultivation. Mr. H. Simpkins, gardener to R. J. Measures, Esq., Cambridge House Lodge, Camberwell, exhibited flowers of Cattleya Gaskelliana autumnalis, a variety which calls for no special comment; a twin-flowered spike of the old-fashioned Cypripedium insigne, and a plant of Lælia præstans rosea, which appears identical with the type. G. F. Wilson, Esq., Weybridge, exhibited several flowers of Primula capitata major; which had been cut from plants growing in the open border; and a distinct and highly-attractive orchid named Angræcum aviculare was shown by Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking.

Messrs. J. Veitch and Sons, Chelsea, exhibited several novelties, several of which were certificated, Amasonia punicea was represented by a well-flowered specimen, which has been in bloom six weeks, and was then in first-rate condition, Begonia John Heal is interesting, as the bright crimson flowers retain their freshness from fifteen to eighteen days, and then gradually wither, but do not fall off. The orchids exhibited by this firm were of great interest. Messrs. H. Cannell showed a collection of chrysanthemums, chiefly single varieties; and from Mr. C. Ross, gardener to Sir G. Maclean, Pendle Court, Bletchingley, came a beautiful aquatic plant, named Pontederia crassipes delicata, which has probably flowered only about twice in this country. Clerodendron nutans, shown by Mr. Head, of the Crystal Palace, attracted considerable attention, and well it might, as the specimen, which had been grown in an intermediate house, was laden with large elegant pendulous clusters of pure white flowers. Mr. R. Owen, Floral Nurseries, Maidenhead, sent a box of new chrysanthemums and a stand of Marguerite Cloth of Gold, a showy variety, with medium-sized flowers of an intense orange colour. A vote of thanks was accorded. Mr. Wright, gardener to W. E. H. Watts, Esq., Devonhurst, Chiswick, showed Chrysanthemum Mrs. Wright, a sport from Empress of India, but it was not considered distinct from the type.

Fruit Committee.

Present: T. F. Rivers in the chair; and Messrs. H. J. Veitch, J. Smith, George Norman, John Burnett, John E. Lane, G. T. Miles, John Woodbridge, W. Warren, Arthur Sutton, R. D. Blackmore, Harrison Weir, and Philip Crowley.

The committee had an easy time as there were but few exhibits. Messrs. H. Lane and Son, Berkhampstead, Herts, exhibited four baskets of Lane's Prince Albert apple, a variety now well known. The fruits were well developed, and deserved the cultural commendation awarded by the committee. Mr. W. H. Divers, Ketton Hall, Stamford, showed fruits of apple, Carlton Seedling, Coe's Late Red, and Cox's Emperor plums; the last-mentioned were from pot trees grown in a cool orchard house. Messrs. J. Veitch and Sons exhibited fruits of the Bismarck apple grown under glass and the open air. The difference was apparent, those from the open being medium in size, and richly coloured; while in the other case they were large, but destitute of colour. Mr. J. Torgood, Peterborough, showed seedling apple of a golden yellow colour; and from Mr. John Perkins, The Gardens, Thornham Hall, Eye, Suffolk, came fruits of Dell's Green Flesh melon. Messrs. Rivers and Son, Sawbridgeworth, exhibited the Wyedale plum, which received the award of a first-class certificate at the last meeting. Grape Winter King was shown by Mr. Bowman, Hylands Park, Chelmsford, but is considered identical with Gros Maroc. English dried fruits, from H. M. Roberts, Esq., Tring, Herts, were interesting, and a vote of thanks was awarded. Mr. W. Roupell, Harvey Lodge, Roupell Park, contributed fine fruits of Cox's Orange Pippin, Alexander, Lord Derby, Beauty of Kent, Wellington, Cox's Pomona (highly coloured), Lady Henniker.

Novelties.

New plants and flowers were well represented, and first-class certificates were granted as under:—

To William Holmes, Frampton Park Nursery, Hackney, for

Chrysanthemum Coquette de Castile.—A distinct variety belonging to the Japanese section, producing full, blush pink flowers with thread-like petals; the leafage is bold and of a deep green colour. It is remarkably ornamental, and may be regarded as a decided acquisition.

To G. F. Wilson, Esq., Weybridge, for

Primula capitata major.—A valuable addition to the list of Alpine Primulas. The dense umbels of flowers, borne on stout erect stems, are of bold appearance and the colour is of a profound violet purple. It is a choice and effective rock, border, or frame plant, and its value is enhanced tenfold by its autumn flowering character.

To Sir Trevor Lawrence, Bart., M.P., Burford Lodge, Dorking, for

Angræcum aviculare.—A beautiful and interesting orchid of a choice delicate appearance. The plant shown carried two pendulous spikes about twelve inches in length, and bearing numerous medium-sized, snow-white flowers of spicy fragrance and furnished with a slender spur from two to three inches long.

To Messrs. J. Veitch and Sons, Chelsea, for

Amaryllis Lady Mayoress.—A hybrid between A. reticulata and A. Leopoldi. The flowers are of fine form and borne on a sturdy scape. In colour they are deep pink, banded with white down the centre of each of the segments.

Zygopetalum Leopardinum.—A hybrid, of which the parents are probably Zygopetalum maxillare and Colax jugosa. The flowers partake strongly of the Colax character, and are conspicuous for neatness of form and distinct colouring. The broad sepals and petals are profusely blotched with rich crimson on a yellowish green ground, while the lip stands out prominently, and together with the column is of a profound shade of purple with silvery white margin.

Also for the following chrysanthemums:—

White Ceres.—A Japanese variety, with large full pure white flowers.

Phœbus.—A distinct and ornamental Japanese variety; the flowers are bright golden yellow, and remarkably showy.

Gloriosum.—This also belongs to the Japanese section, and is of distinct appearance; the flowers are large, broad, lemon yellow in colour, and have twisted thread-like petals.

To Mr. W. G. Head, of the Crystal Palace, for

Clerodendron nutans.—We shall doubtless hear more of this remarkably handsome Clerodendron, as the plant seems likely to prove of value for conservatory decoration at this season of the year. The large snow-white flowers are borne in pendulous clusters which impart to the plant a choice and elegant appearance.

To Messrs. H. Cannell and Son, Swanley, for the undermentioned Chrysanthemums:—

Eynsford Gem.—A neat, well-formed pompon variety with flowers of a deep crimson colour.

Jane.—One of the most refined and delicate of the single varieties, and a decided acquisition to its class. The medium-sized flowers are distinguished by exquisite purity, and the thread-like petals form a beautiful snow-white fringe.

Admiral Sir T. Eymonds.—This is also a single variety, but a contrast to the foregoing, as the coarse ugly flowers are of immense size, and of a gaudy golden yellow colour.

La France.—A Japanese variety of great value, with full, large, deep crimson-coloured flowers.

To Mr. C. Ross, gardener to Sir G. Maclean, Pendle Court, Bletchingley, for

Pontederia crassipes delicata.—A floating aquatic, which may be grown in either a stove or greenhouse. The leafage is bright green, and the flowers are borne in a dense spike. They are of a choice exotic appearance, and in colour pale-pink, with the upper segment of the perianth marked with a distinct yellow blotch, which is surrounded with a pale slaty blue.

KINGSTON CHRYSANTHEMUM SOCIETY, Nov. 9 and 10.

The high position which the Kingston Chrysanthemum Society has so worthily occupied amongst kindred associations from the first was fully maintained by the magnificent exhibition on Tuesday and Wednesday last. The Drill Hall, in which the exhibition was as usual held, was filled to its utmost capacity, and the whole of the productions were of so high a quality as to do honour to the cultural skill of the respective exhibitors. Much interest centred, as usual, in the competition for the twenty-five guinea Challenge Vase, the contest being even more spirited than on any previous year, and the large number of flowers contributed to the class produced an exceedingly rich display. There was a manifest improvement in the plant classes, and the specimens in the first prize collection of six large-flowered specimens were as near perfection as one can hope to see them, and formed a bank which proved one of the great features of the display. Groups arranged for effect were not less numerous or attractive than in past years, and the primulas and other miscellaneous plants for which provisions were made in the schedule were admirably represented, and of fruit there was a large and attractive display.

Cut Blooms were staged in such large numbers as to require four broad tables, extending the whole length of the hall, for their accommodation. There were eight collections in the class for forty-eight blooms, to comprise equal numbers of incurved and Japanese varieties, and although the several stands differed considerably in relative merit, they were all decidedly good. The premier award, consisting of the twenty-five guinea vase and £5, was made in favour of Mr. C. Gibson, gardener to J. Wormald, Esq., Morden House, Mitcham, whose incurved and tasselled flowers were alike good, being large in size, high in finish, and characterized by brightness of colour. The incurved varieties represented in the collection were Alfred Salter, Princess of Teck, Mabel Ward, John Salter, Nonpareil, Refulgens, Lady Hardinge, Cheruh, Golden Queen, Golden Eagle, Jeanne d'Arc, Princess of Wales, Queen of England, Lord Wolseley, Princess Beatrice, Barbara, Hero of Stoke Newington, Golden Empress, White Venus, Jardin des Plantes, Nil Desperandum, Yellow Perfection, Sir Stafford Carey, and Empress of India. The Japanese varieties consisted of Madame C. Audiguier, Thunberg, Duchess of Albany, Grandiflorum, Ferdinand Feral, Meg Merrilies, Mdlle. Lacroix, Val d'Andorre, Comte de Germiny, Album Striatum, Golden Dragon, Japonnais, Baronne de Prailly, White Dragon (a very promising flower, large in size, distinct in form, and of the purest white), Triomphe de la Rue des Chalets, Maiden's Blush, Criterion, Mons. Astorg, Bonle d'Or, Jeanne Delaux, Mons. Brunet, Comtesse de Beauregard, Elaine, and L'Adorable. Mr. E. Coombes, gardener to W. Furze, Esq., Teddington, was second with a collection in which the incurved flowers were good, and the Japanese blooms of great excellence. Messrs. W. and G. Drover, Fareham, were a close third with a collection in which the Japanese flowers were of high quality; and Mr. C. Beckett, Juniper Hill, Dorking, was fourth. An additional class was this year provided for twenty-four blooms, to consist of twelve incurved and twelve Japanese varieties, and, as in the preceding class, there was a keen contest. The first prize, a silver cup of the value of £5, was awarded to Mr. W. Smith, gardener to J. F. Schwan, Esq., Wimbledon, who had superb blooms of Emily Dale, Prince of Wales, White Venus, Lady Hardinge, Novelty, Lord Wolseley, Golden Empress, Jeanne d'Arc, Nil Desperandum, Empress of India, Prince Alfred, Princess of Wales, Madame C. Audignier, Marguerite Marrouch, Mons. Astorg, John Laing, Ferdinand Feral, Fair Maid of Guernsey, Mons. Ardene, Triomphe du Nord, Criterion, Mdlle. Lacroix, and Jeanne Delaux. Mr. G. King, gardener to Mrs. Few, Esher, was a very close second, with finely-developed blooms; and Mr. E. Coombes was third.

The incurved flowers were rather weak as compared with last year, but they were above the average of those shown elsewhere this season. The post of honour in the class for twenty-four was occupied by Mr. E. Coombes, with good flowers of Lord Alcester, Lady Hardinge, White Beverley, Lord

Wolseley, Mrs. Heale, Refulgens, Queen of England, Mr. Bunn, Cherub, Princess of Wales, John Salter, George Glenny, Golden Empress, Novelty, Golden Eagle, Prince Alfred, Jardin des Plantes, White Venus, Empress of India, Baron Beust, Le Grand (a small bronzy flower not often seen), Jeanne d'Arc, Prince of Wales, and Mrs. Dixon. Mr. G. Woodgate, gardener to Lord Wolverton, Warren House, Kingston, was a very close second, with flowers remarkable for their freshness and finish. Mr. C. Lane, Mayfield, Cheam, was third, and Mr. G. Carpenter, Walton-on-Thames, was fourth. In the class for twelve incurved, which was exceedingly well filled, Mr. R. Cawte, gardener to J. P. Robinson, Esq., Esher, was first, with good blooms of Lady Carey, Empress of India, Nil Desperandum, Mr. Bunn, Jeanne d'Arc, Emily Dale, Queen of England, Sir Stafford Carey, Empress Eugenie, Lord Alcester, Venus, and Barbara. Mr. J. Thorne, gardener to A. E. Wood, Esq., Walton-on-Thames, and Mr. A. Carter, gardener to Alderman Evans, Ewell, were second and third respectively with capital stands. For six blooms of any one incurved variety Mr. J. Munro, Cambridge House, Twickenham, was first with Golden Empress, and Mr. G. Carpenter was third with Jeanne d'Arc. There were five or six other classes for incurved varieties, and in these also the entries were numerous and the blooms good.

The flowers contributed to the classes for Japanese varieties produced a rich display of colour, and received a full share of attention from the visitors. In the great class for twenty-four Mr. G. King was first, with grand blooms of Madame C. Audiguier, Flamme de Punch, Elaine, Garnet, Mons. Astorg, Criterion, Baronne de Prailly, Golden Dragon, Arlequin, Marguerite Marrouch, Meg Merrilies, Bronze Dragon, Val d'Andorre, Triomphe de la Rue des Chalets, Balmoreau, Joseph Mahood, Boule d'Or, Jeanne Delaux, Comte de Germiny, Mdlle. Lacroix, Japonnais, John Laing, Soleil Levant, and Mons. Brunet; Mr. J. Child, gardener to Mrs. Slade, Claygate, was second, Mr. J. Munro third, and Mr. C. Lane fourth. For twelve Japanese varieties Mr. W. Smith was first, with superb blooms of Marguerite Marrouch, Japonnais, Elaine, Jeanne Delaux, Mdlle. Lacroix, Ferdinand Feral, Val d'Andorre, Comtesse de Beauregard, Fanny Boucharlat, John Laing, and Mons. Ardene; Mr. J. Holden, Esher, Mr. G. Duncan, Wareham Court, Horsham, and Mr. Hunt, West Moulsey, were awarded the remaining prizes in the class in the order of their names. The first place in the class for six flowers of any Japanese variety, was occupied by Mr. G. King, with good blooms of Japonnais; Mr. C. Slade was second, with Madame C. Audiguier, and Mr. Carpenter was third with Jeanne Delaux.

Reflexed flowers were somewhat above the average and contributed their full share to the attractions of the exhibition. Mr. G. Carpenter was first for twelve, with good blooms of Cloth of Gold, Madeline Tezier, King of Crimsons, Mrs. Forsyth, Pink Perfection, Golden Christine, Dr. Sharpe, Chevalier Domage; Mr. E. Coombes was second, and Mr. A. Carter was third. The class for twelve Japanese anemones, contained two excellent stands, the best being that from Mr. J. Child, who had finely developed blooms of Mdlle. Cabrol, Madame Clos, Sœur Dorothée Souille, Fabias de Maderanaz, and Madame Bertie Pigmy. In the competition for the prizes for large anemones, which were exceptionally well shown, Mr. C. Gibson was first with well-developed flowers of Fleur de Marie, Prince of Anemones, Georges Sand, Louis Bonamy, Fleur de Marie, Mrs. Pethers, Lady Margaret, Gluck, and Acquisition; Mr. C. Slade was second; and Mr. G. Carpenter third. Pompons were well shown by Mr. W. E. Clarke, and anemone pompons by Mr. E. Coombes and Mr. W. E. Clarke.

SPECIMEN PLANTS were presented in magnificent condition, and formed a very important feature. In the class for six large flowered varieties Mr. G. King was first with immense specimens, perfect in contour and finish, and carrying about two hundred well developed flowers each. The varieties were: Prince of Wales, Mrs. Halihurton, George Glenny, John Salter, Lady Hardinge, and Mrs. Dixon. Mr. C. Beckett was second with specimens large in size, but rather thinly flowered. In the competition for the prizes for three Japanese varieties Mr. Cawte and Mr. C. Beckett were first and second respectively, with splendidly flowered and bright effective specimens. For three large flowered varieties Mr. R. Cawte was first with well bloomed examples of Mrs. Dixon, Mrs. George Rundle, and George Glenny. The premier award in the class for a large flowered specimen was made in favour of Mr. C. Beckett, who staged a splendid example of Mrs. Dixon. The specimen pompons were also exceptionally good, the more important collections being shown by Mr. R. Cawte, Mr. J. Child, and Mr. C. Beckett.

GROUPS were largely shown and were so good as to constitute a very distinct and striking feature. The contest for the prizes for a group of chrysanthemums was as sharp as could well have been desired, more especially between Mr. W. Smith and Mr. C. Orchard, The Leigh, Coombe Warren, Kingston-on-Thames, who were first and second respectively. Both groups were remarkable for the high quality of the flowers and the taste evinced in the arrangement, and reflected much credit on the exhibitors. Mr. Pitcher, Surbiton, and Mr. C. Lane were third and fourth, staging good groups. In the class for groups of miscellaneous plants Mr. G. Fitzell, Twickenham, Mr. H. Trussler, Old Malden, and Mr. Martin were the prizetakers, with groups of great excellence.

FRUIT was more plentiful than usual, and fully equal in quality to the high average of previous years. In competition for the prizes for four dishes of apples, Mr. Reed, Mr. J. Lamb, and Mr. Orchard were the prizetakers in the order of their names. The awards in the class for three dishes of pears were made in favour of Mr. W. Rogers, Mr. J. Lamb, and Mr. C. Waite, Esher. Black grapes were splendidly shown by Mr. C. Griffin and Mr. W. Smith; and white grapes by Mr. Dockerell, Reading, and Mr. W. Smith, both of whom staged Muscat of Alexandria. Messrs. Jackson and Son, Kingston, staged, not for competition, two remarkably good dishes of Black Hamburgh; and Mr. George, Putney, sent an exceptionally fine basket of Gros Colmar, which had been grown with the aid of Thomson's Vine Manure.

NOVELTIES were not numerous, but the majority of those submitted were highly meritorious. First-class certificates were granted as under: To Messrs. T. Jackson and Sons, Kingston, for *Moonlight*, a very beautiful Japanese variety of American origin; the flowers, which are pure white, are of the largest size, globular in form, and have broad incurving petals. To Mr. T. Winckworth, Childwall Hall, Liverpool, for *Ralph Brocklebank*, a beautiful sport from Meg Merrilies, from which it differs in the flowers, being of a soft yellow colour. To Mr. E. Coombes for *Amy Furze*, a fine reflexed flower, of a pleasing blush colour; it very closely resembles Madeline Tezier, but as shown the flowers are of finer form.

The arrangements were admirably carried out by Mr. T. Jackson, the able honorary secretary, Mr. Puttick, Mr. Woodgate, Mr. Orchard, and other members of the executive. The judges were: Messrs. J. Douglas, W. Earley, J. Wright, J. George, and George Gordon.

CROYDON HORTICULTURAL SOCIETY, NOVEMBER 10 and 11.

This well-managed society may be congratulated on the exhibition of chrysanthemums held in the small Public Hall, Croydon, on the above dates. The competition was keen in the majority of classes, and flowers of grand quality were noticeable, much finer than we are generally accustomed to see at local shows. Especially good were the Japanese, while the incurved, although lacking a certain amount of finish, were highly satisfactory. The hall is, however, in our opinion, unfit for an exhibition of this kind, and it would be a decided advantage if a better lighter, and more commodious place could be secured.

CUT BLOOMS were conspicuous for good quality, and incurved were seen to advantage in the class for twenty-four, in which Mr. H. Alderman, Morden Hall, was first, putting up in good condition Jeanne d'Arc, Lord Alcester, Prince Alfred, Empress of India, Golden Empress of India, Lord Wolseley, Blush Queen, Mrs. Heale, Lady Hardinge, White Beverley, Baron Beust, Mr. Bunn, Princess of Wales, Cherub, Hero of Stoke Newington, John Salter, Angelina, Lady Slade, Mrs. Dixon, Mr. Corbay, Jardin des Plantes, White Venus, Mrs. W. Shipman, and Refulgens. The second place was occupied by Mr. C. Gibson, gardener to J. Wormald, Esq., Morden Park, who had a stand of excellent flowers, especially good being Empress of India, Nil Desperandum, Princess of Wales, Mrs. Dixon, Mrs. Rundle, and Hero of Stoke Newington. The third place was occupied by Mr. R. Ridge, gardener to Lady Ashburton, Addiscombe Farm. In the class for twenty-four incurved, in which competition was limited to gardeners within a radius of four miles, Mr. C. Evans, gardener to S. Underhill, Esq., Chichester Road, was to the front, with satisfactory flowers of Prince Alfred, Golden Empress of India, and Lady Slade. For twelve, Mr. C. Evans was again the most successful, exhibiting in good form Lord Alcester, Jeanne d'Arc, Prince Alfred, Queen of England, Lady Slade, Bronze Jardin des Plantes, Beauty, Golden Empress of India, Angelina, Mrs. G. Rundle, Jardin des Plantes, Baron Beust. The second award was made in favour of Mr. J. Rodbourn, gardener to Baroness Heath, Coombe House, who had a stand of moderately good flowers. Mr. G. Lane, gardener to Alderman Barrow, J.P., Park Hill, came third. For six, Mr. W. Warner was first, and Mr. J. Cook, gardener to S. Ezekiel, Esq., Duppas Hall, second. In the class for twelve to be shown with foliage as grown, Mr. S. Elsey was the most successful prizetaker, and for six blooms, any variety, Mr. R. Ridge secured the first place, showing even, well-finished blooms of Prince Alfred, the second prize going to Mr. J. Staines, gardener to J. Newton, Esq., J.P., Park Hill, who had Mrs. Dixon, and the third to Mr. G. Lane.

The Japanese varieties made a great show, and the blooms on the whole were of superb quality. In the open class for twenty-four Mr. C. Gibson won the first prize, staging fine flowers of Madame C. Audiguier, Grandiflorum, Maiden's Blush, Baronne de Prailly, Mdlle. Lacroix, Japonnais, Boule d'Or, M. Brunet, Gloriosum, Balmoreau, Laing's Seedling (pure white, in the way of Elaine), Yellow Dragon, Meg Merrilies, Jeanne Delaux, Duchess of Albany, M. Astorg, Thunberg, Comte de Germiny, Margaret Marrouch, L'Adorable, M. Tarin, Jupiter, Alba striata, and Madame Bertier Rendatler; the second place was occupied by Mr. H. Alderman, who also had flowers of excellent quality; and the third prize was won by Mr. S. Elsey, gardener to R. G. Perry, Esq., Ashleigh, Addiscombe. In the class for twelve Mr. G. Lane was first, putting up Margot, Dr. Macary, Madame Bertier Rendatler, Madame C. Audiguier, L'Incomparable, Mdlle. Lacroix, Mons. Lemoine, Peter the Great, Source d'Or, and The Cossack; a close second was Mr. C. Evans; the third prize going to Mr. J. Rodbourn. For six flowers of any Japanese variety Mr. R. Ridge was well to the front, exhibiting splendid blooms of Comte de Germiny; Mr. J. Rodbourn coming second with Madame C. Audiguier.

Anemone and anemone-pompon varieties were fairly well represented. In the class for twelve large anemones, Mr. J. Cook was first with Lady Margaret, George Sand, G. Hawk, Mrs. Pethers, Duchess of Edinburgh, Empress, Acquisition, Bacchus, Fleur de Marie, Emperor, and Gluck; Mr. J. Rodbourn, second; and Mr. Dobson, third. For twelve anemone pompons, Mr. Dobson was to the front, showing neat symmetrical flowers; and the second place was assigned to Mr. J. Cook.

PLANTS made a bright feature. In the open class for a group, Mr. W. Curd, 78, George Street, was first with a showy arrangement. In the other class for a group, the principal prizetaker was Mr. J. Cook. For three trained pompons, Mr. J. Cook headed the prize list and in the class for three incurved varieties, the winner of the premier prize was again Mr. J. Cook, who was also the most successful for a specimen plant, showing a good specimen of Prince of Wales.

FRUIT AND VEGETABLES formed an important part of the show. In the class for a collection of apples, Mr. H. Alderman was first with a collection containing fine, well-developed fruits. Mr. W. Jones, gardener to J. R. Brougham, Esq., Wallington Bridge, and Mr. J. Rodbourn, were second and third respectively. In the other classes for fruit the principal prizetakers were Messrs. D. Love, C. Stew, C. Perrett, J. Staines, W. Jones, J. Rodbourn, and G. W. Cummins.

VEGETABLES were shown largely, and in fine condition. In the class for a collection Mr. J. Cooper, gardener to J. C. McDonald, Esq., was deservedly placed first; Mr. J. Rodbourn coming second, and Mr. C. Perrett third. For a dish of potatoes the prizetakers were Messrs. J. Cooper, W. Jupp, and J. C. King, in the order of their names.

Miscellaneous contributions consisted of Roffey's Improved Telegraph cucumber, a variety which well maintains its character; a group of plants from Mr. G. H. Cooper, Croydon; ornamental grasses from Mr. W. Curd; and plant composts and fertilizers from Messrs. Wood and Son, Wood Green, London.

The judges were Messrs. Bret, Neal, Cummins, and Fewell.

NATIONAL CHRYSANTHEMUM SOCIETY, NOVEMBER 10 AND 11.

The remarkable development which the National Chrysanthemum Society has undergone during the past three or four years, was proved to demonstration by its exhibition of this season, which was held on Wednesday and Thursday last. Hitherto the large hall and galleries of the Royal Aquarium have afforded ample space for the various collections staged in competition for the prizes; but on this occasion the increase was so great in all departments, that St. Stephen's Hall had also to be devoted to the exhibition, and, notwithstanding the fact that nearly double the space was provided as compared with any former year, considerable difficulty was experienced by the stewards in finding room for the whole of the contributions. The advance was not less

marked in the quality of the productions than in the number of entries, and, regarded as a whole, the exhibition was in every way worthy of a society occupying so prominent a position as this, and it at the same time afforded an adequate idea of the high degree of perfection to which the cultivation of the chrysanthemum has been brought. Fruits and vegetables, which also received liberal encouragement, were staged in large quantities, and enhanced in no small degree the interest and attractiveness of the exhibition.

Specimen Plants were staged in larger numbers and in better condition than at any previous exhibition, and fully justified the additional encouragement that has been given to cultivators. The great class for nine was very strong, there being a large number of entries, and the collections differed so little in relative merit as to render it no easy task in determining the position of the several exhibitors on the prize list. The premier award was made in favour of Mr. W. Monk, Leytonstone, who surpassed himself on this occasion. The specimens, which were somewhat pyramidal in outline, were large in size and splendidly flowered, the leafage also being remarkably good. The varieties included Dr. Sharpe, Mrs. Dixon, Prince of Wales, Mrs. George Rundle, and Chevalier Domage. Mr. Bass, Leytonstone, was second with specimens somewhat similar in the style of training to those shown by Mr. Monk and remarkably good. Mr. J. Weston, gardener to D. Martineau, Esq., Clapham Park, was a very close third, the flowers being especially good in quality. Mr. E. Cherry, Brixton Hill, and Mr. Davey, who also staged collections of a high degree of excellence, were awarded extra prizes. The collections contributed to the class for six trained specimens of Japanese varieties were all good, the best being that from Mr. Monk, who had fine examples of Madame de Sevin, Mons. C. Hubert, Parasol, Elaine, Source d'Or, and To Kio. Mr. Bass and Messrs. G. Drain and Son, South Grove Nursery, De Beauvoir Town, who were second and third respectively, staged specimens bearing the impress of high class cultural skill. The large-flowered standards were exceptionally good, being of large size, perfect in contour, and densely flowered. Here Mr. Mitchell and Mr. F. Moore were first and second respectively, the first mentioned contributing fine examples of Bouquet Fait, Margot, and Madame B. Rendatler. Mr. Moore had good specimens of Jardin des Plantes and Bronze Jardin des Plantes. The pompons were also numerous and good. In the class for six Mr. E. Reeves, Hadley House, Barnet, was first with specimens of enormous size, but very formal and rather wanting in brightness, the varieties being Marguerite de Coi, Fanny, Sœur Melanie, Lilac Cedo Nulli, Golden Cedo Nulli, and Rose Andromeda. Mr. S. Gilbey was a good second, his plants being of medium size, well flowered, and highly effective. Mr. J. Weston was a close third with comparatively small, but splendidly flowered specimens.

Groups, which had two classes set apart for them, were well represented, and contributed considerably to the attractiveness of the show. In the class for a group of Japanese varieties Mr. G. Edwards, Balham Nursery, was first with a very effective arrangement; Mr. J. Townsend, Putney, was a capital second; and Mr. W. Brown, St. Mary's Nursery, Richmond, was third with a bright group. In the corresponding class for incurved varieties Mr. G. Stevens, Putney, was first with a group which presented a very effective appearance; Mr. J. Townsend was second; and Mr. J. H. Wetty, Highgate, third, both having excellent arrangements.

Ornamental-leaved Plants were represented by several good groups, and the premier award was made in favour of Mr. J. Challis, Park Lane, Stoke Newington, who had excellent palms and other well-known subjects. Plants adapted for the decoration of the dinner table were largely shown, and did credit to the numerous exhibitors.

Cut Blooms formed a large and most important part of the exhibition, and much interest was shown in the competition in the two great classes for forty-eight blooms. In the class for forty-eight incurved blooms, to comprise not less than twenty-four varieties, or more than three blooms of one variety, the finest flowers were unquestionably those staged by Mr. C. Gibson, gardener to J. Wormald, Esq., Morden Hall, Mitcham, who, by an oversight, included a fourth bloom of Golden Queen of England, and, in consequence, failed to obtain the high position on the prize list which he otherwise would have done. The whole of the flowers were grandly developed, and in some respects better than the superb blooms with which he won the valuable challenge vase at Kingston on Tuesday. The varieties shown by Mr. Gibson were Empress of India, Nil Desperandum, Lady Hardinge, Princess of Wales, Yellow Perfection, Lord Wolseley, Princess Beatrice, Empress Eugenie, Golden Queen, James Salter, Refulgens, Golden Empress, Cherub, Mabel Ward, Barbara, Princess of Teck, Queen of England, Jeanne d'Arc, Golden Eagle, Jardin des Plantes, Mrs. Dixon, Hero of Stoke Newington, Nonpareil, Mrs. George Rundle, Sir Stafford Carey, and Prince of Wales. Messrs. W. and G. Drover, Fareham, Hants, were awarded the first prize for a stand of good blooms, the varieties being Beauty of Stoke, John Salter, Emily Dale, Barbara, Hero of Stoke Newington, Beauty, Lord Alcester, Alfred Salter, Prince Alfred, Princess of Teck, Empress of India, Mabel Ward, Queen of England, Mrs. W. Shipman, Barbara, Nil Desperandum, Princess of Wales, Jardin des Plantes, Lord Wolseley, Jeanne d'Arc, Cherub, White Globe, Lady Hardinge, John Salter, Angelina, Golden Empress, Baron Beust, and Mrs. Haliburton; Mr. J. R. Wildman, Clapham Park, was second; and Mr. C. J. Salter, Streatham, third. Mr. E. Berry, Roehampton, and Mr. Bettesworth, also exhibited well in the class.

There was a strong muster in the open class for twenty-four incurved, and the premier place was occupied by Mr. Wildman, with blooms of medium size and neat in finish of the following varieties: Alfred Salter, Queen of England, General Slade, Guernsey Nugget, Venus, Mrs. Shipman, Mr. Bunn, Jeanne d'Arc, Prince Alfred, Lord Alcester, Antonelli, Princess Beatrice, Nil Desperandum, Eve, Lady Slade, Golden Empress, Barbara, George Glenny, Lord Wolseley, Novelty, Refulgens, Mrs. Dixon, John Salter, and Empress of India. E. Sanderson, Esq., Harlesden Park, Willesden, was an exceedingly good second, his flowers being remarkable for their depth and the high development of petal. Mr. R. Strong, Wellington College, Wokingham, was third, with a fine stand of blooms. For eighteen incurved, Mr. J. Martin, gardener to C. N. Kidd, Esq., West Hill House, Dartford, was first, with good blooms of Lord Alcester, John Salter, Baron Beust, Nil Desperandum, Mrs. Heale, Lord Wolseley, Golden Empress, Mr. Brunlees, Isabella Bott, Prince Alfred, Jeanne d'Arc, Prince of Wales, Empress of India, Cherub, Princess Beatrice, Eve, Mrs. Shipman, and Princess of Wales. Mr. J. Horsefield, Heytesbury, was second, and Mr. J. Mitchell, Borgden Place, Bexley, third, with capital stands. Especially good were the flowers contributed to the open class for twelve by Mr. J. Doughty, gardener to Mrs. Tomlin, Angley Park, Cranbrook, who occupied the first place. The varieties were Lord Alcester, Empress of India, Golden Empress, Queen of England, Prince Alfred, Jeanne d'Arc, Alfred Salter, Princess of Teck, Hero of Stoke Newington, Mrs. Shipman, and Lady Hardinge. Mr. Shoesmith, gardener to the Rev. Canon Hodgson, Hythe, was second, with a capital stand, which contained a superb bloom of Princess of Wales; and Mr. J. Gore, gardener to Captain Taylor, was a close third, his stand containing the finest bloom of Refulgens in the show. For six blooms of any one incurved variety, Mr. Springbett, Holly Nursery, Cheshunt, was first with fine flowers of Princess of Wales; Mr. Salter second, with Lord Wolseley; and Mr. Shoesmith third, with Empress of India.

Cultivators within the metropolitan district mustered in strong force, and the prizes in the classes for incurved varieties that were specially provided for them were warmly contested. The post of honour in the class for twenty-four was occupied by Mr. G. Langdon, gardener to Dr. Munroe, Brook House, Clapton, whose flowers were even and highly finished. Mr. S. Gilbey, The Cazenove, Upper Clapton, was second, and Mr. R. Whibley, Southwark, was third. In the leading amateurs' class for incurved varieties, Mr. F. Bingham and Mr. J. Hillier were the most successful competitors.

The fantastic and richly-coloured Japanese varieties were shown as largely as their most devoted admirers could desire, and the effect produced was very bright and highly attractive. The entries were very numerous in the great open class for forty-eight blooms, and the collection, for which Mr. Gibson was awarded the first prize of £10, was one of the very best that has yet been placed on the exhibition stage. The blooms were of enormous size, very full, and exceedingly bright in colour, and included the following varieties: Madame C. Audiguier, Thunberg, White Dragon, L'Adorable, Val d'Andorre, Mdlle. Lacroix, Grandiflorum, Mons. Brunet, Comte de Germiny, Mons. Astorg, Golden Dragon, Baronne de Prailly, Duchess of Albany, Meg Merrilies, Japonais, Comtesse de Beauregard, Jeanne Delaux, Hiver Fleur, Elaine, Boule d'Or, Maiden's Blush, Roseum Pictum, Ferdinand Feral, Gloriosum, Fair Maid of Guernsey, Criterion, Album Striatum, and Marguerite Marrouch. Mr. J. Ridout, gardener to T. B. Haywood, Woodhatch Lodge, Reigate, was a good second; Mr. Bettesworth was a close third, the blooms being of full size and well finished.

At the head of the large body of competitors in the open class for twenty-four Japanese varieties was Mr. J. Child, Esher, with a stand containing superb blooms of Comtesse de Beauregard, Duchess of Albany, Japonais, Album Plenum, Mons. Delaux, Mons. Astorg, Baronne de Prailly, Mons. N. Davis, Hiver Fleur, Madame de Sevin, Fanny Boncharlat, Thunberg, Val d'Andorre, Boule d'Or, Acquisition, Peter the Great, Margot, The Damio, Mdlle. Lacroix, L'Incomparable, Galathée, Jupiter, Ferdinand Feral, and Fair Maid of Guernsey; Mr. Shoesmith was second; and Mr. E. Wiles, gardener to Mrs. Pearce, The Firs, Bassett, third. For twelve Japanese, open, Mr. F. Moore was first with finely-developed blooms of Baronne de Prailly, Grandiflorum, Thunberg, Jeanne Delanx, Criterion, Triomphe de la Rue des Chalets, Mons. Astorg, Arlequin, Soleil Levant, Mrs. Laing, Jeanne Delaux, and Comte de Germiny; Mr. R. Strong was second. In the metropolitan class for twelve Mr. S. Gilbey, Mr. W. Davey, Cedar House, Stamford Hill, and Mr. W. Martin, The Cedars, Wodbery Down were the prizetakers in the order of their names; and in the amateurs' class for the same number of blooms Mr. J. Hillier, Mr. G. Walker, Wimbledon, and Mr. J. Allen, Sidcup, were the successful competitors. For six flowers of any white Japanese variety Mr. G. Duncan was first with Fair Maid of Guernsey,; Mr. Shoesmith was second with Mdlle. Lacroix; and Mr. Wildman third with Elaine. For the same number of blooms of any variety other than white, Mr. C. Blick was first with Golden Dragon; Mr. Duncan second with Japonnais; and Mr. Shoesmith third with Jeanne Delaux.

Large anemones were admirably shown by several exhibitors, and the awards were made in favour of Mr. F. Moore, Blenden Hall, Bexley; Mr. Sullivan, Roehampton; and Mr. Ives, gardener to E. Jukes, Esq., Winchmore Hill. Anemone pompons were equally good, the prizetakers being Mr. R. Whibley, Mr. Butcher, The Priory, Hadley; and Mr. J. Hillier. The successful competitors in the class for pompons were Mr. J. Gore, Mr. Butcher, and Mr. Duncan. The finest of the large number of stands of reflexed flowers were those from Mr. F. Moore, Mr. Wiles, and Mr. J. Gore.

Fruit was plentiful and good. There was a strong competition in the class for a collection of grapes, and the first place was occupied by Mr. J. Harvey, Penshurst, Sussex, who had very large and superbly coloured clusters of Gros Colman, Barbarossa, and Alicante; Mr. J. H. Goodacre, Elvaston Castle, Derby, was second, with a collection in which were three bunches of Gros Colman of so high a degree of excellence that the award of a cultural certificate was made in addition to the prize; Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, was third, with a collection in which the examples of Muscat of Alexandria were especially meritorious. In the class for white grapes, Mr. J. Roberts, Gunnersbury Park; Mr. J. Chalk, Westwood, Salisbury; and Mr. A. Smith, Warren House, Loughton, were the prizetakers, with Muscat of Alexandria. There were ten entries in the class for black grapes, and Mr. J. Harvey and Mr. A. Smith were first and second with Gros Colman, and Mr. J. Wing was third with Alicante.

Apples and pears were admirably shown, and in the class for six dishes of pears Mr. W. Allan was first, with remarkably fine fruit of Marie Louise, Beurré Bosc, Beurré Diel, Doyenné du Comice, and Marie Louise d'Uccle; Mr. Goldsmith, Kelsey Manor, Beckenham, second; and Mr. Bettesworth third. The most successful exhibitors of collections of dessert apples were Mr. G. Duncan, Mr. C. Ross, Welford Park, Newbury, and Mr. Jacobs, Petworth; and in the corresponding class for culinary apples the prizes were awarded to Mr. J. McKenzie, Linton Park, and Mr. A. Smith.

Vegetables were as usual highly meritorious. The entries were numerous in the two classes for collections, and in that in which the prizes were offered by Messrs. Sutton and Sons, Mr. C. J. Waite, Esher, Mr. J. May, Northaw House, Potters Bar, and Mr. A. Miller, Rood Ashton Park, Trowbridge, were the most successful exhibitors. In competition for the prizes offered by Messrs. Webb and Sons, Mr. S. Harris, Coleshill House, Highworth, was first; Mr. J. May second; and Mr. A. Beckett, Cole Hatch Farm, Amersham, third. In the two classes for collections of potatoes the prizes were awarded to Mr. Jacobs, Mr. E. Wiles, Mr. C. Osman, Mr. W. Pepper, and Mr. E. Chadwick.

Miscellaneous Contributions included a very fine collection of potatoes, comprising about one hundred dishes from Messrs. Sutton and Sons, a very large and most tastefully arranged collection of chrysanthemums and zonal pelargoniums, which attracted much attention, from Messrs. H. Cannell and Sons, Swanley; a collection of about one hundred dishes of apples, in which the fruit was throughout remarkably good, from Messrs. Bunyard and Co., Maidstone; a very attractive group of chrysanthemums, from Mr. W. Holmes, Frampton Park Nursery, Hackney; and an attractive collection of cut chrysanthemums from Mr. R. Owen, Maidenhead.

The judges were: Messrs. A. F. Barron, E. Beckett, J. Douglas, G. Gordon, J. Mardlin, E. Molyneux, and G. Prickett.

NORTH OF SCOTLAND ROOT ASSOCIATION ANNUAL SHOW.

The annual exhibition of the North of Scotland Root, Vegetable, and Fruit Association was held on Saturday, 6th inst., at Inverurie (near Aberdeen). From various causes the total entry was not so large as it has been for the last few years, but the quality all over was remarkably good. The entries numbered 774, as compared with 854 last year, exhibiting a decrease of 80 entries. The deficiency was partly accounted for by a new rule which restricted competitors to two entries in each class. The general lateness of the season must have also crippled the competition, and it would also appear that in some cases the turnip crop is not proving to be the success that was at one time predicted, and that swedes in particular have not bulbed very well. The display of swedish turnips was therefore not so good as in some former years, and not a few of those who intended to compete failed to put in an appearance, the result of their examination of the crop being probably unsatisfactory. But the winning bulbs were very creditable, especially the green tops grown by Mr. D. C. Bruce, Byres, which were awarded a special premium as the best specimens in the yard. The Dowager Countess of Seafield won in a fair class of purple tops with an excellent sample. A few of the honours were carried off by Ross-shire farmers, but they were not quite so successful as they have been in recent years. The best class in the yard was the green-top yellows. There were forty entries of these, and the average quality was particularly good. The first prize bulbs from Fauchfaulds would have been ill to beat in any season, being of excellent quality, shape, and colour. Mr. Reid, Bruiach, was a pretty close second; and in the class for purple tops he again followed Mr. Murray, Fanchfaulds, who was first. Mr. Murray's first prize green-top yellows won a kettle, as the best specimen of yellow turnips in competition. The feature of the turnip exhibition was the closeness of the competition and the general good average all round; but there were fewer exceptionally fine specimens than have sometimes been seen. There were only two entries in the competition for the best exhibits of farm products. Mr. Nares, Brucktor, was awarded the first prize for a very fine collection, which included some fifty-eight varieties and particularly beautiful samples of turnips, cabbages, potatoes, and grain.

The season has been reckoned a good one for potatoes, and there appears to be very little signs of disease. Exhibitors at this show have paid so much attention to the cultivation of potatoes, and their success has been so great, that they do not expect to be able to make very great improvements on the different varieties now. At any rate, the exhibition of Saturday was said to be, in respect of the quality, though the entries were slightly back, as fine as any of the previous shows. Field-grown potatoes were exceedingly fine, particularly the kidney varieties, Grampians, and the collections in the department for garden potatoes. The exhibits could scarcely have been excelled—in fact, several judges characterized them as the best they had ever seen. Anything nearer perfection than Mr. Moir's plate of the Snowdrop variety could not be looked for. It is said that among the exhibitors who patronise the association's show the favourite potatoes, after the test of several years' experiments, are Yorkshire Hero, Bountiful, Dalmahoys, and Glenbervies; while for field produce the Grampian can hardly be beaten amongst coloured varieties. It is about eleven years since it was introduced, and it has proved an excellent potato for general use. The Champion potato takes a leading place in potato-growing districts, and in a season when disease is prevalent it is nearly indispensable. There was a fine display of these, and also of Donaldson's Victoria Alba, which, since it made its appearance, has taken a pretty strong hold in Aberdeenshire. Mr. Greig, Inchgarth, exhibited several lots of promising seedlings, to which the judges awarded first prizes in their respective classes. Vegetables were well shown. The show of fruit was meagre, the entries being about one-half smaller than in average seasons. The cold weather in May and June spoiled the crop, and, taking this into account, the quality was very good.

The splendid collections sent forward for exhibition by Messrs. Ben. Reid, and Co. and Messrs. W. Smith and Son, Aberdeen, were a source of great attraction to the many visitors present. They excelled any of the kind ever seen at Inverurie, occupying one whole side of the hall. Messrs. Ben. Reid, and Co., the Queen's seedsmen, exhibited a large and splendid collection of potatoes; in fact, they never staged a finer lot at this show. All old well-known sorts were exhibited along with those of recent introduction. Splendid examples of the following sorts deserve special attention, viz.: Clarke's white forty-fold (said to be one of the heaviest croppers yet introduced), the firm having lifted 15 tons per acre as the produce from above variety), Ingliston Fluke, Cromwell, Rosebery, Gladstone, Keithhall, Village Blacksmith, &c. Fyvie Flower, a new kidney variety, raised by Mr. Farquhar, to be sent out in spring by Messrs. Ben. Reid, and Co. for the first time, was shown in fine condition, and is likely to prove a great acquisition. This variety obtained the first-class certificate at Chiswick out of 100 varieties tried against it. A fine lot of vegetables was also exhibited, the most notable among which were the onions, viz., Excelsior, Rousham Park, and Warminster, which showed to what a size these varieties may attain in our climate under successful treatment. Messrs. W. Smith and Son exhibited a fine collection of potatoes, over 100 varieties all correctly named, including several not yet in commerce. viz., Ben-ecoord, Sim's Improved Glenbervie, Turnerhall Seedling, California or Gold-Leaved, &c. They also showed an excellent lot of Sittyton prize green-top yellow turnips originally sent out by this firm, and for which they are justly famed.

The secretary, Mr. William Maitland, is to be congratulated on the excellent arrangements that obtained, and the tact with which he manages the affairs of this important association. The judges were: For garden produce—Messrs. M'Leod, Ardmiddle, D. M. Smith, Aberdeen; field potatoes—Messrs. Smith, Rothienorman, and Smith, Dunecht; field turnips—Messrs. W. Duthie, Collynie, Donald, Mains of Grange, and Mitchell, Hatton Castle; for collections of farm produce and vegetables—Mr. Robertson, Ardneedly.

The dinner was held in the Town Hall, Mr. Arbuthnot Leslie, of Warthill, presiding; Sir Francis Grant, Bart., of Monymusk, acted as vice-chairman. Among those present were: Colonel Lumsden, of Pitcaple; Mr. A. M. Gordon, of Newton; Mr. Udny, of Udny; Mr. L. Arbuthnot, &c.

TRADE CATALOGUES.

T. S. Ware, Tottenham.—*Roses, Climbing Plants, Florists' Flowers, &c.*

R. H. Vertegans, Chad Valley Nurseries, Birmingham.—*New Fruits.*

James Veitch and Sons, 554, King's Road, Chelsea.—*Roses—Fruits.*

Little and Ballantine, Carlisle.—*Trees.*

Obituary.

In our last issue we announced the death, on the 19th ultimo, of Mrs. Jane Salter, widow of Mr. John Salter, who accomplished so much to improve the chrysanthemum and bring it to perfection in this country. Mrs. Salter lived to the ripe age of 87 years, and enjoyed the full use of her faculties to the last. She was a daughter of Mr. Edward Talfourd, of Reading, and a sister of the late Mr. Justice Talfourd, the friend of Lamb and Dickens, and possessed much of the vivacity and cheerful kind-heartedness for which her brother was so distinguished. Many will remember with pleasure her genial hospitalities when the chrysanthemums were in flower at Hammersmith. She leaves one son and one daughter, who, with a large circle of friends, revere her memory and mourn her loss. She died, after a fortnight's illness, at her residence, Pembroke Road, Kensington, and was interred in the family grave at the Brompton Cemetery, on the 23rd October.

On October 29, at her residence, Warwick Road, Kensington, the wife of Mr. John Lee, the much respected "father" of the nursery trade.

Markets.

COVENT GARDEN.

Fruit.

Apples	per ½ sieve	1s. 6d.	to 3s. 6d.
Cobs	per 100 lbs.	60s. 0d.	,, 65s. 0d.
Grapes	per lb.	0s. 9d.	,, 2s. 6d.
Lemons	per case	15s. 0d.	,, 25s. 0d.
Pears	per ½-sieve	1s. 6d.	,, 3s. 6d.
Pears, Dessert	per doz.	1s. 0d.	,, 1s. 6d.
Pine-apples, English, per lb.		2s. 0d.	,, 3s. 0d.
Pine Apples, St. Michael's, each		3s. 6d.	,, 7s. 6d.

Vegetables.

Artichokes, Globe, per dz.		3s. 0d.	,, 4s. 0d.
Beet	per doz.	1s. 0d.	,, 2s. 0d.
Brussels Sprouts	per lb.	0s. 2d.	,, 0s. 4d.
Cabbages	per doz.	1s. 6d.	,, 2s. 0d.
Carrots	per bun.	0s. 4d.	,, 0s. 6d.
Cauliflowers	per doz.	2s. 0d.	,, 3s. 6d.
Celery	per bun.	1s. 6d.	,, 2s. 0d.
Cucumbers	each	0s. 9d.	,, 1s. 6d.
Endive	per doz.	1s. 0d.	,, 2s. 0d
Herbs	per bunch	0s. 3d.	,, 0s. 4d.
Horse-radish	per bun.	3s. 0d.	,, 4s. 0d.
Leeks	per bunch	0s. 3d.	,, 0s. 4d.
Lettuces, Cabbage, per doz.		0s. 9d.	,, 1s. 3d.
Lettuce, Cos	per doz.	1s. 0d.	,, 1s. 6d.
Mushrooms	per basket	1s. 6d.	,, 2s. 6d.
Onions	per bunch	0s. 4d.	,, 0s. 6d.
Onions	per bushel	3s. 6d.	,, 4s. 0d.
Parsley	per bun.	0s. 3d.	,, 0s. 4d.
Radishes	per doz. bunch	0s. 8d.	,, 1s. 0d.
Shallots	per lb.	0s. 3d.	,, 0s. 4d.
Small Salading	per pun.	0s. 3d.	,, 0s. 4d.
Spinach	per bushel	3s. 0d.	,, 4s. 0d.
Tomatoes	per lb.	0s. 9d.	,, 1s. 0d.
Turnips	per bunch	0s. 4d.	,, 0s. 6d.

Cut Flowers.

Azaleas	per doz. sprays	0s. 9d.	,, 1s. 0d.
Bouvardias	per bunch	0s. 6d.	,, 1s. 0d.
Callas	per doz.	4s. 0d.	,, 6s. 0d.
Camellias, per doz. blooms		2s. 6d.	,, 5s. 0d.
Carnations, per doz. blms.		1s. 0d.	,, 2s. 0d.
Chrysanthemums, per doz. blooms		1s. 0d.	,, 3s. 0d.
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Eucharis, per doz. blooms		4s. 0d.	,, 5s. 0d.
Gardenias, per doz. blooms		3s. 0d.	,, 6s. 0d.
Heliotropes, per doz. sprays		0s. 4d.	,, 0s. 6d.
Lapageria, per doz. blooms		1s. 0d.	,, 1s. 6d.
Marguerites, per doz. bun.		4s. 0d.	,, 6s. 0d.
Mignonette, per doz. bun.		2s. 0d.	,, 3s. 0d.
Pelargoniums, Zonal, per doz. trusses		0s. 6d.	,, 0s. 8d.
Primulas, Single, per doz. bunches		4s. 0d.	,, 6s 0d.
Roses	per doz. blms.	1s. 6d.	,, 2s. 6d.
Roses, Tea	per doz. blms.	1s. 0d.	,, 2s. 0d.
Stephanotis, per doz. sprays		4s. 0d.	,, 6s. 0d.
Tropæolum	per doz. bun.	0s. 8d.	,, 1s. 0d.
Tuberoses	per doz. blms.	1s. 0d.	,, 1s. 6d.
Violets	per doz. bunches	0s. 9d.	,, 1s. 0d.
French	per bunch	4s. 0d.	,, 5s. 0d.

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Magnum Bonum	per ton	50s.	to 80s.
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Essex Regents	per ton	55s.	,, 85s.
Kent Regents	per ton	55s.	,, 100s.
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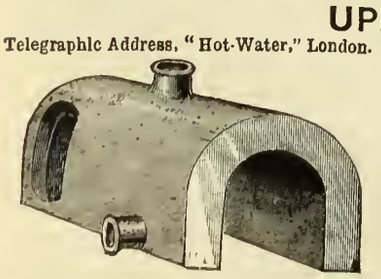

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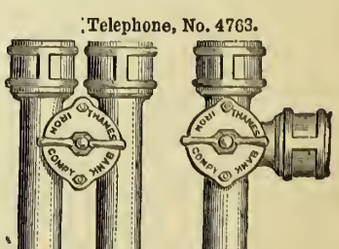

PATENT RELIANCE ROTARY VALVES.

D. of M.	D. of W.	ANNIVERSARIES, FESTIVALS, OCCURRENCES, HISTORICAL NOTES, &c.	SUN. Rises.	SUN. Souths After Noon.	SUN. Sets.	MOON. Rises. After.	MOON. Sets. Morn.	HIGH WATER AT London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 40 yrs. Chiswick.	ORCHIDS IN FLOWER.	Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.		1886
21	S	**22nd Sunday after Trinity.**	7 30	13 57	4 4	1 37	2 18	9 31	10 8	6 15	6 56	41·6	Lælia albida superba..... Oaxaca.	325
22	M	*St. Cecilia.*	7 31	13 41	4 3	2 55	2 46	10 42	11 16	7 33	8 7	41·6	Grammatophyllum speciosum Java.	326
23	Tu	*St. Clement.*	7 33	13 24	4 2	4 11	3 14	11 47	—	8 41	9 12	41·6	Grammatophyllum Ellisi ..... Madagascar.	327
24	W	John Knox died, 1572.	7 34	13 7	4 0	5 28	3 44	0 14	0 38	9 39	10 3	41·5	Dendrobium Lowi ..... Borneo.	328
25	Th	● New Moon, 7h. 19m. after.	7 36	12 49	3 58	6 43	4 20	1 2	1 26	10 27	10 51	41·5	Goodyera discolor ..... Brazil.	329
26	F	Eddystone Lighthouse destroyed, 1703.	7 37	12 30	3 57	7 53	5 0	1 48	2 9	11 13	11 34	41·4	Goodyera Domini..... Gar. hyb.	330
27	S	Princess Mary (of Teck) born, 1833.	7 39	12 10	3 56	8 56	5 46	2 31	2 51	11 56	—	41·4	Goodyera pubescens ..... North America.	331

Exhibitions and Meetings for the Ensuing Week.

MONDAY, NOVEMBER 22, AND TUESDAY, NOVEMBER 23.—LEEDS CHRYSANTHEMUM SOCIETY.—Annual Exhibition.

TUESDAY, NOVEMBER 23.—BOROUGH OF HANLEY CHRYSANTHEMUM SOCIETY.—Annual Exhibition.

TUESDAY, NOVEMBER 23 —OXFORD CHRYSANTHEMUM SOCIETY.—Annual Exhibition.

TUESDAY, NOVEMBER 23, AND WEDNESDAY, NOVEMBER 24.—MANCHESTER BOTANICAL AND HORTICULTURAL SOCIETY.—Chrysanthemum Exhibition.

TUESDAY, NOVEMBER 23, AND WEDNESDAY, NOVEMBER 24.—LIVERPOOL HORTICULTURAL ASSOCIATION.—Exhibition of Chrysanthemums.

WEDNESDAY, NOVEMBER 24.—NATIONAL CHRYSANTHEMUM SOCIETY.—Floral Committee, 1.30 p.m.

WEDNESDAY, NOVEMBER 24.—CLONMEL.—Chrysanthemum Show.

WEDNESDAY, NOVEMBER 24, AND THURSDAY, NOVEMBER 25.—BIRMINGHAM CHRYSANTHEMUM SOCIETY.—Annual Exhibition.

THURSDAY, NOVEMBER 25.—COLCHESTER.—Chrysanthemum Show.

Auction Sales for the Ensuing Week.

MONDAY, NOVEMBER 22.—Mr. J. C. Stevens, 38, King Street, Covent Garden; Dutch Bulbs and Dwarf Roses from France.

WEDNESDAY AND SATURDAY, NOVEMBER 24 AND 27.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Shrubs, Roses, Border Plants, Dutch Bulbs, &c.

THURSDAY, NOVEMBER 25.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids, and 10,000 Bulbs of Lilium auratum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

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The Gardeners' Magazine.

SATURDAY, NOVEMBER 20, 1886.

A RATIONAL SYSTEM OF PRUNING may be hoped for in the general routine of garden practice as the result of discussions and observations that have obtained publicity within the past ten years. The progress of common sense has been slow, considering how patent are the facts and simple the principles; but progress in such a matter accelerates and widens as time advances, for every new convert to the truth influences a circle of interested observers. Pruning, both of forest trees and fruit trees, had settled into a vicious groove, and the rule generally observed was the very antithesis of common sense. From that rule the wielders of the cold steel are experiencing emancipation, and another rule, consistent with reason, is acquiring force. We may formulate the old rule as, taking from a tree as much as possible; and the new rule may be put as, leaving on the tree as much as possible. The secret of the too common desire to prune to excess may, perhaps, be found in a delusion of self-satisfaction, the pruner having but little faith in Nature and overmuch faith in himself. In the pruning of timber an immensity of mischief has been done by foresters gifted with expertness in the use of tools, but entirely ignorant of Nature's ways in building up a tree. One result of this is defective timber, and another result is injurious limitation of the growth, for no tree grows with such vigour, *cæteris paribus*, as the tree that grows in its own way and is never pruned at all. The matter obtains the attention it deserves in the excellent edition of Brown's "Forester," published in 1882. The author remarks that "pruning, generally speaking, was, of all the branches of tree-culture, the least understood by the older class of foresters. Forty years ago, the system practised was chiefly that of lopping off all large branches from the stems, without respect to age, size, or kind, leaving the subjects standing like so many maypoles. The science of vegetable physiology has, however, taught us differently, and we now prune very sparingly, well knowing that the removal of large branches from trees deprives them, according to the extent of the operation, of the organs with which Nature has provided them for the assimilation of the food they take in by their roots. In this branch of forestry, therefore, we have made important discoveries and improvements of late, and this from our better knowledge of the laws which regulate the healthy growth and development of trees."

What is true in the forest is true in the field, the orchard, and the garden. Trees do not alter their nature to accommodate our whims or to condone our ignorance. A certain amount of pruning must be recognised as necessary in the routine of cultivation, and it must vary in amount and manner with the varying circumstances and requirements of the pruner. Espalier trees, whether on walls, wires, or rods, must be kept in form and somewhat strictly regulated, and the knife must be used with judgment in aid of the proceeding. It is not the less necessary to prune standard and pyramidal and bush trees, all of which have free heads, the exact form of which is not of vital importance. But how different are these two classes; the espaliers trained to a plane surface with the least amount of breast-wood consistent with health and fertility, and the free-headed trees taking their own form and each a different form, provided only that the pruner will allow it. The differences that are common to the two classes, and the further and more minute differences observable amongst the varieties, must suggest to the observant cultivator that pruning is a delicate business, demanding much more knowledge and judgment than are commonly brought to bear upon it. The habit of mind common to careless pruners is to assume that all trees grow alike or nearly so; and that pruning promotes vigour of growth, and consequent fruitfulness. These assumptions have cost the country something, more especially in gardens, and more than all in such as may be spoken of as modern gardens, in which the fruit trees are mostly on dwarfing stocks, and are subjects of special attention. To prune hard in winter, and pinch two or three times in summer is easy enough, so long as there are trees to operate upon. But to put fruit on trees so treated is another matter, and the great advance of common sense in the practice of pruning appears in the increasing tendency to leave all these trees on dwarfing stocks unpruned, or with at most only one summer pinching, and a very slight regulation with the knife in winter. When the word went forth that garden fruit crops were more commonly restricted by the pruner's knife than by the spring frosts or the deficiency of heat in summer, many persons took note of the fact that the trees under "proper" regulations continued barren, while others that were under no regulations whatever, but were left to the kindly care of Nature, produced abundance of fruit and ripened it perfectly. The owners of the trees might have taken a hint from any market garden where fruit is gathered in quantity from trees that are never pruned at all, and that would very soon alter their ways for the worse were such an attention bestowed upon them.

It is particularly worthy of note that in the nurseries where formerly starving stocks were largely used, and much pruning and pinching practised, stocks of more vigorous habit are now employed, and amongst the paradise apples and the quinces, those of good constitution are alone accepted as suitable. When the customers began to open their eyes, the trade in pigmy trees declined, and the buyers of better trees recognised that it was necessary to have visible trees to bear visible fruits. In the nurseries now the greatest care is taken in selecting stocks. It is not enough to say this is a paradise, and this a doucin, and this a quince, for in each of these, as in other classes of stocks, there are good and bad; and amongst the good some growths are especially adapted for certain varieties, while not so well adapted for others. Thus the study of stocks is complicated, and demands the close attention of capable minds. It is impossible for purchasers to know exactly what stocks their trees are on, and it is no necessary part of a gardener's work either to study stocks or practise tree propagation. If he understands these matters all the better, for knowledge is precious for its own sake, irrespective of its usefulness. But it is of the very first importance that those who make trees should do the work well, for the purchaser must be trustful in respect of matters that are beyond the range of his individual action, and it is with the greatest satisfaction we have

witnessed, within a few years past, the elimination of weakly stocks from all the leading nurseries.

The time for pruning having returned, it will be well for the practitioners to review their practice, remembering, in respect of fruit trees, that their proper business is to produce fruit. The advance of common sense in nurseries has a parallel in many private gardens, one consequence being that we see fewer decrepit trees than formerly; while the production of garden fruit has, within the past few years, increased enormously. Many an old fruit wall that for years and years was more plague than profit, has become creditable and satisfactory by the simple procedure of increasing the height of the wall, and so making an end of that suppression of top growth which is the principal cause of the death of the lower branches and the general barrenness of trees that are neither too old nor too cold to produce fruit abundantly. They have been kept down, a process that makes even a man useless, and may well be allowed to be injurious to a tree. As for thousands of plantations of dwarf apple, pear, and cherry trees, that through long years gave much trouble and refused to pay rent, they have ceased to give trouble because their owners have learned to leave them alone, and they pay a liberal rent and something over, because being left to nature they are better treated than was the case with them in the care of man.

In advising on horticultural books, it is our custom, when proper occasions arise, to recommend as the best book of its class, Lindley's "Theory of Horticulture." There will be no serious dispute, in this connection, as to its soundness, breadth, and happy combination of science with practice; therefore, we may, with propriety, add to our own poor persuasions his masterly summary of the rationale of pruning. He says: "The quantity of timber that a tree forms, the amount and quality of its secretions, the brilliancy of its colours, the size of its flowers, and, in short, its whole beauty, depend upon the action of its branches and leaves, and their healthiness. The object of the pruner is to diminish the number of leaves and branches, whence it may be at once understood how delicate are the operations he has to practise, and how thorough a knowledge he ought to possess of all the laws which regulate the action of the organs of vegetation. If well directed, pruning is one of the most useful—and, if ill directed, it is among the most mischievous,—operations that can take place upon a plant. The object of pruning is either to influence the production of flowers and fruit, or to augment the quantity of timber. * * * Pruning is nothing less than the removal of leaves. To cut off a branch in summer is evidently so; and if a branch is naked, still its removal is the destruction of the part from which leaves would have been produced had it been permitted to remain. Prune not at all should, therefore, be the maxim of the forester. Plant thickly, thin constantly, stop carefully, and leave the rest to nature. But, unfortunately, it does not always happen that he who plants well always thins constantly; it is still more rare that stopping is thought of, and so a maxim, one of the soundest in the whole system of forestry, cannot be observed. Hence pruning may be regarded as a necessary evil, to which the wise must submit because of the ignorant; the careful, to cure the evils inflicted by the careless."

The reaction against the pruning knife is as yet in its infancy. It will gather force as knowledge extends, and men give increased heed to the teachings of nature. It will be seen that by pruning we may regulate and reduce, but can scarcely, and only in exceptional cases, augment the production of leaves and flowers. What is true of the growth of an oak is true, with but few and slight modifications, of the growth of an apple or rose tree. And however we may be compelled to differ in our practices to accommodate circumstances and special requirements, it will be found that long rods are much to be desired, and it is safer to pinch lateral growth than to shorten leaders. But even that proceeding must be governed by common sense, and laterals are not to be suppressed without due consideration of their uses in the economy of the tree, more especially in respect of the production of flowers. Long rods—that is, long for the tree, whatever it be—with ample spaces between for the play of light and air, and a careful suppression of laterals without sacrifice of spurs and the shoots that make them, will be found the safest general practice and the true basis of scientific pruning. Those who pretend that the trees will travel unreasonably far may be dismissed from the discussion as ignorant of the elementary facts.

THE GARDEN ORACLE FOR 1887 will contain, as a special feature, a complete list of show auriculas, corrected to the present time, giving names, raisers, characters, dates, and colours. The lists of plants figured; descriptions of all new plants, flowers, and fruits; selections of the best of everything in aid of purchasers, and notes on new inventions, &c., will be given in the same useful fashion as in past issues, and the commercial and astronomical information will render it, as heretofore, a valuable almanac for the desk and the library table. This new issue will be the twenty-ninth in the continuous series of the "Garden Oracle."

LOUGHBOROUGH CHRYSANTHEMUM SHOW, Nov. 20.

MR. JOSEPH HUMPHREYS, having left Woolton Wood, has taken charge of the gardens of J. Kershaw, Esq., Sedgley Park, Prestwich.

COLONIAL AND INDIAN EXHIBITION, 1886, had a total of 5,550,749 visitors, making an average of 33,846 per day.

LIVERPOOL INTERNATIONAL EXHIBITION, 1886, had a total of 2,682,516 visitors.

EDINBURGH INTERNATIONAL EXHIBITION, 1886, had a total of 2,769,632 visitors.

GROSVENOR GALLERY WINTER EXHIBITION will consist chiefly of pictures by Vandyck.

"GARTENFLORA" is to be incorporated with the *Deutsche Garten Zeitung*, under the editorship of Professor Wittmack.

MR. C. FORD, formerly employed at Thornton Manor, has been appointed head gardener to Mrs. Charles Hazlehurst, Halton Grange, Runcorn.

STAPLE INN, with its quaint frontage and its sanctum garden, is delightfully figured and described in the *Illustrated London News* of Nov. 13. It is most comforting to hear that the saving of this precious bit of old London is not only possible, but within measurable distance of accomplishment.

MR. J. DOUGLAS DICK, of R.H.S., who has occupied the post of superintendent of entrances at the series of exhibitions at South Kensington, was, on the 11th inst., on behalf of his staff, presented by Sir P. Cunliffe Owen with a very handsome marble timepiece bearing a suitable inscription.

MESSRS. RICHARDSON AND CO., OF DARLINGTON, have been awarded a silver medal (the highest prize in the department) at the Liverpool International Exhibition, for their patent system of ventilating horticultural buildings and for the general excellence of their plant houses, frames, &c.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The forty-fourth anniversary dinner is announced to take place at the Albion, Aldersgate Street, on Friday, the 1st of July, 1887, when Baron Ferdinand de Rothschild, of Waddesdon Manor, M.P. for the Aylesbury division of Buckinghamshire, will preside. The offices of the institution are now located at 50, Parliament Street, London.

HULL CHRYSANTHEMUM SHOW, which was held on Thursday and Friday last, proved a brilliant success. There was a sharp contest in the class for forty-eight blooms, and the first prize, consisting of a challenge vase of the value of fifteen guineas, and 10*l.* in cash, was awarded to Mr. Mease, Liverpool; Mr. Lindsay, the winner of the vase last year, being second.

MONEY PRIZES are in general favour, and such favour is in strict agreement with the ways of the world. But there is some gratification to be found in the doing of good work when there is no temptation of advantage. Our report of Salisbury Chrysanthemum Show reveals the fact that money prizes are not absolutely essential, and we are thereby reminded of the Guildhall shows of years gone by, which were brilliant efforts in which love more than money gave the impulse.

ROYAL HORTICULTURAL SOCIETY—MEETINGS IN 1887.—All meetings at present arranged for are on Tuesdays. Council, Jan. 11, Feb. 8, March 8 and 22, April 12 and 26, May 10 and 24, June 14 and 28, July 12 and 26, Oct. 11, Nov. 8, Dec. 13. Scientific Committee, Jan. 11, Feb. 8, March 8 and 22, April 12 and 26, May 10 and 24, June 14 and 28, July 12 and 26, Nov. 8, Dec. 13. Floral and Fruit Committees, Jan. 11, Feb. 8, March 8 and 22, April 12 and 26, May 10 and 24, June 14 and 28, July 12 and 26, August 9 and 23, Sep. 13 and 27, Oct. 11 and 25, Nov. 8, Dec. 13.

THE CHRISTMAS NUMBER OF THE GARDENERS' MAGAZINE will be published December 18. It will, as on former occasions, comprise a budget of interesting essays and illustrations suitable to the season, and in agreement with the general purport of the paper. In continuation of the Arthurian studies suggested by the "True Story of King Arthur," attempted last year, an attempt will now be made to tell the "True Story of Merlin, the Magician, Bard, and Prophet;" which will be accompanied by selections from poems imputed to his authorship. Under the title of "Jacob's Rod," will be given a review of the philosophy and practice of divination, more especially of the search for subterranean water and hidden treasure by the indications of a hazel rod. Other subjects selected are: "An Interview with a Prodigal Son," "The Blue Rose," "John Kyrle, the Man of Ross," "A Fern Hunter's Adventure," &c., &c. The number will consist of two sheets and a coloured almanack for 1887.

THE POTATO continues to assert its importance. On Monday last a party of worshippers of the noble tuber made an inspection of a new series of hybrids raised by Messrs. Sutton and Sons. It is known that the Reading firm had instituted a serious inquiry into the origin of the potato, and had experimented with wild forms of *Solanum tuberosum* and its near relative, *S. maglia*. But the exact state of the case was not known, and we might go so far as to say it is not even known now. However, the atmosphere is evidently clearing, and we shall in due time be enabled to settle the question of the true origin of the cultivated potato. In the meantime Messrs. Sutton have raised a most interesting lot of hybrids, presumably from S. tuberosum, by the aid of pollen from their own Reading Russet and one of Mr. Fenn's white varieties, originally known as Antagonist. We shall report at length on the subject in due time. The tercentenary of the potato has acquired a somewhat definite form. The programme has been in some degree augmented, and Mr. W. E. Wood is appointed honorary secretary.

NOTES ON NEW CHRYSANTHEMUMS.

As first-class certificates have this season been so liberally showered upon new chrysanthemums as to render a sharp rise in the price of pasteboard within the range of possibility, it is not surprising cultivators should be anxiously asking, Which of the large number of certificated varieties are likely to prove the most useful? At four exhibitions held between the 5th and 10th inst. upwards of forty certificates of the first-class were awarded, and it would require a faith far stronger than that possessed by myself to believe the improvement of the chrysanthemum to be making such rapid progress that so great a number of new varieties could be found in one season to be deserving of the distinction of a first-class certificate. I have already received many inquiries as to the relative merits of the certificated varieties, more especially with reference to the immense number so generously recognized by the Floral Committee of the N.C.S. on the 10th inst. I have some reluctance to answer these inquiries, because in the first place I was engaged in another part of the exhibition, and did not see all the flowers that received recognition at the hands of the Floral Committee; and in the second, I have no wish to criticize the work of a committee of which I am a member. But in the interest of those cultivators who are anxious to avoid enlarging their collections by the addition of varieties that are not really distinct in character and colouring, and of the highest class, I will briefly refer to a few that I know to be so good as to deserve a place in the most select collections.

Chief amongst the new Japanese varieties presented to notice this season is *Mr. Ralph Brocklebank*, of which six splendidly-developed blooms were shown at Kingston. This originated as a sport from Meg Merrilies, and the flower has the distinct form and dashing character of that variety, from which it differs in the flowers being of a soft yellow hue. *Phœbus* is another yellow variety which is especially promising. The flowers are not so large or so distinct in character as the first-mentioned, but the colour is especially rich, and well-developed blooms will not fail to do good service in the front row. *Gloriosum*, which was certificated by the N.C.S. last year, and by the R.H.S. this season, has been, so far, very disappointing, and, unless I am much mistaken, it is one that cultivators can very well do without. Neither in size, character, or colouring can it be compared with Grandiflorum and other of the older yellow varieties in the section. I have not this season seen a bloom that has been of any great assistance to the exhibiter. *Edouard Audiguier* is a good addition to the dark flowers, and will, there can be hardly any doubt, eventually take a very high place for exhibition; as, indeed, for the conservatory. The blooms under good culture attain to a large size, and are very solid; the colour a rich shade of mauve-purple, the back of the florets bright rose, the contrast being very pleasing. *Mdlle. Paule Dutour* is so thoroughly distinct and good that it will probably be found one of the best of the season, and no hesitation need be felt in adding it to a collection, however small. In build the flowers are not unlike those of Belle Paule, which has been miserably poor on all sides this season; but the colouring is very distinct, being a pleasing shade of blush, suffused with lilac-rose. *Moonlight* is a good addition to the white Japanese varieties, the flowers being globular in form, with broad incurving florets: when fully developed and in proper character the blooms tell well in a stand. *Coquette de Castile* will, there can be no doubt, prove exceedingly useful for decorative purposes. It has an excellent habit, and the flowers, which are rather large in size, are of a pleasing rosy blush colour. *Carew Underwood*, which originated as a sport from Baronne de Prailly, is full of promise, although the flowers which have been presented to public notice have not been so full as could well be wished. The colour is a very pleasing bronzy rose, and tells well in contrast with the other shades of colour. *William Holmes*, whether early or late, may be regarded as a distinct gain to the list of crimson varieties, for it is admirably adapted to the decoration of the conservatory, and well-developed blooms will tell well in the front row of an exhibition stand.

Two reflexed varieties have been certificated this season, and both appear to be of great excellence. *Elsie* is a finely-formed flower of a rich cream colour, and is perfectly distinct. *Amy Furze* is a very fine bold flower of pleasing blush colour, somewhat similar in character to Mdlle. Madeline Tezier. There are also two additions to the large anemone class, which well merit the attention of cultivators. These are *Cincinnati*, a large flower of a pleasing rose colour, and *La Marguerite*, a medium-sized flower of a rich ruby-red hue, which will be useful for the front row. *Ratapoil*, which also has been certificated, belongs to the Japanese anemone, and is utterly unworthy of the distinction it has received. I did not see the blooms shown for the certificate, but I have seen it in a dozen competitive stands, and in every case it was indifferent The flowers are of a dull brownish colour, and have a poor disc and a few straggling ray florets. I am at a loss to understand why it was certificated unless mere roughness is to be regarded as the type of excellence in the section.

George Gordon.

CHRYSANTHEMUMS AT SPIKE HOUSE, HAMMERSMITH.

Mr. Macmichael, of Spike House, Hammersmith, one of the most successful amateur growers of the chrysanthemum, has at the present moment a magnificent display of this favourite flower in his conservatory. Among them are many new varieties; one raised by Mr. Macmichael's gardener has distinctive features, and promises to become a favourite. It has long and regular petals of pink and white, and has been named Alice Macmichael. Other new Japanese varieties are Phœbus, large flower, broad-spreading petals of the brightest canary-yellow; Rosy Morn, rose-pink petals that are deeper at the base and paler at the apex, where the colour changes to cream-white, reverse silver; L'Adorable, bronzy-yellow, shaded and striped with rose; M. Paul Fabre, deep red, shaded with crimson, reverse bronzy-yellow; Souvenir de Haarlem, bright rose, shaded with violet, paler tips; Val d'Andorre, bright red, striated with yellow, base of petals golden-yellow; Mandarin, cream white, tinted with pale rose; Maiden's Blush, creamy-white tinted blush, florets broad and flat; Martha Harding, golden yellow, shaded reddish brown; Madame Feral, incurved, rose suffused with white. Among the older varieties now to be seen in splendid condition are the Duchess of Manchester, a perfect white flower ball; Empress of India, very fine white; Golden Beverley, pale golden yellow; Guernsey Nuggett, primrose-yellow, large; Jeanne d'Arc, blush white; Lady Hardinge, silvery rose; Mr. Corbay, bronzy-red; Mrs. Todman, rosy mauve; Sir Beauchamp Seymour, bronze red; and Sir Stafford Carey, dark brown chestnut.

"ANY DOCTOR WILL TELL YOU" there is no better Cough Medicine than KEATING'S LOZENGES. One gives relief; if you suffer from cough try them but once, they *will* cure, and they *will not* injure your health, they contain only the purest and simplest drugs, secretly and skilfully combined. Sold everywhere in 13½d. tins.—[Advt.]

LINCOLN CHRYSANTHEMUM SOCIETY.

November 16 and 17.

The annual exhibition of this comparatively young and ably-managed society was held on Tuesday and Wednesday, and proved so great a success in all its details that members of executive and exhibiters may alike be heartily congratulated on the results of their labours. The Corn Exchange, in which the show was held, was more fully occupied than on any previous occasion, and cut blooms, specimen plants, and groups were considerably above the average, whilst fruit was so plentiful and good as to form a very important part of the display. The arrangements were admirably carried out under the direction of Dr. G. M. Lowe and Mr. C. W. Pennell, the hon. secretaries, and the effect produced by the large assemblage of chrysanthemums and miscellaneous subjects was surprisingly beautiful.

Cut Blooms were shown in large numbers, and on the whole in a high state of development, the Japanese flowers being especially good. There was a strong competition in the great class for thirty-six blooms, to comprise equal numbers of incurved and Japanese varieties, and the premier award was made in favour of Mr. Bugg, gardener to W. Ashley, Esq., Limefield House, who had a stand of blooms of great excellence. The Japanese varieties were Mdlle. Lacroix, Comte de Germiny, Elaine, Rubrum striatum, Boule d'Or, Mons. J. Laing, Mons. Plancheneau, Soleil Levant, Val d'Andorre, Japonnais, Belle Paule, Roseum Superbum, Fair Maid of Guernsey, Mons. Cochet, Peter the Great, Jeanne Delaux, William Robinson, and Madame C. Audiguier. The incurved flowers were Golden Empress, Prince Alfred, Alfred Salter, Princess of Teck, Nil Desperandum, Queen of England, John Salter, Empress of India, Pink Venus, Lord Alcester, Mrs. W. Shipman, Mr. Bunn, Lord Wolseley, Mrs. Heale, Lady Hardinge, Jeanne d'Arc, Hero of Stoke Newington, and White Venus; Mr. Mitchell, gardener to W. J. Warrener, Esq., Skellingthorpe, was a capital second with a collection in which the Japanese flowers were particularly good; Mr. Brailsford, Bailgate, was a good third with flowers rather below the average in size, but neat and well-finished.

The competition was very brisk also in the class for twenty-four incurved, and at the head of the several exhibitors was Mr. Bugg, who staged large, well-finished blooms of Lord Wolseley, Jardin des Plantes, Lady Slade, Princess of Teck, Prince Alfred, Lord Alcester, Queen of England, Mrs. Heale, Lady Hardinge, Mrs. J. Crossfield, Prince of Wales, Golden Empress, John Salter, Jeanne d'Arc, Alfred Salter, White Beverley, and Empress of India: Mr. Herring, gardener to S. Lowe, Esq., was a very close second with large fresh flowers; and Mr. Mitchell was a capital third. The first place in the class for twenty-four Japanese flowers was occupied by Mr. Bugg, who had medium-sized, but bright and otherwise good, flowers of the following varieties: Margot, Reverie, Ethel, Madame C. Audiguier, Boule d'Or, Mons. Ardene, Mons. J. Laing, Meg Merrilies, Val d'Andorre, Mons. Tarin, Flambeau, Fair Maid of Guernsey, William Robinson, Soleil Levant, Comte de Germiny, Duchess of Albany, and Baronne de Prailly; Mr. Mitchell was a close second.

Several good stands were contributed to the class for twelve incurved, and the first and second awards were made in favour of Mr. Brown, gardener to T. C. Bourne, Esq., whose flowers were exceptionally well-finished, and Mr. Brailsford, who had a fine lot of flowers. For twelve Japanese, Mr. Brown was first with a very bright lot of blooms; Mr. Herring, gardener to S. Lowe, Esq., was a close second; and Mr. Brailsford a good third. In the class for six incurved Mr. Elder, gardener to F. W. Burton, Esq., was first with an excellent stand in which occurred a fine bloom of Princess of Wales, which was selected for the award of the prize offered for the best incurved bloom in the show.

Large-flowered anemones were well represented, and the premier award in the class provided for them was made in favour of Mr. Bugg, who had good blooms of Empress, Fleur de Marie, Gluck, Georges Sand, Mrs. Pethers, and Lady Margaret; Mr. Mitchell was second. In the corresponding class for Japanese anemones Mr. Mitchell was first with superb blooms of Sœur Dorothée Seuille, Madame Clos, Fabias de Maderanaz, and Mdlle. Cabol; Mr. Bugg second. Pompons were admirably shown, and produced a very bright and pleasing effect. For twelve Mr. Mitchell was first with a superb lot of blooms, and Mr. Herring occupied the second place. For six blooms of any old incurved variety, Mr. Brailsford was first with good blooms of Mr. Bunn, and in the corresponding class for Japanese he occupied the first place with capital flowers of Madame C. Audiguier. For six Japanese varieties Mr. Elder was first with a capital stand, in which was a large and very fine flower of Elaine, for which he was awarded the prize offered for the best Japanese bloom in the show; Mr. S. Lee second. Reflexed flowers were represented by several good stands, the best being those from Mr. Mitchell, Mr. Bugg, and Mr. Herring. In competition for the prizes offered for eighteen blooms, to comprise equal numbers of reflexed, Japanese, and incurved, Mr. Gill, gardener to Mrs. Oldman, Gainsborough, was first with a splendid stand of blooms, and Mr. Brown was a capital second.

Groups were especially good, and, arranged at intervals round the side of the large hall, were immensely attractive. There were two classes, and, in that for a group to comprise chrysanthemums and green-leaved plants, Mr. Brown was first with a very effective arrangement, the flowers being remarkably good, and the colours judiciously balanced; Mr. Herring was a good second, Mr. Mitchell a very close third, and Mr. Close, gardener to R. Dauber, Esq., fourth. For a group to consist of chrysanthemums and other plants at the discretion of the exhibitor, Mr. Foster was first with a very beautiful collection, in which the whole of the subjects were remarkably good; Mr. Mitchell, who was second, staged a very effective group, in which the chrysanthemums and crotons were especially meritorious; Mr. Herring was third.

Specimen Plants showed a marked advance on those contributed to the exhibitions held in previous years. For three large-flowered, Mr. Brailsford was first with huge densely-flowered examples. Mr. Bugg was second with specimens smaller in size but exceedingly well flowered. For three Japanese, Mr. Brailsford was first with bushes of immense size and splendidly flowered. The varieties were: Peter the Great, Mons. C. Hubert, and Early Dragon. Mr. Brailsford was first also for three pompons, staging, as in the other classes, examples evincing cultural skill of a high order. Mr. Bugg was a capital second. Standards were remarkably good, and in the class for three Mr. Brailsford, Mr. Lee, and Mr. Bugg were awarded the prizes in the order of their names. For a single specimen Mr. Brailsford was first with a very fine example of Mrs. G. Rundle. Mr. Lee was second, and Mr. Bugg third.

Miscellaneous Plants contributed much to the success of the exhibition. Orchids were admirably shown, and in the class for three Mr. Elder was first, staging, amongst others, a fine example of the beautiful Vanda cærulea. Messrs. R. Pennell and Son, Lincoln, were second with capital

examples, which included the showy Oncidium varicosum. For one orchid Mr. F. Thornton was first with a large and splendidly-flowered specimen of the old but beautiful Cypripedium insigne; and Mr. Elder followed for second place with Vanda cærulea. Table plants were of great excellence, and in competition for the prizes for six Mr. Mitchell was first with finely-developed examples of Aralia leptophylla, Croton Hawkeri, Dracæna Frederici (one of the best for the decoration of the dinner-table), and Cocos Weddelliana. Mr. Bugg was second, the plants well grown, but rather too large. The prizes for primulas, which were remarkably good, were awarded to Mr. Crawford, gardener to Colonel Thorpe, and Mr. Herring, in the order of their names.

FRUIT comprised apples, pears, and grapes, all of which were admirably represented, both as regards quantity and quality. The first place in the class for four dishes of dessert apples was occupied by Mr. Hare, gardener to R. H. C. Neville, Esq., with capital dishes of Cox's Orange Pippin, King of the Pippins, Blenheim Orange, and Ribston Pippin; Mr. Foster second with good fruit; Mr. Mitchell also exhibited well in the class, and was awarded a special prize. For four dishes of culinary apples Mr. Hare was first, staging Warner's King, Emperor Alexander, Golden Spire, and Wellington; Mr. Mitchell being second. For a single dish of culinary apples Mr. Hare was first with Emperor Alexander; and in the corresponding class for dessert varieties Mr. J. Bentley was first with Cox's Orange Pippin in fine condition. In competition for the prizes for the six heaviest pears, Mr. Mitchell occupied the first place, staging a dish of General Todleben, weighing 6 lb. 5½ oz. For three dishes of pears Mr. Mitchell had the premier award made in his favour, the varieties being Marie Louise, Beurré Clairgeau, and General Todleben; Mr. Hare second. Grapes were admirably shown, and for four bunches Mr. Hare was first with excellent clusters of Lady Downes, Muscat of Alexandria, Mrs. Pince, and Alicante; Mr. Crawford second. In the remaining classes for grapes the principal prizes were awarded to Messrs. Hare and Crawford.

MESSRS. SUTTON AND SONS' POTATO EXPERIMENTS, 1884-5-6.

IN 1883, Lord Cathcart received from Mr. Baker, of Kew, specimens of the wild form of Solanum tuberosum, under the name of Solanum Maglia. The produce of these tubers was sent in March, 1884, to Messrs. Sutton and Sons by Lord Cathcart. Messrs. Sutton and Sons crossed the flowers of these tubers with pollen from the cultivated potato, and the seed resulting from this cross was sown in 1885.

Subjoined is a table giving particulars of the produce in the autumn of 1885, of each grain of seed, and another table giving the produce of planting the 1885 crop again during the past season. By the term "grain of seed" is meant, not an "apple" or seed-pod, but one of the minute seeds contained in the apple or seed-pod, each apple or pod containing a considerable number of seeds.

No.	Produce 1885.	Produce 1886.	No.	Produce 1885.	Produce 1886.
	oz. grs.	oz. grs.		lbs. oz.	lbs. oz.
1.	0 19	0 0	14.	1 7½	53 2
2.	0 6	0 0	16.	1 10½	47 4
3.	0 11	0 0	17.	1 5½	122 6
4.	0 11	14 0	18.	0 1¼	11 2
	lbs. oz.	lbs. oz.	19.	2 12½	83 6
5.	0 3½	54 0	20.	0 10	43 10
6.	0 0½	10 5	21.	0 4½	39 14
7.	0 4	24 8	22.	1 9½	10 12
8.	0 11	56 2	23.	0 11	47 13
9.	0 10½	22 6	24.	0 ¾	6 3
10.	0 7½	2 4	26.	0 6¾	20 7
11.	0 5	31 14	27.	1 2½	6 0
12.	0 13½	56 15	28.	0 3½	23 14
13.	2 1	43 9			

SECOND SERIES OF CROSSE MADE IN 1885.

Male parent, Sutton's Reading Russett; female parent, Wild Solanum tuberosum from Kew.

No.	Produce 1886. lbs.	oz.	No.	lbs.	oz.
1	0	2	12	0	0½
2	5	15	13	0	0¼
3	3	15¾	15	0	11¾
4	4	15	16	0	9¼
5	4	6	17	one small tuber	
6	0	13⅛	18	0	0½
7	2	12½	19	1	3
8	1	2½	20	0	6½
9	4	14	21	0	0¼
10	0	7¼	22	0	4½
11	1	11¼	23	0	1¼

Male parent, Victoria; female parent, Wild Solanum tuberosum, from Kew.

No.	lbs.	oz.	No.	lbs.	oz.
25	4	3	30	4	14½
26	4	8	31	0	8¾
27	5	8¼	32	0	1½
29	1	13			

Male parent, Walker's Regent; female parent, Wild Solanum tuberosum, from Kew.

No.	lb.	oz.
34	0	9¾

THE TOBACCO CROP grown by Messrs. James Carter and Co. in the past season was "handled" in the presence of a party of experts on the 12th instant, and the result was a concurrence of opinion that in quality it is better every way than was expected. The handling consists in preparing the leaf for market, each bunch of leaves when properly rolled constituting "a hand." The hands, as now made ready, are valued at from 6*d.* to 8*d.* per lb., and the market value of the crop, as determined by this experiment, is £56 per acre. With the Excise we have nothing to do, our business being with the crop only, which is satisfactory, so far as can be judged by bulk and quality, as the facts appear before us. Of the cost of production we have no information.

MR. HORNER'S NEW AURICULAS.

THE following is a list of new show auriculas raised by the Rev. F. D. Horner, and hitherto unpublished. It is interesting, as showing what has been accomplished in the raising of seedlings by that eminent raiser and skilful cultivator, and moreover possesses considerable historical value:—

Name.	Year.	Class.	Tube.	Ground.
ALBATROSS	1881	Wh. E.	Orange	Black
ATALANTA	1882	Gy. E.	Yellow	Black
BEN SIMONITE	1881	Gn. E.	Gold	Black
BUTTERCUP	1885	Self	Yellow	Yellow
CONCINNA	1881	Wh. E.	Yellow	Black
CANDIDA	1885	Wh. E.	Gold	Marone
CONQUEST	1882	Gn. E.	Pa. Yellow	Black
CARDINAL	1883	Self	Gold	Crimson
DEERHOUND	1884	Gy. E.	Orange	Black
DIONE	1884	Wh. E.	Yellow	Dk. Purple
DON'S	1885	Self	Yellow	Plum
DIANA	1885	Wh. E.	Yellow	Dark
DAISY	1885	Self	Yellow	Violet
ELAINE	1881	Wh. E.	Orange	Black
ENID	1884	Self	Yellow	Deep Violet
ELECTRA	1885	Gy. Ed.	Gold	Black
FLORENCE	1883	Self	Gold	Plum
GREYHOUND	1883	Gy. Ed.	Orange	Black
GREENFINCH	1884	Gn. Ed.	Orange	Black
GUINEVERE	1883	Wh. Ed.	Yellow	Red Plum
IOLANTHE	1885	Self	Lemon	Dark
ISABEL	1881	Wh. E.	Lemon	Black
IRREPROACHABLE	1882	Gy. Ed.	Gold	Black
INTREPID	1882	Gn. Ed.	Orange	Black
KATHLEEN	1884	Self	Lemon	Violet
LIBRA	1886	Self	Yellow	Plum
LEDA	1885	Self	Yellow	Vio. Plum
LYRA	1886	Self	Gold	Pink Plum
LYNETTE	1884	Self	Gold	Red Plum
MIRANDA	1881	Wh. Ed.	Lemon	Black
MAGPIE	1884	Wh. Ed.	Orange	Black
MINNIE	1877	Wh. Ed.	Orange	Black
MOONLIGHT	1882	Wh. Ed.	Gold	Chocolate
MRS. HORNER	1884	Self	Pa. Lemon	Violet
ŒNONE	1884	Self	Yellow	Dark
RINGER	1884	Self	Gold	Indian Red
ROSEBERRY	1884	Self	Gold	Pink Puce
STARLING	1884	Self	Gold	Dark
SEAGULL	1884	Gy. Ed.	Yellow	Marone
SAPPHIRE	1876	Self	Pale	Light violet
VERDANT	1884	Gn. Ed.	Lemon	Black
ZOE	1886	Self	Gold	Black

Replies to Queries.

J. D., Pitshill.—We cannot supply the information, but would gladly do so.

Oscar S.—Try Parsons and Sons, Flushing, New York.

Novice is advised to advertise his wants, and then he can choose for himself better than we can for him.

Names of Fruits.—J. W., Lymington.—1, Winter Nelis; 2, Comte de Lamy; 3, Doyenné du Comice; 4, Nouveau Poitean; 5, Beurré Diel; 6, Passe Colmar. Constant Reader.—1, Lemon Pippin; 2, Cox's Orange Pippin. Barmouth.—1, Beurré Diel; 2, Beurré d'Anjou.

Names of Plants.—Portsmouth.—2, Emperor of China; 5, Golden Empress of India. The others we cannot name. Bob.—1, Eucomis punctata; 2, Euphorbia Bojeri; 3, a leaf of a Hechtia; 4, Bomarea Carderi. W. R. T.—They are all forms of Cyclamen Europæum. Victor.—1, Sedum carneum; 2, Mesembryanthemum tigrinum; 3, Cacalia coccinea; 4, Sempervivum Youngi.

Correspondence.

GARDEN ALLOTMENTS.

AS a reader for many years past of the GARDENERS' MAGAZINE, I was very pleased to see in the issue of October 6 the report of Mr. Evershed's paper on "Three Acres and a Cow." I was pleased because I am quite sure that the value of an allotment to a labouring man cannot be made too generally known. I can speak from personal experience, and can say that it is a very great advantage to a labouring man to have a piece of ground on which to occupy his spare time. For twenty years past I have held an allotment which forms part of the ground let by the vicar at sixpence per rod. I helped to measure out the ground and I hold it now, and I can safely say that it has kept me many hours from a public-house. When I took the land I was a labourer, and now I am a shopkeeper. At the first I had ten rods, and now I have fifty, and am able to grow enough vegetables to supply my family, pay my rent, and leave a balance. I am now paying a shilling a rod for thirty, and ninepence per rod for thirty, the latter forming part of a piece of marsh land. Allotments are so much appreciated in this neighbourhood that if there was any land to be let it would be very soon taken up. When once a labourer has an allotment he does not like to leave it. Our ground is let yearly from January to December, and when any of it is taken for building the tenant has no claim. T. A.

North Woolwich.

TRADE CATALOGUES.

THOMAS GAYTON, PROSPECT NURSERY, HORNSEY.—*Bulbs, Plants, Hardy Azaleas, Trees and Shrubs, &c.*

TREGGON AND CO., 19, JEWIN STREET, LONDON, E.C.—*Abridged List Wrought Iron Cisterns, Radiating Heat Generators, &c.*

WILLIAM ETHERINGTON, SWANSCOMBE, KENT.—*Chrysanthemums.*

SUCCESSIONAL CROPS OF PEAS.

By J. C. Clarke.

The vegetable seed catalogues will be distributed in a few weeks. It is therefore a good time to see to the making out of the list of such subjects as will be required. As peas occupy a prominent position amongst vegetables, we may profitably devote the space at our disposal to the consideration of the best sorts to grow. My own opinion of the best peas has not been wholly formed by their table quality. The manner in which they behave in a variety of circumstances has influenced my decision to a certain extent. Not but what I should give the preference to the best-flavoured pea if I could grow it in satisfactory manner, but I am painfully aware that the best eating peas do not bear satisfactory crops in all places.

First-class Peas.

There are probably not two better flavoured peas than *Veitch's Perfection* and *G. F. Wilson*, but for the past seven years I have had to give them up because they did not bear more than a third of a crop. Green or black fly always attacked them when all other sorts were free from insects. As a consequence the points of the growth become curled and not half of the flowers open. In another garden within a few miles of where I write all other sorts of peas have had to give way to Stratagem. Not that it is superior to any in flavour, but because it suits the soil and gives regular crops when others fail. From these facts it will be seen that there are good reasons why one should be influenced in the choice of sorts besides that of flavour. At the same time it is satisfactory to know that, owing to the large number of sorts now offered to select from, there is no reason why an inferior flavoured pea should be grown. Amongst both tall and dwarf growing kinds there are a number of excellent table peas.

Tall Peas.

Amongst the sorts which grow from five feet to seven feet high I may mention the following as likely to do well in a variety of soils: *Champion of England, Huntingtonian, Ne Plus Ultra, British Queen,* and *Emperor of Marrows.* The first and second which I have named are comparatively old sorts, but in flavour and general usefulness they are unsurpassed. As regards cropping qualities I think they cannot be equalled. The Champion of England is a capital sort to sow early in March and onwards. Ne Plus Ultra and British Queen are better suited for sowing in May, for the production of late crops. *Telephone* is a useful second early pea. It produces wonderfully large pods, which are fairly well filled with large peas, but it quickly goes out of bearing, so that it is necessary to sow once a fortnight to keep up a supply if that sort is wholly depended upon. I wish to remark here that in giving the height of the different sorts I have mentioned the height to which I have found them to grow in a strong heavy soil. The character of the ground has a great influence on the growth, and therefore allowance must be made for it.

Returning to notice other sorts, I may mention *Stratagem* as a grand-looking pea. The pods are very large, and usually well filled with large peas, and when used quite young the flavour is fairly good. *Evolution* partakes of some of the characters of Stratagem, growing about the same height, with slightly longer pods. When sent to table the peas are a good dark green colour, and the flavour excellent.

Most people have their favourite sorts, as I have mine, which is quite right, for no particular kind is likely to remain long in favour that is not satisfactory both in cropping qualities and flavour. But no doubt there are some who have a disposition to grow a good many different sorts, which I do not consider to be good practice. I find it best to have a limited number of sorts, and to stick to them to keep up a supply, although every year I grow a few of the novelties to prove them. But they are usually discarded after the first year, and while proving them they are only looked upon as a chance crop.

Best Four Peas.

For many years I have only had four sorts of peas on which I have relied for a supply. These are for the Early crop, *Ringleader*; Second early, *William the First;* Main crop, *Champion of England;* and for Late supplies, *Ne Plus Ultra.* By confining myself to these I am able to make regular sowings without running any risk of failure in the supply, as is likely to be the case when sorts are dealt with for the first time. As all peas differ more or less in the time they come into bearing, there is a little uncertainty as to season as well as the height.

Dwarf Peas.

These are supposed not to want any sticks, and are all very well in their way, but they give such poor crops as compared with the tall growers that I do not look upon them with much favour. For although a moderate crop may be had without affording them any support, they all bear better when they are staked. When sticks are not used, a layer of clean straw laid on the ground close to the row is of great service to keep the pods clean, as well as to keep the stems off the ground, for if the stems remain long in contact with the earth they quickly get yellow and cease to bear. I have thought it desirable to refer to the dwarf peas before turning to other sections, as it is as well the reader should know the chief requirements of each in making a selection. With regard to sorts that grow to a medium height, I must repeat what I have above stated, that I think the two best in this section are *Veitch's Perfection* and *G. F. Wilson.* When grown in a soil that suits them, they are perfect. There are several others of about the same height that may be safely selected. These are *Laxton's Supreme, James's Prolific,* and *Yorkshire Hero.* These grow from three feet to five feet high, according to the character of the soil. The last-named is a grand pea for the table when obtained true. But, unfortunately, it is too often sent out of the same sample as Veitch's Perfection, to which it has some resemblance. In a general way these medium growers are more suitable for gardens of limited extent than the tall ones, as the rows can be sown nearer together, and they do not shade so much ground as those which reach to a height of seven feet. For sorts that grow four feet high the rows should be four feet apart, but the taller growing kinds are the most productive when the rows are from ten feet to twelve feet from each other.

Sowing Peas in Trenches.

This practice is sometimes recommended, but should not be acted upon regardless of the nature of the soil. Where there is a depth of two feet of good soil sowing in trenches is all very well, and I agree with it. But where the good soil does not reach to a depth of more than one foot or fifteen inches, to sow in trenches is to deprive the plant of a portion of the good soil, and, as will be readily understood, the roots quickly reach into a bad material, and then they soon give out. I therefore say to all, Stop and consider before you sow your peas in trenches.

Peas for Exhibition.

Those who wish to grow peas for exhibition as well as for the table must confine their selection to the most showy sorts, as the prizes are generally awarded to those that have the largest and longest pods, providing they are young and at the same time well filled. *Telephone* up to the present time has been the most popular of exhibition peas, and certainly, as regards its appearance, it is deserving of its position. But, in my opinion, the *Duke of Albany* will share the honours, if it does not monopolise them altogether, when it becomes better known It has large and handsome pods, that are equally as well filled as the other, with a more refined appearance. *Evolution* has not been seen much on the exhibition table; but, if I am not mistaken, it will prove a formidable rival to many older sorts. In growing either of these three sorts for the twofold purpose of exhibiting as well as for the table it is very essential for the cultivator to know that all these large-podded peas very quickly go out of bearing in dry weather. Therefore it is necessary to sow more frequently to prevent a scarcity of peas at any particular time. I find to prevent a break in the supply it is necessary to sow once a fortnight after the first of April.

WINTER WORK IN VINERIES.

Under this heading, Mr. J. C. Clarke furnishes us with a very interesting article, and, though I have to differ in some points, I do not for a moment doubt but that "J. C. C." is giving a resumé of his practice, which I take for granted succeeds with him. Having had experience in various counties, extending from Lancashire to Sussex, I never yet was permitted to dispense with fire-heat as long as the grapes were hanging. True, I should suppose and expect that *less* fire would be requisite, say in the West of England. This would be sadly out of place here in marsh land. My late grapes are gently started with fire first week in March, and, supposing grapes hang till Christmas, fire is never out. It is hardly necessary to say that during hot sunshine less fire is used; still, the fire is always in, and by judicious use of valves the heat in pipes can be arranged to a nicety.

The end of October and beginning of November is generally the dampest time here, and with fire and top ventilation, so far this season, has not only kept the grapes sound, but also prevented shanking. For the first time in my practice I have kept front ventilators closed; this, on second thoughts, is only rational, as by so doing I am keeping damp out. Nothing to my mind is more injurious to the welfare of keeping grapes than irregularity, as, for example, a little fire one day or night, and then to do without for a few days. So far, I have the use of fire for keeping purposes, and not for ripening them, in my mind. Were fire needed for the latter purpose now, of course the more ventilation with it the better. Grapes, however, thus ripened are not the best for keeping. Of course, there are exceptions to all rules—even so here; yet, to be on the safe side, I do not over-fire. My houses being roomy there is not much fear of exceeding the figures given by "J. C. C.," even with fire—in truth, fire is not used with the idea of high temperature, but simply to air the houses, and keep things right.

To give breathing-room, as I call it, I gradually take out the sub-laterals, and do this mostly by the first week in November. I make it a rule to take out the green laterals, which are of no use now, providing always there is good foliage left to keep roots in action. It is best to begin with sub-laterals *below* the fruit; following up in a few days or a week by removing shoots above bunch. What I am always anxious about is not to reduce by the barrowful at once. This latter course I fully believe to be a common cause of failure in the next year, and is, I am sure, one of the chief aids to shanking.

It is advisable to prefer foliage, if not off, at least yellow or high coloured before cutting grapes for keeping. All my work now is to prepare, if I may so call it, the laterals, so that by cutting-time I have no waste outting, and no more ties are left than are really necessary. Having to carry my bunches some distance in the open, I have to make the best of fine weather. It seems very cruel to ruthlessly pull beautifully green leaves off, and I would prefer waiting, as I know which grapes keep the best. Foliage is, for reasons given by "J. C. C.," wonderfully late. Another cause of this, however, is want of sun in the summer months. Frosty nights are a very telling help to change of foliage, this too, even where fire is kept. Sun, even to day (Lord Mayor's Day), is very hot, and so we have been able to use more water than usual. Scheming is here necessary; all watering should be so done as to be fairly dry again before the heat of the sun is gone. One of my houses, facing west, with a crop of grapes hanging, I have to punish now for want of water, as I am afraid, for sun does not touch this house until noon or after.

It is my fate to be at variance with "J. C. C." when he speaks of vine roots with only large borders not to be trod on. I say a small border cannot be too firm, and should, however, not think of treading a wet border. Unhesitatingly I say a loose border, either large or small, is a mistake. I believe in root restriction, though I am fully aware that this means extra help in the way of water and feeding.

Now, with regard to pruning, another mistake is made by laying down any precise law. Some varieties, it is well known, produce most satisfactory results from close one-eyed pruning of laterals. Others, on the other hand, are better for a longer spur. It must be admitted the close pruning system is best for small, compact, good keeping bunches, and certainly these close cut spurs are not so unsightly; on the other hand, long spurs, do give the largest bunches. But these large bunches are not the ones I should care to dish for table. Without committing myself either way, I say frankly that if at pruning-time the bottom eye (nearest old wood) is smaller than the next one, leave the second. Were we *now*, when leaves are on, to mark pruning point, it would be interesting; for now the difference in first and second leaves for size is very marked, and as "J. C. C." rightly says, the largest bunches come from the bud which has the best-developed leaf. The single rod run up one year and fruited the next, cutting out old rod, has its advantages in the way of neatness and larger bunches, but unless there is a certainty of *well* ripening the wood, disappointment will follow, either by deficient colouring or by shanking.

These few thoughts are suggested and put on paper, not as in any way I trust to detract from the merits of Mr. Clarke's paper, but rather to supplement his remarks thereon. It would be strange if, in the consideration of details, so vast a subject as grape vine culture should not give rise to some differences of opinion. STEPHEN CASTLE.

West Lynn.

ORCHID NOTES.

THE flowers in the Cattleya house are few, and mostly represented by stragglers that are flowering out of season. *Cattleya Boweringi* promises to be a charming addition to the October flowering species. It is quite distinct from anything else, and is easily distinguished by its pseudo-bulbs, which have a distinct rounded bulb at the base of the pseudo. In other respects the growth of the plant reminds one of C. Skinneri, as do the rosy lilac sepals and petals and the purple-coloured lip with white throat. *Lælia Dormaniana* is distinct and handsome; it is now in perfection. It is a scarce plant, being probably a natural hybrid between Cattleya bicolor and Lælia pumila. The sepals and petals are dark brown or chocolate colour, and offer a pretty contrast to the violet purple lip. A dwarf growing plant which should be in every good collection.

At the lightest end of the house we have a beautiful display of *Vanda cærulea*, one of the easiest-managed orchids in cultivation, if it but receives the right treatment. It seems to succeed best with the plants placed in upright teak cylinders, with a layer two or three inches deep of clean live sphagnum, and they do not bear removal from this favoured place. We moved our plants last year at this time, so that they might make a group with other plants on the centre stage. Some of them remained in beauty for three or four weeks, but the leaves showed decidedly that they did not like the change, and the plants have not yet quite regained the healthy look they had at this time last year.

A few of the hybrid cypripediums make a beautiful display of bloom at this season. The largest flowers, though not the most brilliant in colour, are the hybrids between C. villosum and C. barbatum crossed both ways. *C. vexillarium* is not quite such an elegant plant as its parent, C. Farrieanum, but it is more easily managed, and beautiful withal. *C. œnanthum superbum* we have not in our own collection, but I saw it in flower a few days back in Messrs. Veitch's nursery, King's Road, Chelsea, and it is also in flower in fine variety in the celebrated collection of the Baron Schröder. This is one of the very best hybrids, and no orchid grower who can afford to pay for it will care to be without it. The richly-coloured dorsal sepal with white margin is very beautiful. Amongst many remarkable cypripediums now in flower *C. Schröderæ* holds high place. A hybrid between C. caudatum and C. Sedeni, it inherits the character of both parents, the prevailing colour being pale rose. We find it in flower at mid-winter, and also at mid-summer. This is a most valuable trait in its character, which is justly regarded as considerably enhancing its value. *C. Leeanum* and the much more beautiful form, *superbum*, have also well proved themselves to be winter flowering, and being free in growth are consequently much more valuable on that account. It is a cross between C. insigne and C. Spicerianum. The best form was raised in Messrs. Veitch's nursery from a good form of C. insigne, and proves how much more desirable it is to raise seedlings from the best varieties only.

I have reserved space for just a few words in favour of what must be considered the most beautiful Lady's Slipper introduced in recent years, *C. Spicerianum*. There are some scores of beautiful varieties in flower at Messrs. Veitch's. A few plants had been suspended close to the roof glass. The flower stems had naturally taken a horizontal position, and a number of them arranged in that way were very effective. We have it now plentifully in flower in our collection, and it is one of the most vigorous and healthy growing plants in the large genus to which it belongs. Moreover, it grows quite as freely, and flowers as well if potted in turfy loam, as it does in turfy peat.

Oncidium tigrinum is now making quite a gorgeous display in the Cattleya house. Its long branched spikes of clear primrose-coloured flowers are most effective; but this is not all, as the perfume is very sweet. Having been introduced in large masses during the last year or two, it is to be found in all good collections. Pot culture suits it best, and the cool house in summer. As soon as the flowers fade we place the plants in quite a cool and rather dry house, and give them scarcely any water at the roots until they start into growth again in the spring. J. DOUGLAS.

MADRESFIELD COURT GRAPE.

ON pages 672 and 673 of the G.M. appears a contribution by Mr. Castle headed "Grape Jottings." I can always welcome anything that may fall from Mr. Castle's pen in the grape-growing way, as I consider his hints mostly telling and very useful. In mentioning Madresfield Court grape he says: "No doubt weight of crop is one step towards prevention of cracking." I would like to add my word of testimony to that, by stating that in these last four years I have grown on my Madresfield Court vines two comparatively light crops and two rather heavy, and with the two heavy crops I have not experienced nearly so much cracking as with the light crops, although in each case they have coloured and finished off well.

When I first took this grape in hand I experienced no little vexation and anxiety through this failing, viz., its cracking so badly during the ripening-off period. But this year I am glad to say I have had scarcely any crack at all, and I can only account for it in the following way: In the first place, I grow more foliage, by leaving one more leaf at the end of the bunch, making three in all. I have also paid greater attention to ventilation after colouring has commenced, by way of avoiding as much as possible sudden rises of temperature in changeable weather. I think this has a great deal to do with it.

And then from my experience, as stated above, I am inclined to give them enough to do in the way of a crop. I think, by the way, that growers for markets nowadays will be disposed to do this without being told. But I believe with this variety there is something in having sufficient channels to take its luxuriant supplies of sap on all occasions. I have taken over 30 lbs. per rod of good quality grapes from mine this season. Of course to do this every attention must be given at the roots in the way of liquid manure, &c. Mine receive adequate supplies in that way to the end of October with the rest of my vines. I omitted to water the Madresfields one season after commencement of colouring as I thought to prevent cracking, but I should not do that again. The cracking continued all the same, and red spider got ahead a great deal too much for my liking. J. HILLING.

Preston, Ightham, Kent.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

CHRYSANTHEMUMS must as far as practicable have a dry atmosphere, as damp is very injurious to the flowers; therefore ventilate freely when the weather is dry and otherwise favourable to the admission of air.

ERICAS of the winter-blooming kinds are to be kept as well aired and as hardy as possible. When requiring water, give the roots a good soaking, choosing bright mild weather for it if possible, and repeat the watering the next day if any doubt whether the ball has been moistened through. After this let them go nearly dry again, but never beyond a certain point of dryness, or the ball will get hard. The general stock of Cape heaths will bear a few degrees of frost without harm if kept well aired at all favourable opportunities. What is most likely to injure them is a dry fire-heat and a too dry state of the roots. But they will want very little water at this time of year, and should have no encouragement to grow.

HYACINTHS that have filled their pots with roots may now be pushed on by placing them over a moderate bottom-heat. A hot manure bed will answer admirably, as the vapour will give the foliage a rich green healthy hue and the flowers will come in fine spikes. But they must be prevented rooting down into the manure by being placed on flat tiles or slates.

STOVE.—Gesneras form a most useful group of winter flowers, and should have every encouragement, for their exquisite leaves are almost as attractive as their richly coloured flowers. They will require an average temperature of 65 deg. to 70 deg., with plenty of water. Euphorbia jacquiniæflora will soon be in fine condition if carefully treated. Let it have good stove temperature and plenty of light, but be careful to give it very little water. It is often spoilt by amateurs, who think as the plant is in a flowering state it ought to have abundance of moisture, which is a mistake. If kept very wet at the roots, the leaves will fall off. At the same time it must not go dust-dry.

ORCHID HOUSE to be kept at as low a temperature as is consistent with safety. The use of excessively high temperatures has been the cause of more mischief than all the rest of the mistakes in orchid culture. Keep the atmosphere of the house moderately dry and as sweet as possible. One of the most important matters for the young beginner is to learn to decide when the pseudo-bulbs are ripe and ought to be at rest, and to proportion the period of rest to the habit of the species—matters which depend more on personal observation than on the precepts of books.

FORCING AND ORCHARD HOUSES.

PINES in fruit will need a moist air and a good bottom-heat. The general stock must have as low night temperatures as will be safe—say 55 deg. for a minimum, and by day 70 deg. to 75 deg., and not higher. Heat from manure is rather troublesome at this time of year, and there must always be at hand materials for lining and covering up, in case of a sudden change to severe weather.

VINES in course of breaking may be assisted materially by making up in the house a large bed of fermenting materials. The manure should have been turned twice, then to be wheeled in, and made up solid as for a hotbed, but the surface not to be covered with soil. The ammoniacal vapour and the moisture together will give great vigour to the new growth, and if the roots are properly encouraged there will be a grand start made for an early crop. If this cannot be done, syringe frequently, and put troughs of water over the flues or pipes. Vines now to be started should not have much heat—say, 55 deg. by day and 45 deg. by night, to be increased gradually; in fact, any hurry in

starting vines into growth has to be paid for afterwards in shanking, mildew, deformed bunches, or some other grievance.

FLOWER GARDEN AND PLEASURE GROUNDS.

Alpines suffer more from wet than frost, and choice kinds should be potted and put in frames, as during January there is usually much havoc committed among alpines on rockeries. The only safe way to keep up a collection is to have duplicates of all the species in pots.

Flower Beds not occupied should be deeply stirred and kept rough. The fear of an untidy appearance causes many a flower garden to get sour and full of vermin, whereas the soil should be as thoroughly broken and pulverized as that of the kitchen garden. The beds may be manured now where the positions are comparatively dry, but it will be as well to defer manuring till the spring. If supplies of turf are wanted for next year's potting, get the material in at once, and stack in long narrow ridges like dwarf walls. It is not yet too late to fill the beds with spring flowers and bulbs, but to produce a thoroughly good effect it will be necessary to plant closer together than early in October last.

KITCHEN GARDEN AND FRAME GROUND.

Artichokes to be dressed for the winter by removing any late heads, the stalks of which can be inserted in a bed of earth under cover till wanted; next remove the large leaves, and mould up the plants without throwing any soil into the centre. As clippings of hedges and prunings of trees are generally burnt at this time of year, keep the ashes dry, and at the first opportunity after having earthed up the plants spread the ashes two or three inches thick over the ground between them.

Beans and Peas not yet sown for speculative crops may be got in, now the weather is fine, in a dry sheltered position. If there is plenty of spare room in frames or pits, preparations may be made for early crops without incurring the risk of sowing out of doors. Fill a frame with turfs cut six inches in width, and laid grass side downwards. Sow the seeds pretty close together along the centre of each breadth of turf, and then sift over some fine soil just to cover them, and shut up. As soon as the seeds have started give air cautiously, and keep them as hardy as possible. As they rise, occasionally add more soil, so as to keep earthing them up; this will make them more strong and stubby than by covering them their proper depth in the first instance. In February the turfs may be lifted out, and the plants divided without any injury to the roots, and so planted out in drills of well-prepared soil, and protected with long dry litter and reed wattles until the weather allows of complete exposure.

Brushwood comprises clippings of hedges and small prunings of bush fruits and trees that are generally of no use for firewood, except in the furnace of a saddle boiler, for which in some gardens all such stuff may be used. But there ought to be no waste of anything that will burn, and at this time of year labour can generally be afforded to deal with these things in a way to economize every scrap. Lots of real good firewood may be looked out by first chopping and sawing up all loppings of fair size; at the same time large gnarled and twisted branches should be stored for rustic work. Many a gardener has to buy in spring stuff that he might have supplied himself with by a sorting of the timber obtained in cutting down old trees and in the clearance of old plantations. When the best of the stuff has been stored, char all that remains, and keep the ashes under cover for use. In charring, a flame should never be allowed; a smouldering fire reduces without waste; a flame wastes the best part of the material—that is, the charcoal. To prevent too rapid a consumption, keep the heap well covered with turf, clay, or other soil, so as to confine the heat and prevent too free an access of air.

Garnishing and Flavouring Herbs should be taken up and potted in case of severe weather. Parsley and mint are generally scarce in February, because there is no care taken in time to secure supplies. Large roots of parsley potted now will keep green and fresh till wanted. The roots of mint should be potted in leaf-mould, and the pots plunged in an asparagus bed, or placed on a flue to force it gently. Parsley may also be protected on the ground by means of hooped mats and litter.

CHRYSANTHEMUM ECHOES.

The exhibitions last week rather upset my previously-announced intention of having a good search on the subject of early-flowering chrysanthemums. At the eleventh hour, however, I have managed to squeeze out a few spare moments to find something concerning them. It is unnecessary to refer to what has already been stated in "A Short History of the Chrysanthemum" (page 25, *et seq.*), because the question was limited to this country. When in doubt on old chrysanthemum matters the first authority I always consult is Mr. John Salter's book, for none of the others do I consider worthy of the name of book beside that.

Now, under the heading "Summer flowering Pompons," Mr. Salter mentions and describes fifteen varieties, from which we will select Cromatella, Delphine Caboche, Frédéric Pelé, Hendersoni, Madame Alphonse Dufoy, and Scarlet Gem, as Mr. Piercy may, in all probability, know most of them. As Mr. Salter published his work upwards of twenty-one years ago, and some, if not all, of the above are still in cultivation here, I think that, at least, is sufficient proof of the existence of early sorts being known more than seventeen years ago. I am not quite satisfied to let the matter rest there, but will go back a little further. From the top shelf of one of my bookcases devoted exclusively to odds and ends in the chrysanthemum line, I have just taken down a charming little volume full bound in green morocco, and of which I am particularly proud. It contains a selection of pamphlets on "Queen Mum." Among them is the second edition of Mr. Broome's "Culture of the Chrysanthemum." Here he says: "Summer flowering pompons.—P.S.—These varieties bloom during the months of June, July, August, September, and October." You see October is included, as I thought. Mr. Broome enumerates thirteen different sorts, and, with the exception of Frédéric Pelé, Hendersoni, and Scarlet Gem, also mentioned by Mr. Salter, none of the others are apparently known in these times. This little book bears date March, 1858, so that I think we have further conclusive evidence that early varieties have been known to the English grower for something like twenty-nine years, instead of the more limited period allotted to them by Mr. Piercy.

Concerning the merits or demerits of Mr. Piercy's favourites, there is nothing to add beyond what has already been said, except that he, in his recent article quite admits the accuracy of my judgment when I stated that the colours must be improved before they take me by storm, for he there says, "We want more colour badly." And so said I, although in other words. The question of early blooming chrysanthemums was mooted as long ago as 1817, for about that time the London Horticultural Society offered a medal for information on the subject of obtaining blooms in advance of the flowering season, which in those days was the month of November. It was a complaint long continued in the horticultural press that they bloomed at a period of the year when it was impossible to obtain seed on account of climatic influence, and years before many of us were born, anxious inquirers were desirous of eliciting the fact as to whether varieties could be obtained that would bloom in the early days of autumn. When they were provided by indefatigable florists they met with anything but a favourable reception, and had it not been for the introduction of a few of the highly coloured early Japanese, it is a matter of doubt whether they would have received more than scant attention from the world at large.

Mr. Rundle's communication in last week's issue will cause a flutter of excitement among some of the old-fashioned growers. Those who were contemporary with such men as Mr. Chandler, of the Wandsworth Road, Mr. Salter, Mr. Forsyth, Mr. Bird, Mr. Robt. James, Mr. Geo. Taylor, of Stoke Newington, Mr. Broome, and Mr. Dale have never become real admirers of the huge Japanese "monstrosities," which seem to be fast elbowing the old favourites, the incurved, out of existence. Mr. Rundle's announcement will, therefore, be peculiarly welcome to many, and the result of his seed-saving will doubtless be the addition of some really good flowers.

For years the novelties in the incurved class have been few and far between, like the traditional angel's visits; most of the acquisitions being sports. Speaking from memory it may be asserted that, exclusive of Jeanne d'Arc, there has not been a single instance of a seedling incurved chrysanthemum of any note distributed during the past five years, unless indeed Mr. Alfred Salter, whom I had almost forgotten for the moment, has sent out some. At any rate, those who intend to devote their time and attention in that direction must bestir themselves at once, or the French will be in the field before them, and we know full well that what they have done with the Japanese is also possible with other kinds.

One of my Continental correspondents is already in possession of a capital stock of all our best incurves, which he greatly admires. He intimates his intention to seed them this season, and to cross fertilize the various varieties with great care. Being aware of Mr. John Salter's desire to obtain a really good incurved crimson flower, he means to try to accomplish that object, and I for one sincerely wish him every success. It is easy to understand the complaint that the Japanese are monopolizing the field of late, and it certainly is becoming a most serious matter for those who are compelled to purchase all the new flowers as a matter of business. Just think, after paying twenty-five or thirty francs for a small rooted plant of some verbally beautiful variety, of the annoyance that one feels when it blooms and turns out to be something only fit to be consigned to the rubbish heap. This is by no means an uncommon occurrence with the importer, although sometimes a cheaper purchase may recoup him where he least expected.

The weather of late has been altogether unfavourable for man and beast. Chrysanthemums, too, have felt its influence, and are now fast going off with mildew in many places. It seems as if St. Swithin, St. Médard, and the whole host of watery saints have entered into a co-partnership to throw a damper on our exhibitions here below. But their efforts are futile. The shows last week were simply crammed with admiring visitors, determined to brave the elements at all costs. At Lambeth hardly a glimpse of the cut blooms was to be obtained. The Aquarium was ten times worse, for every few yards there was a dense block, requiring considerable skill to extricate oneself therefrom. It was there that the following lines of Byron came forcibly to my mind with peculiar appropriateness:

> "The lamps shone o'er fair women and brave men;
> A thousand hearts beat happily; and when
> Music arose with its voluptuous swell,
> Soft eyes look'd love to eyes which spake again,
> And all went merry as a marriage bell."

Lewisham show was on a par with the others, and, if anyone tells me that the chrysanthemum is not the craze of this generation, I can only say go and judge for yourself.

I wanted to say more about those warm-hearted, genial, enthusiastic Lewisham people and their new society, but the space allotted to me has already been exceeded; it must therefore be deferred until a more convenient season. I can only for the present recommend them to go on as they have begun, and success will crown their efforts both financially and otherwise. Perseverance, energy, enthusiasm, and every other necessary quality for commanding the most satisfactory results are to be found in the members of that newborn floral body, and I am greatly mistaken if they do not ultimately achieve something of which they will be proud.

C. Harman Payne.

Chemistry as applied to Plant Life will be the subject of lectures by Miss Helen Abbott, at meetings of the Franklin Institute.

Encyclopædia Britannica.—The 21st volume (Rot—Sia) contains papers likely to interest our readers, as follow: Rotifera, by Professor A. G. Bourne; Royal Society, Herbert Rix; Rude Stone Monuments, Dr. R. Munro; Salmonidæ, J. T. Cunningham; Salt, F. Maxwell Lyte; Schools of Painting, Professor J. H. Middleton; Sea-Water, Professor W. Ditmar; Seismometer, Professor J. A. Ewing; Sequoia, C. P. Johnson; Sewerage, Professor J. A. Ewing; Shanghai, Professor R. K. Douglas; Shooting, J. D. Dougall; Siam, Coutts Trotter.

"PROOF MAKES FAITH."—If for fifty years an article has been known, used, and appreciated by the public; it is *proof* of their confidence in, and preference for, its good quality and value. For nearly half a century Horniman's Pure Tea has been known to tea-drinkers, and gained their preference and esteem, because it is exceedingly strong, *has a rich and delicious flavour*, and is free from the injurious mineral facing powder (*Prussian blue, gypsum, and plumbago*) used by the Chinese to palm off inferior brown leaves to injury of consumers.—The price is printed on each packet of Horniman's Tea, and appointed agents (*Chemists and others*) sell it in all parts of the country. See agents' names advertised in all papers and at the Railway Stations.—[Advt.

PEARS IN THE ORCHARD HOUSE.

By WILLIAM COLE, the Grove Vineyard, Feltham.

THE cultivation of the pear under glass has not as yet obtained a large share of attention from fruit growers, although experience has shown that it is fully as profitable as the production of a crop of peaches, cherries, or other of the choice fruits. With the shelter of glass, the trees can be depended upon to produce a full crop annually, and in consequence of the greater length of time the fruit has for the completion of its growth, it usually attains to a higher degree of development, both as regards size and quality, than that of similar kinds grown without protection. To obtain, however, an adequate return for the additional expense and labour incurred in growing the trees with the aid of glass, not only must the various details be carefully adapted to the altered conditions under which they are placed; but care must be taken that the finest kinds only are selected. It will certainly not pay to grow the second rate hardy sorts that usually bear freely, and can be had in abundance from trees in the open. But the finer kinds ripening their fruit late in the autumn, when first-class pears are so highly appreciated on the table, will more than repay the cost of production.

Pears when grown under glass differ somewhat in their requirements from the peaches and other fruits to which reference has been made in my previous communications on the pot culture of fruit trees. One of the principal points of difference is the necessity for placing them out of doors during the summer, as it is only by fully exposing the trees to atmospheric influences during the three summer months that full-sized and highly-flavoured fruit can be obtained. The trees may, of course, be exposed by the removal of the roof when it is constructed with rafters and sash-bars; but in the majority of cases the preferable course will be to remove the trees to a suitable position outside, and devote it to some other purpose. By planting vines about six feet apart and training them to the roof with a single rod at that distance apart a good crop of grapes may be obtained without the pear trees being in any way injured, or indeed interfered with. If it is not desired to grow grapes, the house can, on the removal of the pears, be devoted to tomatoes, which may be planted out or grown in pots, the latter course being the best. When it is intended to take a crop of tomatoes a stock of strong plants should be prepared in readiness to take the place of the trees, that there may be no loss of time. The trees should, as a rule, be removed from the house in the first or second week of June, according to the weather, and the tomatoes will, therefore, have plenty of time in which to bring a heavy crop of fruit to maturity.

Pyramidal trees on the quince are decidedly the best for growing in pots in the orchard house, and should alone be selected. It is not important, as in the case of the peach and nectarine, to commence with trees that have been grown in pots from the first, and a good beginning may be made with trees three or four years from the graft. They should be well furnished with short-jointed and well matured wood, and have an abundance of fibrous roots; and trees of this description are not difficult to obtain. From the beginning of November to the middle of February is a good period in which to obtain the trees from the nursery, and if they have been annually transplanted and are potted as quickly as possible, they will not suffer to any appreciable extent from the removal. It is not advisable to use pots of very large size because of the labour in moving the trees about, and it will be advisable to use for the majority of the trees pots nine inches in diameter. As they are to remain in the same pots for several years care must be taken to provide efficient drainage, and to so arrange the crocks that they cannot readily become disarranged or so choked with the soil that the superfluous water cannot readily escape. A two-inch layer of medium-sized crocks regularly arranged and covered with a little of the rougher portion of the compost will ensure the most perfect drainage. The compost best adapted for pears when grown in pots is one consisting of two parts of fibrous loam, and one part of well-rotted manure from an old hot-bed or the stable yard. In potting up trees from the open quarters care must be taken not only to avoid injury to the roots, but to have them distributed throughout the pots, and thus be placed under the conditions most favourable to their at once taking a firm hold of the soil. To make the soil thoroughly firm is essential, and the compost should be rather dry, and the potting stick be freely used. As the trees are potted place them in a sheltered position in the open, and pack about the pots newly-gathered leaves or some loose material to prevent the splitting of the pots by frost. In subsequent years the trees should receive a top dressing of a compost consisting of loam and manure in equal parts. In top dressing the trees, which ought to be done at the end of October or early in November, remove the surface soil to a depth of two or three inches, and replace with the compost, making it as firm as possible with the potting stick. After the top dressing, as in the case of those newly-potted, the trees must be placed in a sheltered position in the open with some loose material about the pots for the winter.

ORCHARD HOUSE PEAR TREE, *Rivers's Beacon*, second year of fruiting.

At the end of February, or early in March, the buds will begin to swell, and the trees must be removed to the orchard house. As it is not advisable to hasten the development of the flowers, the house must be kept as cool as possible, short of exposing the trees to frost, by free ventilation. As soon as the buds are swelling freely the water supply must be increased, but not to any great extent until the trees

are in full leaf. Throughout the time they are in bloom a rather dry atmosphere must be maintained, to assist in the dispersion of the pollen, and this is readily accomplished by ventilating freely during periods of dry, genial weather.

In the first or second week of June, according to the weather, the trees should be removed from the house to an open position out of doors. It is a point of some importance to place them within a convenient distance of the water supply, as the watering of a large number of pot trees is a serious matter during the summer months when the water has to be conveyed a considerable distance. The young shoots will require stopping once or twice in the course of the season of growth, as advised for the peaches and other fruits previously referred to. Not less necessary is it to thin the fruits when they are beginning to swell freely. The extent to which the fruit must be thinned will depend upon the size of the tree and the character of the variety. From twelve to twenty-four may be mentioned as forming a good crop, the small-fruited varieties being of course allowed to carry the largest number.

With reference to the selection, I would mention the following as being particularly desirable: Beacon, Beurré de l'Assomption, Beurré d'Anjou, Beurré Diel, Beurré Rance, Beurré Superfin, Conseiller de la Cour, Doyenné d'Alençon, Doyenné du Comice, Glou Morceau, Easter Beurré, Josephine de Malines, Knight's Monarch, Marie Benoist, Marie Louise, Passe Crassane, Pitmaston Duchess, Olivièr de Serres, Souvenir du Congrès.

The illustrations accompanying this and the two preceding papers

MAX LEICHTLIN'S LILY, *Lilium Leichtlini* (Flowers yellow, with claret-coloured spots). (*See page* 708.)

on the orchard houses represent trees grown by Messrs. T. Rivers and Son, of Sawbridgeworth, are selected by the editor, who considered it advisable to represent actual trees forming part of a collection open to the inspection of anyone interested in this phase of fruit culture. I have to acknowledge with thankfulness this welcome aid to the exposition of my views.

MAX LEICHTLIN'S LILY.

Lilium Leichtlini.

THIS fine lily has, thus far, failed to obtain the attention it deserves. Lily growers possess it and admire it, as a matter of course; but it is as yet unknown amongst popular lilies, and has no mention in the "English Flower Garden," where one would reasonably expect to see it placed amongst the favourites of its family. Now that lilies are grown in collections such a beauty as the one before us should be included in lists of the most desirable species for open ground culture. For pot culture it is not well adapted by reason of its running under ground to a greater distance than a pot allows, but in the open ground this is of no consequence, and, being perfectly hardy, it is as well adapted for planting in groups as *L. tigrinum*, coincidently with which it flowers. It has been figured in Illust. Hort, 540, B.M., 5,673, and elsewhere; but in no case has a finer flower been figured than that now presented as drawn from one of Mr. Ware's specimens shown, in August last, at the Colonial Exhibition. The leaves are scattered and linear, of a deep green colour; the flowers are of a rich clear lemon colour, sprinkled with claret-coloured dots, and on the outside slightly purplish. This Japan lily is happy in being known by only two names—the one above given, and *L. Maximowiczi*. A fine variety has been secured by Mr. G. F. Wilson, and is catalogued as *M. Leichtlini Majus*.

Literature.

Chrysanthemums and their Culture. By EDWIN MOLYNEUX (171, Fleet-street). Although this neat and cheap brochure was mentioned approvingly in a leader on the literature of the famous autumnal flower, it is but just it should have a place here, not only because such a book was wanted, but also because in the sphere of practice it stands alone for fulness, directness, and the safety of the routine proposed in it. Mr. Molyneux has wisely left untouched matters that men who are accustomed to books might deal with better than himself, and has concentrated his force on that part of the subject which is the centre of its life and interest, and in which he is conspicuously proficient, and that is the cultivation. We shall place this first on the list of books needful to all who propose to excel in the cultivation of the chrysanthemum.

"*Our National Cathedrals*" is the title of a new serial projected by Messrs. Ward and Lock for the purpose of picturing and describing the cathedrals of Great Britain. It is to be completed in about 26 parts, and will be largely illustrated with tinted plates. The first part, which presents a handsome appearance, is devoted to Salisbury cathedral, of which there are some twenty representations, showing the edifice complete, and in its several more distinctive features. The literary matter is historical and descriptive, points that might provoke controversy are wisely ignored, the compilers being satisfied with facts of abiding interest.

Messrs. Ward and Lock have forwarded of their *History of England*, part 2; *Plutarch's Lives*, part 12, completing the work, a respectable reprint of which was much wanted; *Whiston's Josephus*, part 13, completing the work, with a good index; *Universal Instructor*, part 24; *Popular Histories*, part 13; *Quentin Durward*, part 7 in the "selected" series of Waverley novels; *Amateur Work*, part 60; *Sylvia's Home Journal*.

Library of English Literature. By HENRY MORLEY. (Cassell).—Part 46 of this important work is a grand budget of criticisms and extracts and pictures illustrative of Swift, Richardson, Fielding, and Goldsmith, a brilliant constellation, making Mr. Morley's pages glow with the lustre of their wit and wisdom.

Cassell's Doré Gallery is this month extra brilliant. "Strange nations slain by the lions of Samaria" (2 Kings xvii. 24), "Samson destroying the Philistines," "Babylon fallen," are three out of the five subjects presented, all of them very Doréish.

Familiar Garden Flowers.—Part 93 of this nearly-completed serial contains figures and descriptions of the mignonette and the hollyhock. The "revival" of the fine old show flower is referred to in the interests of floriculture as an event that cultivators are bound to justify by their appreciation of its beauty.

Ladies' Gazette of Fashion and *Ladies' Treasury* have their respective claims on the "better half" of society, and in most houses they would both be found useful, for they treat of costume, domestic life, and the arts that especially obtain the attention of ladies, in ways that are at once different, but sound and true. They are both entertaining monthlies.

CARTER'S PROVIDENT SICK FUND.

THE first annual meeting of the subscribers was held on Monday the 8th inst., and was attended by about two hundred members. The report and balance-sheet for the past year was read and adopted, and resolutions for amending existing rules were passed. During the twelve months of the society's existence 268 members were enrolled, all of whom were employed in various departments of the business. By payment of a small weekly subscription, benefits in case of sickness varying from 6s. to 18s. per week are secured, and it was considered highly satisfactory that after paying 51 claims for sickness and one for death, the society entered upon its second year with a very substantial balance in hand. After appropriating a suitable amount as a working reserve fund it was resolved unanimously to make a donation of £5 to the Hospital Saturday Fund, and to distribute any surplus amongst the subscribers. The officers and members of the committee were re-elected, and the proceedings terminated with a hearty vote of thanks to Messrs. James Carter and Co. for a further donation which they had spontaneously offered upon seeing the satisfactory results of the first working of the society.

Exhibitions and Meetings.

LEWISHAM AND DISTRICT FLORAL SOCIETY,

NOVEMBER 12 AND 13.

THIS society, which was formed about twelve months since by a few energetic amateurs resident in the Lewisham district, held its first exhibition of chrysanthemums on the above dates, and the success achieved was so great that it must be regarded as one of the best shows of the season. Encouraged by a liberal and judiciously-arranged schedule, cultivators of the chrysanthemum mustered in strong force, and produced a display so large in its proportions and so good in all its details that it could hardly have failed to surprise the most sanguine of the promoters as well as the visitors. The show was held in the Ladywell Public Baths, and both the large halls were well filled, and as the arrangements were admirably carried out by the executive committee the effect produced, more especially in the principal hall, was remarkably good.

CUT BLOOMS had no less than twenty classes provided for them, and, with but two or three exceptions they were exceedingly well filled; nine and ten entries were quite common. The principal class for cut flowers was that for forty-eight, to comprise equal numbers of incurved and Japanese varieties. There were six or seven entries in the class, and the premier award was made in favour of Mr. F. Moore, Blendon Hall, Bexley, who staged a collection which was distinguished by the large size, brightness of colour, and high finish of the blooms. The incurved varieties consisted of Baron Beust, Empress Eugenie, Princess of Teck, Alfred Salter, Jeanne d'Arc, Princess of Wales, Nil Desperandum, Barbara, Prince Alfred, Empress of India, Lady Hardinge, Mrs. W. Shipman, Nonpareil, Mrs. J. Crossfield, Beethoven, Golden Empress, John Salter, Novelty, Angelina, Hero of Stoke Newington, White Venus, and Queen of England. The varieties represented by the Japanese flowers were Fair Maid of Guernsey, Grandiflorum, Balmoreau, Peter the Great, Madame C. Audiguier, Mons. Astorg, Comte de Germiny, Jupiter, Flambeau, Mons. Brunet, Thunberg, Elaine, Mons. Ardene, Soleil Levant, Mons. Delaux, Jeanne Delaux, Mdlle. Lacroix, Baronne de Prailly, Criterion, and Roseum superbum. Mr. T. Bettesworth, gardener to Robert Ewing, Esq., Burton Grange, Cheshunt, followed closely for second place, staging a very fine collection of flowers. Mr. T. Couldry, gardener to J. Leng, Esq., Grove Park, Lee, was third, his flowers being of medium size and exceedingly well finished.

There were three classes for twelve incurved, and in each the competition for the prizes was as sharp as could well have been desired. In the gardeners' class the first prize stand was contributed by Mr. T. Sadler, gardener to C. Lambert, Esq., Streatham. The blooms were of high quality, and the varieties were Alfred Salter, Lord Alcester, Lady Hardinge, Empress of India, Prince Alfred, Golden John Salter, John Salter, Golden Empress, Princess of Wales, Queen of England, Lord Wolseley, and Barbara. Mr. H. Shoesmith, gardener to Canon Hodgson, Selwood Rectory, Hythe, and Mr. T. Couldry were second and third. The first place in the open class for twelve incurved was occupied by Mr. H. Shoesmith, with finely developed flowers of Queen of England, Lord Wolseley. Hero of Stoke Newington, Prince of Wales, John Salter, Golden Queen, Mrs. Heale, Princess of Teck, Jardin des Plantes, and Empress of India. Mr. T. Couldry and Mr. J. J. Hillier were second and third respectively. The first prize in the amateurs' class for twelve was awarded to Mr. J. J. Hillier, and in the amateur members' class the prize-takers were Mr. W. J. Bannerer, 6, Harford Road, Brockley; Mr. T. Wickham Jones, Towcester Lodge, South Norwood; and Mr. J. W. Upton, 71, Braxfield Road, Brockley, in the order of their names. For six incurved Mr. Bannerer and Mr. J. W. Upton were first and second, the stand from the last-mentioned containing a beautiful flower of Prince Alfred, for which the exhibitor was awarded the silver medal offered for the premier bloom.

Very attractive was the display produced by the numerous contributions to the several classes for Japanese varieties. In that for twelve, in which the competition was open, Mr. H. Shoesmith occupied the first place with capital blooms of Meg Merrilies, Galathée, Boule d'Or, Mdlle. Lacroix, Marguerite Marrouch, Hiver Fleur, Mons. Astorg, Triomphe de la Rue des Châlets, Maidens' Blush, Criterion, Jeanne Delaux, and L'Adorable; Mr. T. Sadler was a capital second; and Mr. J. Rhodin, gardener to General Harrison, Blackheath Park, was third. In each of the two classes set apart for amateurs for twelve Japanese varieties Mr. T. Wickham Jones was first; and in one Mr. G. S. Addison was second; and in the other Mr. J. W. Upton was successful in taking the second place. Mr. T. W. Jones was first also for six Japanese; and Mr. G. S. Addison was again second; both exhibitors staging capital boards of blooms. Reflexed, anemone flowered, and pompons were all shown in large numbers and in excellent style, but it must suffice to say that the most successful of the exhibitors in the several classes provided for these sections were Mr. J. J. Hillier, Mr. Howes, Tulse Hill, Mr. G. Kinson, Mr. J. Hudd, Mr. T. W. Jones, Mr. Upton, Mr. Berry, Lewisham, and Mr. Shoesmith.

GROUPS formed a most important and highly attractive feature, for in addition to the large number in competition for the prizes, Messrs. J. Laing and Co., Forest Hill, and Mr. H. J. Jones, Hope Nurseries, Lewisham, exhibited, not for competition, magnificent groups. Those arranged to form two large semi-circles in front of the platform produced a very fine effect, and received their full share of attention from the visitors. There were nine or ten entries in the amateurs' class for groups occupying a space not exceeding fifty square feet, and at the head of the competitors was Mr. W. E. Jupp, with an arrangement remarkable alike for the high quality of the flowers and the taste shown in contrasting the colours; Mr. G. Stroud, The Villa, Lewisham Park, was second with a very tasteful arrangement. Mr. J. Look, Lewisham, and Mr. E. H. Harvey, jun., Brockley, were awarded high commendations for their groups. In the gardeners' class for groups of chrysanthemums, Mr. J. Hudd, Grove House, Blackheath Park, and Mr. Nunn were first and second respectively; and for groups of miscellaneous plants the two most successful exhibitors were Mr. C. Nunn, Maze Hill, and Mr. G. Kinson, Allyn Park.

SPECIMEN PLANTS were well shown, the most successful exhibitors being Mr. W. Smith, Catford, Mr. Berry, Mr. Upton, Mr. Kinson, and Mr. Cox.

FLORAL DECORATIONS comprising baskets, bouquets, and dinner tables were admirably done, and constituted a highly attractive feature. In the class for table decorations, Mrs. Jupp was first, with a very elegant arrangement, and Mrs. Edith Burns, and Mrs. Berry, were second and third with good tables. For baskets, Mrs. T. W. Jones was first, with a bold and exceedingly tasteful basket, filled exclusively with Japanese chrysanthemums; Mrs. Birdseye was a good second, and Mrs. Forrester and Mrs. Huyton were awarded extra prizes. Mrs. Birdseye was successful in taking the premier award for epergnes. There were about twelve competitors in the open class for hand bouquets, and

the post of honour was occupied by Mr. H. J. Jones, with one of the most beautiful bouquets of chrysanthemums that has yet been presented to public notice. Mrs. Butcher and Mrs. H. J. Jones were second and third respectively, with excellent bouquets. In the limited class for bouquets Mrs. Berry, Mrs. T. W. Jones, and Mrs. Huyton, were the prizetakers.

Miscellaneous Contributions included a large collection of apples from Messrs. Bunyard and Co., and a collection of ornamental-leaved plants from Messrs. J. Carter and Co., which were employed to great advantage in the decoration of the two long stages on which the cut blooms were placed.

The arrangements were admirably carried out by Mr. H. Drake, the courteous honorary secretary, and the awards were made by Mr. John Laing, Mr. William Earley, and Mr. George Gordon.

TUNBRIDGE WELLS CHRYSANTHEMUM SOCIETY, November 11 and 12.

Although a few of the classes provided for specimen plants were hardly so well filled as last year, the exhibition held by the society on the above dates was of immense extent, and the great hall was fully occupied, and presented a highly attractive appearance. Groups which had a place in the schedule for the first time last year were admirably represented, cut flowers were staged very largely and in quality considerably above the average; fruit constituted an important feature, and primulas and berry-bearing plants were presented in capital condition. The arrangements were remarkable for their completeness, and reflected much credit on the administrative ability of Mr. J. Charlton, the respected chairman of committee, and Mr. E. Charlton, the energetic honorary secretary.

Specimen Plants were not so strongly represented as last year, owing to the injury done by the close warm weather experienced some time previous to the show to the plants of several of the leading cultivators in the district. There was a spirited contest for the prizes in the class for eight specimens, and the premier award, consisting of a silver cup, was made in favour of Mr. J. Smooker, gardener to Mrs. Hall, Broadwater Down, Tunbridge Wells, whose plants were of admirable contour, well bloomed, and very fresh. Especially good in the group were the specimens of Mrs. Dixon, Baron Beust, George Glenny, and Dr. Sharpe; Mr. J. Wilkins, gardener to F. V. Williams, Esq., Langton, was a capital second with an excellent group. In competition for the prizes for six dwarf-trained, large flowered varieties, Mr. R. Beilby, gardener to W. H. Tindall, Esq., Hollowshaw, was first with specimens not over large, but very finely flowered, the varieties comprising: Mrs. Dixon, Lady Hardinge, Jardin des Plantes, and Mrs. Rundle; Mr. J. Smooker was a close second with large well bloomed examples. The first place in the class for six large flowered pyramids, was occupied by Mr. R. Beilby, who had large, well proportioned specimens, about six feet high, and admirably flowered; Mr. G. Tickner was a capital second. There was a sharp contest for the prizes for six Japanese varieties, and the premier award was made in favour of Mr. R. Beilby, who had splendidly flowered specimens of Gloire de Toulouse, Peter the Great, The Cossack, Thunberg, and Fair Maid of Guernsey. For four dwarf trained, Mr. R. Beilby was first with Barbara, Gloria Mundi, and Mrs. Haliburton; Mr. Wilkins was a close second. In one of the two classes for large flowered varieties, the exhibitor last mentioned was first with a very fine example of Dr. Sharpe, and in the other Mr. R. Beilby occupied the first place with Mrs. G. Rundle. Mr. Stringer also exhibited well in these classes, staging good examples of Mrs. Halibnrton. The finest of the several specimens contributed to the class for one Japanese variety was that of La Nymphe, from Mr. R. Beilby, and the second best was that of Madame C. Audiguier.

Groups were admirably done, and proved immensely attractive to the general body of cultivators. Mr. A. Stringer, gardener to Roger Cunliffe, Stoneleigh, Tunbridge, was first with a magnificent group, in which the flowers were all of high quality; and Mr. F. Smith, gardener to Mrs. Byass, Neville Court, was a very close second with an admirable arrangement.

Cut Blooms were shown in larger numbers, and of a much higher quality than at any previous exhibition at Tunbridge Wells, and constituted a very important and highly attractive feature. At the head of the several competitors in the class for twenty-four incurved was Mr. J. Gore, gardener to Captain Taylor, Glenleigh, Hastings, who staged large finely-finished blooms of Queen of England, Cherub, Eve, Jardin des Plantes, Prince of Wales, Lord Alcester, Alfred Salter, Empress Eugénie, Mrs. Heale, Isabella Bott, Angelina, Empress of India, John Salter, Mrs. W. Shipman, Golden Queen, Hero of Stoke Newington, Jeanne d'Arc, Nil Desperandum, Venus, Barbara, Princess of Wales, and Prince Alfred; Mr. A. Stringer was second with a good stand of blooms; and Mr. W. Read, gardener to Mrs. Cripps, Mount Calverley Lodge, Tunbridge Wells, was a very close second. The first place in the class for twelve incurved varieties was also occupied by Mr. J. Gore, who staged excellent blooms of Prince Alfred, Cherub, Mrs. W. Shipman, Mr. Bunn, Princess of Wales, Golden Empress, Empress of India, Lord Wolseley, Novelty, exceptionally fine, Baron Beust, Lord Alcester, and Hero of Stoke Newington; Mr. J. Legg, gardener to Rev. E. H. Boardman, Groombridge, was second with a good stand of blooms; and Mr. Stringer was third. In the classes for incurved flowers, in which the competition was limited to cultivators within fourteen miles of Tunbridge Wells, the principal prizetakers were Mr. W. F. Smith, Mr. J. Legg, Mr. E. B. Smith, Mr. Read, and Mr. G. Ware.

The Japanese varieties were so largely shown as to produce a brilliant display of colour. In the open class for twenty-four Mr. J. Gore was first with large and well-finished blooms of Japonnais, Mons. Ardene, Madame Bertier Rendatler, Hiver Fleur, Boule d'Or, Madame de Sevin, Jeanne Delaux, Comte de Germiny, Meg Merrilies, Grandiflorum, Mdlle. Lacroix, Thunberg, Baronne de Prailly, L'Adorable, Balmoreau, Mons. Astorg, Val d'Andorre, Fair Maid of Guernsey, Madame C. Audiguier, Criterion, Mons. Tarin, Triomphe de la Rue des Châlets, Mons. Freeman, and Soleil Levant; Mr. A. Stringer and Mr. W. F. Smith were second and third respectively, with blooms evincing high-class cultural skill. Mr. J. Gore was successful also in taking first place in the open class for twelve Japanese, the blooms being remarkably good, and the varieties represented were Baronne de Prailly, Japonnais, Mons. Freeman, Grandiflorum, Mdlle. Lacroix, L'Adorable, Jeanne Delaux, Comte de Germiny, Madame C. Audiguier, Mons. Astorg, Mons. Tarin, and Meg Merrilies; Mr. J. Snow, gardener to J. H. Bruce, Esq., Tunbridge Wells, and Mr. A. Stringer were second and third respectively with good blooms. The principal prizes in the limited classes for Japanese varieties were Mr. A. Stringer, Mr. W. F. Smith, Mr. W. Read, Mr. G. Ware, Mr. J. Snow, and Mr. H. Scammell. Both large and anemone pompons were of great excellence, and reflected much credit on the skill of the respective exhibitors. The most successful of the numerous exhibitors were Mr. H. Scammell, Mr. G. Pain, Mr. W. Read, and Mr. G. Ware.

Miscellaneous Plants contributed materially to the attractions of the show. Primulas were very largely shown, and the majority were so good as to show that the cultivation of these flowers is well understood in the district. The prizetakers for eight were Mr. G. Farmer, Mr. J. Smooker, and Mr. H. Scammell; and for six Mr. J. Smooker, Mr. Scammell, and Mr. W. F. Smith; and for four Mr. A. Farmer, Mr. W. Read, and Mr. G. Ware. Poinsettias were presented in magnificent condition, and produced an effect of unsurpassed brilliancy. The finest examples in the class for six were those from Mr. J. Smooker, Mr. W. F. Smith, and Mr. G. Tickner. For four the exhibitor last mentioned, Mr. W. Read, and Mr. A. Farmer were the prizetakers in the order of their names.

Fruit was hardly so plentiful as last year, but that staged was of a high degree of excellence. The first and second prizes for collections were awarded to Mr. H. Scammell and Mr. W. F. Smith. The first of the series of prizes offered by Messrs. Bunyard and Co. for a collection of twenty-six dishes of apples and pears was awarded to Mr. F. Bridger, gardener to Lord De Lisle and Dudley, Penshurst, for fruit of great excellence. The principal exhibitors of grapes were Mr. W. Coleman, gardener to Mrs. A. Potts, Bentham Hall, Mr. J. Legg, and Mr. H. Scammell. The chief prizes for apples and pears were awarded to Mr. J. McFeate, gardener to Mrs. McWilliams, Mr. A. Stringer, Mr. J. Wilkins, Mr. F. Guest, Southborough, Mr. H. Scammell, Mr. F. Bridger, Mr. Legg, and Mr. E. B. Smith.

Vegetables were represented by several excellent collections, staged in competition for the prizes offered by Mr. J. Charlton, grown from seed supplied by himself. The prizetakers were Mr. A. Stringer, Mr. F. Guest, and Mr. J. McFeate.

The judges were Messrs. Berry, G. Bunyard, J. Douglas, J. George, George Gordon, and J. Ward.

READING CHRYSANTHEMUM SOCIETY, November 12.

In common with several other exhibitions held during the week, the promoters of the Reading Chrysanthemum and Winter Flower and Fruit Show had to lament unpropitious weather, for the clouds, which had during the four or five days previous been pouring down a heavy fall of rain, kept up the same kind of "patter" during the whole of the afternoon and evening. But though so cheerless and uncomfortable without, the interiors of the Old and New Town Halls were exceeding gay with "concentrated essence of sunshine" stored up in about one hundred trained specimen plants, five hundred untrained, one thousand and twenty specimen large-flowering blooms, groups of primulas, violets, poinsettias and berried plants, ephiphyllums, neat table plants, one hundred and fifty dishes of rich coloured apples and pears, an extensive array of black and white grapes, collections of dessert fruits, and these, with the addition of several other extra productions, made up a display not often surpassed at any provincial show, the bulk being of a very high class of merit.

Groups of Plants were five in number, and were composed of large-flowering varieties only, the premier arrangement being staged by W. J. Palmer, Esq., who was many points ahead of the others named, his ninety plants being very uniform in height, well feathered with healthy leafage. The most prominent varieties were: Lord Alcester, Soleil Levant, Fleur de Marie, Gluck, Duke of Manchester, Madame C. Audiguier, Madame Blanche Pigmy, Madame de Sevin, Fingal, Jardin des Plantes, Comte de Germiny, Lord Beaconsfield, Cullingfordi, Jeanne Delaux, Mons. Tarin, Elaine, Jeanne d'Arc, Prince Alfred, Guernsey Nugget, White Queen, Golden Queen, Empress of India, John Salter, Lady Talfourd, L'Adorable, Mdlle. Lacroix, Mons. Astorg, Mons. Desbreux, Criterion, Alba Plena, Triomphe du Nord, Bouquet Fait, Abbé Passagalia, Cloth of Gold, &c.; the second prize group was arranged by B. Simonds, Esq., but it was evidently not so meritorious for quality of flowers or foliage as the group which was placed third (staged by S. B. Stevens, Esq.), the last-named arrangement showing a number of white sticks used as supports to the blooms which the judges regarded as marring the otherwise good effect.

For six large-flowering the premier groups were generally large convex-shaped plants carrying large blooms, and well clothed with foliage; the first card falling to R. Tompkins, Esq., who had Chevalier Domage, Prince Albert, Mrs. Dixon, Mrs. G. Rundle, Peach Christine, and Golden Christine; the second prize group were smaller plants but compact, the card going to C. Stephens, Esq., Woodley Hill, for Mrs. G. Rundle, Mrs. Dixon, Julie Lagravere, Hereward, Emperor of China, and Pink Christine; N. Clarke, Esq., followed close for third place with hard-trained examples of Alfred Salter, Bronze Jardin des Plantes, White Globe, Dr. Brock, Empress of India, and Christine; H. J. Simonds, Esq., fourth with Geo. Glenny, Christine, Barbara, Prince of Wales, Mrs. Dixon, and Felicity. An average competition was seen in the class for three, C. H. Witherington, Esq., Sonning, leading with grand specimens of Mrs. Dixon, Mrs. G. Rundle, and Golden Christine; F. A. Lucas, Esq., was second with Mrs. Forsyth, Peach Christine, and Geo. Glenny.

Japanese were particularly good, the plants generally presented a mass of colour, but a shade too flat. The best six came from C. H. Witherington, Esq., who had Bronze Dragon, La Nymphe, La Charmeuse, Peter the Great, Elaine, and Lady Selborne; the second card went to the group staged by C. Stephens, Esq., whose selection comprised Bronze Dragon (grand in colour), Peter the Great, La Charmeuse, James Salter, Lady Selborne, and Hiver Fleur; R. Tompkins, Esq., third with Flambeau, La Nymphe, Bouquet Fait, James Salter, Peter the Great, and Lady Selborne; H. J. Simonds, Esq., with Mdlle. Antoinette Brunel, Japonnais, Hiver Fleur, Peter the Great, Mons. Leon, and Mdlle. Moulise. Only two groups of three were staged, the best trio securing the card to F. A. Lucas, Esq., who put up large plants of Elaine, Peter the Great, and James Salter; the second card going to N. Clarke, Esq., for Cullingfordi, Peter the Great, and Elaine.

Pompons.—In the class for three the plants were bulky, and a mass of colour was produced by the close hard-trained heads, and even here the display of a more circular outline would have proved of immense advantage to the exhibitors. C. H. Witherington, Esq., led with President, St. Michael, and Sœur Melaine; F. A. Lucas, Esq., second, with Golden Circle, President, and Modele (beautiful white); the third card falling to a nameless exhibitor, who had good plants of Marie Stuart, Mr. Astie, and White Trevenna.

Standards as a rule were too like parachutes, the tops too flat, and the blooms too hard tied down; the umbrella form being equally as easily made and much more pleasing to the eye. Several of the plants had three sticks to hold up the head, whereas during the time of exhibition the only support

allowable should be the central one supporting the stem. However, the best three were staged by R. Tompkins, Esq., who had the white, golden, and primrose forms of the still popular Mrs. G. Rundle; the second card going to C. Stephens, Esq., who entered Mrs. G. Rundle, Mrs. Dixon, and Pink Christine; the trio taking the third card being a replica of the first prize lot, and were staged by C. H. Witherington, Esq.; a fourth prize being made in favour of H. J. Simmonds, Esq., who had Mr. Bunn, Geo. Glenny, and Mrs. Rundle. The single specimens were much on a par with the threes, the premier being a compact head of Elaine, exhibited by Mr. T. Neighbour, Shiplake Paper Mills; N. Clarke, Esq., second with Jardin des Plantes; while for a pompon Mr. T. Abery, Tilehurst Nurseries, put up a finely-shaped natural head of Madame Marthè; C. Stephens, Esq, second with the same variety; C. H. Witherington third with St. Michael.

Cut Blooms were a large display. There were no less than thirteen boxes in the division for eighteen incurved. These, as a whole, were truly fine, with scarcely a small or an undeveloped flower. The premier award was made to Messrs. W. and G. Drover, Fareham, Hants, for a stand containing large highly-finished blooms of Queen of England, Alfred Salter, Lord Alcester, Empress of India, Golden Empress, Nil Desperandum, Mrs. W. Shipman, Princess of Teck, Emily Dale, Beauty, Jeanne d'Arc, Prince Alfred, Baron Beust, Angelina, Hero of Stoke Newington, Lord Wolseley, and Princess of Wales. Lord Eversley, Heckfield Place, Reading (gardener, Mr. Wildsmith), was adjudged second, with Empress of India, Emily Dale, Lord Wolseley, Golden Empress, Lord Alcester, Baron Beust, Beauty, Jeanne d'Arc, Mrs. W. Shipman, Princess of Wales, Hero of Stoke Newington, Cherub, Lady Hardinge, Princess of Teck, Jardin des Plantes, Nil Desperandum, and Lord Eversley (a pure white sport of Princess of Teck, very globular in form), a first-class certificate being granted, as, although not strictly an improvement on existing varieties, all new forms of incurved sorts should be retained if possible. The third prize box, by P. Southby, Esq., Bampton, Oxon, contained a number of good flowers, including Lord Wolseley, Novelty, John Salter, Hero of Stoke Newington, Prince Alfred, Princess of Teck, Princess of Wales, Guernsey Nugget, Rev. J. Dix, Mr, Bunn, Cherub, White Globe, Jardin des Plantes, Barbara, Mrs. G. Rundle, Mrs. Heale, and Mr. Brunlees. The fourth place was well filled by the stand bearing the name of H. L. Holland, Esq., Roehampton, who put up a very good lot, comprising Empress of India, Lord Wolseley, Queen of England, Prince of Wales, Golden Eagle, Refulgens, St. Patrick, Nil Desperandum, and Mr. Bunn. A fair run of boxes filled the class for twelve, Mr. Strong, Wellington College, being first for extra fine forms of Princess of Wales, Lord Wolseley, Golden Empress, Prince Alfred, Nil Desperandum, Jeanne d'Arc, Mr. Brunlees, Mrs. Heale, Isabella Bott, Beauty, Baron Beust, and Barbara. Sir H. St. John Mildmay, Esq., Bart., Dogmersfield, a close second with Emily Dale, Alfred Salter, Queen of England, Golden Empress, Bronze Jardin des Plantes, Hero of Stoke Newington, Lord Wolseley, Jeanne d'Arc, Lady Carey, White Venus, Mrs. Heale, and Beethoven; the third prize going to C. Hoare, Esq., Hackwood Park, his premier blooms being Mrs. W. Shipman, Jeanne d'Arc, Lord Wolseley, Empress of India, Alfred Salter, and Golden Empress; W. J. Palmer, Esq., taking the fourth prize for well-balanced examples, the best being Queen of England, Golden Empress, Jeanne d'Arc, Prince of Wales, Duchess of Manchester. Mrs. W. Shipman, and Beethoven. In the class for six blooms, distinct, the blooms were fully equal to the longer numbers, the first place being allotted to J. Freeman, Esq., Farnborough, who set up Empress of India, Golden Empress, Jeanne d'Arc, Golden and Bronze Jardin des Plantes, and Pink Venus; S. Gulliver, Esq., Aylesbury, second, with Lord Wolseley, Princess of Wales, Baron Beust, Jeanne d'Arc, Barbara, and Isabella Bott; J. T. Strange, Esq., Aldermaston, third, with Lady Hardinge, Prince Alfred, Nil Desperandum, Barbara, George Glenny, and Mrs. G. Rundle.

Japanese.—There were a dozen exhibitors in the class for twelve blooms, and the general run of thumping flowers must have given the censors no small trouble to determine those most qualified to receive the honours placed in their hands to bestow. The first prize went to W. J. Palmer, Esq., for Jeanne Delaux, Mons. Delaux, Balmoreau, Madame C. Audiguier, Thunberg, Comtesse de Beauregard, Madame Lacroix, Madlle. B. Pigmy, Mons. J. H. Laing, Triomphe de la Rue des Châlets, Soleil Levant, and Mons. Burnet; Mr. R. W. Beachey, Kingskerwell, second, with Boule d'Or, Fair Maid of Guernsey, Val d'Andorre, Baronne de Prailly, Madame Laing, Bronze Dragon, Grandiflorum, Mons. Desbreux, Japonnais, Soleil Levant, and Jeanne Delaux; the third card to Lord Eversley for Meg Merrilies, Madame C. Audiguier, Thunberg, Maiden's Blush, Japonnais, Madame Laing, Madame B. Pigmy, Madame B. Rendatler, Triomphante, Comte de Germiny, l'Adorable, and Mons. Astorg. For fourth place Sir H. St. John Mildmay staged a good box, containing Madame C. Audiguier, Meg Merrilies, Triomphe de la Rue des Châlets, Soleil Levant, Boule d'Or, Thunberg, &c.

CHESHUNT CHRYSANTHEMUM SOCIETY, November 12 and 13.

That there is no abatement in the interest taken in the work of the Cheshunt Chrysanthemum Society was made sufficiently evident by the large and extremely beautiful display produced on the above dates by the cultivators resident in the district. St. Mary's Hall, in which the exhibition was held, was decidedly over-crowded with the productions staged in competition for the prizes, and the quality of the whole of the subjects evinced a marked advance on any previous year. The arrangements were admirably carried out, and all concerned may be heartily congratulated on the successful results of their labours.

Cut Blooms were largely shown, and on the whole were of a high degree of excellence. There was a spirited competition in the class for twenty-four blooms to consist of equal numbers of incurved and Japanese; in the result the premier award was made in favour of R. Ewing, Esq., Burton Grange, Cheshunt. The flowers were exceptionally good, and represented the undermentioned varieties: Empress of India, Lord Wolseley, Princess of Wales, Nil Desperandum, Golden John Salter, Jardin des Plantes, Jeanne d'Arc, Mabel Ward, Golden Empress, Elaine, Duchess of Albany, Rosoum superbum, Triomphe de la Rue des Châlets, Meg Merrilies, Val d'Andorre, Jeanne Delaux, Marguerite Marrouch, Japonnais, Madame Clemence Audiguier, Thunberg, and Fanny Boucharlat; Mr. J. Pringle, gardener to J. W. Carlile, Esq., Ponsbourn Park, Hertford, was second with a good stand of blooms, For twelve incurved Mr. F. Green was first with neat blooms of Mrs. Dixon, Lady Talfourd, Empress of India, Fingal, Prince of Wales, Queen of England, Lady Hardinge, Mrs. G. Rundle, Baron Beust, and Mr. Bunn. Mr. F. Green was first also in the class for twelve Japanese, staging good blooms of Madame C. Audiguier, Hiver Fleur, Thunberg, Source d'Or, Curiosity, Peter the Great, Triomphe de la Rue des Châlets, Le Chinois, Golden Dragon, Elaine, Dr. Macary, and Comte de Germiny, Mr. J. Pringle was a close second with a stand in which was a very fine bloom of Mrs. Laing. For six Japanese the first prize was awarded to Mr. H. Bryant, gardener to E. H. Clarke, Esq., Goff's Oak. In the corresponding class for incurved varieties Mr. J. Waters and Mr. H. Bryant were first and second respectively. Both reflexed and anemone flowers were exceptionally good, the finest stands in the several classes being those from Mr. J. Waters, Bury Green, who staged two fine blooms of Cullingfordi, Mr. F. Green and Mr. J. Gunning. Mr. Ewing staged, not for competition, a magnificent collection of cut flowers, comprising about sixty blooms, in a high state of development, and representing the finest of the incurved and Japanese varieties. Messrs. Paul and Son, Cheshunt, contributed a collection of Japanese and pompon varieties.

Specimen Plants were remarkably good, and contributed much to the success of the show. For six, R. Ewing, Esq., was first with bush specimens liberally furnished with fairly-developed flowers; and Mr. F. Green was second with neatly-trained examples that did credit to his cultural skill. Mr. Ewing staged, in addition, a very fine specimen of Bouquet Fait, which, placed in the centre of the stage, proved highly effective. For six pompons Mr. Waters and Mr. F. Green were first and second.

Groups were highly meritorious, and formed a very effective feature. In the class for groups of chrysanthemums Mr. J. Waters, Mr. J. Dudley, and Mr. D. Elliott were the prizetakers, in the order of their names, with excellent arrangements. Mr. Kirkpatrick had a group which was highly commended. The premier award in the class for a group of miscellaneous plants was made in favour of Mr. Searin, Heaton House, who had a beautiful arrangement, in which were several fine specimens of Odontoglossum Alexandræ and Vanda cærulea; Mr. Perry was second.

Primulas were especially good, the most successful exhibitors in the class for twelve being Mr. H. Bryant and Mr. A. C. Crowley.

Fruit was plentiful and generally of good quality. Grapes were well shown by Mr. F. Green, Mr. Pringle, and Mr. Rochford, Turnford. Pears included excellent contributions from Mr. J. Jones and Mr. Gunning; and apples included excellent collections from R. Ewing, Esq., and Mr. J. Dudley, Mr. Ewing staging very fine examples of Adam's Pearmain, Fearn's Pippin, Mère de Ménage, Peasgood's Nonsuch, Blenheim Pippin, and American Mother Apple.

The judges were Messrs. Douglas and Ridout.

SALISBURY CHRYSANTHEMUM SHOW.

The Chrysanthemum Show of the Wilts Horticultural Society was held in the Council Chambers, Salisbury, on November 11 and 12, in dripping wet weather, which made it unpleasant for members who visited the show to leave their homes. There was a feature of some interest in the schedule, first, second, and third class certificates being offered in each of the classes where entries of merit were expected. Those who are of opinion that it is mere money gain with exhibitors in general would be surprised a little on seeing the fine show got together without awarding a penny in money or articles of money value. Mr. W. H. Williams, of the Castle Street Nursery, the indefatigable honorary secretary to the society, is to be congratulated on the success of the present show, when it is taken into consideration that he had but three clear weeks to arrange the whole affair, and so far as the exhibition was concerned it was a splendid success.

Plants.—In the principal class, viz., that for a group of plants, consisting chiefly of chrysanthemums, in a space not exceeding ten feet by six feet, Dr. F. W. Cotes (gardener, Mr. Tubb) was deservedly awarded the first position, having a group wholly of chrysanthemums, in which fine blooms were conspicuous. Among them were Lady Talfourd, Comte de Germiny, Cossack, Flambeau, Soleil Levant, &c. Mr. A. Carter, gardener to C. H. Radcliff, Esq., Salisbury, and Mr. J. Chalk, gardener to G. Read Esq., Salisbury, were placed equal second, both showing well; Mr. F. Smith and J. W. Lovibond, Esq., Salisbury, were placed equal third. For the group of miscellaneous plants, arranged for effect in a half-circle space, not to exceed eight feet by five feet, Mr. E. L. Brown was placed first with a pretty group backed by chrysanthemums, having a groundwork of ferns, dotted with trumpet lilies in good bloom and Epiphyllum truncatum also standing above the groundwork, the whole being surrounded by flowering zonal and tricolor pelargoniums; Mr. J. Currey, gardener to Colonel Pepper, Salisbury, and Mr. E. Thornton, gardener to Mrs. Greenwood, Harnham, near Salisbury, were placed second and third respectively with slightly inferior groups. For four specimen plants of Japanese Mr. J. Chalk was placed first with Refulgens, Soleil Levant, Val d'Andorre, and La Nymphe.

Cut Flowers.—In the principal class, viz., that for twenty-four blooms in no less than eighteen varieties, Mr. H. W. Ward, gardener to the Right Hon. the Earl of Radnor, Longford Castle, Salisbury, was first, having in good form Fair Maid of Guernsey, Berthie Rendatler, Mdlle. Lacroix, Triomphe de la Rue des Châlets, Mdlle. Lacroix, Madame C. Audiguier, Duchess of Albany, Fair Maid of Guernsey, Val d'Andorre, Lord Alcester, Jeanne Delaux, M. Burnet, Boule d'Or, Comte de Germiny, Thunberg, Triomphe du Nord, Princess Teck, Queen of England, Golden Empress, Mrs. Brunlees, &c.; Mr. C. Warden, gardener to Sir F. Hervey Bathurst, Bart., Clarendon Park, Salisbury, was placed second, his best blooms being Madame C. Audiguier, Fair Maid of Guernsey, Lord Alcester, and Boule d'Or. And in the class for twelve incurved, not less than nine varieties, Mr. Ward was again placed first, there being no other competitor. In like manner, for six incurved, the last-named was again to the front, showing Queen of England, Empress of India, Golden Empress, Lord Alcester, Mrs. Brunlees, and Lady Carey; Mr. G. Marlow, gardener to Mrs. Paxton, Cholderton, near Salisbury, was placed second, there being but two competitors. In the class provided for twelve Japanese, Mr. Ward was a good first, having fine blooms of the following: Triomphe de la Rue des Châlets, Thunberg, Fair Maid of Guernsey, Duchess of Albany, Mdlle. Lacroix, Jeanne Delaux, Boule d'Or, Mons. Burnet, Berthie Rendatler, Comtesse de Beauregard, Val d'Andorre, and L'Adorable; Mr. C. J. Witcomb, Elm Grove, Salisbury, was placed second for a good stand. For six reflexed Mr. Ward and Mr. Marlow took the cards; and for anemone-flowered varieties Mr. Ward was the only exhibitor, and was awarded the first position.

In the ladies' classes for a bouquet composed of chrysanthemum flowers, with ferns or other foliage, Miss Kate Lovibond was placed first, having a pretty arrangement composed of chrysanthemums in two colours and Adiantum gracillimum; Miss E. Burt and Miss Martha Brown were awarded the remaining prizes. For a basket of flowers or foliage Misses Burt, Lovibond, and Atkins were the most successful.

Fruit was a creditable show, there being some very fair grapes and really

good apples and pears staged. In the principal class, that for a collection of fruit in no less than six varieties, Mr. H. W. Ward was the only exhibitor, and staged a really creditable lot, consisting of Queen Pine, Longford Perfection Melon, Muscat of Alexandria, and Mrs. Pince Grapes, Chaumontel Pears, and Cox's Pomona Apples. And for two bunches of Black Alicante Grape Mr. C. Warden was first; Mr. W. Marlow, second; and Mr. E. L. Brown, third. For two bunches of any other black variety not Alicant, Mr. C. Warden again came to the front, showing some fairly well finished Gros Colmar, Mr. H. W. Ward followed with some good Gros Guillaume, and Mr. E. L. Brown had some fairly good Gros Colmar, for which he was awarded third. For a corresponding number of bunches of Muscat of Alexandria, Mr. Warden was again to the front, showing two well proportioned and well coloured bunches; Mr. E. L. Brown also showed two well coloured examples, for which he was placed second; and Mr. Chalk was awarded the third place for large bunches, one of which was too green. For any other white variety not Muscat, Mr. H. W. Ward was deservedly awarded the first place for two handsome and highly coloured Trebbiano. No other award was made in this class. In the class provided for the best three varieties of Dessert Apples, Mr. C. Busbury, gardener to C. W. Gater, Esq., Townhill, Southampton, was placed first with Lemon Pippin, Ribston Pippin, and King Pippin; Mr. Hixman, gardener to H. G. Gregory, Esq., was placed second; and Mr. Ward, third. For a like number of kitchen kinds, Mr. F. Smith, gardener to the Right Rev. the Lord Bishop of Salisbury, was a good first with Cox's Pomona, Blenheim Orange, and Bedfordshire Foundling; Mr. Ward and Mr. Thomson followed, but in the class for a like number of dishes of pears, Mr. F. Thomson, of The Gardens, Norman Court, Dean, came to the front with good fruit of Duchess d'Angoulême, Pitmaston Duchess, and Marie Louise. Mr. Busbury and L. G. Blackmore, Esq., Salisbury, followed.

Miscellaneous.—Mr. W. H. Williams, the honorary secretary, made a meritorious and useful display of plants and flowers, and miscellaneous groups were arranged in the passages and entrance hall. These well-grown plants were seen to great advantage by the light of the gas, the principal burner of which was immediately over them. Messrs. Brittain and Son, of The Waterloo Nurseries, Salisbury, had two semicircular groups in the principal room, backed by Norfolk Island Pines, and having a fringe of Cordylines, the bulk of the group being chrysanthemums. Mr. H. W. Ward exhibited, not for competition, some handsome bunches of grapes, together with a large bunch of Gros Guillaume, weighing between eight and nine pounds; and Mr. F. Thomson, Norman Court, put up two good boxes of chrysanthemum flowers in the same way as pompons are shown and which, placed at the end of the room, had a very good effect.

WATFORD CHRYSANTHEMUM SOCIETY, November 16 and 17.

Exhibitions increase and multiply, especially those devoted to the festive chrysanthemum, and amongst the 1886 additions to the already lengthy list is that of Watford. This society has commenced what promises to be a most prosperous career, and it has the advantage of a large number of gardeners in the neighbourhood to render it support. The exhibition was held in the Agricultural Hall, and, notwithstanding its great size, it was comfortably filled, the most conspicuous features by reason of their greater prominence being the groups, which were tastefully and effectively arranged on the ground floor. The crowning group of all was from Mr. J. Myers, gardener to the Earl of Clarendon (president of the society), and consisted of miscellaneous plants. Cut blooms made a good feature, and in the first prize stands the flowers approached a standard of high merit; but in the seconds and thirds there was a great falling off.

Groups proved a most important feature, and showed excellent taste in arrangement. In the class for a group on a space not to exceed fifty feet, Mr. J. Fitt, gardener to the Earl of Essex, came first with a very effective group, the flowers being large and highly finished; Mr. W. Cox, gardener to H. Thompson, Esq., The Warrens, Bushey Heath, was a good second; and the third award was made in favour of Mr. T. Waller, gardener to H. C. Stephens, Esq., Finchley. There was strong competition in the class for a miscellaneous group of plants, the winner of the premier prize being Mr. E. Beckett, gardener to H. H. Gibbs, Esq., Aldenham House, who had an arrangement exhibiting considerable taste; Mr. J. Daismore, gardener to T. J. Blackwell, Esq., The Cedars, Harrow Weald, came second; and Mr. Condie, gardener to S. J. Blackwell, Esq., Brookshill, Harrow Weald, third. In the class for a group, in which the competition was limited to members of the society, Mr. J. Fitt was first; and the second award was made in favour of Mr. J. G. Barnes, gardener to Chas. R. Humbert, Esq., Dell Field, Watford. For a group on a space not exceeding twenty-five feet, Mr. C. Chipps, gardener to Mrs. J. Manning, North End House, Watford, came first; and Mr. J. G. Barnes second.

Specimen Plants were few, and badly grown, Mr. C. Chipps was first with a gawky specimen; Mr. J. G. Barnes was second with a very creditable plant; and in the class for three specimens, incurved, the first prize was taken by Mr. Henry Petty, Watford, with well-grown plants of Ethel, Mrs. Dickson, and Christine; the second place being assigned to Mr. J. P. Darby, Watford.

Cut Blooms were not largely represented, but on the whole the quality was good. The incurved were satisfactory, especially in the class for twenty-four, in which the principal prizetaker was Mr. E. Beckett. The varieties were Lord Alcester, Mrs. Heale, Mr. Bunn, Prince Alfred, Cherub, Princess of Wales, Jeanne d'Arc, Lady Hardinge, Jardin des Plantes, Barbara, Golden Empress of India, Queen of England, Lord Wolseley, Venus, White Venus, Beauty, Novelty, Golden Empress, John Salter, Alfred Salter, Mr. Brunlees, Eve, Nil Desperandum, Empress of India. Mr. J. Beard, gardener to C. J. Hegan, Esq., Bucknalls, Watford, was second, but the flowers were rough and shapeless. The third prize went to Mr. Condie. In the class for twenty-four, competition limited to members of the society, Mr. E. Beckett was to the front. The second place was occupied by Mr. C. Brown, gardener to R. Henty, Esq., Langley House, Abbotts Langley; Mr. J. C. Mundell, gardener to Lord Ebury, third. For six, one variety, Mr. E. Beckett was first, with Princess of Wales in fair form; Mr. Rumbolds, gardener to G. Lake, Esq., Bushey, and Mr. Condie coming second and third respectively.

Japanese made a good figure. In the class for twenty-four, Mr. E. Beckett came to the fore, putting up excellent blooms of Madame C. Audiguier, Triomphe de la Rue des Châlets, Meg Merrilies, Thunberg, Fair Maid of Guernsey, Val d'Andorre, Maiden's Blush, Soleil Levant, Baronne de Prailly, Jupiter, Mdlle. Lacroix, Marguerite Marrouch, Madame J. Laing, Jeanne Delaux, Belle Paule, Fanny Boucharlat, Magnum Bonum, Sarnia, Boule d'Or, Japonnais, Mr. J. Laing, and Comtesse de Beauregard; the second prize went to Mr. Condie; and the third award was made in favour of Mr. G. Beard. In the class for twenty-four, competition limited to members, Mr. E. Beckett was again the most successful; the second prize was won by Mr. J. Fitt. For six, one variety, the first prize was taken by Mr. C. Blick, gardener to T. Harburgh, Esq., Elstree, who had splendid flowers of Boule d'Or; Madame C. Audiguier was well shown by Mr. J. Fitt, who was placed second; and the third award went to Mr. Condie, who showed Comte de Germiny. Mr. C. Brown was adjudged the first prize in the class for twelve reflexed; Mr. J. C. Mundell coming second.

Pompons were creditably shown by Mr. E. Beckett and Mr. J. C. Mundell, and the winner of the first prize in the class for twelve anemone-flowered, not less than six varieties, was Mr. C. Brown.

Fruit formed an important part of the show. In the class for three bunches of grapes, any variety, Mr. E. Beckett was first with superb clusters of Black Alicante; Mr. J. C. Mundell, second; and Mr. J. Fitt, third; both showing the same variety. For a collection of fruit, the post of honour was occupied by Mr. E. Beckett, who showed fine grapes. In the classes for apples and pears the principal prizetakers were: Messrs. E. Beckett, J. C. Mundell, W. Cox, J. Fitt, Burton, J. G. Barnes, Camfield, Browton, and Ashby. Mr. J. Fry, gardener to Captain Edwards, Eastcote, exhibited four well-grown pineapples.

Vegetables were well shown, Mr. E. Beckett coming first in a collection for twelve varieties; the second prize going to Mr. R. Stevens, gardener to Howard Gilbert, Esq., Abbots Langley; and the third to Mr. J. C. Mundell. In the class for a collection of eight sorts, the principal prizetaker was Mr. H. Sell, Luton.

Miscellaneous contributions came from Messrs. H. Lane and Son, Great Berkhampstead, who exhibited chrysanthemums and apples; and fertilizers, prepared composts, &c., from Messrs. Wood and Son, Wood Green, London.

BRIGHTON AND HOVE CHRYSANTHEMUM SHOW.

On Tuesday and Wednesday last the Dome of the Pavilion at Brighton was made gay with the floral competitions of the Brighton and Hove Chrysanthemum Society. The place is peculiarly suitable for such a purpose, and the flowers were seen to the fullest advantage. It might happen that in foggy weather the great spaces of the dome and the adjoining chamber would have a ghostly effect and put the flowers at a disadvantage, but the thought is scarcely proper, because Brighton does not own to fogs, and as we saw the show it was brilliantly illuminated with as clear a sunshine as one could hope for at this time of year. It was a good show; quite strong in groups, not quite strong in trained specimen plants, but again strong in cut blooms, and we rejoice to add that the incurved flowers were well done, and therefore they held their own against the daring Japs that ever threaten to "take the shine" out of them.

Plants were a powerful feature in the great hall, or Corn Exchange, adjoining the dome, and they presented some new features. The usual mode of piling up in a very orderly manner was departed from by several of the groupers, and we saw great specimens in the very front of the field rising from masses of dwarf plants, the rear being formed of still higher plants to make a proper finish. In Class 1, to cover 80 square feet, Mr. John Miles, of Bristol Nursery, Kemp Town, had first place with a group in which this irregular method was brilliantly carried out, for it was regular after all, very formal, but bold, picturesque, and delightfully rich in colour. In the same style was the second group, from Mr. James Spottiswood, gardener to G. Dudley, Esq., Queen's Park. Third, Mr. J. Hill, gardener to Marriage Wallis, Esq., Withdene. Fourth, Mr. E. Meacham, gardener to Mrs. Armstrong, of Withdene. Both these groups were rough, but very lively in colour. In Class 2, for groups of 60 square feet, the first prize was awarded to Mr. J. Turner, gardener to Major Way, Wick Hall, a very regular pile and fine in colour, but not surprising; equal second, Mr. James Bunney, gardener to W. H. Campion, Esq., Hassocks; and Mr. W. Collins, gardener to R. Clowis, Esq., Hassocks; third, Mr. J. Hill; and fourth, Mr. Townsend, gardener to Captain Thompson, Dyke Road.

Trained standards were in most cases well done, and the first prize six in Class 3, were extra good, and handsome enough for any imaginable purpose. These came from Mr. J. Hill, and consisted of Mrs. G. Rundle, Mrs. Dixon, L'Ile des Plaisirs, Elaine, Pink Venus, and George Glenny. The best four standards came from Mr. Meacham, a noble lot comprising Peter the Great, Dr. Macary, Diamond, and Mrs. Dixon. The best pyramids came from Mr. J. Hill; second, Mr. Meacham. They were badly placed for inspection, though in a good position as regards the general arrangement. The class for four dwarfs was not well filled, but Mr. J. Hill put up a nice lot for the first; they were too hard in training, but the severity being allowed, they were worthy of admiration, having abundant leafage, fine blooms, and the scaffolding completely hidden. The varieties were Mrs. Dixon, Golden Christine, George Glenny, and Mrs. G. Rundle; second, Mr. E. Meacham, with Mrs. Dixon, Christine, Mrs. G. Rundle, and Reverie, a fiery Jap with gleams of orange amidst glowing red; third, Dr. Withers Moore. Single specimens were put up by Mr. James Bunney, gardener to W. H. Campion, Esq., Hassocks, first; Mr. J. Hill second; and Mr. J. Turner third. A first group of three Japs came from Mr. Hill, consisting of Comte de Germiny, Peter the Great, and Dr. Macary. The others in this class were poor things.

Cut Blooms made a striking display in the great space under the dome, and the competition was altogether gratifying. We begin with a class for forty-eight, to be equal numbers of Japs and incurved, and Mr. J. Gore, gardener to Captain W. Taylor, Glenleigh, near Hastings, takes the place o honour. These were a glorious lot, a certain few of the flowers being perfect and not one of them in any way second-rate. The Japs were Mons. Freeman, Soleil Levant, Japonnais, Thunberg, Mons. Tarin, Madame B. Rendatler, Meg Merrilies, Toulousain, Mons. Astorg, Baronne de Prailly, Boule d'Or, Roseum superbum, L'Adorable, Mons. Ardene, Grandiflorum, Madame C. Audiguier, Criterion, Triomphe de la Rue des Châlets, and Agrements de la Nature; the incurved were Empress of India, Princess Teck, Baron Beust, Queen of England, Hero of Stoke Newington, Eve, Golden Queen of England (remarkably fine), John Salter, Jardin des Plantes, Lord Wolseley, Empress Eugenie, Cherub, Lord Alcester, Mrs. Heale (perfect), Venus, Jeanne d'Arc, Prince Alfred, Mabel Ward, Alfred Salter, Mr. Bunn, Nil Desperandum, Golden Empress of India (a gorgeous flower), Princess of Wales, and Barbara; second, Messrs. W. and G. Drover, the Nurseries, Fareham; third, Mr. J. Ridout, gardener to J. B. Haywood, Esq., Woodhatch, Reigate; fourth, Mr. Russell, gardener to Dr. C. F. Lewis, Henfield.

The class for twenty-four incurved brought a spirited competition, comprising a most delicious lot of flowers. Mr. Russell made a good first with

Empress Eugenie, Jeanne d'Arc, Mabel Ward, Empress of India, Isabella Bott, Lady Slade, Lord Wolseley, Venus, Prince Alfred, Golden Empress of India, Barbara, Mr. Bunn, Princess of Wales, Nil Desperandum, Hero of Stoke Newington, John Salter, Lady Hardinge, Mrs. Shipman, Mrs. Heale, Rev. J. Dix, Refulgens, Queen of England, Princess Teck, Gloria Mundi; Mr. J. Gore made a good second; Mr. W. F. Smith third; Messrs. Drover fourth.

Twenty-four Japanese made a greater show, but certainly not one more enjoyable than the same number of incurved. But comparisons are, in such a case, "odious;" like comparing grapes with figs, or pancakes with pie-crust. Mr. J. Gore came first here with flowers of the grandest quality, blazing with colour. The varieties were Soleil Levant, Triomphe de la Rue des Chalets, Hiver Fleur, Dr. Masary, Elaine, Criterion, Japonnais, Madame de Sevin, Mons Astorg, Fair Maid of Guernsey, Thunberg, Balmoreau, Meg Merrilies, Mons. Ardene, Madame Rendatler, Madame C. Audiguier, Agrements de la Nature, Jeanne Delaux, L'Adorable, Ferdinand Feral, Grandiflorum, Baronne de Prailly, Mdlle. Lacroix, and Mons. Freeman; the second card went worthily to Mr. W. J. Smith, gardener to Mrs. Byas, Tunbridge Wells; third, Mr. Russell; fourth, Mr. D. Booth, gardener to W. Yates, Esq., Buckham Hill, Isfield.

The twelves in both sections made effective features. The first twelve incurved came from Mr. W. Jupp, gardener to G. Boulton, Esq., Eastbourne. The varieties were Princess Teck, Jeanne d'Arc, Lady Slade, Queen of England, Nil Desperandum, Virgin Queen, Prince Alfred, Empress of India, Angelina, Golden Queen of England, Hero of Stoke Newington, and Isabella Bott; second, Mr. R. Woodfine, gardener to C. P. Boyd, Esq., Emsworth; third, Mr. H. Waller, gardener to Rev. Canon Woodard, Henfield; fourth, Mr. F. Godby, gardener to Dr. Withers Moore, Burgess Hill.

The first twelve Japanese came from Mr. R. Woodfine, and comprised Meg Merrilies, Jeanne Delaux, Mons, Ardene, Triomphe de la Rue des Chalets, Mdlle. Lacroix, Belle Paule, Fair Maid of Guernsey, Madame C. Audiguier, Soleil Levant, Baronne de Prailly, Grandiflorum, and Dr. Masters. A fine lot for the second card came from Mr. John Snow, gardener to J. Bruce, Esq., Wadhurst; third, Mr. G. Duncan, gardener to C. T. Lucas, Esq., Horsham; fourth, Mr. W. Jupp, gardener to G. Boulton, Esq., Eastbourne,

The sixes were not so good as the twelves, but a wonderful six Japanese came from Mr. Snow for the first place. They were Comte de Germiny, Meg Merrilies, Thunberg, Madame C. Audiguier, Soleil Levant, and F. A. Davis. The last-named is a grand flower of a deep crimson marone colour; second, Mr. C. Fowler, gardener to E. N. Hall, Esq., Henfield; third, Mr. G. Duncan; fourth, Mr. W. Jupp. The best six incurved taking first place were those of Mr. C. Fowler. The varieties were Lord Wolseley, Princess of Wales, Prince Alfred, Mrs. Heale, Mrs. Shipman, and Lady Hardinge; second, Mr. J. Pannell, gardener to J. Macdonald Smith, Esq., Caterham Valley. Here we found Empress of India, Queen of England, Lord Wolseley, John Salter, Nil Desperandum, and Princess of Wales; third, Mr. F. Godby; fourth, Mr. G. Duncan.

For six reflexed, Mr. W. Jupp put up for a good first place Cullingfordi, shown as a brilliant self, Pink Christine, Cloth of Gold, Golden Christine, Chevalier Domage, and Mrs. Forsyth; second, Mr. G. Dowle, gardener to Rev. Heaver, New Brighton, with Golden Christine, Pink Christine, Mrs. Forsyth, Cloth of Gold, Cullingfordi (a rich self), and Peach Christine; third, Mr. Duncan; fourth, Mr. Gore. The best six anemone-flowered, taking first worthily, were from Mr. G. Ridout. They were Fabias de Maderanaz, Souvenir de l'Ardenne, Lady Margaret, Mrs. Pethers, Gluck, and Prince of Anemones. Mr. Woodfine made a good second with Mdlle. Cabrol, Fabias de Maderanaz, Margaret of York, Mrs. Pethers, Miss Margaret, and Lady Margaret. Third, Messrs. Drover; fourth, Mr. Duncan.

Pompons in threes, with foliage, made a feature that may be called useful, but we thought them scarcely good enough; indeed the "poms" are going down, for the trained specimens that gave so much delight in the days of Durnflet and Helene, Trevenna and Cedo Nulli are very conspicuous (in certain memories) by their absence from present exhibitions. But to return to the cut flowers. In the class for twelve triplets Mr. G. Duncan was first; Mr. J. Gore second; Mr. Russell third; Mr. H. Harris, gardener to Mrs. Eversfield, Horsham, fourth. In these and other lots we noticed the following as amongst the best for quality and distinctness: Mr. Astie, Miss Nightingale, Antonius, Rose Marguerite, Madame Montels, Madame Marthe, President, Prince of Orange, Golden Circle, Eugene Laujaulet, Regnlus, Golden Madame Marthe, Perle, and Defiance.

There was a good table of fruits and vegetables. We noticed some fine lots of cyclamens and primulas, some grand Muscats from Mr. Spottiswood, and Alnwick and Alicante grapes, remarkable for perfection of colour, from Mr. J. Hudson, of Gunnersbury. Mr. Balchin and Mr. H. Smythe, both nurserymen of Brighton, put up groups of plants and flowers not for competition, and there came from Messrs. W. and G. Drover a beautiful novelty labelled *Mrs. W. Mencke* It is a thread-petalled Japanese flower of a brilliant yellow colour, and, as shown, of fine quality.

PORTSMOUTH CHRYSANTHEMUM SHOW, November 11 and 12.

The second show of the Portsmouth Chrysanthemum Society was held in the Drill Hall, Alfred Road, Landport, on the dates named, and was a great success. Few societies there are that have such a position wherein to hold their autumn exhibitions as this one. Imagine a hall four times the size of the Kingston Drill Hall. Those of our readers who are acquainted with this latter place may form some idea as to the capacity of the hall at Portsmouth, so generously placed at the disposal of the committee. No place do we know where large vans can be driven into the hall, and the exhibits placed direct upon the tables without any long distance to carry the things. This is a great advantage to competitors, for this actually took place at this show. It is quite evident that a great spirit of emulation has set in among the gardeners, amateurs, and even cottagers in the neighbourhood of Portsmouth, judging from the keen competition and the interest taken in the Queen of Autumn. To encourage superior growth the committee offered a handsome challenge cup, value £25, with £6 added money, to be won twice. This brought forward seven competitors, whose stands of thirty-six blooms each made quite an imposing array. Half the flowers were to be incurved, and the remainder Japanese. In the whole show there were upwards of 1,550 cut blooms staged. Groups of chrysanthemums were staged in large numbers, for as many as fifteen competitors entered and staged. A great improvement was manifest over last year's show. Still much has to be learnt before they can be compared to metropolitan groups of the same flower. These remarks apply equally well to the specimen plants. Fruit and vegetables were good in quality, if not in large numbers, while smaller plants such as those used for table decoration, primulas, &c., were staged largely, and added to the attractions of the show. The committee display sound judgment in allowing visitors to view the show after five o'clock on the second day at the low charge of one penny each. As evidencing the wisdom of this step, £25 was taken between the hour named and nine p.m., thus adding to the receipts, and giving the poorer class of the town an opportunity of viewing the show.

Cut Blooms, as before stated, were staged in large numbers and of good quality. For the cup named previously, Mr. Molyneux, gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham, was a long way ahead of his opponents; his blooms were characterised by their usual clean finish, being solid and fresh, particularly the incurved specimens. The Japanese, though not extra large, were bright and fresh, the whole being admirably staged. The varieties named were, of Japanese—Madame C. Audiguier. Boule d'Or, Val d'Andorre, Comtesse de Beauregard, Thunberg (grand colour), Meg Merrilies, Fair Maid of Guernsey, M. Delaux, Mdlle. Lacroix, Margaret Marrouch, Maiden's Blush, L'Adorable, Grandiflorum, M. J. M. Pigmy, Martha Hardinge, Peter the Great, Japonnais, and M. Burnet. Of incurved the varieties were: Golden Empress, Princess of Wales, Emily Dale, Queen of England, Lord Alcester, Empress of India (very fine), Alfred Salter, Lord Wolseley, Jeanne d'Arc, Prince Alfred, Princess Teck, Mr. Howe, Princess Beatrice, Lady Hardinge, Baron Beust, Nonpareil, Mr. Brunlees, and Hero of Stoke Newington, Mr. W. Russell, gardener to Dr. C. F. Lecois, Lindfield, Sussex, for second place, staged smaller blooms in both sections, but they were of good quality. The best were: Madame C. Audiguier, Margaret Marrouch, Princess of Wales, and Jeanne d'Arc. Messrs. W. and G. Drover, nurserymen, Fareham, third, with good Japanese blooms, but the incurved were stale. Fourth prize was awarded to Mr. C. Penford, gardener to Sir F. Fitz-Wygram, Bart., Leigh Park, Havant.

Mr. Molyneux contributed the best twelve Japanese varieties with flowers similar to those in his cup stand; second, Mr. Woodfine, gardener to Captain Boyd, Havant, who had Dr. Masters and Baronne de Prailly in capital condition; Mr. C. Hoskins, gardener to J. Wilder, Esq., Stansted Park. Ewsworth, third.

For twelve incurved varieties Mr. Molyneux was an easy first, his blooms being of first-rate quality and remarkable for high finish. Empress of India, Lord Alcester, and Princess of Wales were some of the best. Mr. R. Woodfine followed with large blooms, but rather rough. Mr. W. Hawkins, gardener to J. Reynolds, Esq., was third.

Mr. Woodfine won first honours for twelve reflexed blooms with a large stand of excellent quality, Mr. Molyneux was a close second, and Mr. Russell, third. Mr. Penford staged the best twelve anemone-flowered, and fine they were of Lady Margaret, Empress, Gluck, and Georges Sand; Mr. Hoskins, second; and Mr. Roberts, gardener to E. R. Longcroft, Esq., third. Mr. Molyneux followed up his success by taking first honours for six Japanese anemones; particularly fine were his Fabias de Maderanaz; Messrs. Drover, second; Mr. Hoskins, third. Mr. Russell had the best stand of pompons, his best being Marabout and President; Mr. H. Snook, second; Mr. Hoskins, third. Rev. S. Wells, Havant, had the best blooms of incurved and Japanese in the amateur classes. Mr. Molyneux was awarded prizes for premier blooms both Japanese and incurved, the former Thunberg, and the latter Empress of India.

Groups of Chrysanthemums were staged by fifteen exhibitors, the best coming from the Portsmouth Asylum Committee, gardener, Mr. G. Kimber, whose plants bore good blooms, but were rather tall. Major Auld was second, his plants being likewise too tall, still they carried good blooms; Mr. C. H. Kingswell, gardener to Admiral Hopkins, was third; Mr. W. Yound, gardener to Lieut.-General Harwood, was fourth.

Mr. Penford had the best specimen plants, neatly trained, from three to four feet in diameter; Mr. W. G. Lambert was second with all natural-trained bushes.

Mr. W. Moseley, gardener to J. Taplin, Esq., Havant, had the best table plants, while Mr. Hoskins had the best primulas.

Mr. Penford staged the best black grapes; they were finely-coloured Alicantes. Mr. Chalk, gardener to J. Read, Esq., Salisbury, had the finest white grapes. The best apples were from Mr. S. Smith, gardener to Mrs. Learmonth, Havant, while Mr. Roberts was awarded first honours for pears, both staging fine produce.

TEDDINGTON CHRYSANTHEMUM SOCIETY, November 16 and 17.

This Society appears to be now established on a firm basis, and the fourth exhibition, held on Tuesday and Wednesday last, in the Parish Rooms, Teddington, showed an advance on those of previous years. Cut blooms were numerous, and on the whole, of high finish; indeed, inferior exhibits of any kind were few and far between. We must heartily congratulate the society on the progress it is making, and trust that it will continue to maintain its high position.

Cut Blooms were staged in surprisingly good condition. The winner of the challenge cup, value five guineas, offered for twelve incurved and twelve Japanese, was Mr. E. Coombs, gardener to W. Furze, Esq., Roselands, Teddington, who had fresh, well-developed flowers. The incurved comprised Empress of India, Jardin des Plantes, Baron Beust, Cherub, Princess of Wales, Lord Wolseley, Golden Empress of India, Prince Alfred, Barbara, Refulgens, Lady Hardinge, and Emily Dale. The Japanese were Madame C. Audiguier, Boule d'Or, Mr. J. Laing, L'Ebouriffe, Mons. Delaux, Mdlle. Lacroix, Sultan, Duchess of Albany, Mr. Doucet, Japonnais, Meg Merrilies, and Val d'Andorre; Mr. Lambert, gardener to W. Truefitt, Esq., Percy House, Teddington, came second; and Mr. T. Higginson, gardener to Major-General Vialls, C.B., Teddington House, Teddington, third. In the class for twenty-four, twelve incurved and twelve Japanese, the winner of the first prize was Mr. E. Coombs, who exhibited first-class flowers; the second prize went to Mr. J. Holmes, gardener to G. M. Storey, Esq., Balham; and the third award was made in favour of Mr. A. Holmes, gardener to A. B. Hill, Esq., Clapham Park; Mr. W. Davies, gardener to T. P. Chappell, Esq., Weir Bank, Teddington, fourth. For twelve incurved Mr. E. Coombs came to the fore with Empress of India, Lord Wolseley, Princess of Wales, Golden Empress of India, Prince of Wales, John Salter, Jardin des Plantes, Prince Alfred, Baron Beust, White Venus, Lady Hardinge, and Cherub; Mr. J. Holmes came second; and Mr. W. Woodward, Hampton Wick, third. In the class for six incurved, any variety, Mr. E. Watts, gardener to C. Denny, Esq., Norfolk Lodge, Teddington, was first with fresh, well-developed blooms of Prince Alfred; Mr. E. Coombs was second with John Salter; and Mr. W. Wilkes, who put up Lord Wolseley, was placed third.

Japanese were well represented, and in the class for twelve, Mr. E. Coombs

was to the front with fine flowers of Madame C. Audiguier, L'Ehouriffe, F. A. Davis, L'Adorable, Pelican, Mons. Delaux, Baronne de Prailly, Japonnais, Duchess of Albany, Sultan, and Val d'Andorre; Mr. W. Woodward, and Mr. J. T. Hoare, gardener to J. Clarke, Esq., Truelands, Now Hampton, were second and third respectively. In the class for six, Mr. E. Coombs was again the most successful, showing fine flowers of Madame C. Audiguier; Mr. F. Higginson exhibited the same variety, and was placed second; Mr. W. Davies third. There was good competition for six Japanese distinct, the first prize going to C. Futcher, Esq., Teddington, who had Madame C. Audiguier, Val d'Andorre, Sultan, Comte de Germiny, Meg Morrilios, and Boule d'Or.

Pompons and anemone-flowered were well shown, though this is not usually the case at local shows. Mr. E. Coombs was first for twelve bunches of pompons; Mr. H. Clinkaberry, gardener to F. Braby, Esq., Teddington, second; and Mr. J. T. Hoare third. The winner of the first prize in the class for twelve Japanese anemones was Mr. E. Coombs, who had a stand of fine blooms; and for twelve anemone-flowered, Mr. E. Coombs and Mr. T. Higginson were first and second respectively.

Groups formed a fine feature. Mr. W. Davies put up a most tasteful arrangement and was adjudged first place; the second prize going to Mr. J. Brittin, gardener to W. Briggs, Esq., Teddington; and the third to Mr. W. Cave, gardener to Mrs. Holberton, The Cedars, Teddington. In the class for a group of miscellaneous plants the premier award was made in favour of Mr. H. Clinkaberry. The principal prizetaker in the class for three trained specimens was Mr. T. Gregory, gardener to J. F. Weymouth, Esq., Bushy Nook, Teddington, who had creditable plants.

Vegetables and Fruit gave variety to the show. For a collection of vegetables Mr. J. Higginson was first, Mr. W. Cave second, and Mr. Hendry third. The other prizetakers were Messrs. W. Pain, T. Forrow, J. Hillier, J. Bartholomew, and C. Child.

The fruit comprised apples, pears, and grapes. For two bunches of grapes Mr. T. Gregory was first with Alicante; and in the class for a collection of fruit the prizetakers were Messrs. W. Davies, T. Gregory, and T. Higginson in the order of their names. In the classes for pears and apples the principal prizetakers were Messrs. H. Clinkaberry, G. Smith, H. E. Lambert, T. Higginson, and W. Davies.

Table decorations were arranged in an artistic manner with choice subjects, and in the classes devoted to these and bouquets there was sharp competition.

A first-class certificate was awarded to Mr. E. Coombs, gardener to W. Furze, Esq., for chrysanthemum *Amy Furze*, a reflexed variety of a blush-pink colour; this is a valuable addition to the class.

TWICKENHAM HORTICULTURAL SOCIETY, November 16 and 17.

The autumn exhibition, which was held in the Town Hall, Twickenham, on the above dates, compared favourably with previous efforts of the society. Chrysanthemums naturally formed the main feature, and these, on the whole, were shown to advantage. There was a good display of vegetables, which added greatly to the interest of the exhibition, and testified to the great skill brought to bear upon the cultivation of esculents in this neighbourhood.

Groups and Specimen Plants were arranged in the large hall, and although they were few in number, the plants were arranged with taste and effect. In the class for a group of chrysanthemums the first prize was taken by Mr. J. Street, gardener to the Dowager Lady Freake, and the second award was made in favour of Mr. J. Parsons, gardener to T. Twining, Esq.; the third place being occupied by Mr. J. Waldie, gardener to J. Bigwood, Esq. Groups of chrysanthemums and miscellaneous plants were contributed by Messrs. Hooper and Co., Twickenham; Mr. W. Poupart, Twickenham; Mr. R. Laing, Twickenham; and Mr. W. Gordon, Twickenham. Groups of cyclamens came from Mr. Walker, Whitton, and Mr. R. Clarke, Twickenham. In the class for six plants, incurved, the premier place was occupied by Mr. J. Attwood; the second prize going to Mr. W. H. Cowley. For a basket of plants the prizetakers were Mr. G. Filsell, gardener to J. R. Geaves, Esq., Mr. T. Buckland, gardener to G. J. Atkins, Esq., and Mr. J. Parsons, gardener to T. Twining, Esq., in the order of their names.

Cut Blooms were not numerous, but highly finished. In the class for twelve incurved varieties the first prize was awarded to Mr. J. Munro, gardener to E. D. Paul, Esq., who had Empress of India, Mr. Brunlees, Golden Empress of India, Lord Alcester, Lady Hardinge, Jeanne d'Arc, Empress Eugenie, Nil Desperandum, Barbara, Lady Talfourd, Cherub, and Eve. The second place was occupied by Mr. G. Morrell, gardener to Colonel Gossling Murray. There was also another class for twelve, and in this Mr. E. Coombs, gardener to W. Furze, Esq., came to the fore, putting up excellent flowers of Empress of India, Lord Wolseley, Golden Empress of India, Queen of England, Prince Alfred, Jardin des Plantes, Jeanne d'Aro, John Salter, White Venus, Baron Beust, Cherub, and Lady Hardinge; Mr. J. Munro came second; and Mr. G. Morrell third. There was good competition for twenty-four blooms, twelve incurved and twelve Japanese, the premier award being made in favour of Mr. J. Munro, who had for incurved: Cherub, Princess of Wales, Lord Wolseley, Empress of India, Nil Desperandum, Eve, Lady Hardinge, Lord Alcester, Mr. Brunlees, Jeanne d'Arc, Barbara, and Golden Empress of India. The Japanese comprised: Baronne de Prailly, Jeanne Delaux, Comtesse de Beauregard, Mdlle. Lacroix, Fair Maid of Guernsey, Boule d'Or, Madame C. Audiguier, Mr. John Laing, Mons. Burnet, Comte de Germiny, and Sultan. Mr. E. Coombs was a close second.

In the class for twelve Japanese Mr. J. Munro was to the front with fine blooms of Baronne de Prailly, Boule d'Or, Fair Maid of Guernsey, Marguerite Marrouch, Mons. Ardene, Comtesse de Beauregard, Comte de Germiny, and Jeanne Delaux; Mr. G. Morrell second. In the other class for twelve Japanese the prizetakers were Messrs. J. Munro, E. Coombs, and G. Morrell in the order of their names.

Mr. E. Coombs showed good flowers in the class for twelve anemone-flowered varieties, and was placed first; while in the class for twelve pompons the same exhibitor was also the most successful. A collection of forty-eight cut blooms, not for competition, was contributed by Mr. W. Bates, gardener to Mrs. Meek, Twickenham.

Fruit was well shown, Mr. Otto Hiehle, gardener to W. Cunard, Esq., coming first for a collection containing good clusters of Alnwick Seedling grape; the second award being made in favour of Mr. F. Wadham, gardener to Lady Alice Peek. For four dishes of pears the prizetakers were Mr. C. Garrod, gardener to J. R. Tindale, Esq., Mr. J. Davenport, gardener to Captain Webb, and Mr. G. Morrell in the order of their names. There was good competition in the class for four dishes of apples, the first prize going to Mr. F. Wadham, the second to Mr. J. Buckland, and the third to Mr. C. Garrod. The first prize for two bunches of black grapes was gained by Mr. Otto Hiehle with Alicante; the second award was made in favour of Mr. J. Street. Mr. W. Poupart showed a fine collection of apples.

Vegetables occupied considerable space, and in the class for a collection the premier award went to Mr. G. Garrod; the second prize going to Mr. J. Stroud; and the third to Mr. G. Morrell. The productions from cottagers were of great merit, and the splendid heads of celery from Mr. W. Poupart called for special mention.

PUTNEY CHRYSANTHEMUM SOCIETY, November 16 and 17.

From the first this ably-managed society has occupied a prominent position amongst kindred associations, and from the high character of its exhibition this season, and the great interest that is taken in its work, it is evident that it is well able to maintain the popularity it so deservedly enjoys. The show was, as in former years, held in the spacious Assembly Rooms, and bore a most favourable comparison with the best of the exhibitions previously held. All the available space in the rooms was fully occupied, and the productions were such as to do great credit to the cultural skill of those who took part in the competition for the prizes. Groups and trained specimens were both good; cut blooms were contributed in immense numbers; and fruits and vegetables were so plentiful and so high in quality, that they constituted two important features, and added much to the interest of the gathering. The arrangements were admirably carried out by Mr. J. Moore, the able secretary.

Cut Blooms were uniformly good, and represented the whole of the sections at their best. The first prize in the class for twenty-four incurved was awarded to Mr. Batten, gardener to A. Venables, Esq., Hollywood, Wimbledon, for a stand of neat and evenly-matched flowers. There was a sharp contest in the class for twelve incurved, and the premier award was made in favour of Sir G. Gabriel, Edgcumbe Hall, Wimbledon, who staged large and highly-finished blooms of Queen of England, Emily Dale, Lord Wolseley, Golden Eagle, John Salter, Lord Alcester, Mr. Brunlees, Hero of Stoke Newington, Princess of Teck, Barbara, and Empress of India; Mr. Sullivan, gardener to D. B. Chapman, Esq., Downshire House, Roehampton, and Mr. W. Smith, gardener to J. Schwann, Esq., Oakfield, Wimbledon, were second and third with highly-meritorious stands of blooms. In the open class for six incurved Mr. C. Knowles, Putney, was first with a capital stand, containing a very fine bloom of Empress of India, which was selected for the prize offered for the best incurved flower in the exhibition; Mr. J. Bentley and Mr. J. Carter, Wimbledon, were second and third. In the limited class for twelve incurved Mr. Carter was first with a stand of great excellence. For six incurved Mr. G. Toppin, Mr. Maskell, and Mr. G. Walter were the prizetakers. In competition for the prizes for six blooms of any one variety, incurved, the prizes were awarded to Mr. J. Batten, Mr. Stevens, and Mr. J. Bentley, all of whom presented Princess of Wales, the blooms in the first prize stand being exceptionally well coloured.

To the class for twenty-four Japanese varieties Mr. Sullivan contributed a collection of large and brightly-coloured flowers, for which he received the premier award. In the stand was a very fine flower of Boule d'Or, for which Mr. Sullivan was awarded the prize offered for the best bloom in the exhibition. Mr. Batten was second for twenty-four with a capital collection. The class for twelve was well filled, and the first place was occupied by Mr. W. Smith, with splendidly-developed blooms of Japonnais, Val d'Andorre, Madame C. Audiguier, Criterion, Mdlle. Lacroix, John Laing, Soleil Levant, Marguerite Marrouch, Bronze Dragon, Mons. Burnet, Comtesse de Beauregard, and Mons. Astorg. The second and third prizes were awarded to Mr. J. Bentley and Mr. J. C. Grant, Wimbledon, both of whom presented capital blooms. In the remaining classes for Japanese varieties Mr. J. Carter, Mr. Toppin, Mr. Richardson, and Mr. Sullivan may be mentioned as the most successful.

Pompons were largely shown, and reflexed and anemone-flowered varieties were well represented. For six large anemones Mr. Sullivan was successful in taking the first place, and Mr. Batten was second. Mr. Sullivan was first also for six Japanese anemones, staging a good stand, in which was an exceptionally fine bloom of Emperor. The first prize stand of reflexed flowers was shown by Mr. G. Stevens, St. John's Nursery, Putney. Pompons were represented by seven or eight stands of twelve, the best being those from Mr. C. Woodhams, Mr. J. Moore, Richmond Road Nursery, Putney, and Mr. J. Smollett. In competition for the special prize for six blooms each of Martha Harding and Maiden's Blush, Mr. J. Moore was first with blooms of high quality, and Mr. T. Sadler, gardener to C. Lambert, Esq., Streatham, was second.

Groups have from a very early period in the history of the society formed an important part of the Putney shows, and on this occasion they were fully equal to the high average of previous years. The contest for first place was very close between Mr. C. Knowles, gardener to Mrs. Egerton, Solna, Putney, and Mr. Nevill, gardener to Sir E. Saunders, Wimbledon Common, and in the result the premier award was made in favour of the first-mentioned. Mr. Nevill was second, and Mr. J. Batten third. The prizes for groups of miscellaneous plants, which were offered by Mr. Pitt, were awarded to Mr. J. Bentley, Mr. A. Methven, and Mr. J. Burnett, Tudor Lodge, Wimbledon.

Specimen Chrysanthemums were well represented both in point of numbers and quality, and, arranged to flank the orchestra, were singularly effective. Mr. J. Bentley was especially successful in the plant classes, taking five or six firsts with specimens of great excellence. Mr. C. Knowles, Mr. J. Moore, Mr. Elliott, Mr. Toppin, Mr. Richardson, and Mr. Pepper also exhibited well in this division.

Miscellaneous Plants were well provided for, and were well shown. The prizes for fine foliage plants were awarded to Mr. A. Methven and Mr. Woodhams; for ferns to Messrs. J. Bentley, Carter, and Nevill; for zonal pelargoniums, to Messrs. Woodhams and Smollett; for berry-bearing plants, to Messrs. Nevill and Elliott; and for six primulas, to Messrs. Nevill, Burnett, and Woodham.

Floral Decorations were numerous and remarkably tasteful. For wreaths, Messrs. Mahood and Sons and Mr. J. Moore were first and second with beautiful arrangements. The prizes for bouquets of chrysanthemums were awarded to Mr. Fanning, Mr. J. Moore, and Mr. G. Lacey; and for bouquets of miscellaneous flowers, to Mr. G. Stevens, Mr. G. Lacey, and Mr. Heading. The best vase of chrysanthemums was that from Mr. J. Moore.

Fruit comprised grapes, apples, and pears, and was good throughout. The most successful exhibitors of grapes were Messrs. W. Smith, Knowles, and Batten; of apples, Messrs. J. Coombes, Batten, Smollett, and Heading; and of pears, Messrs. Alexander, Woodhams, and Coombes.

The judges were Messrs. J. Wright, G. Gordon, and C. Orchard.

WINCHESTER CHRYSANTHEMUM SHOW.

The Winchester Horticultural Society held its autumn show of chrysanthemums, fruit, &c., in the Guildhall, under most favourable circumstances, on November 16 and 17. This is more than can be said of many societies that have held their shows of late, and the committee are to be congratulated on the fine display brought together on this occasion, as well as for the general effect of the whole arrangements, which was good in every way. The Guildhall did, indeed, look beautiful, adorned with the Queen of autumn flowers.

PLANTS.—In the principal class, that for a collection of chrysanthemums grown in pots, and arranged in a space eight feet by six feet, quality of bloom and general effect to be the leading feature, Mr. A. Prouting, gardener to Miss Butler, St. Thomas Street, Winchester, was deservedly awarded the first prize for a very meritorious group of plants of medium height, fresh in foliage, and with good blooms; Mr. F. Lowns, gardener to F. C. Birch, Esq., Clovelly, Winchester, Mr. T. Munt, and Mr. George Milden followed in the order given, all showing well. In the prizes given by R. Moss, Esq., for six plants, single stems, distinct varieties, Mr. Joy, nurseryman, Shirley, Southampton, was awarded the first post for a very fine lot of plants as follows: Fair Maid of Guernsey, Dr. Sharpe, Mr. Forsyth, Golden Christine, and Peter the Great; Mr. E. Wills, gardener to Mrs. Pearce, The Firs, Basset, was a good second, his best plants being Golden and Pink Christine; Mr. Astridge had third place with much smaller plants; and for a like number of Japanese varieties, the prizes offered by F. W. Flight, Esq., there were but two entries, and the first prize was awarded to Mr. E. Wills for a very good lot of plants, Hiver Fleur, M. Astorg, Madame B. Rendatler, La Nymphe, Triomphe du Nord, and Parasol; Mr. E. Astridge was awarded third for smaller plants. For six plants, open to residents within five miles of Winchester, Mr. J. Warham, gardener to Mrs. T. Gunner, Heathfield, was awarded first place with Fair Maid of Guernsey, Madame B. Rendatler, Dr. Sharpe, &c.; Mr. A. Prouting, gardener to Miss Butler, St. Thomas Street, and Mr. E. Astridge were second and third respectively. In each of the classes for a single specimen incurved, and the other a Japanese, Messrs. Joy, Wills, and Astridge occupied first, second, and third respectively.

CUT FLOWERS were, on the whole, above the average, and especially good were the first prize lots in nearly all the classes, Mr. Molyneux being in strong force, winning firsts in every class for chrysanthemums where he entered. We append the names for the benefit of those who may be endeavouring to follow in his footsteps. In the class for twenty-four blooms, eight Japanese and sixteen incurved or reflexed, Mr. Molyneux, gardener to W. H. Myers, Esq., Swanmore Park, Bishops Waltham, was an easy first, having Madame C. Audiguier, Thunberg, Baronne de Prailly, Japonnais, Meg Merrilies (very fine), Val d'Andorre (sport, of a much lighter colour), Maiden's Blush, Boule d'Or, Lord Alcester, Lady Carey, Golden Empress, Alfred Salter, Princess of Wales, Empress of India, Mr. Brunlees, Queen of England, Lord Wolseley, Princess Teck, Hero of Stoke Newington, Jeanne d'Arc, Mr. Howe, Empress Eugenie, and Nonpareil. Mr. Neville, gardener to F. W. Flight, Esq., was second, having a seedling of Mr. Laing's, a Japanese with white curly fluted florets named Mrs. J. Wright (a promising variety), also good blooms of Jeanne Delaux, Nil Desperandum, and Cullingfordi; third, Mr. E. Wills. In a corresponding class for twenty-four blooms, in no less than eighteen varieties, Mr. Molyneux was again first, showing, in fine style, Meg Merrilies, Thunberg, Maiden's Blush, Comtesse de Beauregard, Val d'Andorre, Boule d'Or, M. J. Pigmy, Madame C. Audiguier, Lord Alcester, Empress of India, Queen of England, Golden Empress, Princess Teck, Nonpareil, Princess of Wales, Hero of Stoke Newington, Lady Carey, Jeanne d'Arc, Princess of Wales, and Hero of Stoke Newington. Mr. W. Bowerman, gardener to Charles Hoare, Esq., Hackwood Park, was second, having Belle Paule, Empress of India, and Alfred Salter (good); and Mr. Neville third. For twelve incurved, distinct, Mr. Molyneux was again to the fore, showing Empress of India, Golden Empress, Lord Alcester, Queen of England, Lord Wolseley, Jeanne d'Arc, Hero of Stoke Newington, Mrs. Heale, Princess of Wales, Nonpareil, Princess Teck, and Lady Hardinge. Mr. Jennings and Mr. Neville were second and third respectively; and for a like number of Japanese, distinct, Mr. Molyneux was again to the front, having Madame C. Audiguier, Meg Merrilies, Boule d'Or, Fair Maid of Guernsey, Japonnais, Baronne de Prailly, M. J. Pigmy, Mons. Delaux, Mdlle. Lacroix, L'Adorable, M. Burnet, and Thunberg. Mr. Wills was second, and Mr. Neville third, having a good bloom of a seedling No. 12, somewhat resembling Agrements de la Nature. For twelve reflexed blooms, no less than eight varieties, Mr. Molyneux was first, showing Pink Christine (two blooms), Mdlle. Madeleine Tezier, King of the Crimsons, Golden Christine (two blooms), Cullingfordi (two blooms), Mrs. Forsyth (two), Cloth of Gold, and Distinction. Mr. Neville followed closely, and Mr. E. Wills was awarded the third prize. For a like number of anemone-flowered, in the same number of varieties, Mr. Molyneux was again awarded the highest honours for good blooms of Fabias de Maderanaz, Mdlle. Cabrol, Souvenir de L'Ardenne, Alveole, M. Bertie Pigmy, Fleur do Marie, Lady Marguerite, and others. Messrs. Wills and Neville followed as given, and for twelve cut blooms, in no less than eight varieties, Mr. Trinder, gardener to Sir H. Mildmay, Bart., Dogmersfield Park, was a good first, having Soleil Levant, Belle Paule, Emily Dale, and Queen of England.

In the class for twelve blooms, open to members who had never won a prize in the open classes at any exhibition, Mr. Milden, gardener to Mrs. Turner, Kingsworthy, was awarded first honours, and Mr. W. Warham was placed second, there being but two entries. For twelve bunches of pompons, three in a bunch, Mr. Neville was in the premier position, showing La Purité, Mustapha, Rubra perfecta, Black Douglas, Golden Marabout, President, Madame Martbe, and others. Mr. Wills and Mr. Tinder followed. In the amateur classes for twelve blooms Messrs. E. Flight, Batten, and Colston were the most successful.

FRUIT.—The show of fruit was in every way good, and in some of the classes the competition very close. For three bunches of grapes in three distinct varieties, Mr. Thos. Weaver, gardener to W. W. B. Hoare, Esq., Hackwood Park, was placed first with Lady Downes, Muscat of Alexandria, and Alicante. Messrs. Molyneux and Warden followed. The length of time the latter two lots had been cut was all against them. For two bunches of black grapes, Mr. Molyneux was first with handsome bunches of Gros Guillaume. Messrs. Bowerman and Warden followed with Alicante. The heaviest bunch came from Mr. Molyneux; it was Gros Guillaume. In the classes provided for dessert apples, three dishes, Mr. Tinder was the most successful, showing Con's Orange Pippin, King of the Pippins, and Blenheim Orange. Mr. Thos. Weaver and Mr. Noah Killer were second and third respectfully. And for kitchen varieties, Mr. Tinder was again to the front, having Lord Derby, Mère de Menage, and Blenheim Orange, good. Mr. E. Astridge and Mr. Neville followed. Mr. Tinder was first for pears, showing Duchesse d'Angoulême, Pitmaston Duchess, and Beurré Bosc.

MISCELLANEOUS.—For a group of miscellaneous plants arranged for effect, Mr. J. Axford, gardener to C. M. Shipley, Esq., Twyford Moors, was first with a very effective group. Mr. Neville and Mr. Munt followed. For four plants suitable for dinner table, Mr. Molyneux was first; Mr. Wills and Mr. Warham followed. And for six primulas, Messrs. Neville, Munt, and Lowns were the successful competitors. Mr. E. Hillier, nurseryman and seedsman, Winchester, had about seventy varieties of apples on show, grown in his nurseries at Winchester; and Mr. W. Colchester, Ipswich, had some samples of his chemical manures on view.

WALTON AND WEYBRIDGE CHRYSANTHEMUM SOCIETY'S SHOW.

This show took place on October 11, when the best collection of plants and cut blooms this Society has yet had in its twelve years' existence was got together. Owing to the wet weather the show was open on the second day, but even with this it can scarcely be called a success from a financial point of view. The whole of the exhibits were good, but in no case were they of exceptional excellence, and the only novelty was a class for blooms shown with not less than a foot of stem and foliage above the box. Below is a list of awards:

LARGE FLOWERING VARIETIES.—Six plants distinct, dwarf-trained: Reed, 1; Plowman, 2; Reeves, 3. Three plants distinct, dwarf-trained; F. Cawte, 1; Hopkins, 2. Four Standards: Cawte, 1; Millican, 2; Plowman, 3. Two Standards: Doyle, 2 (only award). Two Pyramids: Plowman, 1; Millican, 2; Cawte, 3. Single specimen, dwarf-trained: Cawte, 1; Reed, 2; Millican, 3.

POMPONS.—Four plants, dwarf-trained: Plowman, 1; Reed, 2; Millican, 3. Four Standards: Plowman, 1; Millican, 2. Two Pyramids: Plowman, 1; Millican, 2; Reed, 3. Single specimen, dwarf-trained: Plowman, 1; Reed, 2; Millican, 3.

CUT BLOOMS.—Open class—twenty-four incurved: Carpenter, 1; Plowman, 2; Gardener, 3. Twenty-four incurved: Plowman, 1; Carpenter, 2; Harvey, 3. Twelve incurved: Thorne, 1; Doyle, 2; Quarterman, 3. Twelve reflexed: Carpenter, 1; Plowman, 2; Millican, 3. Twenty-four Japanese: Carpenter, 1; Plowman, 2; Harvey, 3. Twelve Japanese: Reeves, 1; Quarterman, 2; Doyle, 3. Twelve anemones: Carpenter, 1; Plowman, 2; Millican, 3. Twelve pompons: Plowman, 1; Millican, 2; Reed, 3. Twelve anemone pompons: Plowman, 1; Millican, 2; Doyle, 3.

SPECIAL PRIZES.—Two untrained, large-flowering plants, worked: Millican, 1. Group of six plants, untrained: Hopkins, 1; Reed, 2; Reeves, 3. Two standard Japanese: Reed, 1; Millican, 2; Doyle, 3. Group 4 ft. by 3 ft.: Reeves, 1; Hopkins, 2; Reed, 3. Twelve blooms, on stems not less than twelve inches long: Gardener, 1; Millican, 2; Reeves, 3. Floral ornament for dinner-table: Millican, 1; Plowman, 2. Six blooms, one variety, incurved: Doyle, 1; Carpenter, 2; Reeves, 3. Six primulas: Harvey, 1: Doyle, 2; Gardener, 3. Six Japanese anemones: Carpenter, 1; Plowman, 2. Six blooms, Japanese: Carpenter, 1; Doyle, 2; Reeves, 3. Floral ornament for drawing-room: Miss M. Lavers Smith, 1; Mrs. Wardle, 2; Miss F. Boxall, 3. Hand bouquet: Millican, 1; Carpenter, 2; Doyle, 3. Nine decorative plants for dinner-table: Harvey, 1; Reed, 2; Gardener, 3.

The judges were: Mr. Woodgate, of Combe Warren; Mr. Foster, of Esher; and Mr. Orchard, of Kingston Hill.

Obituary.

ON the 8th inst., at his residence 46, Springfield Road, London, N.W., THOMAS GIBBS, of Down Street, Piccadilly, London, W., and late of Halfmoon Street, London, W., head of the firm of Thomas Gibbs and Co., seedsmen by Royal warrant to her Majesty the Queen, and by appointment, April 3, 1844, to the Royal Agricultural Society of England, aged 58 years. The business will be carried on by Mr. Arthur Gibbs, only son of the deceased.

ON the 12th inst., at Greenhithe, GEORGE J. VULLIAMY, superintending architect to the Metropolitan Board of Works, aged 69.

ON the 13th instant, at Ixelles, M. CONSTANTIN BERNARD, President of the Royal Linnæan Society of Brussels, Minister of Agriculture and Public Works, Officer of the Order of Leopold of the Legion of Honour, and Chevalier of the Lion of the Netherlands, aged 45 years. His remains were interred on the 16th, in the Church of the Holy Cross, Ixelles.

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D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. Morn.	Moon. Sets. After.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
28	S	**1st Sunday in Advent.**	7 40	11 49	3 55	9 52	6 39	3 12	3 33	0 16	0 37	41·4	Limatodes rosea	Brazil.	332
29	M	La Plata foundered, 1874.	7 42	11 28	3 55	10 39	7 36	3 53	4 12	0 58	1 18	41·4	Limatodes rosea alba	Brazil.	333
30	Tu	St. Andrew.	7 44	11 7	3 54	11 19	8 36	4 31	4 51	1 37	1 56	41·3	Odontoglossum maculatum	Guatemala.	334
		DECEMBER.													
1	W	Princess of Wales born, 1844.	7 43	10 44	3 53	11 52	9 39	5 9	5 30	2 16	2 34	41·3	Odontoglossum membranaceum.	Guatemala.	335
2	Th	Queen Adelaide died, 1849.	7 47	10 21	3 52	After.	10 41	5 51	6 14	2 55	3 16	41·3	Oncidium varicosum	Brazil.	336
3	F	☽ First Quarter, 2h. 25m. after.	7 48	9 57	3 52	0 40	11 44	6 39	7 4	3 39	4 4	41·3	Sophronites cornua	Rio.	337
4	S	Pretender at Derby, 1743.	7 49	9 33	3 51	1 8	Morn.	7 31	8 1	4 29	4 56	41·3	Sophronites violacea	Rio.	338

Exhibitions and Meetings for the Ensuing Week.

WEDNESDAY, DECEMBER 1.—TAOCASTER CHRYSANTHEMUM SOCIETY.—Annual Exhibition.

Auction Sales for the Ensuing Week.

MONDAY, NOVEMBER 29.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Dutch Bulbs.

MONDAY, NOVEMBER 29.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs and 3,000 Lilium auratum.

TUESDAY, NOVEMBER 30.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

TUESDAY, NOVEMBER 30.—Messrs. Protheroe and Morris, at the City Auction Rooms; Azaleas, Roses, &c.

WEDNESDAY, DECEMBER 1.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; 5,000 Lilium auratum from Japan, Dutch Bulbs, Roses, &c.

WEDNESDAY, DECEMBER 1.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Plants, Roses, Bulbs, &c.

WEDNESDAY, DECEMBER 1.—Messrs. Protheroe and Morris, at the Pine Apple Nursery, Edgware Road; Specimen Plants from the Colonial Exhibition, and other Stock. (Two days.)

THURSDAY AND SATURDAY, DECEMBER 2 AND 4.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.

FRIDAY, DECEMBER 3.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

SATURDAY, DECEMBER 4.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Dutch Bulbs, &c.

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*** THE DOUBLE CHRISTMAS NUMBER OF THE GARDENERS' MAGAZINE will be published on Saturday, December 18. It will consist of two sheets of histories, essays, and sketches, freely illustrated, and a Horticultural Almanac for the year 1887. The price will be 6d. Amongst the contents will be papers on the Yucca in Garden Scenery; The True Story of Merlin, the Magician; A History of the Blue Rose; John Kyrle, the Man of Ross; Jacob's Rod, and its wondrous Works in Modern Times; An Interview with a Prodigal Son; The Origin of Robert Burns's "Tam O'Shanter"; A Fern Hunt and a Narrow Escape; Rational Rhymes; &c., &c.

*** THE GARDEN ORACLE for 1887 will be published immediately in the usual form, price 1s. It will contain a new Catalogue of Florists' Auriculas, enlarged and corrected to the present time, and comprising a considerable number of varieties hitherto undescribed. The lists of plants figured; of new plants, flowers, fruits, and vegetables; and the selections for 1887, will be on the models that have met with approval in the twenty-eight previous years of the successive and successful publications of this work. This twenty-ninth issue of the *Garden Oracle* places every novelty in its true position in respect of certificates and other honours, and clearly indicates those that are most to be desired for home use and for exhibition.

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The Gardeners' Magazine.

SATURDAY, NOVEMBER 27, 1886.

MESSRS. SUTTON AND SONS' EXPERIMENTS IN RAISING HYBRID POTATOES are altogether worthy of the position long since acquired by the firm in the distribution of improved varieties for garden cultivation. The object has been to establish a new race possessing the qualities that are most desired in respect of productiveness, high specific gravity, and agreeable flavour; but, above all, freedom from liability to disease. It cannot be said that these ends have been accomplished, for the simple reason that the endeavour is of recent date, and time is an important element in any such undertaking. But substantial progress may be reported; the first chapters of the story read well, and whatever the ultimate results may be, it is clear that the experiment is not only full of promise, but has in some degree attained to definite results already.

In our issue for November 7, 1885, we gave an account of the proceedings up to that date, and the report was based on the assumption that *Solanum maglia*, otherwise known as "Darwins' Potato," had been the subject of the experiments. It now appears that what was regarded as S. maglia was the true *S. tuberosum*, and the discovery of the error gives a new and peculiar interest to the story. The origin of the error is not of great consequence, but was probably due to the displacement of a label at Kew, and the rectification is not of great consequence either, and is perhaps more of academical than practical importance. But, as it is always better to be right than wrong, we are bound to say we find a certain satisfaction, perhaps of a purely sentimental kind, in learning that the supposed maglia was the true tuberosum, because we are thus taken to what we believe to be the wildest of the wild forms of the plant, and the book history is not in the least disturbed. That maglia is a geographical form of tuberosum is too probable to be a matter of question for the present, and it will suffice then to understand that the savage of the mountains, and not the half-civilised descendant of the plains, has been operated on; and if there is any special virtue in "savage," or "wild," or "aboriginal" blood, Messrs. Sutton have secured that virtue and incorporated it in their several seedlings. It may not be strictly proper to call them "hybrids," but that also is more of an academical than a practical question, and as the term is at once convenient and sufficiently understood, we intend, when it may appear necessary, to speak of Messrs. Suttons' new acquisitions as *Hybrid Potatoes*.

The world is not levelled and carpeted for any one in particular, and so, in the initiation of the proceedings at Reading, an apparently insuperable difficulty occurred. The savage would not mate as was desired with a civilised companion; in other words, there appeared for a time no prospect of obtaining hybrids. After many endeavours had failed, a few flowers were fertilised with pollen from one of Mr. Fenn's seedlings originally named *Antagonist*, but now known as *Sir Charles Douglas*.

The harvest for the year 1884, when the experiments commenced, consisted of three "apples" or "plums" filled with seeds. From these, in the year 1885, twenty-eight plants were obtained, from which tubers were derived as set forth in the table at page 702 of our last issue. It will be seen that in this first cross some promising things were secured, for No. 17, that produced only a fraction over one pound and a-half of tubers the first year (1885), produced from that weight of sets 122½ lb. the second year (1886). A study of the table will prove entertaining to all who are interested in this subject, and it is, moreover, full of instruction. It will be seen that three of the whole number of 28 seedlings became extinct in the second year, while some few others were so unproductive as to be *prima facie*—worthless.

The second series of crosses was effected, in 1885, by means of pollen derived from *Sutton's Reading Russet*, *Paterson's Victoria*, and *Walker's Regent*. In the year 1886, the seeds thus secured produced of the Russet twenty-three plants; of the Victoria, seven plants; and of the Regent, only one. We are not counting the seeds at the time of sowing, but at the time of lifting; and the table at page 702 gives the results of the first year's growth of these crosses, varying from a quarter of an ounce (¼ oz.) to five pounds and fifteen ounces (5lb. 15 oz.) of tubers. It is a matter of special interest to note the prominent position of Mr. Fenn's seedlings as parents. It must be noted also that in a total of seven from the pollen of Victoria, no less than four were in the first season highly productive, the crop of No. 27 reaching five pounds eight and a-quarter ounces (5 lb. 8¼ oz.), the highest from Reading Russet being nearly seven ounces in excess of that figure.

"What sort of things are they?" the reader may be inclined to ask. A good general answer would be that they are very like

potatoes. The wild tuberosum is of a dull purple-red colour, a fact that tells (hypothetically) in favour of red potatoes as deserving of more respect than they commonly obtain. In form it varies from long to round, with all possible changes between. Of the true "kidney" shape, such as a judge of potatoes would distinguish from "long" or "half long," it is quite difficult to find examples; but it would be an easy matter to select from almost any of the seedlings, as also from the pure stock, long and round sufficiently distinct in form to ensure by cultivation separate "stocks" as the result of the selection. On that point it seems impossible to dwell with any advantage, for it is well known that a considerable proportion of our cultivated potatoes, whatever the character that may be considered necessary in any particular instance, do vary considerably from that character, so that it would often be an easy matter to establish stocks of two or three different forms. In this kind of variation the cultivated potato maintains in an honourable manner a characteristic of its ancestral savagery.

Another point, however, of perhaps deeper interest is forced upon our attention in the samples displayed by Messrs. Sutton. We will take one series only, those of 1885, bred from Antagonist, which is a long white—say, a white kidney—and add that in colour it is very white; there is not even such a suspicion of red as in Snowflake. Now, through the whole series of twenty-eight seedlings raised from Tuberosum by the pollen of Antagonist, the red colour prevails, though in varying degrees. We fail to find one that is so white as the male parent; but a few are as white as snowflake, while the majority are of the deep dull purple-red of the seed parent, or mottled and shaded sufficiently to show that, in respect of colour, the female influence has predominated. The settled rules of hybridising and cross breeding require the selection of the male plant for colour and the female for form. We note this in passing only, and refrain from saying that the case before us throws any light upon the rule cited. The rule of the florists applies to the production of flowers chiefly, and it will be seen that hybridism, as exemplified in underground root stems or "tubers," may belong to a quite different order of analogies. However, to conclude this paragraph, we repeat that in all the seedlings, thirty-four in number, red predominates, and the fact may have a meaning touching the future of the cultivated potato.

Finally, as to the sort of things they are apart from scientific, and within view of commercial considerations? A fair proportion are shapely and, indeed, handsome; and the bulk is generally of fair size. We seem to be within measurable distance not only of the new race of potatos that has long been desired as progeny of the wild plant; but they make a good promise of being useful to mankind, and in that sense commercially valuable. For the rest we must wait. There is a great purgation needed, and we do not fear it will be boldly accomplished. And then will follow the trial culture of the finally selected, while concurrently, we hope, crosses will be effected with other pollen parents than those employed thus far; and, in fact, crosses of many kinds, with Tuberosum for a performer on one side or the other. From year to year the best will pass through the sieve that Time keeps ever in action, and if we obtain but one good thing out of fifty, or a hundred, or a thousand seedlings that make a reasonable promise, the labour will be compensated in the resultant benefit to mankind. Who shall estimate the value in this sense of such varieties as Champion and Magnum Bonum? A moment's reflection on the position of such in the business of the world will amply justify the remark of one who, when lately speaking on the subject, said the four hundred carat diamond was nothing as compared with one Magnum Bonum potato; and that in potatoes at large there was more money than in orchids, or diamonds, or than half a dozen gold mines, whether in their actual or potential product.

SOLANUM MAGLIA is as proper an entity now as when Darwin met with it on the Chonos Archipelago. It may be regarded as the damp-climate form of Solanum tuberosum. At page 285 of the second edition of "Journal of Researches," published 1845, Darwin says: "The wild potato grows on these islands in great abundance, on the sandy, shelly soil near the sea beach. The tallest plant was four feet in height. The tubers were generally small, but I found one, of an oval shape, two inches in diameter; they resembled in every respect, and had the same smell as, English potatoes, but when boiled they shrunk much, and were watery and insipid, without any bitter taste. They are undoubtedly here indigenous: they grow as far south, according to Mr. Low, as lat. 50 deg., and are called Aquinas by the wild Indians of that part: the Chilotan Indians have a different name for them. Professor Henslow, who has examined the dried specimens which I brought home, says they are the same with those described by Mr. Sabine from Valparaiso—[*Hort. Trans.* p. 219]—but that they form a variety which, by some botanists, has been considered specifically distinct. It is remarkable that the same plant should be found on the sterile mountains of Central Chile, where a drop of rain does not fall for more than six months, and within the damp forests of those southern islands." We have not seen any characters that suffice to establish specific distinctness between S. tuberosum and S. maglia. The botanists attach some importance to a difference in the number of folioles, but cultivators are so accustomed to variations of that kind as to be quite unaffected by them in their estimation of specific and varietal distinctions.

NATIONAL CHRYSANTHEMUM SOCIETY.—A meeting of the general committee will be held at the Old Four Swans, Bishopsgate Street, on Monday next, at 7 p.m.

ONOSMA BRACTEATA is a fine plant now flowering at Kew. The leafage is downy, the flowers of a rich rose or crimson colour: quite a beauty.

MR. HARRY J. VEITCH has been elected treasurer of the Gardeners' Royal Benevolent Institution in the room of Mr. E. Tidswell, who has resigned.

THE CITY DIARY for 1887 is the first book of its class to appear on our desk, and the best we can do for it is to let it remain there for daily use, for it is the handiest desk diary in the market, and comes in good time for entry of appointments for next year.

FALMOUTH has thoroughly enjoyed the Royal Cornwall Polytechnic Chrysanthemum Show, and the report sums up results as a great success. It is now decided that the show shall be an annual affair, and we wish our friends at Falmouth many happy returns.

PORTSMOUTH REPORT is in error as regards the second prize in class for challenge cup. The second place was taken by Mr. M. Russell, gardener to Dr. C. F. Lewis, Henfield. Our report puts it down to another Mr. Russell.

LEEK AURICULA SOCIETY.—At the annual general meeting held November 16, it was resolved to hold the second exhibition April 30, 1887. The proceeds, after expenses are defrayed, will be devoted to the funds of the Leek Cottage Hospital. The honorary secretary is Mr. H. W. Nixon, Leek.

PORTSMOUTH CHRYSANTHEMUM SHOW.—In class 1, best group of 50 feet, first, Portsmouth Asylum Committee; second, W. H. Fry, Esq., Gosport. Class 2, best group of 20 feet, first, Major Auld, Southsea; second, Mr. S. R. Ings, Landport. Mr. H. Gale, gardener to W. H. Fry, Esq., sends note of correction, but strange to say, his note does not in all things agree with a portion of official report that he sends to confirm it.

KINGSTON CHRYSANTHEMUM SOCIETY held its annual dinner at the Sun Hotel, on Tuesday evening, and the gathering proved not less successful than the exhibition held a fortnight previously. The chair was occupied by the Mayor of Kingston, president of the society. There was a large muster of the members and their friends, and in the course of the after-dinner proceedings the services rendered by Mr. T. Jackson, the hon. secretary, and other members of the executive in bringing the society to the high position it now occupies, were fittingly acknowledged.

HULL CHRYSANTHEMUM SHOW, as stated in our report, proved one of the most brilliant successes of the year, the financial results being especially satisfactory. The visitors during the two days closely approached ten thousand, but that number would have been exceeded had it not been necessary to close the doors early in the evening of the second day in consequence of the over-crowded state of the Artillery Barracks, which is not only the largest available building in Hull, but is one of the largest buildings that has yet been devoted to an exhibition of chrysanthemums.

THE IMPERIAL INSTITUTE is to stand on its own feet for the advantage of the colonies, and in commemoration of the Queen's Jubilee. We are, therefore, delivered from the fear that prevailed that it would be planted on the used-up exhibition at South Kensington, which, for a time at least, it was contemplated to re-open next year. It is far better the series of exhibitions should close with a brilliant success, leaving the ground entirely clear for the Imperial Institute, than that there should be any hash-up or mixture of the thing we have had enough of with the thing we know nothing about. It appears to be determined and clearly understood that the Colonial and Indian Exhibition has come to an end, and few perhaps will remember it with any feeling but one of satisfaction, for in itself it was magnificent, and in its results it has already proved immensely beneficial.

MOSS-COVERED STONES

WHEN pieces of stone, especially sandstone, are used about a garden for the shelter or general good of plants, they will be found in some situations to be completely coated with beautifully bright green moss. Having at Oakwood a long mound in full view of the cottage windows, on which mound it was desirable to put some stone to prevent the soil washing away from the plants, I collected moss-covered pieces of stone, and sunk them about half their depth in the soil. The moss, though dried up in summer, has become again bright green, so that in place of bare stones we have quite a pretty object to look at, when flowers are almost over. It is possible that this may give a hint useful to some of your readers. GEORGE F. WILSON.

Heatherbank, Weybridge Heath.

CHRYSANTHEMUM ECHOES.

"The First Chrysanthemum" is the title of an article in last week's *Garden*, and an interesting one it is. Mr. Burbidge has a pet theory that the old purple chrysanthemum, the first ever introduced into Europe, has never been lost, as is commonly supposed, but that our well-known reflexed flower, Dr. Sharpe, is one and the same thing. Mr. Burbidge having forwarded some blooms of Dr. Sharpe to the *Garden* for comparison with the coloured engraving of the old purple published ninety years ago in the *Botanical Magazine*, the writer of that article informs us that "the coloured drawing and the living flowers are so much alike in every way that there is no doubt that Dr. Sharpe is the identical sort which was flowered by Mr. Colvill just ninety-two years ago." Now it often happens that when a person employs the expressions "there is no doubt," or "doubtless," a contrary meaning is the actual fact.

I need not say that I was startled at reading so bold a statement, and the very first thing that escaped my lips was the rather vulgar exclamation, "Bosh!" Dr. Sharpe is one of my greatest favourites, and a flower that I have grown for four years in succession, so that I ought at least to have some idea of what the bloom is really like. In a very few minutes down came my illustration of the old purple; and having two plants of Dr. Sharpe in the open and one in the greenhouse, they were all made the subject of a long and careful scrutiny with the plate of the old purple in hand. I was really anxious to be able to recall the hasty ejaculation which my first feelings of astonishment called forth; but after spending at least three-quarters of an hour in the comparison of my plants with the engraving referred to, I could only come to the conclusion that they were totally dissimilar.

The old purple chrysanthemum, as represented in the engraving in my collection, is of a dull purple-brown colour. Dr. Sharpe is, as all the world knows, of a bright magenta. The first-named flower was admirably depicted by Mr. Curtis, because he gives us an illustration of a bud just opening, another in a state of semi-expansion, and lastly the flower in full bloom. It is in the second one only that there is any resemblance to Dr. Sharpe, for there we find the florets tubular almost to the extremity, as is the case with Dr. Sharpe, but when we look at the full-blown flower, those florets have assumed a perfectly flat appearance, excepting a few of the centre ones, which are not fully out. The open flower, looking at it full-faced, is a flat, ragged bloom. Dr. Sharpe, on the other hand, when viewed in the same way is a perfectly circular one, gradually building up to a half globe. In addition to that the bud of the old purple, which is only half blown, is quite unlike a bud of Dr. Sharpe in that stage. The latter, immediately it throws back its outer florets, describes a circle no larger than when it is fully expanded.

I next sought for corroboration in a feature that seems to have escaped the attention of the writer of the paper on "The First Chrysanthemum"—the foliage. Here, indeed, was a striking contradiction. That of Dr. Sharpe is far too blunt and coarse to resemble that of the old purple, which I carefully compared with almost every plant in my collection; the one that nearest approaches it being the leaves of Julie Lagravère, a flower so well known, that when I say the colour of that charming little reflexed treasure is more like the old purple than anything with which I am acquainted, every reader of this will be enabled to form some opinion of what I mean, although it is only proper to add that there the similarity ends.

I sincerely wish that some of the very old sorts could be discovered. Not long ago King of Crimsons was lost or supposed to be, but it turned up again, having been carefully preserved far away in the country. This year the old Temple of Solomon has been found, and one or two others which were once popular varieties. I have often thought that it would be a most appropriate thing to celebrate the centenary of the importation of the Chinese chrysanthemum into Europe by exhibiting as many of the original varieties as could be collected together between now and the date of the annual exhibition of the N.C.S. in 1889. There are many of our first-class growers who would be pleased to grow them for that purpose, and we might have a silver medal offered for the best collection of cut blooms raised or imported upwards of fifty years ago. I fancy a lot of the new ones would have to take a back seat after that.

Chrysanthemum Monographicum is the title of a leader in a contemporary the week before last, with which the compiler of this column cordially agrees and would willingly lend support in any shape or form within his power. Why can we not have a special monthly or quarterly magazine devoted exclusively to the chrysanthemum. Times are hard, money is scarce, trade is depressed, but surely if some enterprising firm of publishers were to start a periodical of this nature, it would be a remunerative concern. Although there is perhaps no other "democratic flower" like the chrysanthemum, a large number of the upper ten thousand appreciate it, and if there are, as is stated, 100,000 really enthusiastic chrysanthemum growers in the kingdom, a good profit would probably be the result of such a venture.

Something of this kind was suggested by me two years ago to the General Committee of the N. C. S., but the work undertaken by that society is already very considerable, and for the present it seems to me to be an undertaking hardly within the scope of their operations. They have plenty of willing workers, but there is quite sufficient for them to do, and they are honestly doing their utmost to merit the position the society has taken.

Personally I should be pleased to see a handsomely printed monograph of the chrysanthemum published. It might be produced in good style for about ten to fifteen shillings a copy. The size would have to be imperial quarto at least, so that beautifully executed chromolithograph portraits of old and new chrysanthemums could be produced full size. Photogravure would also faithfully represent those in black and white. Artistic head and tail pieces might be employed, and choice initial letters for the commencement of each chapter would go a long way in rendering the monograph a *grande édition de luxe*. Enterprising publishers will please take a note of this suggestion, and enter my name on the list as the first subscriber to such a work.

C. Harman Payne.

Agave Salmdycki is advancing into flower in the succulent house at Kew. The flower spike is now about five feet in length, and appears as a bright green rod.

ORCHIDS IN FLOWER.

The gaiety of the houses depends now on the extent of the stocks of a few of the more useful subjects, for the orchids in flower are not many, but such as we have may be repeated with advantage, for some good things do not fully display their beauty in small isolated examples. The cheapest and best known of the cypripediums, for example, make a grand show when a broad bold bank of plants confronts us, but the common white calanthe tells better when dotted about, for in its way it is loud, while in its way the cypripedium is quiet, and gains by the masses of its leafage as much as by multiplication of its quiet but most lovely flowers.

Cypripediums now flowering include the ever-precious *Cypripedium insigne*, a most proper plant to grow in quantity; the noble *C. Spicerianum* is also in perfection; *C. calurum* has not run its race; and *C. Schlimi* is in passable condition. But the curtain is coming down on the ladies' slippers, and we shall not see many of them for some time.

Calanthes are in fair force. The useful *Calanthe veratrifolia* shows its pure white heads of blooms over a basis of bold leafage. The merry little *C. vestita* is superbly perfect; the same must be said of *C. Veitchi* and *C. Williamsi*. The varieties of C. vestita are in the category of useful things, and every amateur should secure at least two of them, namely, *luteo-oculata* and *rubro-oculata*, to make an agreeable diversion from the self-white of the species.

Miltonias show a few flowers, such as *Miltonia spectabilis*, with solemn purple flowers; *M. Regnelli*, pinky-rosy; and *M. festiva* the flowers in pairs. But the season is over and they make no show.

Lælias are not in force, but they command attention. *Lælia autumnalis* continues to show magnificent masses of its splendid flowers. *L. anceps* is in perfection of colour. With a few such plants the interest is kept up admirably. *Cattleya labiata* shows its cheerful flowers; one can never tire of such a thing.

Cœlogynes include a few good subjects, *C. Wallichi* being one of the best now for its fresh and delicate colouring. *C. fuscescens* is one of the finest, and is delightful now. *C. Gardeneriana* and the famous *C. cristata* will be showing their flowers shortly.

Vandas of the arborescent class are quiet enough now, but *V. Batemani* might be reported as in flower, for it is scarcely past. *V. Hookeriana* also has been very beautiful, but the freshness is gone. *V. lamellata Boxalli* is fine, the colouring very rich. The best of all for the season is the delicate *V. cærulea*, the exact colour of which very much depends on the heat in which it is grown. In a temperature that suits other vandas this refuses to put on its best blue tone; to obtain that, the plant must be cooler.

Sophronitis must be properly recognized as a winter-flowering genus. *S. grandiflora* is now in full colour, fresh and refreshing, its full scarlet being unique amongst orchids. *S. coccinea*, *S. cernua*, and *S. violacea* are all good in their way, but the first on the list is the leader, and is quite indispensable.

Oncids are quite in the winter list, especially such of them as flower at any and every time. We have now nice spikes on *Oncidium varicosum*, and its noble form *O. Rogersi*, and indeed this is the season for them. *O. cheirophorum*, though not showy, is a good plant now in exhibition condition. *O. Jonesianum* is a scarce species of most lovely character now in the height of its unique beauty. *O. leucochilum* is erratic in flowering, and as we have it now, we note is as one of the good things for the coolhouse.

Masdevallias are of great importance to give colour and character with the special interest that attaches to unwonted forms. We are enjoying a good bloom of *Masdevallia ignea*, *M. Veitchiana*, *M. chelsoni*, and *M. tovarensis*; others we should like to have being out of flower. We shall soon have *M. Schlimi*, *M. triangularis*, and *M. Wallisi* in full beauty.

CHRYSANTHEMUM CULTURE UNDER DIFFICULTIES.

One of the greatest successes in the cultivation of the chrysanthemum under difficulties that has yet come under my notice is that achieved by Mr. Brailsford at the exhibition held at Lincoln the other day. I have not forgotten the high degree of success which was achieved some years since by the amateur cultivators at the exhibition of the now defunct Woolwich Chrysanthemum Society, and I now mention it for the purpose of saying that the efforts of the Woolwich growers have been put quite in the shade. The latter exhibited year after year specimens so large that the ends of their greenhouses had to be removed to admit of their removal. But they had gardens in which to grow their plants, and they moreover had only to compete amongst themselves for the prizes offered. This advantage Mr. Brailsford, who resides in the centre of the city of Lincoln, does not enjoy, for he has not a scrap of garden ground, and to grow chrysanthemums in the rear of his premises is practically impossible. He moreover competed, not only with amateurs, but in the open classes, and against both amateurs and gardeners he was equally successful, as proved by the fact that in the whole of the plant classes in which he entered he obtained the first place, and in several of the classes for cut blooms he was remarkably successful. The specimens staged were all good, some being especially so, and amongst them was an immense example of Mrs. George Rundle bearing not less than two hundred finely-developed flowers. If Mr. Brailsford has no garden, and a yard in which it is not practicable to grow chrysanthemums, it might well be asked, Where does he grow his plants? With reference to this point, I was informed by Dr. G. M. Lowe, one of the honorary secretaries of the Lincoln Chrysanthemum Society, that Mr. Brailsford fitted up platforms on the top of several of the outhouses at the back of his house, and on one he had erected a glass house in which to place the plants when the season was so far advanced that it was no longer safe to expose them to the weather. Those who have had experience in the cultivation of these moisture-loving plants will fully appreciate the immense amount of labour that must have been expended upon the plants, for to keep well supplied with water a large stock occupying a position on a platform raised twenty feet or so above the ground level, must have been no light task. The plants were so well finished, both in leafage and flowers, that on a critical inspection it was difficult to believe that they had not been grown under the most favourable circumstances. It was certainly impossible to have feelings otherwise than of the highest admiration for the perseverance and skill by which such marvellous results have been obtained.

George Gordon.

"PROOF MAKES FAITH."—If for fifty years an article has been known, used, and appreciated by the public; it is *proof* of their confidence in, and preference for, its good quality and value. For nearly half a century Horniman's Pure Tea has been known to tea-drinkers, and gained their preference and esteem, because it is exceedingly strong, *has a rich and delicious flavour*, and is free from the injurious mineral facing powder (*Prussian blue, gypsum, and plumbago*) used by the Chinese to palm off inferior brown leaves to injury of consumers.—The price is printed on each packet of Horniman's Tea, and appointed agents (*Chemists and others*) sell it in all parts of the country. See agents' names advertised in all papers and at the Railway Stations.—[Advt.

SWEET POTATO IN THE WEST INDIES.

THE sweet potato (*Batatas edulis*) is, according to the *European Mail*, the main food crop at Barbadoes, where the yam is little known, whereas at Jamaica the converse is the case, the yam (*Dioscorea*) being very largely grown all through the interior hills, while the cultivation of the sweet potato is confined to a few places in the lowlands. The following information was obtained by the editor of the *European Mail* from Mr. D. Morris, late Director of the Public Gardens, Jamaica, and now of the Royal Gardens, Kew. Since the large emigration of negroes to the Isthmus of Panama there has arisen a considerable trade in yams between Jamaica and Colon, to the manifest advantage, in present cash returns, of the former country. Unfortunately, the cultivation of yams entails the cutting down of forest year by year, as good yams seldom do well in the manner cultivated at Jamaica, except by the "rotation of land"—a peculiar negro mode of interpreting the European idea of "rotation of crops." Hence it is not very desirable, from a general economic point of view, to extend or encourage the cultivation of yams. With the sweet potato, however, it is different. This can be grown without the sacrifice year by year of valuable virgin forest, and it is, in many respects, a crop well adapted to all the lowlands, not only of Jamaica, but also of the West Indies generally.

Besides being utilised directly for food purposes, it would appear that a new demand is likely to arise for the tubers of the sweet potato in connection with the production of alcohol. The first notice of the sweet potato being utilised in this manner appeared in a report to the Foreign Office given by Consul Hertslet on the trade and commerce of the Azores for the year 1884.

Owing to a variety of causes, it appears that cultivators of St. Michael's and other islands of the Azores, who had hitherto looked upon oranges as their staple production, were so disheartened by low prices and the diminished crops yielded by their trees, that they resolved to clear their land of everything and plant it afresh with sweet potatoes. The whole of the crop thus raised was used in the preparation of alcohol. During the year 1884, 1,826 pipes of alcohol, of the value of £40,518, made from sweet potatoes, were exported from the Azores to Lisbon, and, subsequently, the trade assumed still larger proportions.

Encouraged by the success of the enterprise at the Azores, it appears that a French chemist, Monsieur A. Ralu, having much experience in chemistry, as connected with distillation, and possessing extensive relations with the West Indies (Martinique), has taken out patents: (1) For utilising as a commercial and industrial substance sweet potatoes and yams, by means of desiccation and conversion into flour; and (2) for distilling alcohol from the above flour.

In relation to the ordinary or Irish potatoes, white beetroot, and maize flour, sweet potatoes possess an alcoholic richness of 15·50 per cent., as compared with 8 and 9 per cent. of the Irish potato, and 4 and 5 per cent. in the beetroot. The value of raw sweet potato for distillation, and its superiority, both as to quantity and quality, over other substances, has been for some time known and recognised. The difficulty has been in extracting the alcohol on the spot; added to this, there is the danger attending its exportation, for it is impossible to prevent leakage, and the vapour of alcohol at 95 deg. Fahr. in hot climates is said to be inflammable. Alcohol, therefore, is assumed to be a dangerous cargo. As alcohol cannot, it is supposed, be made on the spot and exported to Europe, Mons. Ralu's patents aim at the preparation of sweet potato flour in the West Indies, from which afterwards the alcohol may be distilled and utilised in Europe.

As already noted, one establishment for distilling alcohol from raw sweet potato exists at the Azores, and since it began work it is said to have doubled its plant, and all the alcohol it produces is sold in advance at Lisbon, where it is used for the fortification of wines. M. Ralu says: "The alcohol of which we have specimens is superior in quality to the best marks of France. The distillery obtains 12 per cent. (*i.e.*, 12 litres of alcohol at 100 degrees per 100 kilog. of sweet potato) of alcohol. We have experimented with the sweet potato of Algeria. They give 13 4·10 litres of alcohol per 100 kilog. The sweet potato of Martinique and Brazil have given 15 litres. There is here, therefore, a very rich material for distillation. Ordinary potatoes yield only 3 litres of alcohol per 100 kilog."

The objects sought by M. Ralu's patent involve the extensive cultivation of the sweet potato in the West Indian Islands, its desiccation by means of fruit driers, its reduction into a meal, and its export to Europe, where an almost unlimited demand exists for sweet potato meal for distilling purposes. The alcoholic richness of the sweet potato is shown by the following Table:—

	Francs.	Litres.
Wheat	19·75 to 21·50	28 to 30
Rye	15·50 to 16·25	22 to 23
Barley	17·75 to 20·00	24 to 25
Oats	17·25 to 19·50	20 to 21
Buckwheat	16·00 to 17·00	24 to 24
Maize	14·00 to 14·50	28 to 30
Rice	18·00 to 19·00	32 to 33
Sweet potato flour	14·00 to 15·00	38 to 39

Maize, it will be seen, is the only cereal which is as cheap as the potato flour, but it requires 324 kilog. (714 lbs.) of maize to make one hectolitre (22 gallons) of pure alcohol, whilst it requires only 235 kilog. (519 lbs.) of the flour to make the same amount of alcohol. There is a great saving of time and combustibles when distilling from the flour, as compared with the maize. Alcohol from maize costs 10 francs per hectolitre more to make, and when made sells at from 8 to 10 francs less than the alcohol made from the sweet potato flour.

The sweet potato at present cultivated in Jamaica is mostly intermingled with other plants in the provision grounds of the negroes. Hardly any is cultivated by Europeans. No definite area is returned as exclusively devoted to this cultivation, and no returns of yield per acre are available from authentic sources. A negro in the same ground will have yam (Dioscorea), corn (maize), sugar cane, and possibly, also, two or three other plants, such as bananas, plantains, cocos (Colocasia).

Sweet potatoes thrive best in rich friable soil free from clay.

At the foot of the Liguanea hills, and, indeed, in most localities with the soil indicated above, they are found to thrive. They are easily propagated by slips or portions of the stem planted in rows or in hills. The roots come to maturity in three or four months, and the cultivation is continued by covering up the stems when digging up the more perfect roots for use. The crop comes in practically all the year round. There is no regular season for it, and hence it can be best harvested by examining the state of the roots, and taking out those that are found perfectly ripe. The crop may be gathered at least three or four times in the year, but as to the amount or value of each cropping no data are immediately available.

If the cultivation were undertaken by sugar planters, and large areas were planted with sweet potatoes, there is little doubt that in Jamaica they might be grown as advantageously and as successfully as anywhere.

STOVE AND GREENHOUSE PLANTS.

THE houses are decidedly dull, but in the stove are a few showy subjects that suggest that even now life is worth living—that is if one has a respectable garden that rises above the level of cabbages. As for these last, they make life bearable when properly cooked and respectably accompanied. But cauliflowers are better than cabbages, and some other flowers are, to the yearning spirit, better even than these. However, we may be content to record now what we can find in the way of plants in flower under glass, premising here, in the lump, that our chrysanthemums are still glorious, but in the way of massive colouring we have nothing else, for the zonals are having a rest, the bouvardias are not quite up to the mark, and the subjects in the forcing pit are not yet in colour. Poinsettias are, of course, splendid, but one does not want these in masses. The specimens cannot, indeed, be too large, for there is nothing in the way of bold colouring to surpass fine specimens of this gorgeously-coloured winter flowering plant, but one does not want to see a lot of it; whereas one can comfortably endure a lot of zonals or a lot of mums, and a sufficient reason perhaps is to be found in their endless variety of colouring.

HYPOXIS PANNOSA has been flowering for some time past. It is not worth much, but every plant is worth something. It is very leafy, the flowers are yellow; there is not much show in the affair, but one cannot ignore it.

CYRTANTHUS is a genus of amaryllids at present but little known; Herbert gave special attention to them, and has left a valuable record. *Cyrtanthus hybrida*, with showy flowers pale salmon red; and *C. Macki*, with long tubed white flowers are now in condition, and quite worthy of a note.

BEGONIAS may be said to be always in season. The best now is *Begonia socotrana*, a fine plant with distinct characters. It is not adapted for cool culture, but short of that is a plant for everybody.

STROBILANTHES is a genus of acanthaceous plants. The best known of this genus is *Strobilanthes lactatus*, syn. *Ruellia grandis* (*B.M.*, 4,366), with prettily variegated leaves and pale blue flowers. *S. Sabiniana* is a fine plant, native of Nepaul, and one of Dr. Wallich's introductions. This has a free, rustic leafage, and large lilac-tinted flowers in prolonged racemes. (*B M.*, 3,517) *S. sessilis* may be regarded as a lost Pleiad, but is worth keeping for its fine bell-shaped flowers delicately coloured rose and blue, and compelling one to make a momentary guess that it must be a gentian. Now we have *S. coloratus*, a nice plant with pale blue flowers that make a pleasing diversion amidst lively begonias and gorgeous poinsettias.

OXALIS does not make a great figure amongst stove plants, but those now flowering are delicate beauties. The species now flowering in the stove are *Oxalis Barrelieri*, with flowers pale red; *O. fruticosa*, yellow; *O. Plumieri*, yellow; and *O. ortgesi*. The last is a most distinct and interesting plant, of treelike growth, the leafage like that of a tree pæony fined down to microscopic proportions, the flowers in neat clusters, clear yellow.

APHELANDRA gives many good plants for the stove. *Aphelandra acutifolia* gives fine clusters of deep-red flowers of the proper acanthus pattern, quite a grand plant of its class. The old *A. cristata* is still worth growing as a distinct and showy plant, very Justicia-like. *A. aurantica* is in the same way, but more dazzling, and has a grand style of growth. *A. Liboniana* is a giant of its family, and somewhat bromeliaceous-looking when its great spike of flowers appears. *A. bullata* surpasses all in brilliancy; the plant is neat in growth, the flowers are fiery scarlet, and it seems to beckon one from any part of the house, however distant.

BROMELIADS that show flowers now are particularly useful. *Pitcairnea Australis* gives delightful scarlet flowers; *Tillandsia brachystachys*, red and yellow in perfection now, and the best of the batch for an amateur's select collection; *T. conferta*, is like it; ditto *T. psittacina*; and half-a-dozen more might be found if they were wanted. *Æchmea calyculata*, with yellow flowers and red bracts is now in perfection.

DRACÆNAS of the coloured leaf section are particularly useful now to give masses of relieving colour. Amongst our most effective kinds now in perfection mention must be made of *D. Frederici* and *D. Gladstonei*, the first the more brilliant of the two, the latter being heavier in colour and a more massive plant. They are two of the best amongst hundreds, a large proportion of which, however, are now nearly forgotten, for there came forth too large a draught of those fine fishes.

BERTOLONIAS are such lovely little pets that their smallness shall not keep them out of this category. For leaf plants the large *Bertolonia guttata* is the best, and perhaps the favourite. It is superbly figured in Hibberd's "Beautiful Leaved Plants." *B. maculata* (B.M., 4,551) is another rare beauty, with very distinct character. *B. marmorata*, *B. primulæflora*, and *B. superbissima* are as useful for their flowers as for their leaves. A few *Sonerilas* and *Gravesias* will be wanted to make up a collection for a bijou corner of the stove.

CLIVIA for practical purposes is the same as IMANTOPHYLLUM, and we record here that *Clivia Gardeni* is a noble amaryllid adapted for specimen culture and well suited for lighting up the darker places in the stove for the shade of palms and other leaf plants does not harm it. Though a greenhouse plant, it likes a warmish place, and is quite a handsome thing when not in flower. It is very much better than B.M., 4,895 might suggest; its orange-tubed green-tipped flowers being quite effective.

MR. S. TAYLOR has been engaged as gardener to the Bishop of Gloucester and Bristol, Palace Gardens, Gloucester.

"THE APPLE AND PEAR AS VINTAGE FRUITS" is the title of a neat octavo volume just received from Messrs. Jakeman and Carver. It was projected and in part prepared by the late Dr. H. G. Bull, of Hereford, and has been completed by Dr. Robert Hogg, who has added technical descriptions of the fruits referred to for vineyard purposes. We shall have to look inside it, and report on the contents, and must be content for the present with this brief announcement of its appearance.

BELLICIDE OR DAISY ERADICATOR.

At last we have what promises to be a valuable help to the gardener in the way of destroying objectionable weeds on lawns. One rarely sees a lawn free from weeds, and in some cases they have so gained an ascendancy that they spoil the effect of the grass plat, which, to be perfect as can be desired, should be entirely free from weeds. At great cost of time and labour, women and children have been set to work to clear the lawn of them, but it is done in most cases in a perfunctory manner, only to be followed in course of time by an equally profuse growth. What has been required is a rapid and efficacious exterminator, easily applied, and inexpensive in the matter of price. This is found in a preparation made by Messrs. Hurst and Son, wholesale seedsmen, of 152, Houndsditch, E.C., and designated "Bellicide." In these respects it has a great advantage over Watson's lawn sand. When visiting Mr. Nat. Sherwood, at Dunedin, Streatham Hill, during the past summer, I saw where the Bellicide had been extensively applied and the entire destruction of daisies, plaintains, &c., had resulted; and instead of the grass round where the weeds had been growing looking impoverished, there was a most luxuriant growth, and I was informed by Mr. Sherwood that the preparation, in addition to destroying the weeds, fertilized and stimulated the growth of the grass. During July and August it was largely applied by my neighbour, Mr. John Roberts, to the lawns at Gunnersbury Park, Acton, with the most satisfactory results. I saw where it had been widely employed, both in shady and open sunny positions, and with the best results, completely destroying leaves and stalks of the daisies and other weeds. In the process of destruction the grass about the weeds became a little discoloured, but, owing to the presence in the preparation of fertilizing properties, a luxuriant growth almost immediately followed, and the freshened appearance of the lawn was, as Mr. Roberts described it, "truly astonishing." I advised Mr. Robert Greenfield, the head gardener at the Priory, Warwick, to try it, knowing that he was troubled with a growth of weeds on his lawn, and he reports that he experimented at different times, and each time with the same successful results. It completely kills daisies, plantains, dandelions, &c., while at the same time it acts as a renovator to the grass, as the latter grows vigorously after the application of the bellicide. I find it most effectual when applied in moist weather. From Mr. G. Bloxham, the Gardens, Brickhill Manor, Bletchley, comes an equally satisfactory statement, especially in relation to the destruction of moss on paths that are sunless and damp. It has been tried at various other places, and in all cases with the most satisfactory results, and I am certain that it is a real "gardeners' friend." The preparation is in the form of a fine powder, and it is applied by means of a dredger, which is sent with each parcel. It is necessary to distribute it evenly over the plant. In the case of large and vigorous-leaved weeds, like plantains, &c., it is best to cut away the tufts of leaves with the knife, and then apply the bellicide direct to the stem. It may be necessary to apply three or four dressings, but in the end the weed succumbs. It is best to apply the bellicide during moist weather, but if it be in a time of drought, the grass about the space where the preparation has been applied should be watered after the expiration of five or six days. It can be used at any time between March and April; it should be kept dry; it does no harm to birds; there is no objectionable smell, and it will keep for any length of time. I am so satisfied with what I have seen of its effectual operation where applied, that I have every confidence in recommending it for general use. R. Dean.

CHRYSANTHEMUMS FOR THE CONSERVATORY.

By J. C. Clarke.

While admitting that young plants grown singly in sufficiently large pots will produce the largest flowers, many years' experience in growing them for conservatory decoration convinces me that larger plants than can be obtained from one-year old plants are sometimes desirable. In saying this I wish it to be understood that I am referring to those cases where large spaces have to be filled. Where only a limited number of plants are required, I should certainly prefer young ones, and in every case the number of young plants should exceed old ones. But a few large plants are so useful to make a show, and can be obtained without expending an excessive amount of labour in training, that I look upon them with much favour, especially where labour is scarce, and the space to fill up considerable. To form large specimens for next year I prefer one-year old plants that have been grown in eight-inch pots. When they go out of flower they should be cut down, and the plants kept through the winter in a cold pit or frame, or in some other structure where they will be safe from severe frost without being exposed to a temperature much above that outside. The object to be aimed at is to keep them as much at rest as possible without being exposed to the inclemency of the weather in the open. In this condition they should remain until the middle of next April, when about two-thirds of the old soil must be shaken away from the roots, and be repotted again in the pots in which they are to flower. We use 14-inch pots, and they are none too large to sustain a vigorous growth. Any loose roots should be cut away before they are repotted, and they should have the protection of a frame until the middle of May.

In regard to soil we use good loam and sand only. A fair sprinkle of the latter serves to keep it healthy; but our loam is of a fibrous nature, and keeps pretty well open without any lighter material. Where the loam is not well furnished with fibre it is desirable to add one-fourth of leaf soil. A fairly open compost should be made firm round the roots from the bottom to the top of the pot. While the plants are in the frame the lights should be pulled off on warm days, as the more air the plants obtain, without being exposed to cold wind or frost, the more satisfactory will the growth be. If they are previously well hardened they may be removed from the frame to the open about the middle of May.

Early in June they should be looked over, and where there are too many stems some of them must be cut out down close to the soil. Those of the type of Mrs. G. Rundle should have about twelve stems left to each. Those which produce larger flowers, such as Mrs. Heale, Empress of India, and blooms of that class, should not have more than eight stems, and, as a matter of course, the weakest should be cut out. Those that are left may then be cut down to fairly hard wood, and this is the only time they should be stopped. As soon as they require it a sufficient number of stakes must be put to each to afford them support.

I allow the plants to grow erect until the flower buds are quite prominent; the tops of the shoots are then bent over, so that, after allowing a few inches for the points to rise again, the plants vary in height from 2½ feet to 3½ feet above the pot. We grow for these specimens the reflexed and incurved varieties chiefly, but a few of the Japanese submit to this system of culture in a satisfactory manner, especially such sorts as Peter the Great and Gloire de France.

If the object is to obtain the largest flowers in as large numbers as they can be had with the least amount of trouble, I can confidently recommend the following plan, assuming, as a matter of course, that the plants will be skilfully treated through all stages of growth: Early in February insert five cuttings of each sort in a four-inch pot, and get the plants rooted on a gentle bottom heat. When they have sufficient roots to bear removal, they must be taken to the greenhouse, and allowed to remain there for a few weeks. While there any that have made sufficient growth may have the points taken off. About the middle of April they must be put into seven-inch pots, putting four plants close to the outside, and one in the middle. After this a well-protected cold pit or frame will do for them until the end of May, when they may be taken to their summer quarters.

How often they will require stopping must depend on the strength of the growth, but it is quite safe to stop all the strongest growers up to the middle of June, and at that time they must be put into the pots in which they are to flower. The strongest growers should occupy 14-inch pots, and the others 12-inch. The system of training should be the same for these as for the others, but the less done in the way of training the better. Supports they must have, and most of them will require to have the points tied down once or twice. But the more natural the plants can be made to look, the more suitable they will be for the purpose.

I need not dwell at any length on other details of culture, because it is well known that chrysanthemums require assiduous attention, especially in regard to watering. Excessive dryness at the roots will do serious mischief, and so will too much root moisture. The skilful grower will, therefore, aim at the happy medium of giving them just enough, and then he will get plenty of healthy foliage, and flowers too. Regular doses of weak manure water will do good after the pots have got fairly full of roots, and a tablespoonful of some concentrated manure given to each as soon as the flower buds are visible will assist them to develop larger flowers.

THE ZYGOPETALUMS.

By James Douglas.

This genus of orchids was founded by Sir W. Hooker about the year 1827; on the introduction of that useful, free-growing, free-flowering species Z. Mackayi, which was grown and flowered by Mr. Mackay, of the Dublin College Botanic Garden, by whom it was imported from Brazil. It was figured and described in the Bot. Mag. tab. 2748 as *Zygopetalon Mackaii*. It is a plant that should be grown in every collection of stove plants; the bold, massive foliage, and stout, erect flower spikes well furnished with its peculiar sweetly perfumed flowers, the most attractive part of which is the white, blue-veined lip. It is now to be seen in flower, and well grown too, in some old gardens. This is one of the plants that grow remarkably well in Mr. Borwick's garden at Higham Hill, treated with fish manure. The plants succeed well with a good body of turfy peat to grow in.

Z. Maxillare is an old, popular, and beautiful species, which has been in cultivation for half a-century. It was found by Mr. Gardner on the Organ Mountains, and always growing on the stems of tree ferns; hence it was named, by Sir W. Hooker, the Tree Fern Zygopetalon; it has been found in its native forests with a rhizoma six feet in length, clasping tightly the stems of the ferns on which it is found. I saw it growing with great vigour in the St. Albans Nursery of Messrs. Sander, clasping the living stems of the Tree Ferns. It grows equally well on dead stems, but must be regularly supplied with water. Mr. B. S. Williams states, in the Orchid Grower's Manual, that he has had this species with seventy flowers on a plant, and says it will do well on a raft or in a basket. The richly coloured lip of a purplish-blue colour is the most attractive part of the flower.

Z. Crinitum is also a very handsome species, and takes very kindly to pot culture, and in the usual peat and sphagnum mixture, with a plentiful supply of water at the roots when growing. The spikes begin to show with the young growths soon after the new year, and the flowers are expanded before the pseudo-bulbs are quite up to their full development. This is another plant that may find a place in any collection of stove plants where the temperature is about 55 deg. in winter as a minimum. The flowers are produced in the spring months, and two spikes are produced from every vigorous bulb.

Z. intermedium Lindley is considered to be the finest, but the true plant became confounded with Z. Mackayi in collections, from which it is

distinguished by its downy labellum. It was recognized by Dr. Lindley as the Z. velutinum of Count Hoffmannsegg. It flowers in the autumn months, and lasts a long time in good condition.

Z. Burkei is a very distinct and pretty species, which was well figured in the Orchid Album from a specimen which flowered with Messrs. Veitch, of Chelsea, in November, 1883. It is readily distinguished by its white lip, the crest prettily marked with crimson lines.

Z. Gautieri is a new plant honoured with specific distinction; the flowers are very richly coloured, and vary considerably in the intensity of the purplish-blue tint upon the labellum. It is really too nearly allied to Z. maxillare to be recognized as a distinct species, and like that plant it is found in its native country creeping up the stems of Tree Ferns. It succeeds with exactly the same treatment as Z. maxillare in cultivation. There is a good plate of a very handsome variety in the Orchid Album, plate 28.

There are two hybrid forms in the trade. A very beautiful one is that raised by Colonel Clay, of Birkenhead, the result of a cross between Z. crinitum and Z. maxillare. This was introduced by B. S. Williams, of Holloway. Another very fine thing is *Z. Sedeni*, raised in Messrs. Veitch's nursery, Chelsea; by crossing Z. maxillare and Z. Mackayi. They are both free growing plants, and are very handsome. We are likely soon to have a numerous family of hybrid Zygopetalums. Mr. Cookson, of Oakwood, Wylam-on-Tyne, has raised a large number. When I paid him a visit in the spring, he showed me boxes and pans containing scores of plants where they had been pricked out like seedling carnations, and were growing quite as freely. Mr. Cookson, who can speak with some confidence on seedling raising, always recommends the beginner to take the first step by hybridizing Zygopetalums. The results so far as they have been yet made public are highly satisfactory.

What a change! Since October, 1856, when the late Mr. James Veitch, of Chelsea, showed the first hybrid orchid that flowered in England to Dr. Lindley, who exclaimed on seeing it, "You will drive the botanists mad." And Mr. James Bateman, commenting on Mr. Veitch's paper at the Orchid conference, said "You must make a little allowance for a botanist, for hybridizers do give botanists a lot of trouble." If botanists work themselves into a fever, and perhaps go mad, it will be their own fault. The object the hybridists have in view is to raise new and beautiful flowers for their own gratification and that of their friends; and botanists need not trouble themselves with them unless they like. As a matter of fact there is no real difficulty. If a new orchid is raised by hybridizing, a place has always been found for it. When a new species has been discovered, imported, and flowered in this country, the same process has to be gone through. In the forest primeval, the insects amuse themselves in the same way that the hybridist does here. The result has been nearly 350 genera, and species innumerable. Hooker and Bentham's "Genera Plantarum" gives 300 species of Dendrobium, and 400 species of Epidendrum; no less than 350 species of Pleurothallis. They give 40 species of Zygopetalum, but include in the genus Huntleya, Bollæa, Warscemiezella, and Promenæa.

Notes of Observation.

ASPARAGUS PLUMOSUS.

I find a way of propagating the above other than by dividing the roots or from seed, is by cutting off a well-matured shoot in its entirety, and placing it beneath a thinnish layer of fine mould in a box or pan, leaving the fine sprays to appear above the surface. With the aid of a little bottom heat in a forcing house or elsewhere, and by keeping it sufficiently moist, bulbs will soon form from the joints of the shoots, and eventually a goodly number of young plants can be taken from it. In this way a small stock, say one plant, can be numerously increased in a much less time than by the alternatives of dividing the roots or waiting for seed. I have tried in other ways to propagate this valuable acquisition in the way of foliage plants from cuttings, but have been successful only in this one.

Prestons, Ightham, Kent. J. Hilling.

COLUMBINES IN POTS.

The better forms of the aquilegias of the cœrulea type are so handsome when flowered in pots that it may be useful to direct attention to them, as the present is a good time to pot up a stock for flowering in the spring. I have no doubt that they may be grown in a satisfactory manner altogether in pots, but that system entails more labour in watering than I can afford, so I make a practice of planting them out in a good soil as soon as they go out of flower, and pot them up again in the autumn. We have just potted up our stock, and placed them in a cold peach-house, where they will remain until they come into flower. J. M.

CHRYSANTHEMUMS OUT OF DOORS.

Chrysanthemums planted against walls in the open air have not been very satisfactory this year. Although the plants had made good growth and showed plenty of flowers, the rain and rough winds have spoiled their beauty, which we regret, as they are very useful to cut from. I am quite satisfied that 10 degrees of frost would not have injured them more than the rain and wind have done. I still find the pompon varieties are the best for out-door flowering, although in some years we have had fairly good blooms of a few of the incurved flowers, such as Mrs. G. Rundle, George Glenny, and Aurea multiflora. We have an old Japanese variety named Fanny that does exceedingly well out of doors. J. C. C.

HIDEBOUND TREES.

Amongst some pear trees that were purchased six years ago came two pyramids, and as their appearance did not please me, I examined them very minutely, with the result that it proved they were hidebound. The trees had evidently been grown in poor ground, for, although they were large enough for the price paid for them, the growth clearly showed that they had been several years in attaining to that size. They were very weak, and the stems were covered with a brownish-coloured lichen, so that it was not a difficult matter for an experienced eye to foretell the result of such conditions of previous unkind treatment. However, they were planted, and it was anticipated it would take several years of the most painstaking management to grow them out of the condition they were then in. As a matter of fact, one of the trees has very little improved at the end of six years, and the other is only in a fair way of recovery. The moral of this lesson is, that one requires to be careful in the selection of trees, as in the majority of cases no trees at all would be better than those that will not grow; and it is better to pay a little higher price for healthy young trees than to be burdened with such as have been crippled in the early stages of growth through the influence of a poverty-stricken soil.

J. C. Clarke.

POTATOES ROTTING IN STORE.

I once lifted some potatoes whilst the tops were quite wet. These went very much diseased after lifting, in a very few days in fact; whilst some in the same bed and the same variety, which to all appearance had the disease very badly, when lifted fourteen days later were perfectly sound. Since then I have always been careful never to dig potatoes in mild, close weather, especially if damp. But always try to get them lifted in a dry state of the atmosphere. I may say I have experimented in a quiet way in many and various ways of planting potatoes, and have keenly observed my neighbours' manner of planting and lifting. The soil here is a very tenacious clayey loam, subsoil yellow clay. I am ambitious to grow potatoes for show, but the dry weather in summer sets the surface quite hard, and my potatoes as a consequence are very misshapen and scabby. I break it up to a good depth in early autumn, and top dress just before planting. I have shallow trenches prepared about thirty inches apart, and plant sixteen inches to eighteen inches apart in the rows according to sorts, and lightly cover three inches to four inches deep. Last year I was fairly successful by that plan, this year indifferently so.

North Bucks.

BRUSSELS SPROUTS.

This is such a useful vegetable that when any one has a large demand to supply there is a natural anxiety to secure the best variety. During the past ten years I have secured seed of the so-called superior kinds from various sources, with the result that I am fully persuaded that there is only one good variety, and that has no name, so far as I know. I simply order imported seed from a quarter where I know I shall get what I want, and although I have grown the Perfection, the Matchless, the Aigburth, and several other so-called distinct kinds, I have not found one equal to my old friend that has no name. It does not grow too high, and the stems are closely packed with firm little sprouts from the ground up to the crown of the plant. What more can I want? I dare not send to table the large sprouts that bear such a strong resemblance, both in size and flavour, to a small cabbage. Truly one has to live and learn, but in this case the information obtained has not been of the right sort. One would not complain if after many trials of the various new kinds there had been any gain, but there is not. So I must be content with disappointments instead of gains, and endorse the remarks of the correspondent who declares the small sprouts the best. J. C. Clarke.

FORCING RHUBARB.

I do not know if the plan of forcing rhubarb which I am about to describe is adopted by anyone else or not, but I do know that it is very simple. At this time of year our garden is, like many others, pretty well strewed from end to end with fallen leaves, some part of which we are bound to keep swept, and consequently the leaves are cleared away. The leaves so collected are taken to one corner of the frame ground and laid in a heap. By the time this note is in print there will be a good sized heap—probably a couple of waggon loads collected. We shall then take up half a-dozen roots of rhubarb which have been specially grown for the purpose, and place them on the top of the heap of leaves, and after throwing a barrow load of leaves on the top of the roots, we shall place a large one-light frame over them. This will complete the details; for nothing more will be done to them. About Christmas we shall look for a supply of rhubarb, and unless this year's experience differs from previous ones, we shall not be disappointed. For the heat generated by the leaves is just enough to bring it on gently, which is better than hard forcing. If any of your readers can tell me of a better or more simple plan of forcing rhubarb, I shall be glad to hear from them through the G. M.

R. H. B.

Holmes' Testimonial.—At a meeting held on the 19th inst., the committee appointed for taking the necessary steps for presenting Mr. William Holmes with a testimonial in recognition of his services as honorary secretary of the National Chrysanthemum Society, it was decided to present him with an illuminated address and a silver centre piece, and two side tazzas for the table. The presentation will be made at the annual dinner of the society, which will be held early in December.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

AZALEAS AND CAMELLIAS claim attention now that we have little else to depend upon to keep the conservatory gay. Azaleas to bloom early, to have very moderate bottom-heat, and be syringed daily. Those still at rest to have a rather dry air. Camellias will not stand so much heat as azaleas.

CINERARIAS for exhibition to have a shift now into their blooming pots, or they will bloom prematurely through getting pot-bound. Give them the fullest possible amount of light, and keep them a good distance apart, placed on inverted pots, and they will thus have a free circulation of air about them, which will keep them strong and stocky. They will require plenty of air to prevent mildew. Choose bright mornings to water, and let their leaves be dry before shutting up.

CLIMBERS in greenhouses may now have special attention to reduce their dimensions. Lay in wood for next summer's bloom, and clear the walls and trellises.

PELARGONIUMS must have a little fire-heat if the house is damp, and the temperature should be kept nearly at an average of 45 deg.

STOVE AND ORCHID HOUSE.

STOVE plants in free growth must have fair supplies of water—not so many times a day, or so many times a week, but as they want it, Plants that have filled their pots with roots, and are now making new growth or pushing for bloom, will need more than those that have plenty of pot-room, and are not thoroughly established. Plants in the warmest end of the stove will enjoy a moderate amount of vapour produced by sprinkling the floor and pipes. Due caution must be constantly taken to prevent the entrance of draughts, and especially after watering. Plants at rest to be kept as dry and cool as possible consistent with safety, and moderately well aired. Achimenes and Gloxinias at rest should be packed all together in a dry place. We suppose the cultivator to be able now to furnish the conservatory with showy specimens. A succession of flowers in the conservatory, throughout the winter, is a matter of prime importance, and one of the first things to consider now is how to make the stove available, not only for the preservation of its ordinary inmates, but to forward furnishing plants for other structures.

FORCING AND ORCHARD HOUSES.

CUCUMBER PIT.—Cucumbers to be started now for the first batch to plant out next month. Sow in pots singly, and grow them on liberally, without running them up two or three together in a pot as if they had been wiredrawn. A dung-bed is the best place for the seed pots, and the soil in the pots half-rotted turf, well chopped up with half of sweet leaf-mould. Fruiting plants must be thinned if the plants are more than moderately fruitful, or they will fail to give a succession when the fruit may be most desired.

MUSHROOM HOUSE.—The temperature to be kept as near 70 deg. as possible and have plenty of atmospheric moisture. A steady temperature will greatly prolong the bearing of the beds, but if they are nearly at the end of their productiveness make up fresh beds at once in succession. At this time of year it will be necessary to make up a new bed every month to ensure a constant supply.

VINERY.—Vines breaking to have a gradual rise of temperature, beginning at an average of 55 deg., with a rise of 10 deg. during sunshine. As the vines acquire a vigorous growth, raise the heat so as to average 65 deg. by day, and 60 deg. at night when they come into bloom. Too sudden a rise will make long joints and weakly growth, independent of the injury to the crop. A warm dry border will do as much as the best management of the temperature of the house.

FLOWER GARDEN AND PLEASURE GROUND.

AURICULAS to be kept clean, and to have not a drop more water than will just keep them alive.

BULBS not yet planted must have attention at once. We always advise early purchasing and early planting to prevent the after growth being weak through their remaining out of the ground too long.

CARNATIONS AND PICOTEES must have abundant ventilation and very careful watering. Take off the lights daily in fine weather. If any appearance of fly, which is easily detected on the top grass of the plant, fumigate twice. Procure turf from a strong loamy pasture for use next season; lay it up in a ridge till the grass is dead, then chop it over, and turn frequently. Every time the heap is turned put in traps for wireworm, so as to have the mass quite clean by the time it is wanted for use.

EVERGREEN SHRUBS planted now must be heavily mulched with litter to keep frost from their roots.

RANUNCULUSES AND ANEMONES of common kinds for showy masses may be planted now, but choice and valuable kinds must be kept in the drawers till the beginning of February, and in the meantime make the beds ready by deep trenching and laying up the earth in ridges.

ROSES may be planted now during dry open weather; the ground to be in good heart, deeply trenched, and well manured. On loamy land broken up from grass, roses do better than in ordinary garden soil, and those who grow for show should either use turf liberally or break up meadow ground for their best plants. Obtain briers quickly before the best are gone. Manettis layered during summer may now be divided and planted out in rows for budding next season.

FRUIT GARDEN AND ORCHARD.

BUSH FRUITS should in suitable weather be planted, pruned, and manured. Gooseberries and currants may be lightly forked between to mix the manure with the soil, but raspberries should have three or four inches of dung, not very rotten, laid over the piece, and the soil between them should not be dug at all.

ROUTINE WORK must not be neglected. Dig round old fruit trees, and lay down a layer of old dung six inches thick in a ring, three feet round the stem of each, and the size of the fruit will be improved next season. Trees that are sufficiently luxuriant should not have manure, for in this case its application would do more harm than good. Root-prune any trees that grow too luxuriantly to bear well. Let nothing lie in by the heels an hour longer than can be helped. Strawberry beds may be made this month, but it is not a good time to plant strawberries.

KITCHEN GARDEN AND FRAME GROUND.

POTATOES for planting may now be brought out from the store, and placed in shallow baskets on dry moss or hay, and the baskets put in the full daylight in a position where frost cannot touch them. They will soon green over, and when they begin to sprout the sprouts will be short, hard, plump, purple, and not liable to snap off in the process of planting. The baskets should not be put in a warm place, as there is nothing gained by forcing them into growth, unless they are early sorts to be grown in frames.

ROUTINE WORK now comprises the formation of plantations of rhubarb, seakale, asparagus, and horseradish. Roots of dandelion, packed together in leaf-mould and put into gentle heat, will furnish a delicate salad in five or six weeks. Keep manure and all soluble matters under cover. Turn over manures, and put aside in heaps, to be frozen, rotted leaves, and other materials suitable for potting, and, when well sweetened and pulverized, remove to bins in the potting-shed to keep dry for use. Have sticks and stakes tied up in bundles ready for use; wheel turf and weeds to the muck-pit; get pots washed and sorted over, and crocks sifted into sizes for the potting bench, This is a good time to make new drains, improve water-courses, and plant hedges. Sow early peas and beans on warm dry slopes; broccoli to be heeled over with their heads to the north.

Correspondence.

CLASSIFICATION OF FLORISTS' DAHLIAS.

I AGREE with those of your correspondents who have argued that the present system of classification adopted for the florists' dahlias is insufficient, though it has stood its ground for many years, notwithstanding that improvements have been suggested. It is too indefinite, too inadequate, to be perfect. The division into "show" flowers and "fancy" flowers, does not in fact separate the varieties into two definite groups, since the fancies are quite as much show flowers as those which are so designated. It would be well, now that there is a revival of the taste for these flowers, if the supporters of the Grand National Dahlia Show—it is scarcely organised so as to be correctly called a society—would take the matter up and decide upon some improvement of the present unsatisfactory method of arrangement. The designation of Selfs or self-coloured flowers for those which are wholly of one colour is clear and definite, and might well be adopted for that group; but the term Fancies now used for those sorts having more than one colour does not indicate with any degree of precision what it is intended to include, and hence I think should be abandoned.

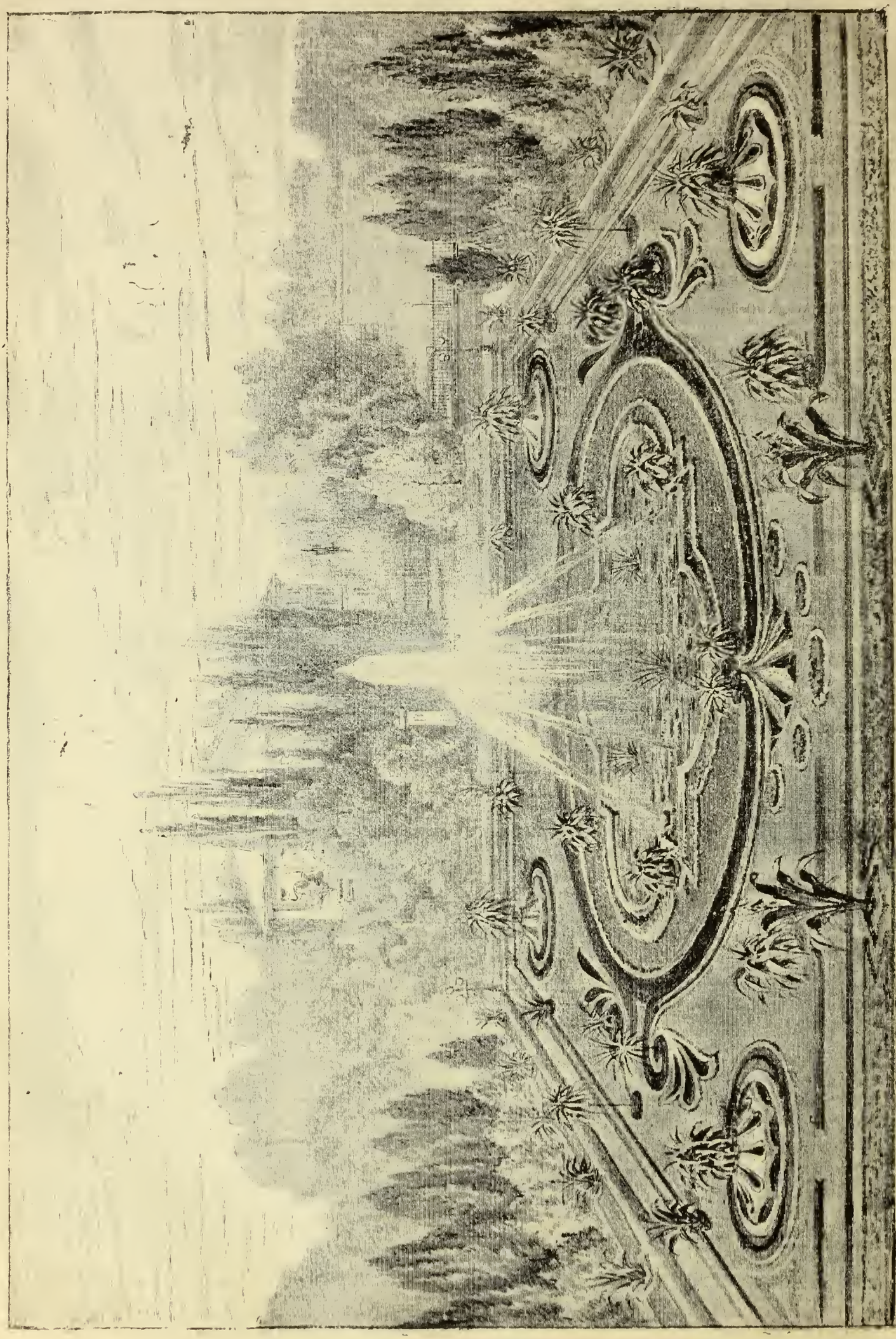
My own preference is embodied in certain remarks published by me some quarter of a-century ago in the *Gardeners' Chronicle* (1862, p. 1,100), and reprinted with approval in *Gossip of the Garden*, in which I proposed a new class for those flowers with a marginal band of colour (like the pink or picotee), which I suggested might very properly and definitely be called Laced flowers. This Laced class might be understood to embrace all merely marginal colouring, and then, if it were thought desirable, might include what are called tipped flowers, whether possessing light or dark-coloured grounds, for which I had originally proposed a separate class, namely Tipped flowers. If we add to this a class for the Striped or Flaked group, those in which the second or third colour is disposed in longitudinal lines or bands, we have, I think, a definite place for all the varieties which are grown.

True, some of the so-called Fancies bear a proportion of self-coloured flowers, and these might be thought difficult to range in their proper order, and have in fact given rise to different opinions, but if it is understood that the flowers are to be staged exactly as they are developed, that is, self-flowers amongst the selfs and striped flowers amongst the stripes, the difficulty vanishes at once. For want of a Laced class we are fast losing that beautiful type of flower—to my mind the handsomest of all. I can well remember in days long long ago seeing beautiful white ground flowers with clear rose or deeper purple borders, and yellow grounds with bright red edges, such as it has not been my good fortune to notice at the dahlia shows of the present era, and who knows but that the adoption of such a method of classifying might not bring about an increase in the number of these charming varieties.

Leaving this suggestion to the consideration of the growers of show dahlias I pass on to note that, in reference to our Grand National Dahlia Show, there is a feeling abroad that increased facilities should be given for amateur competition, either by an addition to the classes of the present schedule or by extending the number of prizes, the former being the most workable plan. There is, however, this difficulty—the present schedule has been admirably adjusted to balance against what has hitherto proved to be the average amount of funds subscribed. Now, it is not to be expected that the committee or officers will take on themselves the risk and responsibility of extending the amount offered in prizes, and I will assume that as it is built on the experience of four seasons, and embodies the views of some of our best growers, the sum now spread over the schedule cannot be better disposed. It comes to this, therefore, that if any extension is to be attempted, the growers of the flower and the admirers of the flower, amateur and professional, must provide the means by larger or more numerous subscriptions. This brings me to a practical suggestion respecting the matter. We appear now to have touched the limit of direct personal subscriptions, and, as a matter of fact, the prize list (if we continue, as we ought to do, to work hand in hand with the Crystal Palace authorities) will be wanted soon, long before we can know the amount of subscriptions to come in. The only practicable way, therefore, of meeting the case for next year, 1887, will be for some kindhearted friends of the flower—and here the amateur element may especially distinguish itself—to offer specia prizes either for some class which they may themselves desire to encourage, or for some other class which they may trust the committee to select. If any promises of this nature are sent to me within the next two or three weeks, they shall be considered and made the most of when the subscribers meet to pass the schedule, and in this easy way, possibly, the want now felt may be supplied without any wrench of the present arrangements, which, so far as they go, I believe, work very well. Special prizes are freely forthcoming for the exhibitions of various other flowers, and why not for the dahlia?

THOMAS MOORE,
Hon. Secretary Grand National Dahlia Show, Botanic Gardens, Chelsea, London, S.W.

MR. J. COCKER has been engaged as gardener at Lochryan House, Stranraer, the residence of Sir William Wallace.

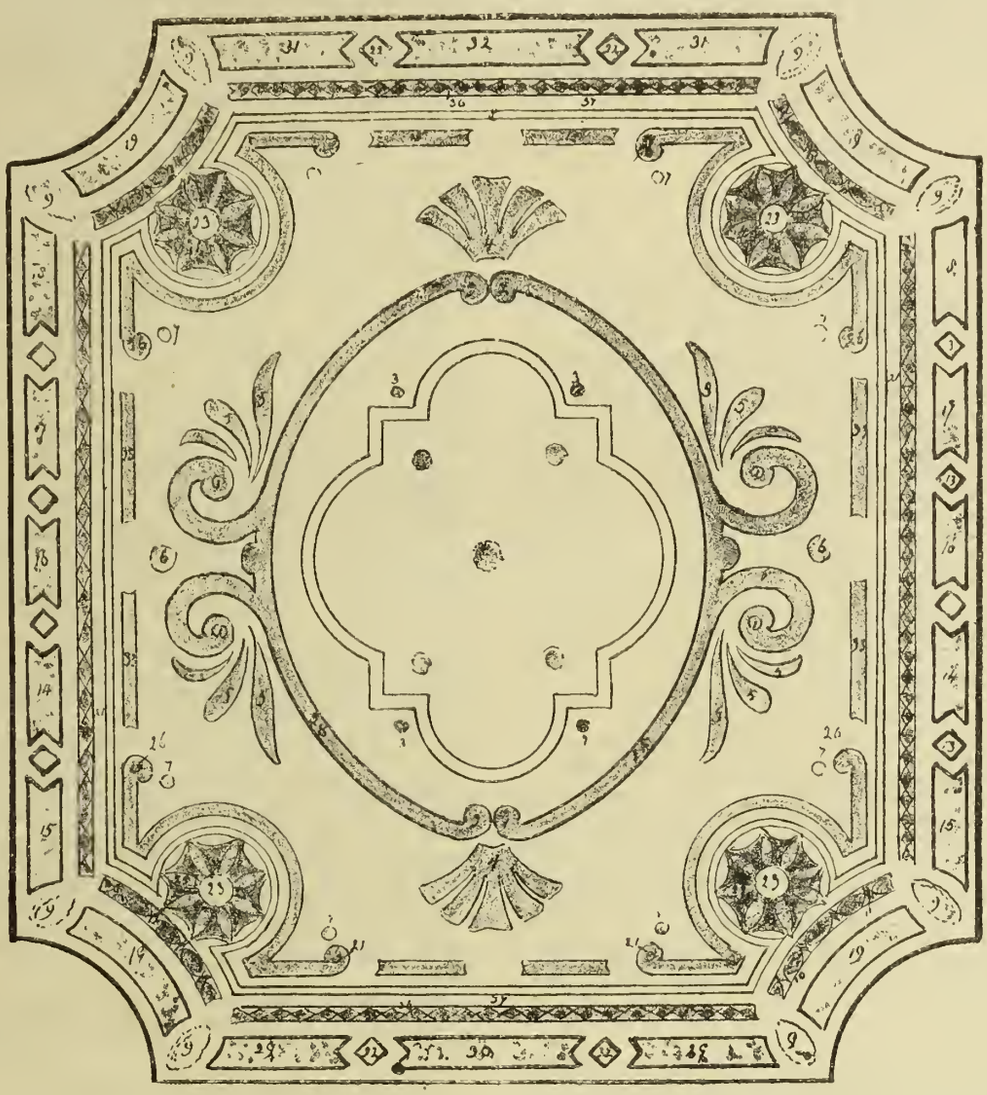


FOUNTAIN AND LEAF EMBROIDERY IN THE PALM GARDEN AT FRANKFORT.

AN EXAMPLE OF LEAF EMBROIDERY.

In the palm garden at Frankfort-on-the-Main, leaf embroidery has obtained special attention, and the example figured is likely to interest the practitioners of this system of decoration. This city is a place of pilgrimage with many visitors to the Continent, not only on account of the cathedral and the magnificent palaces of merchant princes in the Zeil and Taunus-Strasse, but for the birthplace of Goethe in the Hirschgraben, the residence of Luther in the Dom Platz, the house of the Rothschilds, and the belt of beautiful public gardens in the suburbs. The most effective planting of these beds was as follows :—

1. Dracæna indivisa. 2. Yucca recurvata. 3. Caladium esculentum. 4. Pelargonium Brilliant, bordered with Alternanthera amœna. 5. Coleus Verschaffelti, bordered with Alternanthera paronychioides. 6. Yucca gloriosa. 7. Irish yew. 8. Path of red and yellow sand, not absolutely necessary. 9. Ornamental Grasses, such as sorghum, gymnothrix, erianthus, &c. 10. Alternanthera amœna. 11. Mesembryanthemum cordifolium variegatum. 12. Sedum lydium. 13. Canna discolor, with border of Gnaphalium lanatum. 14. China Asters, deep red, bordered with Veronica Hendersoni variegata. 15. Aster, dark blue, bordered by Aster, light blue. 16. Chrysanthemum coronarium plenissimum, with border of Coleus Hero. 17. Dwarf red Aster, edged with Alternanthera versicolor. 18. Aster, light blue, bordered by white Aster. 19. Zonate Pelargoniums, Vesuvius and Wonderful, bordered by Alternanthera paronychioides aurea. 20. Alternanthera amœna. 21. Echeveria glauca, immersed in Alternanthera paronychioides. 22. Canna discolor, with Coleus Hero border. 23. Chamærops humilis, edged with Cyperus alternifolius and Fuchsia Elegantissima. 24. Arenaria cæspitosa, bordered by Sedum lydium. 25. Echeveria secunda and E. metallica. 26. Dracæna australis. 27. Eurya latifolia var.; and Yucca aloifolia var. 28. Achyranthes Lindeni, bordered with Alternanthera paronychioides. 29. Tuberous begonias, bordered with Artemisia Stelleriana. 30. Phlox Drummondi white, Lobelia blue, Aster carmine and white. 31. Begonia semperflorens and B. Schmidti, with border of Festuca glauca. 32. Phlox Drummondi, rose; Pelargonium Asa Gray, bordered by Alternanthera paronychioides. 33. Fuchsia Golden Fleece, edged with Echeveria secunda. 34. Pelargoniums McMahon and Cloth of Gold. 34. Alternanthera amœna. 36. Grass border. 37. Sedum carneum, bordered with Alternanthera paronychioides.



PLAN OF LEAF EMBROIDERY IN PALM GARDEN, FRANKFORT.

ORCHID NOTES.

The prominent position taken by hybrid orchids is well shown by the fact that two coloured illustrations are given of them in the "Orchid Album" for October. Both of them were raised in Messrs. Veitch's nursery, the King's Road, Chelsea. They are *Lælia Amesiana* and *Cypripedium selligerum*. The first-named is a really splendid production of the hybridist's art, and is a cross between Cattleya crispa and C. maxima, the result being a Lælia. It seems to be more nearly allied to C. crispa than to C. maxima. The sepals and petals are pure white with the faintest suspicion of purple, the lip deep magenta-purple with yellow throat, and this richly-coloured lip stamps it as being so much superior to the well-known C. crispa. It flowers in the winter. Cypripedium selligerum is now well known, and in our collection it grows with the greatest vigour in the Cattleya house, and produces its flowers both in winter and summer. It is now nicely in flower in the Holloway Nurseries, and in our collection the flower spike is just showing.

Odontoglossum luteo-purpureum magnificum forms the subject of plate 254. This is a very handsome Odontoglossum, usually found with the poor forms of O. crispum, the allied species, O. hystrix, and other yellow ground hybrids, being found with them. They are doubtless the productions of insect agency. We have obtained already a dozen distinct hybrid Odontoglossums from a batch of a hundred plants of O. crispum, and some of them have not yet flowered. All these natural hybrids receive specific names from the botanists, but the specific distinction between O. hystrix and O. luteo-purpureum is, to say the least of it, not very wide. They have the merits of being

vigorous and free-growing plants, and do well in the coolest part of the cool house.

Plate 256 represents *Lælia anceps Percivaliana*, a very beautiful form of the species, and quite distinct from any other. The sepals and petals are rosy blush, not white; the flowers large, and lip distinct in colour from the ordinary form. The new white varieties of L. anceps introduced in 1885 are not yet flowering freely; probably next season, when they gather more strength, we may expect to find some good things amongst them.

The November number contains *Dendrobium Falconeri giganteum*. This I have seen in flower several times, and believe it is well named; it is gigantic both in pseudo-bulb and in the rich colour of its large, handsome flowers.

Odontoglossum polyxanthum grandiflorum is certainly the finest of the yellow ground species, and has been introduced rather plentifully since it was discovered by Klaboch in 1878, although it is stated to be rare in its native habitat, Ecuador. The rich reddish brown blotches on the bright yellow sepals and petals, and the white margined lip are most pleasing.

The remaining plates are *Lissochilus Krebsii purpuratus* and *Oncidium stelligerum Ernesti*. The various species of Lissochilus are not much known in gardens, the most recent being the above, and a more beautiful species, L. Sandersoni, figured in Bot. Mag. tab. 6858. The last-named species flowered at Kew, planted out in one of the beds of the Palm House, in June, 1885; the scape rising to a height of six or seven feet. They succeed best potted in good loam, and are very distinct showy plants.

J. DOUGLAS.

Law.

TRESPASS ON A HEDGE ROW.

IN the Queen's Bench Division before Mr. Justice Grove and a special jury, the case of JONES V. MEADOWS AND OTHERS, was an action to recover damages for a trespass alleged to have been committed by the defendant, in removing certain wire fencing and injuring trees situated in a hedgerow dividing the land of the plaintiff from a farm in the occupation of Meadows. The chief question in dispute was the right to this hedgerow. It appeared from the evidence, which was given at great length, the case having already occupied two days, that, by an award of the Enclosure Commissioners for the Sutton Common given in 1809, a partition was made of certain lands at Sutton between the predecessors in title of the parties, a direction being given in that award to the effect that the plaintiff's predecessor, one Juniper, should erect the fence between the plots. Much evidence was given to show that the parties on either side had exercised acts of ownership, such as clipping and repairing the fence from time to time, but it did not appear that any of the previous holders of the land had interfered with the acts of their neighbours on the other side. As Mr. Justice Grove remarked, nobody is likely, unless there is some question of right to property involved, to object to his neighbour keeping his hedge in order for him. In September, 1885, the plaintiff ran a wire fence through the midst of the hedgerow, including within it certain ornamental trees, and fixing his fence on the outside of these trees with staples. The defendant Meadows therenpon, in accordance with the directions of the freeholders, his landlords, with a party of men, removed the fence and staples, and in so doing committed the alleged trespass.

Mr. Jelf, Q.C., and Mr. Chitty appeared for the plaintiff; Mr. Henn Collins, Q.C., and Mr. E. Beaumont were for the defendants.

Mr. Justice Grove summed up at great length, entering into all the evidence that had been given on either side as to the various acts of ownership which had been done during the period of nearly 40 years.

The jury were about to retire to consider their verdict, when one of their number was taken ill and had to retire, having previously given his opinion to his brother jurors. During his absence Mr. Justice Grove endeavonred to obtain the consent of the counsel on either side to take the verdict of the 11 jurymen, who had agreed with the opinion of the gentleman who had retired, his Lordship stating that without such consent he was not entitled to take a verdict from the jury unless all the members of the jury were present. Eventually the absent juror returned, and a verdict was given for an agreed snm of £5 damages for the plaintiff against the defendant Meadows.

His Lordship thereupon gave judgment to that effect, and granted an injunction against a repetition of the trespass.

LIABILITY OF FRUIT AUCTIONEERS.

A point as to the liability of auctioneers at fruit sales was raised at the Stratford-on-Avon County Court, before Judge Harington. Stephen Tovey, fruiterer, of Smithfield Market, Birmingham, was sued by James Cole, auctioneer, Stratford, for £1 4s. 6d., value of fruit sold, The defendant attended plaintiff's weekly fruit sale, and bought a quantity of damsons and plums, but as he had no empty pots in which to put the fruit, the auctioneer declined to allow his own pots to be taken off the ground unless paid for, and the resnlt was the fruit remained on plaintiff's premises, and in three days was spoilt. Defendant said in the case of ripe fruit it was unusual to empty it from one pot into another. Pots were provided at the other fruit sales in the town; also at Evesham and other places. As his own empties had not arrived, he contended that any other auctioneer would have allowed the pots to go. It was through plaintiff's negligence that the fruit was spoilt, for it was clearly his duty to re-sell it when not fetched away. Defendant would have gladly made up any deficiency which might have resulted from such re-sale. His Honour, in giving judgment for the plaintiff, said there was nothing in the conditions of sale as to the auctioneer providing pots, and the defendant having bought the fruit—or, rather, having had it knocked down to him, and his man having taken possession of it—was bound to fetch it away in the ordinary course. If he did not choose to do so, he must take the responsibilty.

"A SIMPLE FACT ABOUT" KEATING'S COUGH LOZENGES. Ask throughout the world, in any country that can be named, you will find them largely sold. There is absolutely no remedy that is so speedy in giving relief, so certain to cure, and yet the most delicate can take them. One Lozenge gives ease. Sold in 13½d. tins.—[ADVT.]

Exhibitions and Meetings.

WIMBLEDON HORTICULTURAL SOCIETY, NOVEMBER 18.

THE autumn exhibition of this society was held on the above date in the Drill Hall, Wimbledon, and, owing to the judicious arrangement of the various exhibits, the hall presented a bright and effective appearance. Groups were remarkably fine; and a miscellaneous arrangement, contributed by Mr. J. Lyne, gardener to A. Schlusser, Esq., called for special mention. Cut blooms, although not numerous, were noticeable for high quality; and the interesting display of fruit added considerably to the attractions of the show.

CUT BLOOMS made a good feature. In the class for twenty-four, twelve Japanese and twelve incurved, Mr. H. Alderman, gardener to G. Hatfield, Esq., Morden Hall, Mitcham, came to the front with fine incurved flowers of Golden Queen of England, Blush Queen, Empress of India, Golden Empress of India, Prince Alfred, Lord Alcester, Lord Wolseley, Jeanne d'Arc, Mrs. W. Shipman, Baron Beust, Cherub, and Hero of Stoke Newington. The Japanese comprised Baronne de Prailly, Val d'Andorre, Madame C. Audiguier, Duchess of Albany, Mdlle. Moulise, Grandiflorum, Jeanne Delaux, Sarnia, Agrements de la Nature, Mr. John Laing, Mons. Astorg, and Thunberg; the second prize was won by Mr. W. Smith, gardener to J. F. Schwann, Esq., Oakfield, Wimbledon. In the class for twelve incurved. the premier award was made in favour of Mr. G. King, gardener to Mrs. Few, Wolseley Grange, Esher, who had Lord Alcester, Guernsey Nugget, Empress of India, Alfred Salter, Golden Empress of India, Jardin des Plantes, Hero of Stoke Newington, John Salter, Mabel Ward, Cherub, Princess of Wales, and Barbara; Mr. H. Alderman was a close second, his stand containing exceptionally good blooms of Empress of India, Blush Queen, and Golden Queen of England; the third award was made in favour Mr. W. Smith. Mr. J. Bentley, gardener to Sir Thos. Gabriel, Bart., Edgecombe Hill, occupied the post of honour in the class for six incurved, showing Golden Empress of India, Queen of England, and Lord Alcester in good form. Messrs. H. Alderman and G. King were second and third respectively. In the other class for six incurved, Mr. J. Smollett, gardener to Mrs. Roberts, Putney Park Lodge, headed the prize list; followed by Mr. Higgins, gardener to A. S. Donkin, Esq., Albemarle, Wimbledon.

In the class for twelve Japanese, Mr. G. King was deservedly placed first, showing in superb condition Madame C. Audiguier, Flamme de Punch, Mons. Burnet, Carmen, Meg Merrilies, Soleil Levant, Baronne de Prailly, Japonnais, Mons. Astorg, Duchess of Albany, Fanny Boucharlat, and La Sceptre Toulousaine; Mr. W. Smith was second, and Mr. H. Alderman third. For six Mr. G. King again headed the prize list, putting up fine blooms of Madame C. Audiguier, Bronze Dragon, Belle Paule, Joseph Mahood, Japonnais, and Baronne de Prailly; Mr. J. Bentley came second; and Mr. H. Alderman third. In the other class for six Japanese, Messrs. G. Higgins and J. Smollett were first and second respectively. The classes devoted to amateurs were well filled, and the flowers of good quality. The most successful competitors were: Mrs. Carter, Upper Tooting; T. Conway, Esq., Wimbledon; N. Nagle, Esq., and C. Mordaunt Matthews, Esq.

GROUPS, as mentioned previously, were creditably arranged, Mr. W. Smith coming first in the class for a group of chrysanthemums, the flowers being of high quality, and the arrangement of the colours exhibiting considerable taste. The second prize was awarded to Mrs. Hunt, gardener to C. Boyle, Esq., Broghill, Wimbledon. In the class for a group of miscellaneous plants, Mr. J. Law was to the front, the second place being filled by Mr. W. Smith, and the third by Mr. J. Bentley. For six primulas Mr. Chandler, gardener to Canon Haygarth, The Vicarage, Wimbledon, was first with well-flowered plants; the second prize going to Mr. Newell, gardener to Sir E. Saunders, Fairlawn, Wimbledon Park. The last-named exhibitor was the most successful in the class for six berried plants, showing satisfactory examples of Capsicum Prince of Wales; Mr. Chandler second.

FRUIT was well shown. In the class for two bunches of grapes, Mr. W. Smith was first, showing good clusters of Alicante; the second award being made in favour of Mr. Batten, who had Muscat Hamburgh. In the corresponding class for white, Mr. W. Smith, Mr. J. Law, and Mr. Batten were the prizetakers in the order of their names, all showing Muscat of Alexandria. Mr. H. Alderman came first for three dishes of apples, exhibiting Peasgood's Nonsuch, Lady Henniker, and Wellington; Mr. Hunt and Mr. Batten were second and third. In the corresponding class for pears, Mr. W. Smith and Mr. Lazzell, gardener to R. Harland, Esq., Phepps Bridge, Merton, were first and second respectively.

VEGETABLES were few in number and poor in quality; Mr. Gust coming first for a collection. Mr. H. Alderman exhibited a collection of well-grown potatoes.

Miscellaneous contributions consisted of a group of miscellaneous plants from Messrs. D. S. Thomson and Sons, The Nurseries, Wimbledon; and fertilisers and plant manures from Wood and Son, Wood Green, London.

BRISTOL CHRYSANTHEMUM SHOW, NOVEMBER 17 AND 18.

The exhibition of chrysanthemums, miscellaneous plants, and fruits, provided for the gratification of the citizens of Bristol on the dates abovementioned, was held in the Drill Hall, which affords more space than the Victoria Rooms in which the exhibitions have been held of late years. The cultivators in the district mustered in strong force, and the result was a display which has probably not been surpassed by any previous gathering in the city. Plants were largely shown, and there was a capital representation of cut flowers, although several of the exhibitors had lost their best flowers from the close moist weather which prevailed some time previously. Very keen was the competition in the class for six plants, and the silver cup offered as the first prize was awarded to Mr. Vowles, whose plants were of large size and excellent contour, and carried an abundance of flowers of good quality. The second and third awards were made to Mr. K. Robinson and Mr. Miller. Excellent specimens of Mrs. Rundle, Mrs. Dixon, and Prince of Wales secured for the exhibitor last mentioned the first place in the class for three specimens. Mr. Vowles occupied the second place with well-grown plants. Five specimens were contributed to the class for one plant, and the finest being that of Mrs. Rundle from Mr. Miller. Groups of naturally grown plants produced a pleasing display, the most effective being those from Mr. K. Robinson. The last-mentioned exhibitor was also very successful in the class for four Japanese varieties, securing the premier award; and Mr. T. Hill was second. Mr. H. St. V. Ames, Mr. D. Thatcher, Mr. A. Porter, Mr. W. Cooper, and Mr. J. H. Lockley occupied a foremost position amongst the exhibitors in the plant classes.

The contributions to classes devoted to miscellaneous plants were highly meritorious. Mr. Hill and Mr. F. W. Gedge had excellent zonal pelargoniums, Mr. W. K. Waite and Mrs. King good bouvardias, Mrs. Oldland and Mr. S. Budgett specimen orchids, Mr. T. Gibson, Mr. Jones, and Mr. Miles well fruited berry-bearing plants, Mr. J. Derham, Mr. Miller, and Mr. S. Budgett capital collections of ornamental-leaved plants, Mr. H. St. V. Ames, Mr. Dobson, and Mr. J. Derham well grown ferns, and Mr. T. Gibson and Mr. J. Derham brightly coloured poinsettias.

Generally speaking, the contributions to the division for cut flowers were such as to do credit to the cultural skill of the exhibitors. In the great class for twenty-four incurved the post of honour was occupied by Mr. G. Runnacles, with a particularly fine stand of blooms. Mr. W. M. Baker and Mr. Tagart were second and third respectively. The foregoing exhibitors were very successful also in several other of the leading classes for cut flowers. Mr. Hobbs, Mr. W. Pethick, and Mr. J. Baylis may also be mentioned as having shown so well as to obtain a high position in the prize list.

The contributions of fruit were fully as numerous as on any previous occasion, whilst the quality was equal to the best shown in former years. Grapes had liberal provisions made for them, and the examples most worthy of notice were those of Black Hamburgh from Mr. W. Jones, Mr. W. Cooper, and Mr. H. St. V. Ames; Muscat of Alexandria, from Mr. H. W. Tugwell and Mr. J. Gibson; Alicants, from Mr. W. Iggulden and Mr. B. Thomas; Lady Downes, from Mr. J. Gibson and Mr. Iggulden; Gros Colmar, from Mr. Iggulden and Mr. W. Sweeting; and Mrs. Pince, from the two exhibitors last mentioned. Pears were presented in high class condition from Mr. W. Jones, Mr. J. Jones, Mr. E. Hall, Captain Alcock, and Mr. H. St. V. Ames; and apples were admirably shown by Mr. J. H. Virgo, Mr. G. Runnacles, Mr. Iggulden, Mr. W. M. Baker, and Mr. H. St. V. Ames. Excellent collections of fruit were shown by Mr. Tugwell and Mr. Iggulden; and from Mr. Ward, Mr. J. H. Virgo, and Mr. E. T. Hill came very fine collections of vegetables.

CHISWICK HORTICULTURAL SOCIETY, November 18.

The second show of chrysanthemums, held in the Vestry Hall, Chiswick, on the above date, testified to the firm hold this society has obtained in this district. The display was not only extensive, but the exhibits, on the whole, were of superior excellence, and reflected great credit upon the numerous competitors. There were several miscellaneous groups of great merit, which, owing to their light and elegant arrangement, gave great variety, and formed by no means an unimportant portion of the exhibition.

Cut Blooms came in for a large share of attention, and in the class for twenty-four, twelve incurved and twelve Japanese, the winner of the premier prize was Mr. C. J. Waite, gardener to Hon. W. P. Talbot, Esher; equal seconds, Mr. C. Long, gardener to E. B. Ridges, Esq., Ealing, and Mr. H. Collier, gardener to Mrs. Murrell, The Elms, Ealing; third, Mr. E. Chadwick, gardener to E. M. Nelson, Esq., Ealing. The highest position in the class for twelve incurved, distinct varieties, was occupied by Mr. H. Collier; Mr. A. Wright was second; and Mr. R. Woods, gardener to Mrs. Sanderson, Duke's Avenue, third. In the class for six incurved, one variety, the prizetakers were Messrs. A. Wright, E. Chadwick, and H. Collier in the order of their names. In the classes for amateurs there was a fair display. For twelve incurved, not less than six distinct varieties, the winner of the first prize was Mr. W. S. Larcombe, Turnham Green: while in the class for six, distinct, the most successful exhibitor was Mr. J. Smith; the second prize going to Mr. G. Jefferies, Chiswick.

The Japanese varieties were creditably shown, Mr. C. J. Waite occupying the post of honour in the class for twelve; the second prize going to Mr. G. Fulford, gardener to J. Boosey, Esq., Acton; and third to Mr. A. Wright. For six Mr. E. Chadwick was the most successful; Mr. R. Woods and Mr. W. Stanton, gardener to Henry Smith Esq., Chiswick, being second and third respectively. In the amateur class devoted to the Japanese varieties the chief prize winners were Mr. W. S. Larcombe and Mr. J. Smith.

There was fair competition in the classes for reflexed and pompons. For six blooms of the former Messrs. H. Collier, C. Long, and G. Fulford were the prizetakers in the order of their names; while for pompons, Mr. H. Collier was first; Mr. C. J. Waite second; and Mr. E. Chadwick third.

Plants proved a great feature. Messrs. Fromow and Sons contributed a showy group; and excellent groups of chrysanthemums came from Mr. J. Roberts, gardener to Baron Rothschild, Gunnersbury House, Gunnersbury; and Mr. May, gardener to the Marquis of Bute, Chiswick House. For a specimen stove or greenhouse plant, the prizetakers were Messrs. A. Wright, G. Fulford, and E. Chadwick. For six table plants Mr. Wright again headed the prize list; Messrs. C. J. Waite and J. Hudson being second and third respectively. Mr. C. J. Waite was to the front for six cyclamens: and in the class for primulas the prizetakers were Messrs. H. Davis, R. Woods, and C. J. Waite in the order of their names.

Fruit was well shown. Mr. J. Hudson, gardener to H. J. Atkinson, Esq., M.P., exhibited well in the class for dishes of apples, showing well-developed fruits of Ribston Pippin, Golden Noble, Blenheim Orange, and Scarlet Nonpareil. In the corresponding class for pears Mr. C. J. Waite headed the prize list; Mr. E. Chadwick coming second; and Mr. J. Coombes, The Gardens, Sheen house, Mortlake, third. For two bunches of black grapes the post of honour was filled by Mr. J. Hudson, who also came first in the class for white grapes, in both cases exhibiting superb clusters.

FINCHLEY CHRYSANTHEMUM SOCIETY.

The first annual exhibition of this society was recently held at the National Schools, Church End, Finchley, on November 12 and 13, and the executive have every reason to be satisfied with the result of their efforts. The exhibits, which were displayed in three rooms, did great credit to this young society, and were tastefully arranged by the hon. secretary, Mr. C. H. Mobbs, and Mr. T. Bevan, the superintendent of the exhibition.

The principal class for plants in pots was for groups of chrysanthemums covering a space of sixty square feet, and the first prize (given by the treasurer, H. C. Stephens, Esq.) was gained by Mr. Mobbs, gardener to Mrs. Linford, Elm Grange, Church End, Finchley, who had an admirably-arranged group; Mr. Walter, gardener to H. C. Stephens, Esq., Avenue House, Finchley, was a close second; and Mr. Witty, The Cemetery, Highgate, was third. These three groups attracted great attention, and were much admired. In the class for three plants, Mr. Rowe, Cyprus Road, Church End, Finchley, was first, and the second and third prizes were awarded to Mr. Lilley, 41, Flask Walk, Hampstead, and Mr. Linfield, 20, Vernon Terrace, Long Lane, Finchley. For four plants, Mr. Brooks, gardener to W. Reynolds, Esq., The Grove, Highgate, was first, and Mr. Mobbs second. Mr. Brooks was also first and Mr. Mobbs second for a single specimen Japanese; Mr. Taylor, gardener to—Johnstone, Esq., Hampstead, being third. For four Japanese plants Mr. Mobbs was again first, and for a single specimen plant Mr. Mobbs, Mr. Taylor, and Mr. Linfield were first, second, and third respectively. For four trained pompons Mr. Brooks was first and Mr. Taylor second; for a single specimen pompon Mr. Brooks was again first and Mr. Mobbs second; and amongst the other prizewinners in the classes for plants were Messrs. J. Smith, D. B. Crane, C. F. Rowe, C. Halsey, J. Smith, and R. Mingay.

In the classes set apart for cut blooms some good stands of flowers were exhibited. For the premier prize for thirty six blooms distinct (eighteen incurved and eighteen Japanese), Mr. J. Brooks was first with a well finished lot, Mr. Mobbs being second with a good stand. For twenty-four cut blooms Mr. Brooks was again first; Mr. Turk, gardener, Cholmondeley Lodge, Highgate, second; and Mr. Butcher, The Priory, Hadley, third. In the other classes for cut blooms Mr. Walker, Mill Hill, was first for twelve Japanese; Mr. Lawrence, Woodside Park, being second; and Mr. Turk third. For six Japanese Mr. Turk was first; Mr. Neary, Hornsey, second; and Mr. Williams, Hampstead, third. In the class for twelve incurved Mr. Lawrence was first; Mr. Oliver, Alexander Grove, second; and Mr. Neary third. For six incurved Mr. Turk first, Mr. Oliver second, and Mr. Williams third. For six anemones Mr. Brooks occupied the first place; Mr. Oliver the second; and Mr. Mobbs the third. For six reflexed Mr. Mobbs was first, Mr. Williams second, and Mr. Taylor third. Other prize winners in the classes for cut blooms were Messrs. J. Smith, A. Battson, D. B. Crane, and E. Linfield.

Fruit and vegetables were also well shown, and made a good display. Miscellaneous contributions included a collection of plants from Mr. B. S. Williams, of Holloway, which greatly helped to decorate the rooms. Some excellent stands of blooms were shown by Mr. A. R. Rundell, which were highly commended; as were also six stands of blooms exhibited by Mr. W. E. Boyes, Highgate. These consisted chiefly of new varieties of this year's introduction, amongst them being the new pompons, Mrs. Mardlin, Sallon, and Rubra perfecta; the latter was much admired, the blooms being very like Cullingfordi in colour and shape; also a new Japanese variety named Ninus, which will probably prove useful for exhibition purposes in a cut state.

TAUNTON CHRYSANTHEMUM AND FRUIT SHOW.

In common with the exhibitions of chrysanthemums held in the neighbourhood of London and in the South of England, the show of these flowers and of fruit at Taunton on the 17th inst. was eminently successful. Anticipating an exhibition of much larger extent than those held in the town in previous years the committee of the Taunton Gardeners' Association determined to obtain a more spacious building, and accordingly secured the London Assembly Rooms for the purpose. Notwithstanding the additional space provided, considerable difficulty was experienced by the executive in providing room for the whole of the subjects, as the entries exceeded those of last year by about one hundred and fifty. The two halls were devoted to the exhibition, and in the largest the chrysanthemums had a place, and as they were very tastefully arranged, they produced a remarkably good effect. The smaller hall in which the fruit groups and primulas had a place was also very attractive, as proved by its being crowded during the greater part of the day.

Cut Blooms were presented in a higher state of development than for several years past, and afforded as good a proof as could well have been desired of the influence the society has had in improving the cultivation of the chrysanthemum in the district. The most important of the several classes provided in the schedule was that for thirty-six blooms, of which eighteen were to be Japanese and eighteen incurved varieties. The entries in the class were numerous, and the stands were closely matched in point of merit. The first prize of £5 was awarded to Mr. C. Cooper, gardener to C. L. Collard, Esq., Wivelscombe, for a stand in which were represented in first-class style the undermentioned varieties: Alfred Salter, Barbara, Cherub, Empress Eugénie, Empress of India, Golden Empress of India, Jardin des Plantes, Jeanne d'Arc, Mr. Howe, Mrs. W. Shipman, Novelty, Prince Alfred, Princess Beatrice, Princess of Teck, Queen of England, Boule d'Or, Comtesse de Beauregard, Cry Kwang, Fair Maid of Guernsey, Japonnais, Jeanne Delaux, Madame C. Audiguier, Mdlle. Lacroix, Meg Merrilies, Mons. Ardene, Mons. Brunet, Sarnia, Thunberg, and Triomphe de la Rue des Châlets; Mr. W. Thomas, gardener to Wilfred Marshall, Esq., Staple Grove, was a close second; and Mr. C. Lucas, gardener to J. Marshall, Esq., Belmont, Taunton, third. The premier award in the class for twelve incurved varieties Mr. C. Lucas gained with fairly developed blooms of Empress of India, Eve, Golden Empress of India, Hero of Stoke Newington, Jardin des Plantes, Nil Desperandum, Lord Alcester, Princess of Wales, Queen of England, and Refulgens; Mr. E. Wiles, gardener to Mrs. Pearce, The Firs, Bassett, was second. In the corresponding class for Japanese varieties, Mr. Cooper, Mr. Thomas, and Mr. Wiles were the prizetakers in the order of their names, the first-mentioned staging capital flowers of Boule d'Or, Fair Maid of Guernsey, Madame C. Audiguier, Mdlle. Lacroix, Meg Merrilies, Mons. Ardene, Mons. Brunet, Thunberg, and Triomphe de la Rue des Châlets. Mr. Cooper and Mr. Wiles were first and second respectively in the class for twelve reflexed flowers, staging capital stands on which were Chevalier Domage, King of Crimsons, Christine, and other well-known varieties. In the classes for cut blooms, in which the competition was limited to growers resident within thirty miles of Taunton, the most successful exhibitors were Mr. Thomas and Mr. Lucas. Mr. Parrish, gardener to Mrs. Eden, Kingston, also exhibited very successfully in the cut bloom classes.

Groups had two classes set apart for them, and in both were several attractive arrangements. The five-guinea cup offered for the best group of plants, exclusive of chrysanthemums, was awarded to Mr. Lucas for a charming arrangement, and the second and third awards were made to Mr. W. Thomas and Mr. G. Henley, gardener to F. Woodland, Esq., Shultern House, Taunton. For a smaller group Mr. E. Poynter, The Nurseries, Taunton, was first with a group distinguished by the excellent quality of the plants and the taste evinced in their disposition. Mr. H. Folland, Taunton, and Mr. H. Godding, Taunton, were second and third respectively. For a group of chrysanthemums Mr. W. Hayward, gardener to Captain Fitzroy, Taunton, was first with a very bright arrangement, closely followed by Mr. T. Wilkins and Mr. J. W. Dark, Taunton, for the second and third places.

Specimen Plants were admirably shown, and produced a rich display of colour. To the two open classes excellent collections were contributed by

Mr. Thomas and Mr. Godding; and in the limited classes the principal awards were made to Mr. J. Cavil, gardener to H. F. Manley, Esq., Bishop's Hall, Mr. Parrish, Mr. Tootle, Mr. H. Burt, Mr. Thomas, and Mr. C. Way, all of whom presented examples bearing the impress of cultural skill.

MISCELLANEOUS PLANTS were liberally provided for, and as there was a brisk response on the part of cultivators, they contributed much to the success of the exhibition. Primulas were especially well represented by Mr. J. E. Wakefield, Hoveland Lodge, Mr. T. Essex, gardener to Mrs. Canons, Grove; and Mr. C. Cooper. Plants suitable for the decoration of the dinner table were well represented by the contributions of Mr. Godding, Mr. James, gardener to Sir Wroth Lethbridge, Bart., Bishops Lydeard, and Mr. Stuckey. Especially noteworthy were the ferns exhibited by Mr. Parrish, Mr, Henley, Mr. James, and Mr. Lucas, to whom the principal prizes were awarded.

FRUIT was plentiful and good, quite surpassing, both in quantity and quality, that shown at any previous exhibition of the society. For a collection of eight dishes of fruit, and also for eight dishes of apples, Mr. V. Stuckey was first and Mr. Hellard second. Mr. J. C. Clarke, Cothelstone House, Taunton, was successful in taking the premier award for a pine apple, staging a remarkably fine fruit. Mr. Tucker, Mr. Paull, Mr. Nation, Mr. Hellard, and Mr. Temblett also contributed liberally to the division devoted to fruits, and were each awarded several prizes.

The arrangements were ably carried out, and reflected much credit on Mr. R. H. Poynter, the honorary secretary; and Mr. Wills, the assistant secretary.

HUDDERSFIELD CHRYSANTHEMUM SHOW.

This young but well-established society held its annual exhibition recently in the Town Hall, Huddersfield, and the display was of a high-class character, cut blooms being of excellent quality and staged in considerable numbers; indeed, we have seldom seen them to better advantage at Huddersfield. Groups also were well represented, and made a striking display in the commodious hall. Of fruit there was a good show, the grapes being especially worthy of notice, while table decorations, bouquets, and miscellaneous exhibits were sufficiently plentiful to form an important feature.

CUT BLOOMS, as intimated above, were of first-class quality, and there was keen competition for forty-eight flowers, twenty-four incurved and twenty-four Japanese, not less than eighteen distinct varieties of each section. The most successful exhibitor was Mr. A. J. Cox, gardener to W. H. Watts, Esq., Liverpool, who thus secured the £10 prize. The flowers were, on the whole, of grand quality, and the Japanese included: Balmoreau, Duchess of Albany, Mons. Astorg (two blooms), Mons. Tarin (two blooms), Ferdinand Feral, Peter the Great (two blooms), Belle Paule, Fair Maid of Guernsey (two blooms). Triomphe de la Rue des Châlets (two blooms), Boule d'Or, Madame C. Audiguier (two blooms), Comte de Germiny, Val d'Andorre, Mdlle. Lacroix, Elaine, Criterion, and Marguerite Marrouch. The incurved comprised: Prince Alfred (two blooms), Princess of Wales (two blooms), Jeanne d'Arc, Mr. Bunn, Nil Desperandum, Golden Empress (two blooms), Empress of India, Lord Alcester, Lord Wolseley, Mrs. Dixon, Mrs. Shipman, Mrs. Heale, Refulgens, Princess Teck, Lady Hardinge, Cherub, Beverley, and Queen of England, The second award was made in favour of Mr. M. Mason, gardener to H. Mason, Esq., Bingley; and the third place was occupied by Mr. T. B. Morton. In the class for twenty-four, twelve Japanese and twelve incurved, Mr. H. H. West, gardener to E. Wright, Esq., Alston, Oswestry, was a good first, putting up excellent blooms of Lord Wolseley, Empress of India, Jeanne d'Arc, Prince Alfred, Jardin des Plantes, Refulgens, Princess of Wales, Lady Hardinge, Golden Empress, John Salter, Queen of England, and Alfred Salter. The Japanese included: L'Adorable, La Nymphe, John Laing, Mr. Freeman, Soleil Levant, Baronne de Prailly, Val d'Andorre, Mrs. Mahood, Boule d'Or, Belle Paule, Jeanne Delaux, and Madame C. Audiguier.

Reflexed and anemone-flowered were shown to advantage. In the class for twelve reflexed the winner of the principal prize was Mr. T. B. Morton, Darlington, who had satisfactory blooms of Madame Madeleine Tezier, Cullingfordi, Chevalier Domage, Peach Christine, and King of Crimsons. There was a good show of large-flowered anemones, the winner of the premier prize being Mr. W. Daniels, gardener to F. Hayne, Esq., who had very good blooms, especially noticeable for quality being Sœur Dorothée Souille, Louis Bonamy, Empress, Prince of Anemones, and Minnie Chate; Messrs. T. B. Morton and W. Jackson were second and third respectively.

GROUPS AND SPECIMEN PLANTS formed a large portion of the exhibition. There was strong competition in the class for a group, in a space of sixty-four feet, the premier award going to Mr. F. Carter, gardener to F. P. Savory, Esq., who had an excellent and showy arrangement; Mr. J. Buhh, gardener to J. W. Taylor, Esq., occupied the second position with a highly creditable group; and the third award was made in favour of Mr. F. Hatch, gardener to F. T. Brigg, Esq. There was a good sprinkling of specimen plants, Mr. J. Buhb and Mr. M. Chambers coming first and second respectively. In the corresponding class for Japanese Mr. F. Hatch occupied the premier place, followed by Mr. M. Chambers. For three pompons the last-named exhibitor was at the top; and also in the class for a single specimen. For a single specimen, Japanese, Mr. F. Hatch was first; and in the class for a single specimen, incurved, the winner of the premier prize was Mr. M. Chambers.

HULL CHRYSANTHEMUM SOCIETY, NOVEMBER 18 AND 19.

As briefly stated last week, the exhibition of the Hull Chrysanthemum Society proved a brilliant success, and may well be described as decidedly the best of the magnificent displays of chrysanthemums that have been produced in this great centre of commercial activity. The Artillery Barracks, a pile of buildings covering an immense area, and the largest in the town, were secured for the purpose of the exhibition, and the accommodation they afford was taxed to the utmost. The large central hall, several hundred yards in length, and of a proportionate width, was devoted to the cut flowers and the groups arranged for effect; and exceedingly rich and beautiful was the display of colour produced by the myriads of flowers. The large halls to the right and left were respectively devoted to the table decorations and the fruit and bouquets, and at the back a spacious building was occupied by the specimen plants, of which several hundred were shown. The cut blooms staged in the open classes were about equal to those shown at the exhibition of the society last year, but in the classes limited to growers within a certain radius of Hull there was a very marked advance both in the numbers and the quality of the flowers. Specimen plants were far superior to those shown at any previous exhibition, and formed of themselves a very beautiful display. The show was financially also a great success, for from the time it was formally opened by the Mayor at noon on Thursday until it closed on Friday night the buildings were thronged with visitors, the numbers nearly reaching 10,000. To the energetic executive the highest praise is due for the liberal and judicious character of the schedule of prizes offered, and for the admirable manner in which the whole of the details were carried out. More especially deserving of praise is R. Falconer Jameson, Esq., to whom so much of the success of the society is due.

CUT BLOOMS were considerably above the average, as those from amateurs and other cultivators resident in the town or within a given radius of it were more numerous and very much finer than the flowers shown in the limited classes last year. The principal class in the division was that for forty-eight blooms to comprise equal numbers of incurved and Japanese varieties, in which the prizes consisted of a challenge vase of the value of £15 15s., the gift of George Bohn, Esq., and £10; £8, £5, and £2; and the competition excited much interest. According to the conditions the vase has to be won by the exhibitor twice consecutively, or three times altogether, before becoming his property. It was offered for the first time last year, and the winner was Mr. D. Lindsay, gardener to Sir William Moss, Otterspool, Liverpool; and this year the contest lay between him and Mr. W. Mease, also of Liverpool. Both exhibitors staged blooms of which any exhibitor may well be proud, the Japanese flowers being equal in point of merit. But in the incurved Mr. Mease had a decided advantage in the greater freshness and more perfect finish of the blooms, and was accordingly adjudged the winner of the much-coveted prize. The flowers staged by Mr. Lindsay evinced cultural skill of the highest order, but they were rather unequal and a little too old, a mere trifle, perhaps, but sufficient to turn the scale in so close a competition. The varieties represented in the collection from Mr. Mease were, incurved, Queen of England (two blooms), Lord Alcester (two blooms), Empress of India (two blooms), Golden Empress (two blooms), Alfred Salter (two blooms), Prince Alfred (two blooms), John Salter (two blooms), Jeanne d'Arc, Jardin des Plantes, Princess of Teck, Lady Hardinge, Cherub, Refulgens, one of the finest blooms of this variety that has yet been placed on the exhibition stage, Lord Wolseley, Mrs. Heale, Hero of Stoke Newington, Princess of Wales, and Mr. Bunn; Japanese, Elaine, Japonnais, Madame C. Audiguier (two blooms), Baronne de Prailly, Belle Paule (two blooms), two of the best blooms of this variety exhibited this season, Soleil Levant, Jeanne Delaux (two blooms), John Laing, Val d'Andorre, Golden Dragon, Comte de Germiny, Fair Maid of Guernsey, Mons. Tarin, Criterion, Marguerite Marrouch, Triomphe de la Rue des Châlets, Meg Merrilies, Madame de Sevin, and Boule d'Or (two blooms).

In competition for the prizes in the open class for twenty-four to comprise twelve each of incurved and Japanese in not less than nine varieties of each section, Mr. D. Lindsay was awarded the first prize of £5 for an excellent board of flowers. The varieties, it may be interesting to state, were of the incurved, Lord Alcester, John Salter, Princess of Wales, Golden Empress, Jardin des Plantes, Empress of India, Lord Wolseley, Bronze Jardin des Plantes, Jeanne d'Arc, Mons. Tarin, Japonnais, Meg Merrilies, Jeanne Delaux, Mdlle. Lacroix, Madame J. Laing, Mons. Deshreux, Boule d'Or, and Criterion; Mr. W. Mease was a very close second with a beautiful lot of blooms. Mr. Mease and Mr. Lindsay were first and second respectively in competition for the prizes for twelve incurved, the first-mentioned contributing beautiful flowers of Empress of India, Golden Empress, Refulgens, Hero of Stoke Newington, Alfred Salter, Lord Alcester, Jardin des Plantes, Emily Dale, Prince Alfred, John Salter, Princess of Wales, and Mrs. Heale; Mr. G. Usher, gardener to C. R. Johnson, Esq., Thorgumbald Hall, was third with neat blooms. In the class for twelve Japanese Mr. Lindsay and Mr. Mease changed places, the first-mentioned being first with finely-developed blooms of Fair Maid of Guernsey, Mons. Tarin, Mons. Desbreux, Japonnais, Criterion, Boule d'Or, Dr. Macary, Jeanne Delaux, Belle Paule, Madame C. Audiguier, Soleil Levant, and Meg Merrilies. The entries were very numerous in the class for twelve anemone flowers, and the first place was occupied by F. W. Jameson, Esq., Estella, Hull, with a magnificent box of blooms; Mr. F. Mason, gardener to George Bohn, Esq., Tranby Croft, Hessle, was a close second; and Mr. Bulmer, gardener to D. Wilson, Esq., Park House, Cottingham, came third with meritorious flowers. Mr. Jameson was first also for twelve reflexed, staging King of Crimsons, Dr. Sharpe, Chevalier Domage, and other well-known varieties in excellent condition; Mr. Mason and Mr. Bulmer were second and third respectively. For six blooms of any one variety Mr. Mease was first with finely-developed flowers of Lord Alcester; Mr. Lindsay second with Jeanne Delaux; and F. W. Jameson, Esq., third with Mons. Tarin. Prizes were offered for six blooms of Cullingfordi, and in competition for these Mr. Mease occupied the first place with immense blooms; Mr. Lindsay was second with blooms comparatively small in size and rather thin; and Mr. F. Mason third.

The classes in which the competition was limited to cultivators in the East Riding of Yorkshire and in Lincolnshire, within twenty miles of Hull, were all well filled, and contained blooms that proved to demonstration the great improvement the cultivation of the chrysanthemum has undergone in the neighbourhood of Hull during the past three years. The competition for the prizes in the class for twenty-four blooms, to include twelve incurved and twelve Japanese, was very keen, the entries being numerous and the blooms of high quality. Mr. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft, Hessle, was successful in occupying the post of honour, with a collection of surpassing excellence, the varieties including Lord Alcester, Prince Alfred, Jardin des Plantes, Queen of England, Golden Empress, Lord Wolseley, Novelty, Empress of India, Fulton, Elaine, Soleil Levant, Belle Paule, Mons. Astorg, Fair Maid of Guernsey, Sarnia, and Thunberg. F. W. Jameson, Esq., was second with remarkably fine flowers, and Mr. E. Harland, The Sycamores, Cottingham, was third. In competition for the prizes for twelve incurved, twelve reflexed, and twelve blooms to comprise equal numbers of each, the most successful exhibitors were Mr. Leadbetter, Mr. J. Fisher, Manor House, Mr. E. Harland, F. W. Jameson, Esq., and Mr. H. J. Horsley.

The flowers contributed to the amateurs' classes were rather unequal, but the majority were such as to do credit to the cultural skill of the respective exhibitors. Especially successful was Mr. A. W. Stanley, 12, Midland Street, Hull, to whom was awarded the challenge cup of the value of £8 8s. for the best board of blooms in the classes for twelve Japanese and for twelve incurved. Mr. Stanley was first in both classes, staging splendidly-developed blooms. Mr. Stanley was first also in six or seven other classes; the other successful exhibitors in the division being Mr. E. Goddard, Mr. W. Roper, Mr. G. Kidson, Mr. Elam, Mr. S. Higham, and Mr. S. F. Smith, to all of whom much praise is due for the excellence of their exhibits.

GROUPS for which two classes were provided formed a very strong feature, and very materially enhanced the attractiveness of the central hall. There were seven entries in the class for groups arranged in a space of one hundred

square feet, and as the groups were all more or less tastefully arranged and very rich in colouring, the effect produced was remarkably good. The premier award, consisting of a silver challenge cup and £5, was made in favour of Mr. J. S. Graham, gardener to G. Lawson, Esq., Nowland Grove, whose arrangement was remarkable both for the high quality of the flowers and the taste evinced in the disposition of the flowers. Mr. Leadbetter was second with a group rather weak in quality, but very tastefully arranged; Mr. Bulmer was a very close third; and Mr. W. Mason, gardener to Lieut.-Colonel Brooshooft, Kirk Ella, was fourth. In the amateur class for a group Mr. A. W. Stanley occupied the first place, closely followed by Mr. J. Hornsey and Mr. Higham.

Specimen Plants were far superior to those shown at any of the previous exhibitions, although in some instances hardly so good as they might have been. The bush specimens were decidedly the best, and were very effective. There were twelve classes for plants, and in those open to both gardeners and amateurs, Mr. J. S. Graham, Mr. R. S. Stamper, Mr. Wilkinson, Mr. Mason, Mr. Horsley, Mr. Raby, and Mr. Cookerell were the most successful of the large body of competitors. The principal prizetakers in the amateurs' classes were Mr. Raby, Mr. G. F. Grant, Mr. S. Davy, Mr. H. J. Bethell, Mr. Hopper, and Mr. Pacey.

Table Decorations and Bouquets formed a very beautiful feature, and did great credit to the ladies who took part in the competition for the prizes. In the class for a dinner table, the piece of challenge plate and £4 4s., offered as the first prize, were awarded to Miss Jameson, who had a very tastefully-arranged table. In other classes Mrs. Cottam, Mrs. E. Goddard, Mrs. Cogan, Miss E. Gleadow, Miss Swanson, and Mrs. Leonard were the most successful.

Premier Flowers had four prizes set apart for them, two for blooms in the open classes, and two for blooms in the classes in which the competition was limited to amateurs. Considerable difficulty was experienced in selecting the flowers, and in the result the awards were made as under. In the open classes the prize for the best incurved was awarded to Mr. Lindsay for the bloom of Lord Alcester in his first prize twenty-four, and the prize for Japanese was awarded to Mr. Mease for a flower of Boule d'Or, forming part of the forty-eight for which he was awarded the challenge vase. In the amateur classes, Boule d'Or and Golden Empress were selected from the stands of Mr. A. W. Stanley as the best flowers of the respective sections.

Miscellaneous Contributions comprised a very large and beautiful group of flowering and ornamental plants from Mr. W. G. Dixon, Hull; an extensive and remarkably fine collection of apples and pears from Messrs. R. Smith and Co., Worcester; a thoroughly representative and otherwise excellent collection of potatoes from Messrs. E. Webb and Sons, Stourbridge; and a stand of new chrysanthemums from Mr. R. Owen, Maidenhead; to all of whom certificates of the first class were awarded. Mr. T. Winkworth, Childwall Hall, Liverpool, exhibited a stand of blooms of his fine yellow sport of Meg Merrilies, *Mr. Ralph Brocklebank*, and was granted a first-class certificate.

The judges were Mr. George Gordon and Mr. J. Wright.

YORK CHRYSANTHEMUM SOCIETY, November 17 and 18.

The annual exhibition of chrysanthemums, fruits, and vegetables, held on the above dates by the Ancient Society of York Florists, bore a very favourable comparison with the most successful of the previous exhibitions, and must have afforded abundant gratification to the visitors. Specimen plants and groups were of great excellence, and the fruit and vegetables were staged in such large quantities as to surprise not a few of the visitors, and the quality of the greater proportion of the exhibits was such as to satisfy the most exacting of critics.

Groups of chrysanthemums had three classes set apart for them, and as the competition was keen in each they formed one of the most striking features of the display. Generally speaking the groups were rather too heavy, and it would certainly be a great advantage if exhibitors were to avoid the practice of packing the plants so closely together. This year a silver cup was offered by the Lord Mayor of York for a group to occupy a space not exceeding one hundred square feet, and the winner was Mr. McIntosh, gardener to J. T. Hingston, Esq.; the second and third prizes were respectively awarded to Mr. Dawe, gardener to Dr. Baker, The Retreat, York; and Mr. G. Cooper. Mr. McIntosh was first also in the class for a group of miscellaneous plants, the remaining prizetakers in the class being Mr. J. Key, Bootham; Messrs. Simpson and Son, Heworth; and Mr. Lister, gardener to T. S. Brogden, Esq., Heworth. In the class for a group, consisting exclusively of chrysanthemums, Mr. Everard, gardener to Mrs. Gutch, Holgate Lodge, York, Mr. Dawe, and Miss Steward, York, were the successful competitors.

Specimen Plants were on the whole well shown, but a considerable proportion were rather too stiffly trained. For nine incurved and reflexed varieties, Mr. Everard, Mr. Morton, Mowden Bridge, and Mr. Dawe were successful in securing the awards. In the other classes for specimen plants Mr. Vear, Mr. T. Smith, Mr. Everard and Mr. Dawe were the most successful of the comparatively large body of exhibitors.

Cut Blooms produced an excellent display, although hardly so numerous as last year. The silver cup presented by the City Sheriff for a collection consisting of eighteen incurved and eighteen Japanese varieties, was awarded to Mr. Folkard, gardener to W. B. Richardson, The Mount, York, who had flowers of good quality; Mr. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, Derby, was second with very good blooms, although rather wanting in finish; and the Rev. B. Hemsworth and Mr. Fieldhouse, gardener to Miss Moore, Clifton, were third and fourth respectively. The first place in the class for twenty-four blooms, to comprise equal numbers of Japanese and incurved varieties, also in that for twelve incurved, was occupied by Mr. Folkard, who was very successful in several of the other classes. Mr. J. Short, gardener to A. Pease, Esq., Darlington, Mr. Goodacre, Mr. Townsend, gardener to the Hon. R. C. Parsons, Mr. Grey, gardener to Sir J. Kitson, Leeds, Mr. C. H. Simpson, Mr. Jenkins, Darlington, Mr. T. B. Morton, and Mr. W. R. Robinson also exhibited with much success in the classes provided for cut blooms.

Fruit was staged in rather larger quantities than last year, the grapes being very plentiful. The contest was exceptionally keen in the class for six bunches of grapes, in three varieties, and the first prize was awarded to Mr. Goodacre, whose varieties were Mrs. Pearson, Gros Colmar, and Muscat of Alexandria; Mr. J. McIndoe, gardener to Sir J. W. Pease, M.P., Hutton Hall, Guisborough, was second, with large, finely-finished clusters of Gros Guillaume, Lady Downes Seedling, and Trebbiano; Mr. Wallis, gardener to the Rev. Ralph Sneyd, Keele Hall, Staffordshire, was third; and Mr. J. H. Riddell, gardener to Earl Faversham, Duncombe Park, Helmsley, Yorkshire, was fourth. In competition for the prizes for two bunches of black grapes Mr. W. Jenkins, gardener to B. Cochrane, Esq., Durham, was first with large, well-finished bunches of Alicante, and in the corresponding class for white grapes Mr. H. J. Clayton, gardener to J. Fielden, Esq., Grimston Park, was first with Muscat of Alexandria in fine condition. Mr. Riddell and Mr. Townsend also exhibited well in these two classes. Apples were well shown by Mr. Goodacre, Mr. Short, Mr. J. D. Hutchinson, Kirkby Moorside; Mr. Lawson, Mr. Mitchell and Mr. Kendall; and pears by Mr. Goodacre, Mr. Kirkill, Mr. Kendall, Mr. Mitchell, and Mr. Short.

Vegetables were of the most praiseworthy character. The principal prizetakers were Mr. Kirk, Mr. Mitchell, gardener to Lord Wenlock, Escrick Park; Mr. J. Whittaker, Mr. J. D. Hutchinson, Mr. C. Hammond, Mr. Short, Messrs. Simpson and Son, Mr. Suggitt, and Mr. R. West.

ASCOT AND SUNNINGHILL CHRYSANTHEMUM SOCIETY.

The success of this young society affords another instance of the increasing popularity of the chrysanthemum, and shows how soon the cultivation is taken up and developed when once brought well before the public, and some inducement given to growers such as that given by this and other kindred societies. The third annual exhibition was held at the Grand Stand at Ascot, November 17 and 18, and more unpropitious weather on the morning of the opening day for the exhibition could not possibly have been. Jupiter Pluvius has held full sway over the greater part of the chrysanthemum season this year, and we are afraid many of the societies which depend on takings at the doors and have had no opportunity of preparing for a rainy day by the formation of a reserve fund, will suffer financially. Happily this society is well supported by the influential residents in the neighbourhood, and likewise fortunate in having such a fine place as the Grand Stand, which was kindly placed at the disposal of the executive by the trustees of the Royal Ascot Race Course. The place of the exhibition has doubtless been the scene of many an exhibition of beauty and fashion, but it is questionable if ever a display more ennobling to the senses and gratifying to the eye has been produced in the hall in which the show was held. Of course royalty was represented on this occasion. Queen and Empress, Prince and Princess were there in all their beauty and stateliness, and lords and titled ladies were present in great numbers.

The groups for competition were arranged in the entrance lobby, which gave the show a somewhat divided appearance. If they could have been arranged around the hall with the cut flowers and specimen plants the show would have had a much better effect. There were five groups of chrysanthemums in competition for prizes offered for the best arrangement in fifty square feet, and the first prize was awarded to Mr. J. Hughes, gardener to H. F. de Paravicini, Esq., who had a fine group of incurved and Japanese varieties, the flowers large and very fresh, but the plants rather too tall to be effective; the second award was made to Mr. W. Lane, gardener to Miss During-Smith, for a much dwarfer lot, nicely arranged, but many of the flowers had lost their freshness; Cullingfordi was very fine, and the plants very telling in this group; the third prize was awarded to Mr. G. Read, gardener to A. Magniac, Esq.; and the fourth to Mr. J. Savage, gardener to Baron Huddleston, all with good quality and very effective arrangements. The specimen plants were of great promise for such a young society, especially the first prize lot. For six large flowered varieties Mr. W. Lane was first; Mr. Savage was second; and Mr. Hughes third. For four Mr. G. Read was first; and Mr. R. Smee, gardener to J. Noble-Taylor, Esq., second. For three standards Mr. Savage was awarded the first prize, staging nicely finished plants; Mr. Lane was second; and Mr. Nichol, gardener to Miss Delane, was third. For six pompons Mr. R. Smee was first; and Mr. J. Nichol second. For a single specimen Mr. Lane was first for a large, but too much drawn out-plant of Peter the Great; Mr. Read second with a small, neat Golden Christine; and Mr. R. Smee was third with a large bush of Mrs. Forsyth.

The principal prize for cut blooms was a silver cup, presented by the Hon. Mrs. Ashley Ponsonby, for the best eighteen incurved and eighteen Japanese, distinct. This brought out a good competition, the blooms being remarkable for their size, freshness, and being all well set up. Mr. Tomlin, gardener to J. Ashby, Esq., was awarded first for good blooms of Golden Empress of India, Lord Wolseley, Alfred Salter, Lord Alcester, Mrs. Heale, Empress of India, Barbara, Madame Laing, Mons. Ardene, Jeanne Delaux, Fair Maid of Guernsey, Mons. Astorg, Mdlle. Lacroix, and Comte de Germiny; Mr. Page, gardener to A. Southard, Esq., was a good second, having some remarkably fine Japanese flowers, but his incurved were rather rougher; Mr. Lane was third with a good stand. In the open class for eighteen incurved, Mr. R. Strong, gardener at Wellington College, was a good first with well-developed blooms of Queen of England, Golden Empress, Nil Desperandum, Mr. Brunlees, Jeanne d'Arc, and Beauty; Mr. Hughes second, with a stand containing a fine bloom of Jeanne d'Arc and Barbara; Mr. Page third, and Mr. F. Paul, gardener to J. C. Bowring, Esq., fourth. One fine stand of blooms in this class was disqualified in consequence of its containing two blooms of Barbara, one under the name of Mrs. Shipman, which the unfortunate exhibitor had bought as that variety. This stand contained the premier flower in the show (Hero of Stoke Newington), and to which was awarded the certificate from the National Society. For twelve incurved, Mr. W. Lane was first with a good stand; Mr. Tomlin was second, and Mr. Sinclair, gardener to the Marchioness of Downshire, third. In the smaller class for six incurved, Mr. G. Cole, gardener to C. W. Hamilton, Esq., was placed first, Mr. Read second, and Mr. Godfrey, gardener to H. C. Rotherey, Esq., was third. The class for six blooms, one variety incurved, brought out three splendid stands; the first was awarded to Mr. G. Cole for a stand of Queen of England, fully developed and nicely finished; Mr. Tomlin second with Lord Alcester; and Mr. W. Lane third with the same variety, both showing splendid blooms, but losing only through the lack of finish in some of the flowers.

The Japanese classes were all well filled and numerous splendid examples were shown. The first prize in the leading class for eighteen distinct was well won by Mr. C. Page, who had Triomphe de la Rue des Châlets, extraordinarily fine in size and colour, Boule d'Or, Japonnais, Val d'Andorre, Meg Merrilies, Jeanne Delaux, Comte de Germiny, Maiden's Blush, Balmoreau (deep and well-coloured), Criterion, and Mons. Astorg; Mr. G. Cole second with good flowers; Mr. H. Popple, gardener to the Hon. Lady Stepney, third. For twelve distinct Mr. Lane was first with good flowers of Belle Paule, Boule d'Or, Mdlle. Lacroix, and John Laing; Mr. Tomlin second with a stand containing a fine flower of Madame Laing; Mr. Savage third. For six distinct, Mr. Read first; Mr. Hibbins, gardener to General Thornhill, second; and Mr. R. Saunders, gardener to the Hon. Ashley Ponsonby third. In the class for six blooms of one variety the winning stands were remarkably close, and it is seldom three such stands are brought out in competition in one class. Eventually Mr. Lane was the first with Belle Paule, perfect in colour and character; Mr. Page second with Japonnais, very fine blooms that covered

the stand, but a little thin in the centre; and the third award was made to a good stand of Jeanne Delaux. For twelve reflexed Mr. Tomlin was first with a good lot; and Messrs. Paul and Smee second and third with smaller blooms. Some good stands of large anemones were staged, and the prizes were awarded to Messrs. Tomlin, Popple, and Page. Mr. Smee was first for six bunches of pompons.

Fruit was well represented; Mr. Lane gaining first for a dish of black grapes, with large bunches of Alicante; Mr. John Wells was placed second for beautifully-finished bunches of Cooper's Black, resembling Gros Maroc; and Mr. Hughes third with Black Alicante. For three bunches of white grapes, Mr. Lane was first; Mr. Cole second; and Mr. Sinclair third; all showing Muscat of Alexandria. For four dishes of kitchen apples, Mr. Holdforth was first; Mr. Godfrey second; and Mr. Fenner third. Dessert apples and pears, three dishes of each, were shown together in the same class, which was very unsatisfactory. In some collections the apples were perfect, but the pears indifferent, and vice versa. The first prize was awarded to Mr. Godfrey, the second to Mr. Sinclair, and the third to Mr. Wells.

Groups of miscellaneous plants formed a very nice feature, especially the first prize arrangement contributed by Mr. F. Paul, which contained some very fine orchids, amongst which were some very interesting seedling cypripediums; Mr. Sinclair was second with a beautiful lot; and Mr. Wells third with good plants, but too closely packed.

Table and berried plants and primulas were arranged down the centre tables very effectively and in large numbers, and the prizes were shared by the exhibitors already mentioned. Stands of cut chrysanthemums with foliage for the decoration of the dinner table were represented, but some were too heavily arranged. A very fine and effective group of chrysanthemums faced with palms and ferns was arranged not for competition by Messrs. John Standish and Co., Royal Nursery, Ascot, and formed a special feature at the end of the entrance corridor; and Messrs. Sutton and Son had a collection of sixty-five dishes of potatoes at the side. The same firm offered a special prize for six dishes of vegetables which brought out a good display, the prizes being awarded to Messrs. Wells, Hughes, and Holdforth, in the order of their names.

The exhibition was crowded long before the judging was completed, owing to the lateness of commencing the duties and the number of awards to make; the number of exhibits taxing the labours of the staging committee, Messrs. Hay and Read, and also Mr. G. Watkins the courteous secretary, very severely. No doubt this season's experience will enable them to improve in this direction and have everything ready to enable the judges to complete their work before the admittance of the public. The judges were Mr. Wildsmith, Mr. Herring, and Mr. Orchard.

DEVIZES CHRYSANTHEMUM SHOW.

The Devizes Chrysanthemum Show has grown year by year under the fostering care of Mr. C. N. May, until it has successively become—first, the best in the West of England, and now, in the opinion of the most competent judges, second to none in the country, excepting only the chief show of the year, at the Westminster Aquarium. The promoters of the show have always been fortunate in securing the services of Mr. Thomas King, of Devizes Castle gardens, in carrying out the practical details of the exhibition; and how much the general effect of the magnificent show of flowers is due to the artistic skill and judgment with which this veteran horticulturist arranges the exhibits is realized, perhaps, by few of the general public. The interior of the Corn Exchange does not present the most artistic of surroundings, but all difficulties in this respect are overcome by the tact which Mr. King evinced in the arrangement of the produce; and the result was that, on entering the building, the *tout ensemble* of the exhibition at once impressed the visitors with its beauty and elegance. The pot plants were placed, as usual, on either side of the building, the magnificent show of cut blooms occupying a stand in the centre, while the cottagers' vegetables—a new feature—were staged at the gallery end of the Exchange.

The plants shown were far in advance of anything ever before seen here, and did great credit to the skill of the exhibitors. The display of incurved and Japanese varieties was especially good. Of course, the favourable season greatly conduced to this result, and the show, we understand, would have been even better in quality but for the dull, damp weather of the previous fortnight, which caused a number of the best blooms to "damp off;" so that what were at one time the most promising plants were obliged to be left at home by several of the exhibitors. The plants which won for Mr. May the chief honours of the show were all remarkably well grown, and carried a marvellous weight of bloom. Those shown by Mr. Colston, who also made a first-class display, were equally strong plants, but, from their being two years old, the blooms they bore were not quite so good in several of the classes. In Japanese, however, the six staged by Mr. Colston appeared to be so nearly equal to those which obtained for Mr. May the first prize that to a professional eye there was very little to choose between them; in fact, of the two, Mr. Colston's plants seemed the more profuse in bloom, but in two cases they were deficient in foliage. The challenge cup, the coveted honour of the show, which has been held by Mr. Colston two years in succession, and was won in 1883 by Dr. Hitchcock, of Market Lavington, was this year won by Mr. May, Mr. Colston coming next, and Major Clark third. Major Clark, of Trowbridge, was a very successful exhibitor in the classes for four plants, and while the name of Dr. Hitchcock was missed, with regret, from among the competitors, it was gratifying to notice the Vicar of Southbroom coming out successfully as a chrysanthemum grower. The silver cup, value five guineas, generously given by the Ex-Mayor (Mr. Mead), for the best twenty-four cut blooms, induced a very strong competition, seven excellent stands being shown. The honours in this class were carried off by a competitor from a distance, Lord Eversley, of Winchfield, Hants, taking the cup with some magnificent blooms, which were the subject of general admiration. In the other classes, the cut specimens of incurved and Japanese were exceptionally fine, while anemone-flowered were numerously shown and of excellent quality.

It may be of interest to state that the specimens with which Mr. Hall, gardener to C. W. May, Esq., Elm Lodge, Devizes, obtained the first place, comprised Mr. Bunn, a fine plant laden with its golden flowers; Mrs. Forsyth, Hereward, Lord Wolseley, Christine, and Pink Venus. Mr. H. Clarke, gardener to E. Colston, Esq., Roundway Park, Devizes, was second with Golden Christine, Prince Alfred, Mrs. Dixon, Barbara, White Globe, and Bronze Jardin des Plantes. Mr. G. Tucker, gardener to Major Clarke, Trowbridge, who was first for four specimens, staged Mrs. Dixon, Prince of Wales, Mrs. G. Rundle, and Golden Christine; the six Japanese specimens were remarkably well grown and splendidly flowered, the varieties comprising Soleil Levant, Hiver Fleur, Peter the Great, Madame Bertier Rendatler, Bouquet Fait, and Lady Selborne. The specimens from the gardens of Major Colston, for which the second prize was awarded, included Peter the Great, Madame de Sevin, Fair Maid of Guernsey, Madame C. Audiguier, Madame Bertier Rendatler, and Alba Plena. For four Japanese, Mr. G. Tucker was first with well developed examples of Hiver Fleur, Madame de Sevin, Brise du Matin, and Madame Bertier Rendatler. The six specimen pompons with which Mr. Hall secured first honours were remarkably good. Major Colston came second. In the class for a plant each of Mrs. G. Rundle, Mrs. Dixon, and George Glenny, Mr. May was again first with admirable specimens, Major Colston coming in a good second.

Cut flowers were in remarkably good form. The twelve incurved and twelve Japanese, with which Mr. Wildsmith took the first prize, consisted of Princess of Wales, Baron Beust, Jeanne d'Arc, Golden Empress, Queen of England, Lord Alcester, Lady Carey, Emily Dale, Lord Wolseley, Cherub, Empress of India, Jardin des Plantes, Fanny Boucharlat, Madame C. Audiguier, Thunberg, Maiden's Blush, Mdlle. Lacroix, Meg Merrilies, Japonnais, Mons. J. M. Pigmy, Mons. Astorg, L'Adorable, Dolores, and Baronne de Prailly. Mr. G. Tucker was a good second in the matter of incurved flowers, but his Japanese were small. Of the former he had Jeanne d'Arc, Empress of India, Hero of Stoke Newington, Lord Wolseley, Lord Alcester, Nil Desperandum, Barbara, Princess of Wales, Prince Alfred, Mrs. Dixon, Baron Beust, and White Globe. His best Japanese were: Hiver Fleur, Meg Merrilies, Madame C. Audiguier, Ambrose Bouger, Madame de Sevin, and Yellow Dragon. Mr. E. S. Cole was third. In the class for twelve blooms, in four distinct varieties, Mr. Wildsmith was first with a fine lot, consisting of Princess of Wales, Baron Beust, Jeanne d'Arc, and Golden Empress. Mr. E. Miller, gardener to F. Tagart, Esq., Old Sneyd Park, Bristol, was second with Empress of India, Lord Wolseley, Princess of Teck, and Cherub. Mr. Hall had the best stand of twelve distinct incurved flowers, staging capital blooms of Empress of India, Lord Wolseley, Jardin des Plantes, Queen of England, Lady Hardinge, Prince Alfred, Princess of Wales, Mr. Howe, Cherub, Mrs. Heale, Mrs. W. Shipman, and Venus. Mr. W. Wildsmith, second with Queen of England, Jeanne d'Arc, Beauty, Baron Beust, Princess of Wales, Golden Empress, Alfred Salter, and Jardin des Plantes as his best. The best twelve blooms shown with four inches of stem and foliage came from Mr. Hall, who had admirable blooms of Barbara, Golden Empress, Mr. Howe, Queen of England, Alfred Salter, Princess of Wales, Pink Venus, Empress of India, Cherub, St. Patrick, and Mrs. Heale. Mr. Wildsmith, second with fine blooms, a little past their best, Mabel Ward, Venus, Lady Carey, and Nil Desperandum being in the best condition.

Japanese varieties shown in stands of twelve varieties made a very fine display, and here Mr. W. Pethick was first with a very fine lot, consisting of Japonnais, Fair Maid of Guernsey, Madame C. Audiguier, Triomphe de la Rue des Châlets, Comtesse de Beauregard, Bronze Dragon, Jeanne Delaux, Fanny Boucharlat, Gloriosum, Belle Paule, Madame Feral, and Thunberg. Mr. Wildsmith was a good second with Mons. J. M. Pigmy, Thunberg, Mons. Brunet, Maiden's Blush, Mdlle. Lacroix, L'Adorable, Mons. Astorg, and Jeanne Delaux as his leading flowers.

Mr. W. Pethick had the best stand of twelve anemone-flowered, in not less than four distinct varieties, staging admirable blooms of Fabias de Maderanaz, Empress, Madame B. Pigmy, Ratapoil, Lady Margaret, Gluck, Sœur Dorothée Souille, and Georges Sand. Second, Mr. G. Tucker with King of Anemones, Lady Margaret, Empress, Mons. Godereau, Fleur de Marie, Louise Bonamy, and Madame Thereta. Several other very fine stands were shown in this class.

Mr. Wildsmith staged a stand of a dozen blooms of reflexed chrysanthemums that were in fine condition, and were highly commended by the judges. These should find a place in the schedule another year, for they are very attractive.

Another new feature introduced with great success was the competition for prizes offered by Mr. E. B. Anstie for baskets of hardy autumn foliage, in which no fewer than twenty-one capital entries were made. In nearly every instance, great taste was manifested in the arrangement of the foliage and berries, which were present in a variety and wealth of beauty which astonished many of the spectators. In this class, Mr. Walter King, the son of the gardener at Devizes Castle, was first, Mr. W. Pethick, second, and Mr. Pinney, Manor House, Malden, third.

Mr. A. J. Randell discharged the duties of hon. secretary to the show with efficiency and courtesy, and the prizes were awarded by Mr. Richard Dean, of Ealing, and Mr. John Bradner, of Clifton.

LIVERPOOL HORTICULTURAL ASSOCIATION, NOVEMBER 23 and 24.

The autumn exhibition of the Liverpool Horticultural Association, was held on the above dates, and proved so remarkably good in all its details, that it was very properly considered one of the best chrysanthemum and fruit shows that have yet been held in the city; the whole of the available space within St. George's Hall was fully occupied, and without exception, the plants, cut flowers, and fruits staged in competition for the prizes, were of a very high degree of excellence.

There was a strong competition in the plant classes, and the large number of specimens formed one of the most striking features of the show. Especially successful in this division was Mr. J. Hughes, gardener to H. Mac Iver, Esq., who was first for six, three, and one large flowered, for six, three, and one pompon varieties, and for a pyramid. Other successful exhibitors in the plant classes were Mr. C. Finnagan, New Brighton, Mr. T. Jones, gardener to W. C. Clark, Esq., Mr. E. Green, Gardener to J. Woollright, Esq., Mr. T. Gowlins, gardener to J. Cunningham, Esq., Mr. G. Barber, gardener to M. Barnsley, Esq., Mr. J. Lowndes, gardener to S. S. Parker, Esq. The large flowered varieties shown comprised Mrs. George Rundle, George Glenny, Mrs. Haliburton, Venus, Lady Hardinge, Mr. Bunn, and others equally well known. Mdlle. Martho, Cedo Nulli, Elenore, Golden Mdlle. Marthe, Bob, and St. Michael, were the best of the pompons represented.

The cut blooms were staged in immense numbers and in capital condition. A few of the flowers had evidently suffered from the unfavourable influence of the close, damp weather immediately preceding the date of the exhibition, but the majority were as fresh and bright as could have been desired. The most important of the numerous classes was that for forty-eight blooms, to comprise equal numbers of Japanese and incurved, in which the first prize consisted of a silver cup of the value of ten guineas. There were three entries, and the cup was awarded to Mr. F. Roberts, gardener to W. D. Holt, Esq., who had large well-finished flowers of Angelina, Hero of Stoke Newington, Jardin des Plantes, Princess of Teck, Queen of England, Lord Alcester, Mrs. Shipman, Mrs. Heale, Prince Alfred, Princess of Wales, Golden Empress, Lord Wolseley, John Salter, Mr. Bunn, Emily Dale, Empress of

India, Alfred Salter, Mons. Astorg, Belle Paule, Soleil Levant, Marguerite Marrouch, Japonnais, Boule d'Or, Balmoreau, Fair Maid of Guernsey, R. Ballantine, Sarnia, Madame C. Audiguier, Meg Merrilies, Mons. H. Jacotot, Jeanne Delaux, Triomphe de la Rue des Châlets, Criterion, Baronne de Prailly, and Mdlle. Lacroix; Mr. J. Jellicoe, gardener to F. H. Gossage, Esq., and Mr. T. Leadbetter, gardener to R. N. Dale, Esq., were second and third respectively. Excellent stands of flowers were contributed to the class for twenty-four incurved by Mr. Jellicoe, and Mr. Playfair, gardener to H. Nicholson, Esq. The finest of the blooms exhibited were those of Alfred Salter, Princess of Wales, Queen of England, Golden Empress, Mrs. Shipman, Prince Alfred, John Salter, and Empress of India. For eighteen incurved Mr. J. Wilson, Mr. A. R. Cox, and Mr. A. Eaton were first, second, and third respectively; and in the remaining classes for incurved varieties the principal awards were made to Mr. F. Roberts, Mr. G. Burden, Mr. M. Playfair, Mr. W. Wilson, and Mr. W. H. Jones, all of whom presented flowers of high quality. Mr. J. E. Reynolds and Mr. Jellicoe were first and second for twenty-four Japanese; and for eighteen Mr. A. Eaton, Mr. W. Wilson, and Mr. A. R. Cox were first, second, and third respectively. Japanese flowers were also well shown by Mr. J. E. Reynolds, Mr. F. Roberts, Mr. E. Green, and Mr. Cockburn. The finest reflexed flowers were those contributed by Mr. Jellicoe and Mr. A. R. Cox; and Mr. S. Collins and Mr. T. Foster contributed remarkably good stands of pompons.

Miscellaneous plants were, as at previous exhibitions, shown very largely, and materially enhanced the interest of the show. Capital collections of stove and greenhouse plants were contributed by Mr. A. R. Cox, Mr. Jelicoe, Mr. T. Jones, Mr. A. Crosbie, and other exhibitors. Ferns were well represented by the contributions of Mr. A. R. Cox, Mr. J. McGrath, and Mr. W. Wilson. From Mr. J. Edwards, Mr. T. Worth, Mr. Hurst, and Mr. C. Copple came excellent orchids, the Calanthes and Cypripediums being particularly good. Primulas were admirably shown by Mr. W. H. Jones, Mr. T. S. Rogerson, and Mr. E. Green.

There was an extensive and good display of fruit, the classes for collections being exceptionally well filled. For twelve dishes, Mr. J. H. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, was a good first, closely followed by Mr. Upjohn, gardener to the Earl of Ellesmere, Worsley Hall, and Mr. Harragan for second and third places. Mr. Goodacre was first also for six dishes, and Mr. Elsworthy and Mr. Harragan were again second and third respectively. Mr. G. Gibson was first in both the classes for pineapples with well ripened fruits. In the grape classes Mr. J. Hollingworth, Mr. Wallis, Mr. Elsworthy, Mr. W. Wilson, Mr. Goodacre, and Mr. J. Bennett were the most successful exhibitors. Pears were well shown by the Rev. L. Garnett, Christleton, Mr. Goodacre, Mr. W. H. Jones, and Mr. E. Green. To the apple classes Mr. J. McKenzie, Linton Park, Rev. L. Garnett, Mr. E. Owen, Rev. H. Awkright, Mr. Goodacre, and Mr. E. Banner contributed fruit of high quality.

The prize offered for the best incurved flower was awarded to Mr. J. Wilson, for a good bloom of Lord Alcester; and that for the best Japanese was awarded to the same exhibitor for Boule d'Or. Mr. T. Winkworth exhibited blooms of Ralph Brocklebank, a fine sport from Meg Merrilies, and was awarded a first-class certificate.

NATIONAL CHRYSANTHEMUM SOCIETY, November 24.

A meeting of the Floral Committee was held at the Aquarium, on Wednesday, when, as at previous meetings, a considerable number of novelties were submitted. There were present E. Sanderson, Esq. in the chair, and Messrs. C. Swift, R. Dean, G. Stevens, J. Wright, George Gordon, H. Cannell, S. Gilbey, R. Ballantine, N. Davis, J. Mardlin, J. P. Kendall, and C. Gibson. The undermentioned are the principal varieties submitted.

Syringa.—A Japanese variety, the flowers rather large with curled petals, and of a bright pink. As shown rather thin, but it was considered promising, and accordingly commended.

Mr. Ralph Brocklebank.—A sport from Meg Merrilies, having flowers of a bright yellow colour, and identical in size and form with the type. First-class certificate. Exhibited by Mr. Winkworth.

Mr. D. B. Chapman.—A superb Japanese variety, the flowers of large size, and very solid, the petals thread-like and much curled; the colour rich rose-magenta. First class certificate. Exhibited by Mr. Sullivan, Roehampton.

Robert Bottomley.—A Japanese variety bearing large finely-formed flowers of the purest white. As shown, it was considered not sufficiently distinct. Exhibited by Messrs. J. Veitch and Sons.

Lady Matheston, raised by M. Delaux, and introduced as a Japanese variety, has large white flowers similar in character to a very bad incurved, and was passed by the committee. Blooms were submitted by four exhibitors.

Miss Nicholls.—A reflexed flower of a pleasing blush colour and good form. As shown, rather small. Exhibited by Mr. G. Stevens.

V. Sumner.—A hybrid pompon with flowers similar in size and form to those of Sœur Melanie, and of a deep blush colour. Exhibited by Mr. G. Stevens.

James Lee.—A hybrid pompon, the flowers very large and of a reddish orange hue. Exhibited by Mr. G. Stevens.

Mrs. H. J. Jones.—A fine golden yellow sport from Ethel, which received a first-class certificate when exhibited at the preceding meeting by Mr. H. J. Jones, of Lewisham. On this occasion two large and well-flowered specimens were exhibited by Mr. T. S. Ware, Tottenham.

Charles Hallé.—A beautiful intermediate, with medium-sized flowers of a bright pink hue. It is very promising, and will probably prove useful for decorative purposes. Commended. Exhibited by Mr. T. S. Ware.

Iona.—A handsome hybrid pompon, with large globular flowers, having notched petals, and a of rich rosy orange hue. Commended. Exhibited by Mr. T. S. Ware.

Rubra perfecta.—A remarkably good pompon, the flowers comparatively large, of fine form, and a brilliant crimson hue. First-class certificate. Exhibited by Mr. W. E. Boyce.

Mrs. N. Davis.—An excellent incurved flower, obtained as a sport from Princess of Teck, and of a rich golden colour. First-class certificate. Exhibited by Mr. Mizen, Mitcham.

Sirus.—A very beautiful pompon. The flowers comparatively large, decidedly reflexed, and of fine form; the colour dark amber. First-class certificate. Exhibited by Mr. R. Owen, Maidenhead.

Mrs. Glover—A white reflexed flower, which was said to have been obtained as a sport. Was considered by the committee to be similar to La Vierge. Exhibited by Mr. R. Owen.

Pedro Diaz.—A fine reflexed flower of a brilliant crimson colour, which has been already certificated, was shown in capital form by Mr. R. Owen.

Marguerite, Cloth of Gold.—A beautiful variety of Chrysanthemum coronarium, with bright yellow flowers. Exhibited by Mr. R. Owen and commended.

La Gracieux.—An incurved variety of great promise; the flowers are rather large, and of a bright pink hue. Exhibited by Messrs. H. Cannell and Sons.

Marigold.—A very effective single variety, with flowers of the largest size, and a brilliant crimson colour. First-class certificate. Exhibited by Messrs. H. Cannell and Sons.

Mrs. W. Holmes.—A beautiful anemone variety, the flowers rather small, as shown, but perfect in form, the colour deep blush pink. First-class certificate. Exhibited by Messrs. H. Cannell and Sons.

L'Or du Japon.—A remarkably handsome Japanese variety; the flowers, which are somewhat similar in build to those of Criterion, are very large, and remarkably solid; the colour bright orange yellow. First-class certificate. Exhibited by Messrs. H. Cannell and Sons.

Mrs. H. Cannell.—A Japanese variety, with pure white flowers, similar in form to those of Pelican. Exhibited by Messrs. H. Cannell and Sons.

Moonlight.—A very distinct Japanese variety; the flowers large in size, somewhat globular, and pure white. First-class certificate. Exhibited by Mr. Kendall.

BIRMINGHAM CHRYSANTHEMUM SOCIETY, November 24 and 25.

The contributions to the classes provided in the schedule of prizes offered by the Birmingham Chrysanthemum Society were so numerous that the Town Hall, in which the exhibition was held, was filled to its utmost capacity. As the exhibits were not less remarkable for their high quality than for their number, the display produced was one of which the society may well be proud.

The majority of the plant classes were well filled, and the specimens were mostly of the largest size and admirably flowered. The most successful of the exhibitors in the classes for large-flowered varieties were Mr. T. Martineau, Mr. D. Milward, Mr. Cooper, and Mr. W. Milward. Pompons were presented in excellent condition by Mr. T. Martineau, Mr. R. Chamberlain, Mrs. Marigold, and Mr. W. Milward, to whom the principal awards were made. For groups Mr. R. Chamberlain, M.P., Mr. J. B. Lees, and Mrs. Marigold were first, second, and third respectively, with highly effective arrangements.

The display of cut blooms was very large, and on the whole remarkably good, although those forming many of the stands were rather wanting in freshness. There was a spirited contest in the great class for forty-eight, and in the result the awards were made to Mr. J. Corbett, Mr. G. A. Everitt, Colonel Wingfield, and Mr. H. Lovatt. For twenty-four, Lord Hindlip was successful in taking the first prize, followed by Mr. J. Corbett and Mr. G. A. Everitt for the second and third places. In a second class for twenty-four, Mr. Ramsden, Mrs. Marigold, and Mr. Watson were the prizetakers in the order of their names, staging flowers distinguished by their high quality. In the remaining classes for cut blooms, the chief prizetakers were Mr. G. A. Corbett, Lord Hindlip, Mrs. Healing, Mr. E. Parks, Mr. J. B. Lees, and Mrs. Marigold.

As for many years past primulas had the most liberal provisions made for them in the schedule, and in consequence were shown in large numbers, and in a condition that fully maintained the reputation of the cultivators in the Birmingham district. For six double primulas, Mr. H. E. Yates and Mr. R. Chamberlain, M.P., were first and second respectively, with neatly grown and well-bloomed examples. In the class for six plants, to include Emperor, Marquis of Lorne, and The Queen, Mr. R. Chamberlain, M.P., and Mr. J. Cooper were first and second respectively; and in the class for six, from which these varieties were excluded, Mr. H. Weiss and Mr. C. Showell were first and second. The finest examples of The Queen were those from Mr. R. Chamberlain, M.P., and Mr. Showell; and of Marquis of Lorne and Princess Louise, the best were from Mr. R. Chamberlain, M.P., and Mr. Cooper. The open classes were particularly good, and in that for twelve, Mr. T. B. Thomson and Messrs. Pope and Son were first and second respectively. Mr. T. B. Thomson was first also for six double varieties and for six fern-leaved, and Messrs. Pope and Son were second in each class. Mr. Cooper was successful in taking the premier award for twelve cyclamens, with nicely-flowered plants.

There was a large and exceedingly attractive display of fruit, to which trade cultivators contributed very liberally. Messrs. Richard Smith and Co., Worcester, exhibited a collection of one hundred dishes of apples. Messrs. G. Bunyard and Co., Maidstone, staged the same number of dishes of apples and pears, and Mr. Watkins, Pomona Farm, Hereford, had upwards of ninety dishes of apples.

Amongst the miscellaneous contributions were collections of plants from Mr. H. Niemand and Mr. R. H. Vertegans, a collection of zonal pelargoniums and new chrysanthemums from Messrs. H. Cannell and Sons, Swanley.

MANCHESTER ROYAL BOTANICAL SOCIETY, November 23 and 24.

The exhibition of chrysanthemums held in the Town Hall on Tuesday and Wednesday last, under the auspices of the Manchester Royal Botanical Society, was of rare excellence, and gave the citizens a good opportunity of seeing these flowers at their best. Plants and cut blooms were both staged in large numbers, and the majority were in first-class condition, bespeaking cultural skill of a high order.

The chief class for plants was that for nine large-flowered specimens, and the competition for the first place was very keen. The premier award was made to Mr. J. Fletcher, Kersley Vale House, who had a capital collection, comprising Mrs. George Rundle, Princess of Teck, and King of Crimsons, the last-mentioned being one of the finest specimens that have yet been exhibited. The remaining prizes in the class were awarded to Mr. A. Heine, Fallowfield, Mr. W. Holland, and Mr. S. Reddaway, Eccles New Road, in the order of their names. The Japanese specimens produced a very rich display of colour, and proved highly attractive. For six Mr. J. Brennard, The Grange, Birch, was first; and Mr. S. Hunter, Pendleton, and Mr. W. Agnew, Pendleton, were second and third. Pompons in collections of six were admirably shown by Mr. J. Wild, Whitefield, Mr. J. Brennard, and Mr. A. Heine, the specimens being large, well trained, and densely flowered. Plants suitable for the embellishment of the conservatory had a class provided for them, and excellent contributions to it were made by Mr. M. S. Bles, Broughton Park, Mr. J. Wild, and Mr. W. Holland.

The majority of the classes for cut blooms were well filled; for twenty-four incurved Mr. E. G. Wrigley, Dukinfield, was a capital first with blooms comparatively large in size and remarkable for their high finish; Mr. D. MacIntre was a close second; and Mr. J. H. Goodacre, Elvaston Castle, Derby, who

was third, had blooms of very good quality. Mr. J. Walker, Stockport, occupied the first place in the class for twelve incurved; Mr. E. G. Wrigley and Mr. W. Lees, Brooklands, were second and third. Mr. E. G. Wrigley was successful also in taking the first prize for twenty-four Japanese, staging a very effective collection of blooms; Mr. J. Walker and Mr. Goodacre second and third. Good stands of twelve Japanese were contributed by Mr. J. Walker, Mrs. Shaw, Mr. Sykes, and Mr. E. G. Wrigley.

There were two classes for bouquets, and Mr. A. Heine was successful in securing a first in each. For twelve dishes of apples and for six dishes of pears Mr. Goodacre and Mr. S. Barlow, Stakehill House, were first and second respectively. Mr. J. Heywood contributed excellent grapes, and the Liverpool Horticultural Company, Messrs. Dickson, Brown, and Tait, and Messrs. Dickson and Robison presented miscellaneous collections of plants, which added much to the attractions of the exhibition.

GLOUCESTERSHIRE ROOT, FRUIT, AND GRAIN SOCIETY.

The annual exhibition of this society recently took place in the Corn Exchange, Gloucester. All the classes were well filled, and the competition very keen. The principal prize for the best collection of dessert apples went to Mr. John Watkins, Pomona Farm, Hereford; second, the Earl of Ducie. Mr. Watkins was again first for a collection of culinary apples; Mr. T. Dean, gardener to Miss Strickland, Apperley Court, was a very close second. The Earl of Ducie was placed first for a collection of dessert pears; Mr. A. Cook, Cheltenham, second. Those who took first prizes for single dishes of apples and pears were the Earl of Ducie, Mr. D. Phelps, Mr. Dean, Dr. Needham, Mr. J. Watkins, Mr. J. R. Bennett, Mr. H. Thomson, and Mr. John Aplin, gardener to W. M. Baker, Esq., Hasfield Court, Gloucester. Mr. J. Watkins was also successful in winning the first prize for a collection of cider apples; Mr. Dean second. For the best collection of dessert apples, open to farmers only, Mr. T. Morris, Mairemore Court, gained the first, and Mr. E. W. Ford, Lugwardine, the second. Mr. T. Morris was again first for a collection of culinary apples, and the second award was made to Mr. Cooper, Stonehouse. Mr. John Fowler, Terley, took the first prize for a collection of cider apples, and Mr. Cooper the second. The exhibitors gaining prizes for black and white grapes were Colonel Kingscote, Kingscote Park; Mr. Parry, Highnam Court, and Mr. G. Viner Ellis, Minsterworth.

Potatoes took up a very large space, as all the classes were well filled. For a collection of twelve varieties, six tubers of each, Mr. G. Allin, Ramsbury Manor, gained the first prize, the second prize going to Mr. A. Cook, and the third to Mr. John Aplin. The principal prizetakers for single dishes were the Earl of Ducie, Mr. A. Cook, Mr. G. Allin, Mr. Bennett, Mr. Wm. Williams, Dr. Needham, Mr. W. H. Morton Newent, and Mr. John Aplin. Messrs. Wheeler and Son, nurserymen, Gloucester, staged a splendid collection of apples, not for competition, which was worthy of the highest praise.

NORTH OF SCOTLAND HORTICULTURAL ASSOCIATION.

TREES AND THEIR INFLUENCES.

The monthly meeting of this society was held in the Christian Institute, Aberdeen. The president, Mr. Alex. Robson, occupied the chair, and there was a good attendance of members. Mr. Alexander Cumming, forester, Huntly Lodge, Huntly, read a very interesting paper on "The Effects of Trees and Plantations on Climate and Crops." Mr. Cumming described trees as a provision of nature to make the earth a fit habitation for man, and proceeded to speak of the influence of trees on our climate. Trees absorb moisture, and the means of subsistence from the earth and the atmosphere. But, although rooted to the earth and taking a certain amount therefrom, they draw the greater part of their nourishment from the atmosphere. Speaking of the office of trees in distributing carbonic acid gas, he explained that their leaves under the influence of sunlight draw in carbonic gas to the extent of one part of carbon to two parts of oxygen. The carbon is retained and the oxygen given out again to purify the atmosphere and sustain man. In the darkness also the leaves of trees and plants give off carbon, but in much smaller quantities. Again, the moisture which trees absorb from the earth is discharged into the air, thus promoting that genial moisture which is so conducive to healthy life.

Trees and plants being so beneficial to the atmosphere are advantageous in the vicinity of manufactories and in large towns, or wherever large quantities of carbon are discharged into the air. We should therefore have our manufactories surrounded with trees in the shape of hedge-rows, or plantations, growing in such a position that they will catch and filter through their leaves the clouds of smoke issuing from chimney stalks. He contended that there should be more trees about the thoroughfares of our large towns, and pointed to the injurious effects which the vitiated air of London was stated to exercise on its inhabitants. Turning to the influence of trees and plantations on crops, Mr. Cumming remarked that inside a plantation the temperature never falls or rises so much as outside in the open; for plantations retain the sun's heat, and discharge it after a manner that prevents excessive changes of temperature. Extreme variations of temperature are lessened by trees more in summer than in winter, and the influence of a plantation of broad-leaved trees is greater in summer and less in winter than the influence of an evergreen pine plantation. As a necessary deduction from this, he advocated that plantations should be mixed with evergreen pine trees. He did not share in the popular belief that crops come earlier to maturity in districts that are well wooded. Extensive plantations absorb immense quantities of water, and discharge a great part of it into the atmosphere. This brings about a moist condition of the local climate, and crops are bound to take a longer time in coming to maturity. But plantations shelter the crops and enable them to come to full maturity, and they also hinder the process of drying, and so lengthen the period of exposure. He illustrated his remarks by citing the Bin Plantation, near Huntly, and gave data of its influence on the contiguous crops as it gradually grew. Plantations regulated the rainfall, and he considered that by judicious enterprise north-western parts of Aberdeenshire that suffered from droughts in spring and early summer could be benefited.

The droughts might be considerably reduced, if not prevented altogether, by carrying out a judicious system of tree planting. Plantations break the force of the winds, fix the surface soil, encourage the growth of surface vegetation, and add to the moisture of the atmosphere. But in densely-wooded countries the atmosphere becomes overweighed with moisture, so that planting is susceptible of being overdone. The extent to which planting ought to be carried on could only be understood by close observation and long experience. It is estimated that four and a-half per cent. of the land in Great Britain is under wood of one kind or other. This proportion of wood would be sufficient for climatic purposes were it all grown up, were it a full crop, and were it judiciously distributed. But it was not. If the hills and moorlands now destitute of trees were planted to the extent of about one-tenth of their area, care being taken to have the plantations so situated as to give the greatest amount of shelter to the agricultural lands, then we will probably find that the severity of our climate will be considerably reduced, and that the proportion of plantations necessary for agricultural land will be small.

Planting should precede the drainage of agricultural lands, because drainage dried up the surface water, and thus deprived the atmosphere of the amount of moisture necessary for the successful growth of crops. The extent of plantations will also be gauged according to the configuration of a district. On a low country a few plantations stretching across the direction of the prevailing winds will give sufficient shelter, but in a hilly district the wind requires to be broken in each glen and hollow.

On the motion of the President, a very hearty vote of thanks was awarded to Mr. Cumming. Mr. James Mowat, Huntly Street, Aberdeen, read a capital paper on the peach and nectarine, at the close of which, and after a vote of thanks to the chairman, the meeting separated.

New Plants, Flowers, and Fruits.

MASDEVALLIA ASTUTA (*G.C.*, 1886, ii., 584).—A near neighbour of M. Gaskelliana, but differing in colours.

ERIA FORDI (*G.C.*, 1886, ii., 584).—A quite new species from Hong Kong, colours yellowish green, with crimson veins on lip.

NEW GLOXINIAS of distinct character have been established by Mr. F. C. Heinemann of Erfurt, uniting the best characters of G. crassifolia and G. hybrida. The flowers are large, stout, of fine form, the lobes broad and smooth, very richly veined and spotted, the colours often intense, yet softened in effect by the delicate mottling. It is a great advantage that these fine forms are freely reproduced from seed, thus obviating the old-fashioned plan of propagating. Growers of these flowers may with advantage give this strain a trial.

CATASETUM GALERITUM (*G.C.*, 1886, ii., 616).—A pleasing orchid, flowers green with brown spots.

CATASETUM PILEATUM (*G.C.*, 1886, ii., 616).—A curious species, with flowers like those of *Mormodes laxatum*.

DENDROBIUM NYCTERIDOGLOSSUM (*G.C.*, 1886, ii., 616).—A new member of the aporum group, flowers green, striped with red.

MAXILLARIA FUCATA (*G.C.*, 1886, ii., 616).—It is near to *M. irrorata*, but has no powdery colour to the lip.

ANTHURIUM ROTHSCHILDIANUM (*G.*, 570).—A good figure of this very distinct variety.

PASSIFLORA WATSONIANA (*G.C.*, 1886, ii, 648).—An elegant species belonging to the granadilla section; flowers small, the colours pale lilac and purple.

VANDA DEAREI (*G.C.*, 1886, ii., 648).—In the way of *V. tricolor*, but distinct and beautiful.

MASDEVALLIA GLAPHYRANTHA (*G.C.*, 1886, ii., 648).—A little gem, believed to be derived from *M. Shuttleworthi*.

KARUTUS ACANTHOCRATER (*B.M.*, 6,904).—A bold bromeliad of fine character.

Replies to Queries.

A. H. Roseburn—Pinch out the trusses of bloom at once, and be careful not to wound the leaves that are nearest them.

Pruning Roses Newly Planted.—J. P.—We do not agree with those who advise you to prune and plant at the same time. We advise you to prune sufficiently to make the plants convenient for handling, then plant them with care, and touch them over with the knife in April next. If you want to check the growth and lose half a season prune them hard in at once.

Bouvardias.—A. C., Wantage.—The plants appear from the specimens before us to be in a very unsatisfactory condition at the roots; but whether it has been produced by unsuitable soil or injudicious watering it is impossible for us to say; but we are inclined to the opinion that the watering has been the cause of the mischief.

Names of Fruits.—I. L. B. J.—Your pears came to us smashed into horrid pulp. How could you send ripe pears in a paper box and expect us to touch the mess? The variety is probably Seckle. R. Watson.—1, Pastorale; 2, King Edward; it is late for it to be in such good condition; 3, Napoleon; 4, Figue de Naples. Robert Rix.—1, Golden Pippin; 2, Clarke's Pippin; 3, Gravenstein; 4, Burr-knot. The pear is Passo Crassane. The grape is Gros Guillaume.

Names of Plants.—Constant Reader.—The plant is Begonia Frœbeli. C. Clarke.—Plants in paper box; 1, Parietaria officinalis; 2, Begonia incarnata; 3, Linum trigynum. W. Walsh.—Your Zigadenus from the Rocky mountains is an exceedingly beautiful plant, making no show whatever except to that "inward eye" that finds delight in delicate design without the aid of colour. It is probably Z. bracteatus, but we can say nothing about labelling until we see the flowers. The frond sent is Platycerium grande, which is quite distinct from P. alcicorne. Barberini.—1, Gnaphalium undulatum; 2, Clianthus puniceus; 3, Myrsine coriacea; 4, Smilax sagittæfolia.

TRADE CATALOGUES.

C. L. HARTSFELD AND CO., NEWPORT, KY., U.S.A.—*Automatic and Portable Tramways, &c.*

WOOD AND INGRAM, HUNTINGDON.—*General Nursery Stock.*

ROBERT OWEN, CASTLE HILL, MAIDENHEAD.—*New and Select Chrysanthemums.*

Obituary.

ON the 20th inst., Mr. D. McFARLANE, formerly gardener at Knowsley Cottage, and of late nurseryman at Olive Mount, Wavertree.

D. of M.	D. of W.	ANNIVERSARIES, FESTIVALS, OCCURRENCES, HISTORICAL NOTES, &c.	SUN. Rises.	SUN. Souths After Noon.	SUN. Sets.	MOON. Rises. After.	MOON. Sets. Morn.	HIGH WATER AT London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp avrg. of 40 yrs. Chiswick.	ORCHIDS IN FLOWER.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
5	S	**2nd Sunday in Advent.**	7 51	9 9	3 51	1 30	0 47	8 33	9 12	5 26	5 58	41·2	Harkeria elegans	Guatemala.	339
6	M	*St. Nicholas.*	7 52	8 43	3 51	1 52	1 51	9 48	10 20	6 37	7 13	41·2	Lælia albida	Oaxaca.	340
7	Tu	Marshall Ney shot, 1815.	7 53	8 17	3 50	2 16	2 54	10 52	11 20	7 45	8 17	41·1	Lælia anceps	Mexico.	341
8	W	*Conception of Virgin Mary.*	7 54	7 51	3 50	2 43	4 1	11 47	—	8 45	9 12	41·0	Lælia anceps Harkeriana	Mexico.	342
9	Th	Vandyke died, 1641.	7 56	7 24	3 50	3 13	5 8	0 11	0 31	9 36	9 56	41·0	Lælia peduncularis	Mexico.	343
10	F	Hogarth (painter) born, 1697. [ing ends.	7 57	6 57	3 49	3 49	6 17	0 52	1 12	10 17	10 37	40·9	Lælia prostans	Brazil.	344
11	S	○ Full Moon, 9h. 30m. morn. Grouse-shoot-	7 58	6 30	3 49	4 34	7 24	1 33	1 52	10 58	11 17	40·8	Oncidium bicallosum	Guatemala.	345

ROYAL HORTICULTURAL SOCIETY.

SOUTH KENSINGTON, S.W.

NOTICE!—COMMITTEE MEETINGS: Scientific, at One p.m., in the Lindley Library; Fruit and Floral, at Eleven a.m., in the East Crush Room, Royal Albert Hall, on TUESDAY next, DECEMBER 7.

KINGSTON and SURBITON CHRYSANTHEMUM SOCIETY.

The ELEVENTH ANNUAL EXHIBITION will be held on TUESDAY and WEDNESDAY, NOVEMBER 8 and 9, 1887.

Schedules are in course of preparation, and will be forwarded when ready on application to

T. JACKSON, Hon. Sec., Fife Road, Kingston-on-Thames.

Exhibitions and Meetings for the Ensuing Week.

TUESDAY, DECEMBER 7.—ROYAL HORTICULTURAL SOCIETY.—Floral and Fruit Committees, 11 a.m.; Scientific Committee, 1 p.m.

WEDNESDAY, DECEMBER 8.—NATIONAL CHRYSANTHEMUM SOCIETY.—Floral Committee, 1.30 p.m.

Auction Sales for the Ensuing Week.

MONDAY, DECEMBER 6.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs and 5,000 Lilium auratum.

WEDNESDAY, DECEMBER 8.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; 3,000 Lilium auratum, Plants, Roses, &c

THURSDAY AND SATURDAY, DECEMBER 9 AND 11.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs.

FRIDAY, DECEMBER 10.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Importation of Cattleya Lawrenceana.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London, E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

*** THE DOUBLE CHRISTMAS NUMBER OF THE GARDENERS' MAGAZINE will be published on Saturday, December 18. It will consist of two sheets of histories, essays, and sketches, freely illustrated, and a Horticultural Almanac for the year 1887. The price will be 6d. Amongst the contents will be papers on the Yucca in Garden Scenery; The True Story of Merlin, the Magician; A History of the Blue Rose; John Kyrle, the Man of Ross; Jacob's Rod, and its wondrous Works in Modern Times; An Interview with a Prodigal Son; The Origin of Robert Burns's "Tam O'Shanter"; A Fern Hunt and a Narrow Escape; Rational Rhymes, &c., &c.

*** THE GARDEN ORACLE for 1887 will be published immediately in the usual form, price 1s. It will contain a new Catalogue of Florists' Auriculas, enlarged and corrected to the present time, and comprising a considerable number of varieties hitherto undescribed. The lists of plants figured; of new plants, flowers, fruits, and vegetables; and the selections for 1887, will be on the models that have met with approval in the twenty-eight previous years of the successive and successful publications of this work. This twenty-ninth issue of the *Garden Oracle* places every novelty in its true position in respect of certificates and other honours, and clearly indicates those that are most to be desired for home use and for exhibition.

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The Gardeners' Magazine.

SATURDAY, DECEMBER 4, 1886.

THE APPLE AND PEAR AS VINTAGE FRUITS claim new consideration in connection with current agricultural statistics; and the study is aided by a compact treatise on the subject, the joint work of the late Dr. Bull, of Hereford, and Dr. Hogg, of London.* The Woolhope Club has, amongst its many useful endeavours, entered upon a systematic inquiry into the relative merits of hardy fruits, and more especially of apples and pears, both as to their market and vintage qualities, and the whole commercial business of producing and using them. One result of these endeavours is the *Herefordshire Pomona*, a noble work in which four hundred and thirty-two varieties of table and vintage fruits are described and figured. This work, which we may, with propriety, speak of as monumental, is of too costly a nature to suit the circumstances of the many who may be supposed to need scientific assistance in orcharding; and it is quite a happy thought on the part of the club to melt it down for general use into a neat handy volume, sufficiently illustrated for what may be termed elementary purposes, and within the reach of all by reason of its low price. The book before us is the product of the melting-pot: it contains the essence of the practical matter of the portly "Pomona," and the several parts of the subject are set forth in the most orderly manner. We have in it a brief but sharply-pointed discourse on orcharding as a branch of rural economy; and the leading inspiration is derived from the inspiriting cider and perry that are produced in the western counties, and more especially in Hereford and Devon. The book illustrates in a striking manner the agricultural problem: it gives a new interest to an ancient industry: and it raises once more the question whether we cannot grow all the table fruit and also all the wine we need for home consumption. If at this point we must be very explicit, we will say that it puts into our minds the important question whether we require foreign wines at all except to gratify fantastic tastes, our own cider and perry being sufficient to slake thirst, assist digestion, supply the brain with phosphorus, and make the heart glad while the useful work of nutrition is proceeding? It is a question with some touch of the sentimental in it, more especially in remembrance of our favourite foreign wines; but it is immensely practical, for the masses of the people have yet to be enlightened. They know cider and perry only by their names, and associate those names with the wry faces that are apt to accompany the swallowing of unpalatable refreshments. But we are not denouncing beer "edgeways," for the fact is the use of beer illustrates the subject, for hops and apples are often grown on the same ground; and if neither cider, perry, nor beer is capable of driving foreign wines from English tables, the three combined might be able to do it, for they can help each other by the variety they bring into use of flavours and qualities. We have often been advised to try the pickles if we liked the sauce. Now we might advise people who like beer to seek a change in cider, and then pass on to perry, hoping, perhaps, that foreign spirits as well as foreign wines might be thrust out of the way by more wholesome beverages of our own production. This we do know that we have tasted generous liquors derived from the apple and pear, and they appeared sufficient for every reasonable purpose of enjoyment and health. But we never have met with such as ordinary marketable articles; and we conclude that the market is poorly supplied. The human family, therefore, is not to be greatly blamed for a certain indifference to these particular gifts of Pomona. In saying this, we may be doing more to display our ignorance than to inform our readers; but it seems a necessary part of the argument to admit that, generally speaking, the beverages sold as cider and perry are equally unpleasant and unwholesome, and there is much to be done to render them worthy of a leading place in the list of popular drinks.

The aged labourers, crippled by rheumatism, that may be met with often in western villages are not to be brought into court as witnesses against cider. It is perfectly true that cider is "the rock" the Somerset peasant commonly splits upon, but the event is a parallel to the case of Lieutenant Luff—

> A single pint he might have sipp'd,
> And not been out of sorts:
> In geologic phrase, the rock
> He split upon was quartz.

Yes, those many crippled labourers that are to be seen in the cider counties, and more particularly in Somerset, are witnesses not against cider *per se*, but against the extravagant, the gluttonous practice that has prevailed and does prevail in cider districts, and

* *The Apple and Pear as Vintage Fruits: The Technical Descriptions* by ROBERT HOGG, LL.D., F.L.S. *General Editor.* HENRY GRAVES BULL, M.D. (Hereford: Jakeman and Carver.)

more especially in the times of hay and corn harvest. The enormous quantities of cider the labourers drink are destructive by their quantity, and they bring into discredit a drink that is really as wholesome as any known to man, save and except only pure water. Apples and pears are especially rich in alkalies and phosphates, and, therefore, may be regarded as promoting a healthy skin and a well-replenished nervous system when reasonably appropriated by the frame in either a solid or a liquid form. The malic and tartaric acids of these fruits are proximate compounds that give flavour and freshness to their juices, and at the same time indicate that moderation in their use is one of the primary conditions of lasting benefit and real enjoyment. It is of the highest importance to note that in poor fruit, and consequently in liquor of poor quality, these acids are in excess, while the phosphates are deficient. Thus, as regards the raw material, the necessity for scientific cultivation is clearly indicated, and it may be safely said that Continental wines have advanced while British wines, including cider and perry, have deteriorated—in the first instance because science has been allowed to lead the way to success, and in the second instance has been callously ignored in the direct interest of failure. For we do not hesitate to say—although, from the text of the excellent book before us, neither the dead nor the living editor would agree with us—that cider has been lowered, in the world's estimation, as a natural consequence of the participation of a majority of its producers in the practice of the labourers, who actually count how many gallons they can swallow daily, and often finish their last quart by a painful effort rather than lose it by leaving it on the ground. It is the good article that pays; the sale of the Guinness property illustrates that part of the argument; and the popularity of "Bass" and "Alsopp" might be equally effective as an argument. A good port commands a market any day at almost any price, and "patent" goods make millionaires, provided the patent goods are of first-class quality in their several kinds. First-class cider and first-class perry would never hang in the market. At all events, we venture to make a guess that should first-class samples of these delectable drinks ever be put in the market they would find purchasers at prices that would justify the producers in keeping to a good track and looking ever for further improvement.

The handy treatise on the apple and pear as vintage fruits is a publication of considerable importance. It ought to prove of incalculable benefit to the west of England, and to the country in general. The production of cider fruit is not limited to the old red sandstone soils; we have tasted grand cider grown near Worcester, and wonderful perry grown in Surrey. Of perry, indeed, it may be said that, however ancient, it is very much in want of advertising, for the world at large does not know so much as the name of the thing; and it is a happy circumstance for us that our readers at least do not need to be informed that it is a rich and lively beverage prepared from the juice of pears. Of the two homely beverages, first-class bottled samples are obtainable by those determined ones that seem to exist only to overcome obstacles to the gratification of their wishes. But, as commercial articles of the open market, they are comparatively unknown; and it concerns our national welfare that they should be made known in the best form possible, and that the book we have thus introduced to our readers should be consulted by all who are seriously interested in the matter.

MR. T. VERE has succeeded the late Mr. Milford as gardener to T. W. Evans, Esq., M.P., Allestree Hall, Derby.

MR. B. BOOKER has been engaged as gardener by Lady Protheroe Smith, Tremowah, Cornwall.

KINGSTON AND SURBITON CHRYSANTHEMUM SOCIETY will hold its exhibition in 1887 on November 8 and 9.

POTATO CULTURE IN JERSEY is in no way diminishing. The area occupied by the crop this year was 20,000 acres, and the value of the produce exported was about £200,000.

MR. C. HAYCOCK has been engaged as gardener to R. Smith, Esq., Goldings, Hertford, and is succeeded at Barnham Court, by Mr. Woodward.

MESSRS. LUCOMBE PINCE AND CO.'S exhibition of chrysanthemums this season has been remarkably good, and afforded much gratification to the visitors during the past month.

PLANT DISEASES, with special reference to agriculture and forestry, will form the subject of a series of lectures to be delivered by T. L. W. Thudichum, M.D., before the Society of Arts, January 24 and 31, and February 7, 1887.

A NEW MILLET was shown at the meeting of the Royal Botanic Society on Monday last. The seed was found by Dr. Cogswell, in the bamboo shaft of a spear from the Soudan, this shaft having probably been used for thrashing grain.

GARDENERS' ROYAL BENEVOLENT INSTITUTION will place ten additional pensioners on its funds at the annual meeting, to be held in January next; six having been subscribers will be added to the list in accordance with the rules, and an election will take place for the remaining four.

AT BRISTOL CHRYSANTHEMUM EXHIBITION the first prize for the best bloom in the show was awarded to W. M. Baker, Esq., for a grand bloom of Empress of India.

MR. C. GIBSON, the talented gardener at Morden Park, will, on the occasion of the annual dinner of the National Chrysanthemum Society, be presented by a few friends with a piece of plate as a mark of their esteem.

MR. HENRY BOSWELL had the honorary degree of M.A. conferred upon him at the recent Convocation held at Oxford, in recognition of his labours as a botanist, more especially with reference to the mosses, on which he is a high authority.

TERCENTENARY OF POTATO, St. Stephen's Hall, Westminster (adjoining the Aquarium), will close this day, December 4. The collection of books, maps, &c., should have the attention of the scientific and literary students of the subject.

HORTICULTURAL CLUB monthly dinner will take place on Tuesday next, at 1, Henrietta Street, Covent Garden, at six p.m. The discussion in the evening will be opened by Mr. T. F. Rivers, on "Pears and their Culture."

NATIONAL ROSE SOCIETY annual meeting will be held, by permission of the Horticultural Club, at 1, Henrietta Street, Covent Garden, on Thursday next, at three p.m. The dinner will be held at six p.m., the Hon. and Rev. J. T. Boscawen, vice-president, in the chair.

WELLINGTON PLACE, the formation of which at Hyde Park Corner, delivered London from a nightmare, and put the Burton arch in a position to be seen, is to be finished with a plantation of trees, and in the centre, facing Apsley House, a new equestrian memorial of the Duke of Wellington, the work of Mr. Boehm.

THE AMERICAN EXHIBITION will be opened May 2, 1887, at Earl's Court, Kensington. Already a large force of men are at work on the grounds at Earl's Court. The land is now graded, the drain pipes laid, the concrete foundations in place, and the main building is in process of construction.

FOOD EXHIBITION in Royal Aquarium, Westminster, is a considerable improvement on the interesting exhibition of last year. The subjects are various, and for the most part illustrate directly the defects and capabilities of our ordinary food supplies. It will be open throughout December.

NATIONAL AURICULA SOCIETY AND NATIONAL CARNATION SOCIETY.—The annual general meeting of these societies will be held on Tuesday next, at South Kensington, immediately following termination of proceedings of Floral Committee, probably about half-past twelve. The meeting will be held in the East Crush Room, Royal Albert Hall, and not, as heretofore, in the conservatory.

ROYAL ACADEMY WINTER EXHIBITION will comprise important works by Old Masters of the English school, amongst them three contributed by her Majesty the Queen illustrative of the Jubilee year. These are Wilkie's "First Council," Leslie's "Coronation," and the "Baptism of the Princess Royal." Mr. R. S. Holford, of Dorchester, contributes 52 pictures from his magnificent collection.

THE COOKING OF POTATOES at the Tercentenary Exhibition was admirably accomplished by means of Bower's patent steamer, heated by a jet of gas. This machine, though called a "steamer," and working by means of hot water, does really cook in dry heat. It is invaluable not only for cooking potatoes, but for fish, poultry, puddings, &c., that are liable to reduction of quality by contact with water. It may be heard of at 43, College Street, Liverpool Road, London, N.

NATIONAL CHRYSANTHEMUM SOCIETY.—At a meeting of the general committee, on Monday evening, it was decided to hold the exhibition next year on the 9th and 10th or the 10th and 11th of November, as may be the most suitable for the Royal Aquarium authorities. It was announced that Messrs. Wood and Co. had expressed their intention of offering a twenty-five guinea cup as a prize for specimen plants, and that Messrs. E. Webb and Sons would increase their prizes for vegetables. It was also arranged to hold the annual dinner on the evening of Monday, the 13th inst., at the Four Swans, Bishopsgate Street, when the presentation to Mr. William Holmes, honorary secretary, will take place, and the prizes be distributed. The chair will be taken by the president E. Sanderson, Esq., at 6 p.m.

ROYAL BOTANIC SOCIETY, 1887.—*Spring Exhibitions*: Wednesdays, March 23, April 20. *Summer Exhibitions*: Wednesdays, May 18, June 15. *Evening Fête*: Wednesday, July 6 (probable date). *Exhibition of American Plants* (by Mr. Anthony Waterer, Knap Hill, Surrey: Daily during June. *Promenades*: Every Wednesday, from May 4 to July 27, excepting May 18 and June 15. *Lectures*: At four p.m. Fridays, May 7 to June 24. *General Meetings* (for election of new fellows, &c.): Saturdays, at a quarter to four, January 8 and 22, February 12 and 26, March 12 and 26, April 2 and 16, May 7 and 21, June 11 and 25, July 9 and 23, November 12 and 26, December 10. *Anniversary*: Wednesday, August 10, at one p.m. On ordinary days the gardens open at nine, on Sundays at two o'clock; all days close at sunset.

TOBACCO POISONING OF CATTLE.—The *Tabak-Zeitung*, a German paper devoted to tobacco interests, states that a marked result of the increase of tobacco-culture in various parts of Germany is the steadily increasing number of cattle killed every year by eating the plant. Generally speaking, the casualties occur through the refuse tobacco getting mixed with the litter or through the bales being temporarily stored in stalls and barns. Cattle eat the leaves with avidity, as may often be witnessed with animals kept on shipboard, but the effects are cumulative and toxic, resulting in speedy death, while (the *Tabak-Zeitung* remarks) the loss is aggravated by the flesh being unfit for food. Goats eat dry tobacco freely, and apparently without harm, as we (G.M.) know by frequent observation.

SIR WALTER RALEIGH AND THE POTATO.

To the "Potato Tercentenary" now being held in St. Stephen's Hall, Westminster, Mr. M. J. Buckley, of Savoy House, London, has contributed several interesting souvenirs of Sir Walter Raleigh's home in Ireland. These souvenirs include potatoes grown in the garden of Raleigh's house, at Youghal, co. Cork, where the famous traveller first planted the potato in these islands. These potatoes are contained in an osier "kish" or basket, used to collect the tubers in the field. With the potatoes is a curious spade, used for planting and digging the tubers in the co. Cork as well as Waterford. This implement is prehistoric in make, its metal portion being fitted on the handle exactly in the same manner as the keltic bronze hatchets were attached to their handles. There is a drinking vessel of beech wood called a "Peggin," used by the peasantry in drinking buttermilk with their potatoes. A three-legged iron pot, with its jointed "hangers," used for boiling the "praties," is also deserving notice. This pot, as well as the "peggin," is of antique form, being exactly similar to Irish bronze pots found in the bogs, said to be over two thousand years old. Mr. Buckley also has some branches of Irish yew, taken off yew trees "of great age and size, which grow over the spot where Raleigh and Spencer, the poet, often met, by the borders of 'Awneyduff,' on the Blackwater, whilst Spencer was writing his 'Faerie Queen.'"

IRISH RESIDENCE OF SIR WALTER RALEIGH, YOUGHAL.

In the accompanying illustration of Raleigh's house at Youghal, co. Cork, is seen the "oriel" window, whence many of Raleigh's letters are addressed ("From my oriel in Yochil"). The room, to which this window belongs, is a most interesting apartment; it is wainscotted with dark Irish oak, and has a beautifully carved chimney-piece of Elizabethan design, as well as tables and chairs of the same style; all belonging to Raleigh's time. Amongst other articles herein are leathern drinking vessels or "blackjacks," said to have been used on the famous occasion of Sir Walter's smoking being seen by his Irish servants. The house, it may be mentioned, is kept in excellent preservation, and is quite a museum of Elizabethan antiquities and reminiscences of Raleigh. It is now the property of Sir John P. Hennessey, who has shown the greatest taste and care in all that regards this antique abode.

Clissold Park, Stoke Newington, comprising about 53 acres, is much required as a permanent breathing space by Stoke Newington and South Hornsey, but the old difficulty of finance has to be contended with in the process of securing it for public purposes. To facilitate the business a Bill will be promoted in Parliament to enable the Metropolitan Board, the Corporation of London, and the vestries interested to combine for the purchase of the property.

GLADIOLI IN 1886.

By James Kelway, Langport Nurseries, Somerset.

The gladiolus season is now over, and the corms, which this year are unusually fine, are all lifted and housed and the work of cleaning and sorting has been commenced. The season of 1886 has been a long one for cutting, was in full swing on July 20, and as late as November 10 I was able to obtain a fine vase of spikes. On an average, the gladioli are here all cut down by the frost about October 15, therefore they were fully a month later than in most years. If we may judge from the reports of the flower shows held in various parts of the country, the exhibits of those flowers have been on the increase, and above the average in quality. Our culture continues about the same. We generally grow about one acre from bulblets, a quarter of an acre from seed, three acres of corms one year old, four acres of corms two years old, and about twelve acres of flowering or fully developed corms, amounting in the aggregate to upwards of twenty acres. The demand for cut spikes has very largely increased of late years, showing that gladioli have become immensely popular for indoor decoration, and it is not surprising they should do so, for the spikes can be readily arranged to produce a very rich effect, and the flowers stand remarkably well in water. As indicating in some degree the popularity of the flower for decorative purposes in a cut state, I would mention that during the season we cut and sent to various parts of the United Kingdom, from 1,000 to 4,000 spikes weekly, the spikes dispatched on some days amounting to as many as 2,000. Our display at the Colonial and Indian Exhibition this year required from 500 to 700 spikes weekly. I mention these facts simply to show that the interest in the flower is not decreasing in this country. With reference to the value of the flower for the decoration of the garden, the church, and the ballroom, or for placing on the exhibition stage, I have no hesitation in saying that it is quite unsurpassed.

It might well be asked, How is it that this enormous culture has been brought about? Many of the old growers, and, I might say, lovers of the flower, have failed to cultivate it successfully, and have written very disparagingly of its behaviour, attributing their want of success to various causes. Amongst others that have been mentioned were degeneracy, disease, and bad climate. The gladiolus admirably illustrates the truth of the old saying, "What is worth doing at all is worth doing well." Now, I have found in the course of my long experience that to have a thing done well you must do it yourself. My friend, Mons. Souchet, of Fontainebleau, told me he began raising gladioli in 1834 with seed saved from flowers of Gladiolus cardinalis, which had been fertilized with pollen obtained from G. blandus. Between the varieties thus raised and G. gandavensis a cross was effected, and with some of the varieties resulting from the cross I commenced to grow

the gladioli and raise seedlings. From that year until the present time, a period of thirty-five years, I have not ceased to give this very interesting occupation my close and careful attention. It was exactly fifteen years after I began the raising of seedlings before I had sufficient stock of the varieties thus raised to admit of their being put into commerce. Since the introduction of these, now twenty years since, some scores of these English-raised seedlings have been exhibited at most of the great shows in England, Scotland, and Ireland, and have obtained certificates of the first-class. The first varieties thus honoured were Agnes Mary, Cherub, Freemason, and Julia. Later on came Lady Bridport, Yellow King, Magnificent, Pictum (a grand flower), Victory, Glow, Rev. H. H. D'Ombrain, Mr. Derry, Mrs. D'Ombrain, Lassia (one of the best), and Duchess of Edinburgh, the largest and most perfect gladiolus yet raised. Of still later date we have Ball of Fire, Sir Massey Lopes, Brennus, Agrius, Mrs. Laxton, Mrs Eyton, Mr. Baines, Dr. Hogg, Dr. Woodman, Shirley Hibberd, Sir Stafford Northcote, Admiral Willis, Mr. Thornton, Marcianus, Richard Dean, Rhamnus, and Paragon. Now, strange to say, all these varieties are still in the most vigorous condition, and the greater proportion are grown here by the thousand. They are, indeed, with many others, in as robust a state of health as they were the first year of being sent out, a fact well worthy of attention when we consider how much has been written with reference to the degeneracy of the flower. This, I think, is a good proof, if proof were wanting, that the gladioli which are raised from seed saved in this country are not in the least degenerated. If we refer to the reports of our exhibits at the various shows we may infer that gladioli are not only increasing in popularity, but in size, and also are improving in form. I do not know of any other bulbous plant grown so extensively in this country, and yet we are told by some people that the gladiolus is the most difficult and disappointing plant that could well be grown.

To attain to a high degree of success in the cultivation of the gladiolus, proper attention must be paid to its requirements, as in the case of other plants that have a place in the garden; but it is certainly not difficult to grow, and upon this point I feel able, after thirty-five years' experience, to speak with some degree of confidence. As a matter of fact, the flower requires good cultivation, and this, briefly stated, consists in providing a soil that has been deeply stirred and liberally enriched with suitable manure, and in planting and lifting the corms at the proper times. In employing gladioli in the decoration of the flower garden and pleasure grounds it is simply necessary to select positions in which they will appear to the greatest advantage, and then dig over and enrich the soil. Planted in clumps in association with masses of dahlias, phloxes, tritomas, and hollyhocks, they are singularly effective, and they also present a very pleasing appearance intermixed with rhododendrons, as the dark green leafage of these shrubs forms an admirable relief to the rich hues afforded by the flowers. It will in all cases be advisable to prepare the stations in the course of the autumn or winter to enable the soil to be well pulverized by the weather, and to reduce the work in the spring. Each clump of bulbs should have a space of about eighteen inches in diameter, and this space should have three or four spadefuls of manure spread over it, and be dug to a depth of about eighteen inches. March and April are the two best months in which to plant corms intended for the production of spikes for the embellishment of the flower garden, as the flowers are then at their best during August and the early part of September. From three to six corms should be arranged in each clump, which ought to consist of one colour only. As the flower spikes rise it will be advisable to support them with neat stakes to prevent their being blown about by the wind.

In the production of exhibition spikes it is necessary to set apart a bed or border exclusively to them, and in an open position not far removed from the source of the water supply. A deep loamy soil is undoubtedly the most suitable for gladioli, but there are few soils in which spikes in a high state of development cannot be obtained with the aid of deep digging and liberal manuring. The cultivation of these flowers is supposed by many to begin in March or April, but it is not so. If the cultivator is anxious to attain to a high position on the prize list he must commence either in the autumn or very early in the winter, as exposure of the soil to the action of the weather for several months previous to the planting season is most essential. The first step is to apply a heavy top dressing of fat manure, such as that obtained from an old hotbed, or cow manure that is in a partly decomposed state, the latter being the most suitable for naturally hot and dry soils. Spread the manure regularly over the surface and then trench the ground over to a depth of eighteen inches or two feet, and well incorporate the manure with the staple. Leave the surface in as rough a state as possible to expose the largest possible body of soil to the action of the weather. When the beds are thus prepared in the autumn or at the beginning of the winter they are invariably in the best possible condition for working in the spring. A mere touch with the fork will in most cases be sufficient to ensure the best possible tilth.

The planting of the corms must be proceeded with at intervals of a fortnight from the beginning of March to June, as it is only by taking this course of procedure that a succession of spikes in a condition suitable for exhibition can be had throughout the season. The rows should be eighteen inches apart, and beds four feet in width will be found the most suitable, as they give sufficient space for three rows without being so wide that any difficulty is experienced in giving the plants the necessary attention. When several beds are placed parallel to each other, two-feet paths should be provided to enable the cultivator to readily pass between them when supplying the plants with water or giving them other attention without risk of injury to either the leaves or spikes. In planting the beds have one row down the centre of each, and a row on either side at a distance of six inches from the edge. Put the corms twelve inches apart in the rows, and bury them just deep enough to admit of their being covered with three inches of soil.

Immediately the plants have made sufficient progress to render support necessary rather stout stakes should be provided, and one put to each. The stakes must be long enough that when firmly inserted in the ground the top reaches the first bloom and no more, as when of greater height the flowers are frequently injured by rubbing against the support. I would direct special attention to this point because of so many growers supposing stakes tall enough to reach to the top of the flower spikes necessary, and by their use having many of their best spikes rendered of but little use for taking part in a close competition. The stems must be secured to the stakes with one tie only, and that should be of rather strong roffia or bast. Very soon after the stakes have been put to the plants the beds should be covered to a depth of from four to six inches with rather short manure, which will assist in keeping the soil cool and moist, and by means of the fertilizing matters washed out of it and down to the roots will do much to promote a vigorous growth. Liberal supplies of water will be of great assistance in dry weather, and if it can be obtained from a pond or running stream it will be an advantage. The waterings should be continued until the flowers are expanding, when liquid manure should be substituted for the clear water, as a mild stimulant at that stage has a most beneficial effect. The proper stage at which to cut the spikes for exhibition is when about two-thirds of the blooms are expanded, as the lower flowers are invariably of higher quality than towards the top.

Herewith I give the names of thirty-six varieties, which I have divided into three sections, the first containing the finest varieties in commerce, the second varieties well adapted for exhibition, and the third, good cheap kinds for decorative purposes:—

TWELVE FINEST VARIETIES.

Admiral Willis.—Red, flaked and shaded crimson, with large violet blotch.

Appianus.—White, with large rose-coloured blotch on the lower segment.

Calliphon.—Rose, striped with light rose, and with light centre.

Democedes.—Cerise, flaked with carmine.

Duchess of Edinburgh.—Purplish rose, marked with a carmine stripe on the lower division; tall, and exceptionally fine.

James McIntosh.—Rich scarlet, with white line on each petal, and a clear, white blotch.

Lassia.—Scarlet-crimson, with violet stripe on lower divisions.

Marcianus.—Bright orange red, with carmine stripes on the lower segments.

Mr. Striedinger.—Delicate flesh colour, veined with carmine.

Mrs. J. Eyton.—White, shaded lilac rose, and marked on the lower petal with rose line.

Rev. H. H. D'Ombrain.—Cerise, with white centre.

Samuel Jennings.—Scarlet, with white blotches on the lower segments.

TWELVE FINE EXHIBITION VARIETIES.

Agrius.—Salmon-pink, flaked with vermilion, centre yellowish cream.

Arimus.—Claret, flaked with purple, and with white centre.

Brennus.—Crimson-marone, with white centre and violet stripe.

Cymbeline.—Mauve, flaked with purple.

Dr. Hogg—Mauve, suffused with rose, centre white.

Dr. Woodman.—Salmon, flaked with pink and lake, and blotched with carmine.

Duni.—Light crimson, shaded dark crimson.

Electra.—Pink, shaded with rosy crimson and flaked with carmine.

Henry Irving.—Yellowish bronze, veined red.

James Kelway.—Crimson, edged with marone, and marked with a white line on each petal.

Mrs. Laxton.—Rosy red, veined with lake, centre pure white.

Pictum.—Salmon scarlet, flaked with carmine.

TWELVE GOOD VARIETIES FOR THE GARDEN.

Ababa.—Cerise shaded marone, centre white.

Agnes Mary.—White, marbled with slate, and striped with violet.

Capio.—Scarlet, flaked with white centre and carmine stripes.

Damia.—White, tinged with lilac.

Elgira.—Red, marbled at the edge, and with white centre.

Helenor.—Salmon, veined with carmine.

Lord Leigh.—Crimson, flaked with marone, and marked with a small white blotch on the lower division.

Marica.—White, shaded with lilac, and flaked with purple.

Pilumnus.—White, tinged with purple.

APPLE PEASGOOD'S NONSUCH.

There are, I am quite aware, many large and handsome sorts of apples, but in my opinion the one I have placed at the head of this note is the most handsome of them all. It is not only very large, but highly coloured as well. When the fruit is well exposed to light and air, as it is on cordon trees, they take on a peculiarly rich tone of colouring, and this, associated with finely-formed fruit, makes it a very attractive sort. It is unfortunate that such large sorts of apples are not so well suited for trees of limited size as they are for standards. At the same time, if the trees are root-pruned every few years they bear fairly well as espalier trained, or in the form of large bushes. As a culinary apple in its season from October to November Peasgood's Nonsuch has but few equals, and certainly none surpasses it.

J. C. C.

"ROSARIAN'S YEAR BOOK" for 1887 is announced as in preparation.

CHRYSANTHEMUM ECHOES.

It must be quite three months since the first announcement appeared in the papers that the Mikado had despatched a special envoy to this country to invest H.R.H. the Prince of Wales with the most distinguished Imperial Order of the Chrysanthemum. Last week the dailies informed us of the arrival of the illustrious delegate, Prince Komatsu, at Livorpool, and of his subsequent reception by the Queen, but up to the time of writing this nothing has been said concerning the investiture of the Prince of Wales with the insignia of the before-mentioned distinguished and Imperial decoration.

I wanted to know something about this order of knighthood, and my curiosity will no doubt be satisfied later on, but in the meantime I have sought high and low to ascertain when and by whom it was originally established without the least success. Since the days of King Arthur's round table there have been founded about two hundred orders or more in the different countries of the world, but never a word can I discover about this order of the chrysanthemum. Flowers, as a rule, do not appear to have suggested themselves to the monarchs, who have thought it necessary to confer distinction upon their dutiful subjects. There are, however, a few exceptions. The Order of Broom Flowers was established in France 1234; that of the Lily of Aragon in 1410; that of the Rose of Brazil in 1829; and the Thistle of Scotland, about which there is some little dispute, was revived by James II. in 1687. As a loyal and patriotic subject of his most gracious mother, whom I have sworn to defend from all her enemies and foes within the United Kingdom, if need should arise (I hope it will not, for my sake as well as hers), I venture to point out to the Prince that immediately the order is formally bestowed upon him he could easily acknowledge his appreciation of the honour by accepting the presidency of one of our numerous chrysanthemum societies.

There was a splendid collection of chrysanthemums at the floral meeting on the 24th inst. at the Aquarium, although comparatively few certificates were awarded. It is perhaps unnecessary to mention here that all persons, whether members or not, are invited to exhibit at those meetings. There is one thing, however, that I do not like to see, and it is that some of the exhibitors will not take the trouble to spell the names of the flowers correctly. This want of attention on their part is of little consequence should the flower be passed over without any recognition; but if, on the other hand, it should be awarded a certificate of merit, the wrongly-spelled name goes forth to the public, thereby causing no small degree of doubt and perplexity to those who come across the same flower properly named. As an illustration of this I may observe that a bloom was submitted at the last meeting bearing the name of Madame Boco, which I strongly suspect was intended for Monsieur Boucot, although I have been too busy since then to look it up. So far as my memory goes no such name as Boco is borne by a chrysanthemum, but in the vocabulary of the dirty little vulgar London boy a boco or boko is the nasal organ.

Some of these days I shall be tempted to pen a contribution to this magazine bearing the title of "Monstrosities of Chrysanthemum Nomenclature." It is really deplorable to peruse some of the catalogues issued by well-known firms of nurserymen. The smaller fry may, to a great extent, be excused, because they cannot be expected to keep a staff of clerks possessing any linguistic ability. In larger establishments there surely ought to be some one capable of checking the orthography of the varietal names when the proof comes home from the printer. And with the new additions we only expect them to do a simple task, *i.e.*, faithfully copy the names from the raisers' catalogues. This does not to me appear to be asking much; yet, the awful blunders I come across, especially in the foreign names, makes my blood run cold.

I wonder if I should be very much abused by the Thibaut et Keteleer controversialists (upon which subject I am going to have my innings ere long) if I suggest the total abolition of the term "Monsieur" when applied to varieties named after English gentlemen, and the substitution of the title Mr. instead. It does sound to many ears very odd to say Monsieur J. H. Laing, Monsieur N. Davis, Monsieur William Holmes, Monsieur Dixon, &c., &c., and there is scarcely any good ground for its retention. I do not in my case notice it very much, because I have been Monsieur thousands of times in France and Belgium, Mein Herr in Germany, and Mijnheer in Holland. The writer of this owns, too, almost with shame, that at the meetings of one association with which he was connected some years ago it was the rule to address him as "le citoyen," so that were he in future dubbed Signor, Señor, or anything else, it would not be a matter of very much surprise to him.

Some time ago it was reported that Mr. Bradner had obtained an incurved sport from the reflexed variety, Mrs. Forsyth (White Christine). I say nothing about so abnormal an occurrence, not being a believer in such a freak of nature, but perhaps some kind reader of the Gardeners' Magazine can give us further particulars of this interesting variation, and let us know how it is going on.

How many more times will it be necessary to state that the large flowering Chinese chrysanthemum was not introduced into Europe till 1789. Only this week I read for the fiftieth time at least, that it was originally introduced into this country in 1764, but that it was soon afterwards lost, and was reintroduced in 1795. This is entirely erroneous. The variety known here in 1764 was a small flowering sort; it was cultivated in the Apothecaries' Botanic Garden, at Chelsea, by Mr. Philip Miller, and described by him in the eighth edition of his dictionary, published, I believe, in 1768. It is quite true this flower was lost, but the next importation was the old purple, which reached us from France, in 1790, and did not bloom here till 1795, and was a different flower altogether. Pray, let us have no more nonsense on this score.

There was some probability of the time-honoured name of Delaux receiving a check so far as first-class certificates were concerned, but the Aquarium Show helped to bring up the number of certificated varieties of his distributing to the old figure. He has now many formidable opponents in the field against him, the chief of whom is a fellow-countryman, who runs him hard at the French shows. Then the Americans have sent over some good kinds, which will not be long in taking a foremost position. Out of the large number of certificates awarded by the various societies this year, seventeen have up to the present been gained by flowers raised by this noted grower, Delaux.

He has been going the rounds of the French exhibitions again this season, and has come off, as he usually does, fairly well. Diplomas of honour, silver medals, silver-gilt medals, gold medals, and honours of all kinds seem to have been showered upon him, and now in return for the support which the English growers have given him, he is to offer next year two silver cups and a medal at the N.C.S. Show for plants and cut blooms of his 1887 novelties. Full particulars of this will in due time be announced. C. Harman Payne.

INSTITUTE OF PAINTERS IN OIL.

The fourth exhibition of this institute was opened on Monday last in the convenient galleries, Piccadilly. The pictures number 807, and, as regards relative merit, are evenly distributed in the three well-lighted rooms.

In the West Gallery we are at once arrested by a curious little picture of the "Thames" by Mr. John R. Reid (7). The time is the evening dusk, and the handling is such as to suggest a picture painted, say, two hundred years ago, but whether this old-new or new-old effect was intended or is the accidental result of the artist's method we will not venture to guess. The best landscapes, perhaps, are in this room. We must speak favourably of Mr. F. Walton's "Portions of the Waste" (15). It displays a vast panorama splashed in all the foreground with golden gorse; the atmosphere is English, the impression is consistent with the vastness of the scene. "A County Boundary" (29), by Mr. Cyrus Johnson; "Streatley Hill" (38), by Mr. Thomas Pyne; "The Grey Shore" (82), by Mr. Kenneth Mackenzie; "Glenelg" (140), by Mr. Edward Harryitt; and "Ben a Cailleach" (178), by Mr. C. E. Johnson, deserve and will obtain the attention of lovers of good work in landscape painting. Mr. Alfred East has secured a novel feature in his interesting view, "On Warnham Lake" (64), for, instead of the usual lilies and reeds, he has dotted the water with red "soldiers," thus making a crimson sea for his white swans to float in. The soldier selected is the well-known *Polygonum amphibium*, a showy aquatic, and one that occurs gregariously in large patches as represented. An extra word of praise must be pronounced for Mr. Beavis's "Breton Hayfield" (95), for it is a delightful transcript of the truth, and a truth not easy to handle for pictorial purposes. The truth is so fresh and apparent that we seem to smell the hay that a lively breeze is lifting, and that will surely scatter it should there be any further fall of the barometer. Such a picture one could see every day the whole year round, and with ever-renewing delight. The thing labelled "A Canaletto, Venice" (107), by Mr. H. Pilleau, is in the nature of a vexatious challenge, for it takes us back to two great painters who understood Venice, and have left on their canvasses records to which such as the present is but a very far-off imitation. "Salisbury Meadows" (155), by Harry Goodwin, is agreeably warm with autumnal colours; "A Breeze on the Maas" (159), by Walter W. May, is a fine spirited composition in a good grey tone with a lot of strength in the details; "On the Heath near Milford" (166), by Mr. Joseph Knight, is a good lesson of the interest that may be aroused by a scene that may be roughly described as absolutely destitute of features. This flat heath, with its rolling clouds, attracts us more with its suggestions of life and largeness than many works that are full of positive bustle, though with less of artistic tone in them. In "Waves Breaking" (192), by Mr. Arthur Severn, we have a curious study of grey and green foam and splash; a little hard, perhaps, but Mr. Severn so well understands this kind of business that we can believe he has seen the sheets of half-foamy spray rebounding in sharp lines as he depicts them, and the cold scene tells with power on the imagination. For a change from such subjects, we find a portrait of Mr. R. E. P. Ralston, a prince amongst the scholars and a king in the land of old world myths. (44) Mr. A. S. Cope has put a lot of good work into his interesting picture, which we hope will be engraved. Another change is afforded by Mr. E. Pickering's "Sea maidens" (46), which may be described as clumsily designed from the worst models of G. D. Rossetti, and rather intended to frighten than enlighten us. "On the Coast of Kent" (127), by Mr. T. G. Cooper, presents a bit of sheep's wool as it is but rarely painted. The delicate technique is equal to the handling of the hay in the Breton scene from Mr. Beavis.

In the Central Gallery "Dominican Fare," by Mr. W. D. Sadler, perplexes us, for we seem to know it well, as an event that sent shadows before. "Luna" (262), by Mr. E. Pickering, is an exquisite fancy; a delicate delineation of a most spiritual type of female beauty. There is some fun in Mr. W. F. Calderon's "Rabbit Fanciers" (282). "Some," we say, yes; we shall see it again, and "some" other folks will see it more than once. Mr. C. J. Lewis's "Wiltshire Trout Stream" (290) is a sweet study of water and herbage, agitated by wind. The "Village Othello" (330), by Mr. John White, very pleasingly exalts the commonplace, for the story is that of the village sweep making love to a girl who is busy with a washing tub. "April Smiles" (340), by Mr. Frank Walton, merits special attention for the high life it lifts us to in the contemplation of a scene on which nature has bestowed no special care. The red body colour of the leafless trees just swelling into growth is not only rarely caught as here, but is indeed but rarely seen, for, after all, minute observers of natural phenomena are few and far between. We count this one of the gems of this exhibition. "Polurrian Cove" (359), by Mr. Otto Weber is a pleasing composition, with a lively foreshore boldly contrasted with dark cliffs beyond. "Crab Fishers" (371), by Mr. Colin Hunter, is painfully loaded with colour, as though intended for a Christmas card. "Deserted" (395), by Mr. E. W. Waite, tells of the pictorial value of the hollyhock in a garden scene; this being a lovely but melancholy reminder of the possibilities of a long neglected garden. "Selene" (432), by Mr. A. Fisher, is somewhat of a companion to Mr. Pickering's "Luna"; it is delicate in idea and design: we should like to see these pleasing pictures side by side, apart from all other works, for a restful study of the sources of their inspiration. "Mischief" (439) is intended by Mr. A. H. Burr to show how much fun may be obtained by tickling grandfather when he happens to sleep near an open window. The quiet fun of the story is altogether enjoyable. "Winter" (458), by Mr. John Scott, is a sort of poser, for we know not whether to regard it as an allegory or a fact. It is a striking picture, very realistic, and represents simply a maiden feeding rabbits. Her pose is that of a goddess, but if we understand her, she is human and quite unaware that the artist is painting her portrait. Mr. Charles Earle's "Pincian Garden" (544) is rich and effective but somewhat hard, the consequence, doubtless, of too pure an atmosphere for such a brilliant subject.

In the East Gallery we are brought to a stop by an important work, "Love driven out by the World" (563), by Mr. Henry J. Stock. This will obtain, as it deserves, special attention. Love has shrunk his rosy wings closely together as of no further use for the present, and hurries fearfully down the steps chased, and we fear we must say cursed, by a most venerable looking personage whose

dread name is "The World." The work has the positive tone and fulness of colour usually considered necessary in allegories; the drawing is solid, and full of needful force. It is an impressive picture. If contrasted with the "Snake Charmer" (581), of Mr. A. Sacheverel-Coke, we are bound to ask if the charmer has any right to exist in the world from which love is driven out? Truly the charmer makes a most repulsive subject. It is a relief from the dilemma to turn to the "Sphinx and Pyramid" (573) of Mr. Frank Dillon, to congratulate him on his acceptable presentation of a famous subject, the fascination of which is inexhaustible. The more agreeable of the landscapes here are Mr. Arthur Severn's "Passing Shower" (600), Mr. Parton's "Summer Day" (606), Mr. D. Murray's "Dordrecht" (633), and Mr. Wimperis's "Autumn" (696). An amusing scene is presented in "Church and State" (678), by Mr. F. Roe, where a parson and a soldier debate the great question; "Meadow Sweet" (698), by Mr. John Collier is superb as botanical portraiture, but the subject appears to us not sufficiently important to justify the work bestowed upon it. Mr. Stanley Berkeley indulges in a quaint humour in 761 and 769, where a dog with a tail has a taste for new milk. Mr. F. Nesbitt sets before us a delicate delineation of museum marbles in 781, and Mr. Kilburne's lion (801) is commanding, and justifies his legend.

PLANTS OF THE ALPS.

By H. CORREVON, Director of the Jardin d'Acclimatation, Geneva.
Translated by R. IRWIN LYNCH, A.L.S., Curator of the Botanic Garden, Cambridge.

(*Continued from page 679.*)

HYPERICINEÆ.

Hypericum Richeri, Vill.
,, *coris*, L.
,, *nummularium*, L. (Maritime Alps).

The same as the last.

GERANIACEÆ.

Geranium argenteum, L. (South, Tyrol; lime-stone).

Requires calcareous and stony soil; sun.

Geranium macrorrhizum, L. (Tyrol).
,, *sylvaticum*, L.
,, *aconitifolium*, L'Hér.
,, *sanguineum*, L.

These four species succeed in all rather light soils, and like a little shade.

RHAMNEÆ.

Rhamnus pumila, L. (lime-stone).
,, *alpina*, L.
,, *carniolica*, Kern. (Eastern Alps).

These alpine shrubs generally grow too much to have a place on small rockeries. They should be reserved for the larger ones, where they have a very good effect.

PAPILIONACEÆ.

Genista pilosa, L.
,, *humifusa*, L. (Dauphiné Alps).
Cytisus radiatus, L. (Southern Tyrol).
,, *alpinus*, L.
Ononis fruticosa, L. (Dauphiné).
,, *Natrix*, L.
,, *rotundifolia*, L.

These shrubs of the lower alpine regions, are suitable for large rockeries and for the open ground. Deep and rich soil.

Anthyllis montana, L.

This charming plant of our Salève requires a stony light soil and exposure to the sun.

Trifolium badium, Schrb.
,, *saxatile*, All.
,, *spadiceum*, L.

Dry exposure and fertile soil.

Phaca alpina, L.
,, *frigida*, L.
,, *australis*, L.

Require a cool soil and a slightly shady position.

Oxytropis Halleri, Bunge.
,, *velutinus*, Sieb.
,, *fœtida*, D.C.
,, *campestris*, D.C.
,, *sordida*, Wild.
,, *lapponica*, Gaud.
,, *Jacquini*, Bunge.
,, *montana*, Bunge.
,, *neglecta*, Gay.
Astragalus aristatus, L'Hér.
,, *austriacus*, Tay.
,, *exscapus*, L.
,, *alpinus*, L.
,, *depressus*, L.
,, *leontinus*, Wulf.
,, *purpureus*, Lam.
,, *monspessulanus*, L.
Hippocrepis comosa, D.C. (lime-stone).

ROSACEÆ.

Dryas octopetala, D.C.

This plant, which might pass for a rock species, succeeds very well as a ground plant on our rockeries, and flowers there abundantly. It requires a turfy and peaty soil, rich in humus, and exposure to the sun. If black and turfy soil is not available, pure leaf-soil may be used, mixed with calcareous sand. As it extends considerably, a large space must be provided, in order that it may be able to develop. I have never been able to gather good seed from plants cultivated in the plains.

Geum reptans.

A plant of the granite rocks. It succeeds in a stony niche, well drained and exposed to the sun.

Geum montanum, L.
,, *inclinatum*, Schleich.

Sun, rich and nourishing soil but light.

Rubus saxatilis, L.

This alpine bramble should be planted in shade in a stony soil, and where it can extend and develop.

Comarum palustre, L.

Though belonging to marshes, this plant succeeds on the rockery, and flowers there abundantly if care is taken to add to the soil a greater or less proportion of sphagnum.

Potentilla nitida, L. (lime-stone).
,, *nivea*, L. (granite).
,, *frigida*, Nil. (granite).

These three Potentillas belong to the upper frozen regions. They permit, however, of easy cultivation. A light soil of little depth, well drained and sandy, is required.

Potentilla Clusiana, Jacq. (Austrian Alps).
,, *caulescens*, L. (lime-stone).
,, *cinerea*, Chaix. (Dauphiné Alps).
,, *petiolulata*, Gaud.
,, *alba*, L.
,, *multifida*, L.
,, *erecta*, L.
,, *heptaphylla*, Mill.
,, *aurea*, L. (lime-stone).
,, *alpestris*, Hall, fil.
,, *sabauda*, D.C.
,, *grandiflora*, L.
,, *minima*, Hall, fil. (lime-stone).
,, *engadinensis*, Brügg.
,, *splendens*, Ram.
Sibbaldia procumbens, L.
Aremonia agrimonioides, L.

The different Potentillas, which ornament the grassy slopes of the mountain pastures, are all of easy culture. They love sun, a fertile soil, light and deep. Good drainage is necessary. All the potentillas are reproduced by means of seeds.

Rosa alpina, L.

The Eglantine of the Alps requires shade and moderate moisture. It succeeds very well in cultivation, and I have not observed that it produces spines.

Alchemilla montana, Willd.
,, *procumbens*, M. Bieb. (granite).
,, *fissa*, Schnm. (granite).
,, *subsericea*, Reut. (granite).
,, *alpina*, L. (lime-stone).
,, *Hoppeana*, Rchb. (lime-stone).
,, *pentaphylla*, L.

Fertile soil; sun.

Cotoneaster vulgaris, L.
,, *tomentosa*, Lindl.

These two shrubs belong to the rocky and mountainous parts of calcareous mountains. They grow very large in cultivation, and should be planted only on large rockeries.

ONAGRARIEÆ.

Epilobium spicatum, Lam.
,, *rosmarinifolium*, Hanke.
,, *Fleischeri*, Hochst.
,, *alpestre*, Jacq.
,, *alsinæfolium*, Vill. (Tyrol).
,, *alpinum*, Koch.
Circæa alpina, L.

All the plants of this family, except the first two species mentioned, require moderate moisture and shade. The two first like stony soil and exposure to the sun. They are all more or less spreading.

CRASSULACEÆ.

Rhodiola rosea, L. (granite).
Sedum Anacampseros, L.
,, *villosum*, L.
,, *atratum*, L.
,, *annuum*, L.
,, *dasyphyllum*, L.
,, *hirsutum*, All.
,, *ochroleucum*, Chaix.
Sempervivum Wulfeni, Hoppe (granite).
,, *tectorum*, L.
,, *acuminatum*, Schott. (Tyrol).
,, *Metteniana*, Schn. and Lehm (Tyrol).
,, *dolomiticum*, Facch. (Tyrol).
,, *fimbriatum*, Schn. and Lehm (Tyrol).
,, *angustifolium*, Kern. (Tyrol).
,, *heterotrichum*, Schott. (Tyrol).
,, *arachnoideum*, L.
,, *Dœllianum*, Lehm.
,, *Funkii*, Braun.
,, *montanum*, L.
,, *debile*, Schott. (granite; Tyrol).
,, *rupicolum*, Kern. (Tyrol).
,, *Gaudini*, Christ.
,, *Pittoni*, Schott. and Kots. (Tyrol).
,, *Braunii*, Funk. (Tyrol; granite).
,, *Widderi*, Schn. and Lehm. (Tyrol).
,, *hirtum*, L. (Tyrol).
,, *arenarium*, Schott. and Kots. (granite; Tyrol).
,, *Neilreichii*, Schott and Kotschy. (Austria; slate).
,, *Hildebrandti*, Schott. (Tyrol; granite).
,, *brevistylum*, Lam. (Low Alps).
,, *speciosum*, Lam. (Mt. Viso).
,, *brachiatum*, Lam. (Dauphiné).
,, *affine*, Lam. (Mt. Viso).
,, *ambiguum*, Lam. (Low Alps).
,, *Maitrei*, Lam. (Greek Alps).
,, *Verlotii*, Lam. (Isere).
,, *Guillemotii*, Lam. (Low Alps).
,, *Lamottei*, Boreau (Low Alps).
,, *arvernense*, Lec. and Lam. (French Mountains).
,, *Boutignianum*, Bill and Gren. (Alps of the Dauphiné).

Sempervivum calcareum, Jord. (Dauphiné).
,, *compactum*, Lam. (Greek Alps).
,, *piliferum*, Jord. (Low Alps).
,, *alpestre*, Lam. (Mont. Viso).
,, *frigidum*, Lam. (Alps of the Dauphiné).
,, *Fauconneti*, Rent. (Reculet).
,, *juratense* (Jura).

All the species belonging to the *Crassulaceæ** are rock plants; they require a stony, though light soil, and a dry exposure. The Sempervivums are sometimes cultivated on roofs, and on the top of walls.

(To be continued.)

THE ISLANDS OF NEW BRITAIN.

At a recent meeting of the Royal Geographical Society, Mr. H. Hastings Romilly (the Deputy-Commissioner for the Western Pacific) read a paper on "The Islands of the New Britain Group." The chair was occupied by General Sir H. C. Rawlinson, K.C.B., president of the society.

Mr. Romilly said that he spoke of the New Britain group as it was when he knew it in 1881-83. At that time the white population was exceedingly small and was comprised of men from many nations and in many conditions of life. There were two little communities—one at Matupi, a small island in Blanche Bay, and the other in the Duke of York Island, situated in the channel between New Britain and New Ireland. Blanche Bay evidently was still a very active volcanic centre. It was strange that in New Britain, where 30 to 40 per cent. of the natives were afflicted with skin diseases, they should not have recognized the curative powers of a boiling river of strong sulphurous water which existed in one part of the bay. The climate of the group varied. On the coast, by reason of the healthful influences of the sea, there was not much to complain of. During the daytime for seven or eight months of the year the trade winds blew, but during the night the land breeze set in, bringing with it malarial poisoning from the swamps inland. The natives appear to suffer from fever as much as the whites, but they did not consider death from fever natural, and attributed fatal consequences to the witchery of some enemy. The vegetation was in many places very luxuriant and varied, and there should be no form of tropical agriculture which should not be successful in the country. The natives themselves were great agriculturists, and with the smallest amount of labour produced the richest crops. There were not sufficient data to enable an estimate of the population of New Britain to be made, but roughly speaking it might be placed at 100,000, and the New Ireland communities at half that number. In these island communities the best criterion of the density of the population was an approximation of the number of cocoanut trees in the district. Roughly speaking about twenty cocoanut trees to every head of population gave a fairly accurate estimate.

There were three subjects which appeared to interest the students of savage races more than any others—the laws and ceremonies of marriage of savages, their superstitions and attendant ceremonies, and the social laws by which they were governed. By the marriage laws of the natives of New Britain the parents of a child betrothed him, or her, at a very early age. If the child were a boy he had to work and pay for his wife before he could marry her, and the sum to be paid was agreed upon with due consideration for the means of the betrothed. The price was never too low, and it often happened that a man arrived at middle age before he could marry. Sometimes he grew impatient and perhaps persuaded his betrothed to elope with him, but in that case he dare not return to his tribe. It was the habit as far as possible to betroth children to other children belonging to the same tribe, and as many of the tribes were very small the race was not improved by the custom. In New Britain at least, and perhaps universally, brothers had common interests. One brother often helped another to pay for his wife, and if a man died or was killed his brother would probably take the widow into his house with his other wife or wives. There was one curious bond of sympathy between the New Britain natives and their civilized brethren. A man was forbidden under any circumstances to speak to his mother-in-law, and he must even avoid her if possible. He must walk miles out of his way so as not to cross her path, and if he meet her unawares he must hide his face. One feature of New Britain marriages peculiarly galling to the husband was that occasionally after he had worked for years for his wife she might refuse to go with him. He was not supposed, however, to have a grievance, nor could he claim back the sums which he had paid to the faithless woman's parents.

It was difficult to say whether the natives had any actual religion. Superstitions they had in plenty; and they believed in malignant spirits; but not in beneficent ones. There were men who were sorcerers by trade, and they exerted an immense influence over their tribes and not unfrequently amassed large fortunes. Figures of chalk, or stalactite, or even stone, would be bought and buried in the bush; and the man in whose likeness they had been carved was pretty sure to die soon after. Another interesting superstition was that of the duk-duk. The duk-duk was supposed to be a spirit which made its appearance at daybreak of the day on which the new moon appeared. It was very difficult to get the natives to speak of it at all, as they believed that they would by so doing forfeit the goodwill of the restless spirit. In New Britain and Ireland the people were warlike, but they liked better to kill their enemies by cunning and treachery than by meeting them in the open field. Dr. Romilly had seen, however, a very big native battle, in which the attacking force must have numbered nearly 1,000 men; the defending tribe was also in good force, and succeeded in inflicting on the aggressors a crushing defeat. Many of the defeated party were killed and subsequently eaten. Cannibalism was at the present day a far more common thing than was generally supposed. He could not absolutely say from his own knowledge that the natives of New Britain were cannibals, but he had every reason to suppose them to be. If a man were asked point-blank if he had ever helped to eat a man he would deny it for himself but accuse some one else. In New Ireland there appeared to be no shame or concealment. They said they did it because they liked it, and had no objection to being watched.

The trade of the islands was principally carried on between the coast natives and those living in the interior. The former exchanged salt for the food which the latter cultivated. There were certain well-known market places, where negotiations not unfrequently ended in a fight. The trade with the whites was principally with cocoanuts. Twenty could be bought for a stick of tobacco, valued at one-twentieth of a shilling. The kernel of the nut cut and dried made a very valuable article of commerce known as copra. It took about 7,000 ordinary nuts to supply a ton of copra. A ton would have cost on the spot £3, and its marketable value in Europe would have been from £16 to £20 at the time when Mr. Romilly was in the country, but prices had now fallen. Between whites and natives tobacco was the only money employed. Between the natives themselves a shell money was used, called by them the de-warra. This was a very small cowrie, and hundreds of the shells were threaded on long strips of cane. A fathom might be taken as a legal tender, seven fathoms would at one time purchase a pig, and had even been known to buy the death of a man. The country was well suited to white colonisation. It presented the richest soil, a climate no worse than that of other groups, and better that that of New Guinea, and the people could easily be managed with firmness though undoubtedly savage and suspicious. They made fairly good labourers when not taken away from their homes, and there was no reason why the white settlers should not be on amicable terms with them. The Germans, to whom the country now belonged, had the success or the failure of the colony in their hands.

The discussion was opened by the Rev. George Brown, who said he had been a missionary in the New Britain group since 1875, having previously spent sixteen years in the South Seas. In remarking upon the marriage laws of the natives, Mr. Brown said that in translating the Gospel of St. Mark into the vernacular he had occasion to inquire after the most sacred oath in vogue among the natives; and found that a man invoked upon himself for a breach of a sacred pledge the terrible fate of having to shake hands with his mother-in-law. It was a remarkable fact that among a people so primitive their language should contain words for expressing buying, selling, borrowing, lending, and even percentage; while they had one word which expressed the phrase "selling off at a sacrifice." Many of the people, it was true, never till the day of their deaths tasted human flesh; but there could be no doubt that cannibalism was generally regarded as a religious duty in the islands.

* All who know a little Botany are aware how variable, little known, and confused this genus is. I have limited myself to mention, either from the "Atlas der Alpenflora," or the works of the botanist Lamotte, the species which seem to me distinct and deserving of notice.

THE ORDER UV FURST-KLASS SIRTIFICATS AT SOUT KANSINGTUN.

In the Vegetahle Kingdom I belong tu a Mexikan family uv de Delias. I was kalled arfter moi grate-grand Parent, one "Nano Harvey," uv Kansas, where this ere ainshunt familie tuck up there bed and walked tu about the toime uv Pen's tratie with de onciviloized Indjuns. Sum ob dis most distinguished familie tuck der departer fur the British oiles arfterwards, when oi was but an attom uv matter. Well, sur, I was brot up on the outskirts ob Lunnon, myself, at wun ere place kalled Totnum, hut when oi was only wun yere in this wurled of sin, oi was konsidered not a fit subjeck fur fust-klass sirtificats, an found moyself wun mornin in der rubbish, krumblin inter deckay uv mother earth. Now, sur, what was all this fur, whoy wus oi put in der ruhhish heep? It is moi wish tu tell der foke strate out, oi was konsidered but a star ub der seckund magnoitude, whoile anuther shone on moi orhit. Too stars kannut shoine aloike in the same horison. This was konsidered impossible, ovur Totnum. Anoder rose up wun day abuv that lokality. It hes bin very okkurd fur me in wun sence. Well, sur, this ere upstart ob a nutral-gender got kalled "Kotch-an-eel," and hus beckome the kounterfit-presentament uv another's pictur, "as de Bard of Avon wnd say." It walked for blue rihhons tn Sout Kansingtun dis autum, an "kotched it" at the hands uv der Gohernors uv that moity Institushun. This nutral gender uv an upstart got a Furst-klass Sirtificat. But I was born for the loike pinnickul of fame, for as luc wud have it, that ere blessed week that oi was throne in der ruhhish at Totnum, wun uv the "Bothy Boys" was emigrating to Swanley, and he tuck pity upon poor "Nano Harvey," loike a good Samaritan swan that he was. He tuck the star uv the second magnoitnde uv Totnum under his wing. The wing uv a white angel for the poor and loley, and has been pooring in oil an woine ever since to moi hody. So that last munt I was konsidered fit fur Inspecshun at the moity Institushun. The kounterfit-presentament of that nutral gender. The poor and rejected "Nano Harvey," uv Totnum, has got her honners. Lord Bless my Samaritan white angel of a sweet-heart Boy, and good luck to the gentlemen uv Sout Kansingtun, we are but two, where is the third? They say the three wunders uv Heaven ur these. Furst, how we ourselves get there. How we find all sinners in strange kompanie that was never expected, and all uv us—particularly—missing our up kountry folke, that in the "wurled ablo," wur thought wurdy uv Furst-klass sirtificats.—Yours, Nano Harvey.

[The foregoing very poor stuff has reached us through the post. We are happily ignorant of the authorship. The matter dealt with is possibly of some interest and this may justify the space it occupies.—Ed.]

CUCUMBER CARTER'S MODEL.

This cucumber has now been in cultivation long enough for growers to form a correct opinion as to its merits. I am quite sure that those who have had it under their notice will agree with me that it is most desirable for growing in houses from which a daily supply is required. As the fruits attain a medium length they are in many cases more useful than those which range from twenty-four to thirty inches. When the plants are liberally fed, and not over cropped, they give many very handsome fruits. I do not know whether it has been recommended for competitive purposes, but I have seen some very handsome examples on the exhibition stage. It frequently happens that cucumbers of medium length are preferred by judges to the long fruit which by some are considered essential to success in a close competition. J. C. Clarke.

PEAR JOSEPHINE DE MALINES.

The late Mr. John Scott used to say that this was the best pear in cultivation, and few men had better opportunities of judging the merits of pears. He cultivated during his life a very large collection of sorts, and, of course, the above-named variety amongst them. On his recommendation I planted it some years ago, and have never regretted doing so. The tree is a capital grower, and as sure in bearing as any other sort. The fruit is of medium size, flesh white and melting, with a delicious flavour. It is in use during December, and sometimes it runs on into the middle of January. It succeeds as a pyramid in the West of England. J. C. C.

AMERICAN TRUMPET FLOWER.

Tecoma (Bignonia) radicans.

It is one of the curiosities of horticultural psychology that lovers of plants appear to be agreed in favouring certain subjects, which thereby become "popular," and of disfavouring or ignoring others that appear equally worthy of general acceptance to afford delight or profit, or both, as the case may be. We took the trouble lately to count the number of ampelopsis, passiflora, and bignonia, in a certain extent of rural roadway on a sunny day in the past summer. We counted on the walls of houses thirty examples of ampelopsis, fourteen of common passion flower, and one of the old trumpet bignonia, and from that one we made a sketch, an engraving of which accompanies this note. Now, we have nothing to say in defence of our own taste, for we are careful to remember in horticultural matters diversities of tastes are rather to be encouraged than checked; and our first duty to our readers is to assist as far as may be in the gratification of their tastes rather than our own. But there can be no question whatever that the American trumpet flower is a fine thing, perfectly hardy, unique in beauty, and worthy of a place on any sunny wall that affords sufficient space for it. A wall plant may but poorly exemplify the splendour of a plant that riots in the hedgerows and by woodsides of North America, from Pennsylvania southwards, in a freer and more glorious manner than the great wild convolvulnses in our own hedgerows. But a comparison of that sort may be made in respect of very many plants that are prized in gardens, and gives no clue to the reason for the peculiar partialities observable in the popular estimation of ornamental plants.

This is not a true bignonia, being separated from that genus by the structure of the capsule and the absence of a tendril. It is properly a Tecoma, but there is little in a name and very much in a thing of beauty that is a joy for ever. This plant needs no special provision for its well doing. Its proper place is on a sunny wall in a sheltered spot, where, when established it grows freely, hooks itself upwards by the claspers at the joints, and produces a free leafage in the style of an ash tree and a plentiful summer show of trumpet-shaped flowers, vividly coloured orange and scarlet. It is the best plant of its section, and worthy of much more general appreciation than it has hitherto obtained.

GREAT PANICLED HYDRANGEA.

Hydrangea paniculata.

This cheap, hardy, and truly delightful shrub is but a poor thing in many gardens, by reason of the poor treatment it receives. Because it is hardy it is deemed a waste of time to bestow upon it a little of the care called "cultivation." It needs but little indeed, but it is fastidious up to a certain point, and that point is where starvation stares it in the face. On hot dry soils the heat of the summer exhausts it ere the bloom is produced, and the result is a few smallish panicles, badly coloured, because slowly produced. It requires a rich deep soil, and in the season of free growth an abundance of water. Then its beauty is likely to be fully developed, and it acquires the rank of a treasure in the hardy garden. The subjoined figure represents a quite young plant that has been liberally fed, and that bears its blushing honours thick upon it, a credit to all concerned.

GREAT PANICLED HYDRANGEA, *Hydrangea paniculata* (Flowers white or tinged pink).

BUSH FRUITS.

By J. C. Clarke.

Bush fruits play such an important part in the economy of the garden that their cultivation is at all times an interesting subject to a large number of readers. It is especially so at this season, when the trees require more attention than at any other period of the year. This is now the time to prune them, and to take care of the roots where it is necessary, but I am afraid the roots are not so often cared for as they deserve. There are plenty who devote particular attention to the branches in the way of pruning, but neglect the roots altogether. This is a mistake, and a greater mistake in some cases than others, for on the character of the soil depends in a great measure whether the crop is poor or of first-class quality. If the soil is naturally poor, and is not enriched with a moderate quantity of manure the fruit will be indifferent in size, if it is not in quantity. In strong soils bush fruits, as a rule, do exceedingly well if the roots have a dressing of manure once in two or three years, but there are plenty of gardens where the staple is so poor that it cannot afford the trees sufficient nourishment to properly mature a full crop unless they are enriched with manure annually. When the soil is not manured so often as every year, the consequence is, although there may be plenty of fruit it is so small as to be of little value, there being but little besides skin and seeds. The

rich, juicy flesh is wanting, and whether such fruit is converted into jam, or used for any other purpose, it is of indifferent quality.

The condition of the crop in past years must decide how much the trees require done to them now. In cases where the soil is poor, as much of the surface soil as can conveniently be taken away without injuring the roots should be removed for a distance of two feet from the stem of such subjects as gooseberries and red and black currants. A layer three inches in thickness of good fat manure should then be laid on the roots, and a portion of the soil returned. This will prove of such assistance to exhausted trees that before the close of the following summer a remarkable change in their appearance will be manifest. In the case of trees that have been fairly well cared for in previous years a good layer of manure spread on the surface over the roots will maintain their fertility. But if there is any doubt about the soil being rich enough some of the manure should be forked in about the roots or the soil be removed and the dressing applied as above advised. There is no fruit cultivated in gardens that will pay better for such timely attentions than black currants and gooseberries. The difference in the size of the fruit on trees that are well dressed and those that are not is very great, and when judicious pruning follows the annual manuring, the crop is in every respect improved.

It is equally important that the trees have sufficient room. Plenty of room for the branches means ample space for the roots; when the trees are crowded they must necessarily be pruned hard to keep the branches within bounds, and severe pruning means a diminished crop. The character of the soil should in some degree determine the distance at which they should be planted. In strong soils the trees should be seven feet apart each way, but where the land is neither rich nor deep that distance should be reduced by twelve inches. I am quite satisfied that nothing is gained by planting closer together than the distance mentioned.

In forming new plantations of bush fruits, it should be remembered that under ordinary circumstances they will occupy the same position for a number of years. It is therefore necessary that the ground should be thoroughly prepared before planting, as they delight in a free and deep soil as well as trees of larger growth. The quarters should be trenched up to a depth of two feet, and a good layer of manure be placed at least one foot below the surface. If there is to be a regular plantation with one sort following another, the whole space should be trenched up, but if the trees are to stand in a single line a space three feet wide will suffice. In strong, heavy soil that is inclined to be lumpy some fine earth should be prepared to place round the roots when the trees are planted. Any attention bestowed upon them in this way at the commencement will be amply repaid by a more vigorous growth. It is not an uncommon mistake for people to put out plants that are little better than cuttings. The consequence is they have to wait for several years before the trees are large enough to bear a full crop. Most nurserymen offer plants in two sizes, and ranging from two to five years. As a matter of course the older the plants are the greater the cost, but as they will be much larger the increased outlay is more than compensated by the increase in size, for such trees when properly treated will bear a fair crop the first year and a full one the second. All bush fruits may be planted at any time in open weather during the winter, but the earlier after the leaves have fallen the better. As soon as the planting is completed it is a capital plan to put a short stout stake to each, and to securely fix the stem to it with a strong piece of tar-cord. This will prevent the wind rocking them about. After the roots have once obtained a firm hold of the soil the wind will not injure them unless the position is much exposed.

With regard to the best sorts to select, I would not advise the cultivator to burden himself with a large number of varieties. It is much more satisfactory to grow a few of the best and treat them properly than to devote time and space to a great number of kinds, of which many will prove inferior. Four sorts of gooseberries I consider enough for the largest garden. The names of these are *Crown Bob*, *Lan-*

AMERICAN TRUMPET FLOWER, *Tecoma radicans* (Flowers red and orange). Half natural size.

cashire Lad, *Whitesmith*, and *Warrington*. But it is very doubtful if more than one of these are wanted, for the last-named sort is such an excellent bearer and so superior in flavour to all others that no garden would be deficient in first-class gooseberries if enough trees of this sort were planted. The best sort of red currant is *Raby Castle*. The *White Dutch* is a regular and prolific bearer where a white sort is wanted. There are supposed to be several varieties of black currants, and if there is any difference, *Lee's Prolific* is the best, but the old *Common Black* is not to be despised when grown in a proper manner.

With reference to the subject of pruning bush fruits I would say that I am an advocate for pruning each kind according to its requirements. Respecting gooseberries, I am bound to say that in a general way they are pruned too much. Especially is this the case when nearly all the young wood is cut back to a spur and the leader shortened, as is usual in this style of pruning. I quite agree with those who cut away some of the weakest shoots from the middle of the tree, and especially in the case of the sorts that have a drooping habit, because I know it increases the size of the fruit on the branches that are left. But it is a great mistake to do more than that. Beyond a judicious thinning out of the growth, every young shoot cut away at pruning time means a reduction in the quantity of fruit. In the case of old trees, and particularly those which grow erect, an old branch or two should be cut out every year, or as often as the centre becomes crowded, and young ones allowed to take their place. By this means the trees will be constantly renewed, a point of no small importance, considering that young wood always produces the largest fruit. Red and white currants should be pruned more severely than gooseberries. After the tree is properly formed, most of the young wood should be cut back to a spur; but as the trees attain age, young branches should be led up to take the place of the old ones. Black currants bear the largest fruit on the young wood, and they therefore require to have some of the old branches cut out every year. Regard will, as a matter of course, be had to the form of the tree, which should be open in the middle.

When we stop to think that good gooseberries are as much liked by some as good grapes, it seems strange that so few adopt the plan of training the trees to trellises. Many who are equally as fond of gooseberries as grapes will build expensive houses for the latter, but cannot see the necessity for providing a trellis for the common gooseberry. Of course, it is not for me to complain, but I have grown them long enough in my time trained to wires to have learned that although one cannot grow better fruit trained on wires than on free bush trees, they can be grown equally as fine and good flavoured in a smaller space. There is this advantage with trained trees, they can be more readily protected from the depredations of the birds, whether it is desired to preserve the buds or the fruit. When a wire trellis has to be provided, the height should be five feet, and the wires about five inches apart; and if the position is a sunny one the trellis may run in any direction, as the fruit will ripen if it is not fully exposed to the sun. In pruning trees grown on a trellis it is necessary to prune a little harder in the winter, for the sake of neatness, as well as for the purpose of cutting out exhausted wood, and to make room for the young shoots, which invariably give the finest fruit.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Chrysanthemums should now be cut down and placed in a pit or frame where they will be safe from frost, and enjoy uninterrupted light and a free circulation of air. Propagation of plants intended for specimen culture or the production of cut blooms, should be proceeded with. Plants of pompons and other varieties required for the supply of cuttings in the spring ought also to be placed for the winter where they will not be subjected to frost or exposed to artificial heat.

Greenhouse to be kept as dry as possible, and scrupulously clean. If the pavement or tiles are green with confervæ, wash down with hot brine and a bass broom, both for the sake of cleanliness and health. The sour, damp odour perceptible in houses at this time of year generally proceeds from the growth of minute vegetation in the form of algreen slime, and this is very unwholesome, and probably as much a cause of the ailments gardeners are subject to as the frequent alterations of temperature to which they are liable. Plants in a soft state to be watered with great caution, but none to be allowed to flag for want of water. As water is often retained in little pools about the bottoms of the pots after watering, any containing delicately-constituted plants should be lifted from their places and put elsewhere to drain, to be returned when the battens are dry. On fine bright mornings use a little fire-heat, so as to allow of a free ventilation for a few hours. In the conservatory whatever flowers are at command may be made the most of by judiciously intermixing with them good plants of Yucca, Acacia lophantha, camellias, and others possessing characteristic foliage. Hard-wooded plants in the greenhouse must have as much air as the weather will allow, and as little water as possible, as we may soon expect severe frosts. The thermometer should not descend below 38 deg. Soft-wooded plants will be subject to mildew if the house is at all damp, and must have fire-heat during foggy as well as during frosty weather. Shift any specimen plants that are in need of increased root-room. Ericas must have air at every opportunity, and, if forced with other flowering shrubs, must have the coolest place in the forcing pit, and be very gently stimulated. Greenhouse temperature, 40 deg. to 45 deg.

STOVE AND ORCHID HOUSE.

Orchid House.—In collections where there are now only a few orchids in a growing state, the forcing pit may be turned to account to receive them, so as to allow of the cooling down of the orchid house, and securing thereby a complete state of repose for the plants, which is scarcely possible if there happen to be a few fine specimens pushing into bloom or in an active state of growth. It is at this time of year we see the full value of divisions which can be respectively devoted to orchids from different climates and requiring now different temperatures. Orchids at rest to be kept comparatively cool and dry; 50 deg. by night and 60 deg. by day will be sufficient. Anœctochili must have very little water now, and if in a warm house will do better without than with bell-glasses; they are indeed generally kept too close. Rot and spot are diseases peculiar to this season, and are the result of too much moisture in the house.

Stove.—The plants at rest in the stove may suffer if allowed to become too dry, especially those having porous foliage and soft stems. In giving air, take care not to expose tender plants to cold draughts; in fact, air should never be admitted in a volume at this time of year. The general collection of stove plants will be safe with a temperature of 60 deg. by day and 53 deg. by night.

FORCING AND ORCHARD HOUSE.

Cucumber Pit.—Cucumbers that have been in bearing some time may always be restored to a youthful condition by the use of the knife. If we have a length of lights occupied with bearing vines at this time of year, we prepare for their renewal by opening a trench all round the roots, every alternate plant, at a distance of one foot from the stem. This, of course, shortens in the roots to that length. We then fill the trench with a mixture of chopped turf, leaf-mould, and rotten dung. There will be new roots formed in this mixture at once, and a week after the operation we cut back the vines to within a foot of the soil, and then take up new shoots, and stop and train as before. As soon as these show fruit, the remainder can be dealt with in the same way. They want extra bottom heat after cutting back.

Orchard House trees may now be pruned and dressed as opportunities offer, and any alterations be made as may appear necessary.

Vineries in which the crop is still hanging must be kept dry by ventilating freely when the weather is favourable. No more fire-heat must be used than is absolutely necessary for keeping out frost and maintaining a perfectly dry and sweet atmosphere.

FLOWER GARDENS AND PLEASURE GROUNDS.

Evergreens are generally planted at this season, because alterations are in progress, and it is found convenient to plant all at once—deciduous and evergreen trees together. But we question the propriety of moving any evergreen shrubs from November to February. We have always advised planting hollies, aucubas, bays, &c., &c., in August and September; and if not moved then, they had best be left where they are till March. Nevertheless, it is often convenient to lift evergreens now, and almost everything except the holly will endure the process if it is performed with care. On wet clays there is more likelihood of deaths occurring through removals now than on warm, dry loams. Where it is intended to plant in spring, let the ground be deeply trenched and laid up in ridges to pulverise.

FRUIT GARDEN AND ORCHARD.

Bush Fruits may still be planted in open weather, with the full assurance of the growth being satisfactory next season.

Pruning of standard trees should consist chiefly of opening out the head and regulating the growth, without severe measures of any kind, but as a rule standard trees require no pruning. Where large boughs require removal, it is a proof of neglect of some kind in times gone by; and if many large branches are dead or dying, depend upon it the tree is in a bad state at the roots; most probably the surface roots are gone altogether. In small gardens, old fruit trees are frequently killed by raising the soil about them, and so year by year removing their roots farther and farther from the atmosphere.

KITCHEN GARDEN AND FRAME GROUND.

Cabbage, Scotch Kale, and other standing vegetable crops should be, when the ground is dry, earthed up a little; this protects their roots from frost, and supports them against wind.

Cauliflowers, Lettuces, &c., in frames and under handlights, must have plenty of air during mild weather, by removing the glasses entirely on fine days, and keeping them tilted during rains. If any signs of mildew, sprinkle with sulphur. The fine dust from the bottom of the peat stack or the bins of the potting shed will be found useful to strew on the surface amongst plants suffering from damp; there is nothing to equal peat dust for the purpose.

Peas and Beans just showing through the ground should be covered with a sprinkling of dry earth, and over that some dry light, litter; this will check their growth and keep them hardy, and in case of frost afford considerable protection. Where sand is plentiful, use it in preference to mould, because of its drying nature.

Rhubarb and Seakale.—Those who have not begun to force should do so now, either in the open ground or by potting. As a very mild heat suffices, this season's leaves and litter, if plentiful in bulk, will do as well to make up a bed for the purpose as stable manure. If the latter is used, it should be turned three times before making the bed, or the heat will be too fierce and too transient.

MOSS-COVERED STONES.

Mr. Wilson's note on this subject recalls to my mind the striking effects I have seen in parts of South Africa, produced by "krantzes" or perpendicular faces of rock covered with many-coloured lichens in the depths of the "bush." The localities I have particularly in my recollection as I write are on the Devonian rocks about the Kei and its tributaries. The contrasts of colour there presented through vistas of dense greenery are sometimes as startling as they are beautiful. I do not remember to have seen any attempt—certainly no successful one—to reproduce such effects in rock work. H. M. C.

PRESENTS.—Everyone is now thinking what they will give their friends at CHRISTMAS or NEW YEAR'S DAY. The housewife, the mother, and the sister can every day in the year present a most acceptable gift to each member of the household, "A GOOD CUP OF TEA." To ensure its being really good, ONLY that QUALITY which is known to be the BEST gives satisfaction. HORNIMAN'S TEA has deservedly had the character for 50 years, of being the CHEAPEST and the BEST, and being "ALWAYS GOOD ALIKE;" most who use it will take no other. It is necessary to SEE the Importers' signature, W. H. and F. J. HORNIMAN and Co., on every packet, as there are many base imitations offered to the unwary.—[Advt.]

PEARS EXHIBITED AT LIÈGE.

In the exhibition of the Cercle Royal d'Arboriculture de Liège, October 10 and 11, there was an unusually fine show of pears, the season being as favourable to those fruits in Belgium as in Britain. There were eight competitors in the class for 40 varieties of pears, and the collections were good throughout, well set up, and correctly labelled. In the class for gardeners, M. Th. Deprez, gardener to M. le Baron de Blanckart, Château de Lexhy, and M. L. Ubachs, gardener to M. Duchâteau-Henrion, Comte-lez-Liège, were placed equal first. The following are the names of their several varieties :—

Collection of M. Ubachs.	Collection of M. Th. Deprez.
Beurré Hardy	Louise bonne d'Avranches
Louise bonne d'Avranches.	Souvenir du Congrès
Beurré superfin	Beurré Hardy
Médaille d'or	Soldat Laboureur
Madame Treyve	Beurré Durondeau
Double Philippe	,, Dumont
Délices de Huy	,, gris
Fondante des bois	Double Philippe
Beurré d'Angleterre	Beurré Diel
Doyenné du Comice	,, Sterckmans
Beurré Dumont	,, d'Hardenpont
,, Durondeau	Passe Colmar
Soldat Laboureur	Conseiller à la Cour
St-Michel	Délices d'Hardenpont
Duchesse d'Angoulême	Triomphe de Jodoigne
Beurré Ladé	Nouvelle Fulvie
Conseiller à la Cour	Joséphine de Malines
Calebasse Bosc	Passe Crassane
Beurré Diel	Jaminette
,, Sterckmans	Madame Elisa
,, d'Hardenpont	Marie Louise Delcourt
,, six	Marie Guisse
Bon chrétien Napoleon	Grand Soleil
Madame Grégoire	St-Germain panaché
Délices d'Hardenpont	,, Vauquelin
Zéphirin Grégoire	Comte de Flandre
Passe Colmar	Jules d'Airolles
Nouvelle Fulvie	Belle Lyonnaise
Général Todlében	Henriette Bouvier
Triomphe de Jodoigne	Graslin
Joséphine de Malines	Zéphyrin Grégoire
Fondante de Noël	Ne plus Meuris
Ne plus Meuris	Beurré de Rance
Madame Verté	Calebasse Bosc
Passe Crassane	Bon chrétien Napoléon
Olivier de Serres	Bergamotte Crassane
Bergamotte d'Esperen	,, d'Esperen
,, Hertrick	,, Hertrick
,, Fortunée	,, Fortunée
Doyenné d'hiver	Doyenné d'hiver

The collection of M. Bongaerts, gardener to M. Horstmans, Rue de Fetinne à Liège, presented a very fine collection, comprising some varieties that have not figured in other exhibits, and which should be here named: They were Comte de Chambord, President Boutonville, President Drouard, Charles Smets, and Bergamotte Roulan.

There were twelve competitors in the class for twenty varieties. Many of the collections were over ripe, and it would be of no service to our readers to give the names of such. But we give the names of the two best collections comprising well-grown and perfectly sound fruits from MM. Wauters, brothers, nurserymen of Remicourt, and M. Pilet, gardener to M. de Bellefroid, at Oudoumont.

Collection of Messrs. Wauters.	Collection of M. Pilet.
Beurré Hardy	Seigneur Esperen
,, gris	Beurré d'Angleterre
,, Durondeau	,, gris
,, Baltet père	Poire de Tongres
,, Diel	Soldat Laboureur
,, d'Hardenpont	Duchesse d'Angoulême
,, de Rance	Beurré Napoléon
,, d'Aspremont	Conseiller à la Cour
Louise bonne d'Avranches	Bergamotte Crassane
Délices d'Hardenpont	Triomphe de Jodoigne
Madame Verté	Beurré d'Hardenpont
Joséphine de Malines	Belle Lyonnaise
Passe Colmar	Beurré Diel
Nouvelle Fulvie	Joséphine de Malines
Soldat Laboureur	Jules d'Airolles
Conseiller à la Cour	Nouvelle Fulvie
Bergamotte d'Esperen	Passe Colmar
,, Hertrick	Fortunée
Président Drouard	Beurré de Rance
Doyenné d'hiver	Doyenné d'hiver

In the class for pears, arranged in order of ripening, the following were the best collections :—

10 Varieties for Oct.-Nov. from M. J. Belot.	10 Varieties for Nov.-Dec. from M. A. Montulet.
Beurré Hardy	Beurré d'Aspremont
Louise bonne d'Avranches	Doyenné du Comice
Double Philippe	Beurré Diel
Doyenné crotté	Zéphirin Grégoire
Délices de Huy	Alexandre Domillard
Beurré d'Angleterre	Cannelle
Conseiller à la Cour	Délices d'Hardenpont
Beurré Durondeau	Bergamotte Crassane
Soldat Laboureur	Marie Louise Delcourt
Fondante des bois	Van Mons, Léon Leclercq

10 Varieties for Dec.-Jan. from M. J. Belot.	
Beurré Bachelier	Ne plus Meuris
Madame Grégoire	St. Germain
Beurré Sterckmans	Comte de Flandre
,, d'Hardenpont	Triomphe de Jodoigne
Passe Colmar	Prince impérial de France

20 Varieties Ripening during Jan., Feb., Mar., and April, from L. Collette.	
Beurré Dubuisson	Suzette de Bavay
,, d'Hardenpont	Zéphirin Louis
Bezy de St-Vaast	Marie Guisse
Jules d'Airoles	Madame Verté
Joséphine de Malines	Olivier de Serres
Nouvelle Fulvie	Bergamotte d'Esperen
Passe Colmar	,, Hertrick
,, Crassane	,, Fortunée
Président Drouard	Doyenné d'hiver
St. Germain	Beurré de Rance

12 Best for Open Espaliers, from M. H. Monville.	12 Best for Pyramids.
Beurré d'Hardenpont	Louise bonne d'Avranches
Passe Colmar	Poire de Tongres
Jules d'Airolles	Soldat Laboureur
Délices d'Hardenpont	Nouveau Poiteau
Colmar d'hiver	Beurré Bachelier
Bergamotte Pentecôte	,, Sterckmans
,, Crassane	Orpheline d'Enghien
Joséphine de Malines	Duchesse d'Angoulême
Beurré de Ghelin	Beurré Dumont
Soldat Laboureur	Doyenné du Comice
Conseiller à la Cour	Passe Crassane
Bergamotte Hertrick	President Drouard

There was a fine show of apples admirably classified.

Exhibitions and Meetings.

FALMOUTH CHRYSANTHEMUM SHOW.

The cultivators of chrysanthemums in the Falmouth district may be heartily congratulated on the excellent display produced at the recent exhibition of these flowers in the town. Plants and cut blooms were both presented in excellent condition, and the amateurs are deserving of much praise for the aid they gave in bringing the exhibition to a successful conclusion.

In the open class for groups of chrysanthemums Mr. R. Gill, gardener to Mrs. Shilson, Tremough, was first with a group which did much credit both to his cultural skill and taste; Mr. W. Jenkin, gardener to H. Fox, Esq., Rose Hill, and Mr. H. Richards, gardener to W. H. Lean, Esq., Amyn Villa, who were second and third respectively, had arrangements of a high order of merit. For six large-flowered specimens Mr. Gill, Mr. Richards, and Mr. J. Britton, gardener to Mrs. Hodge, Menham, were the prizetakers in the order of their names. These exhibitors were also first, second, and third respectively in the class for six Japanese. Mr. R. Gill was successful also in taking the first prize for single specimen, single trained specimen, three Japanese specimens, and single Japanese specimens. Other successful exhibitors in these classes were Mr. Richards, Mr, W. Jenkin, and Mr. Britton. The premier award for six pompons was made to Mr. W. Jenkin; and the prizes for a specimen pompon were awarded to Mr. R. Gill, Mr. J. Gill, gardener to the Mayor of Falmouth, and Mr. W. Jenkin. Mr. R. Gill was not less successful in the classes for cut blooms than in those for plants as proved by the fact that in five of the eight classes provided, and these the most important, he occupied the first place. Mr. W. Jenkin, Mr. R. Johnson, and Miss Hockin also exhibited well in the cut flower classes.

The chief prizetakers in the classes for amateurs were Mr. W. E. Downing, Mr. Tressider, Mr. E. R. Wade, Mrs. Blaney, and Mrs. Read. The classes for zonal pelargoniums were especially well filled, the principal contributors to them being Mr. R. Gill, Mr. J. Gill, and Mr. Richards, to all of whom much praise is due for the excellence of their collections which produced a brilliant effect.

HORTICULTURAL SOCIETY OF HOBART, TASMANIA.

This recently-established society held its first spring show in the Town Hall, Hobart, on Friday, October 8. Tasmania has not been so forward in the matter of flower shows as the other colonies, but now that they have started well it is not likely that this colony will be behind in the future. It is a good augury of success, that one of the principal events of the day was the reading of papers on different branches of horticulture.

The exhibits were spread out on two long tables running the whole length of the room, which they quite filled. Auriculas were sent in the form of a large collection of pot plants from Mr. T. Jones, of Hobart; he had also a collection of cut blooms, the whole being greatly admired. Mr. C. E. Cresswell exhibited a very fine collection of double wall-flowers, splendidly grown. Mr. F. Abbot, of the Botanical Gardens, exhibited cut specimens of the eucalyptus in flower; also an example of the variegated mallow. Mr. S. Bridges contributed fine-flowering specimens of Indian azaleas, the best of them being the semi-double flesh-coloured variety La Paix, L'Ambassador (red), Charmer (rich rose), Roi d'Hollande, and Madame Van Houtte. Mr. H. Burton sent a fine miscellaneous collection of cut flowers, comprising pæonias, rhododendrons, boronias, heaths, hibiscus, &c. Mr. Alfred Lyell, gardener to Dr. Bedford, exhibited a fine collection of double ranunculus blooms.

The best exhibitor of vegetables was Mr. Sayer, of Sandy Bay, who sent very fine Colossal Asparagus, Laing's Conqueror Rhubarb, Carter's Fern-leaved parsley, &c.

The evening meeting was presided over by Mr. C. H. Grant. In his opening remarks he alluded "to the growth of auriculas, and the value assigned in England to new varieties, and the establishment there of clubs, having for their object the culture of that plant only." Mr. F. Abbott read a paper entitled "Notes on Horticultural Societies and their Legitimate Work." In his paper he gave expression to the hope that in time the society might organize an undertaking like that of the American Pomological Society. He further

stated that too little encouragement had been given in the past to local effort in the production of florists' flowers and fruits. As a natural consequence, the colony had to depend upon importations from foreign parts for all additions and novelties. Mr. T. Jones read a paper on "The Cultivation of the Auricula," in which he traced the history of the auricula from the earliest times, and fully explained its cultural requirements. A large number of the members of the society took part in the subsequent discussion.

The evening meeting was a very interesting and instructive termination to the day's proceedings, and is one which in many cases might be adopted in this country.

TAVISTOCK CHRYSANTHEMUM SHOW.

The experiment recently made of holding an exhibition of chrysanthemums and fruit proved so great a success as to surpass the expectation of the most sanguine of the promoters, and surprised not a few of the visitors. Although no prizes were offered, the Town Hall in which the show was held was filled to its utmost extent, and several promises of support had to be declined in consequence of the impossibility of providing space for the collections. Chrysanthemums were remarkably good, and of fruit there was an excellent display. The arrangements were admirably carried out, and the effect produced was eminently satisfactory.

From Mr. Mounsden, gardener to F. Bradshaw, Lifton Park, came a beautiful collection of chrysanthemums, in which were capital examples of Mrs. George Rundle, Diamond, Golden Queen of England, Beverley, Ethel, Lady Selborne and Empress of India. Mr. Amos, Tothill Nurseries, Plymouth, contributed beautiful stands of cut blooms. G. H. E. Rundle, Esq., of Stoke, Devonport, the well-known raiser, had a beautiful stand of flowers, chief amongst them being Cullingfordi, Pink Perfection, Empress of India, Golden Dragon, Mount Edgcumbe, and Lady Margaret. Other exhibitors of chrysanthemums deserving much praise for the excellence of their contributions were Mr. C. Chanter, gardener to E. Marshall Esq., Parkwood House; Mr. Davey, gardener to R. B. E. Gill, Esq., of Bickham; Mr. S. Waldron, Trelawny Road, Tavistock; Mr. Beer, gardener to J. Carnell, Esq., Willowby; Mr. J. Foot, Exeter, Mr. T. Jordan, gardener to Birkett Foster, Esq., The Hill, Whitley, Surrey, Mr. G. Webb, Mr. H. Clark, Mr. Lowdy, Mount Tavy, Mr. Yole, Tavistock, and Mr. Gullick. The majority of the exhibitors whose names are here given exhibited also miscellaneous plants and flowers which added much to the success of the exhibition.

The contributions of fruit were very numerous and of great interest, the most important being those from the gardens of Mr. W. H. Chichester, Grenofen; Mr. Polgreen, Mr. Gill, Captain Edgcumbe, Mr. Ward, Mr. Stephens, Mr. Skinner, Earl Fortescue, Mr. Bailey, and Mr. Kelly. Representative collections of apples of great excellence were contributed by Messrs. G. Bunyard and Co., Maidstone; and Messrs. T. Rivers and Sons, Sawbridgeworth.

The arrangements were admirably carried out by Mr. Monk, the secretary of the Tavistock Cottage Garden Society.

OXFORDSHIRE CHRYSANTHEMUM AND FRUIT SHOW, NOVEMBER 23.

The Oxfordshire association held its twenty-fourth exhibition on the above date in the Corn Exchange, Oxford, and was regarded as a big success, quite upsetting the predictions freely indulged in, that the show was full a fortnight late. The display, which was effectively arranged, comprised one hundred and forty trained specimens, four hundred untrained plants in the five groups, sixty primulas, single and double, nearly eight hundred blooms of large flowered varieties, an extensive display of pompons in triplets, one hundred and fifty bouquets, some very choice epergnes, and about one hundred dishes of apples and pears of large size and high quality, besides sets of dessert in which were marvellously handsome pines and clusters of grapes. The attendance was very large during the afternoon and evening; but a much larger number would probably have been present but for the dense fog.

PLANTS.—As is the custom of the Oxon growers the whole of the specimens were hard-trained, though most effective, that style suiting those cultivators with very limited space, as the plants can be packed close together, and several of the exhibitors here are the occupiers of four-roomed cottages only, carpenters, jobbing gardeners, day labourers, &c. The crush of visitors during the time the show was open prevented a very minute inspection being made of the blooms and fruit, but a few notes are appended respecting the plants. The groups staged on an area of ten feet by five feet, were a vast improvement on some previous years, the individual blooms being larger and of brighter colours. In this class Mr. John Mattock, Bath Nursery, New Headington, Oxford, was awarded premier honours; Mr. W. Bunn, Mount House, St. John's Road, Oxford, second; G. H. Morrell, Esq., Headington Hill Hall, Oxford (gardener, Mr. W. Hovell), third. For six large-flowering specimens Owen Grimbly, Esq., Summertown Villa, Oxford (gardener, Mr. Horn), was adjudged a good first, with prime convex bushes, well-bloomed, of Mrs. Forsyth, Golden Christine, Mrs. G. Rundle, Barbara, Julie Lagravere, and Princess of Teck; Mr. M. Jefferies, Manor Farm Nursery, Summertown, second with bold heads of bloom of Venus, Mrs. Forsyth, Mrs. G. Rundle, Mr. George Glenny, Pink Christine, and Chevalier Domage; Mr. F. Launchbury, New Hincksey, Berks, third, with excellent examples of Mrs. G. Rundle, Guernsey Nugget, Dr. Sharp, Julie Lagravere, Mrs. Dixon, and Mr. George Glenny. For four Mr. M. Jefferies led with equally good plants as in the previous class, his rotund forms of Guernsey Nugget, Mrs. Forsyth, Julie Lagravere, and Golden Christine carrying dense heads of flowers; Miss Greswell, 39, St. Giles' Street, Oxford, second, with Mr. Gladstone, Lady Russell, Guernsey Nugget, and Mrs. Forsyth; the third card falling to Mr. J. Beesley, 8, New Street, St. Ebbe's, Oxford, who put up compact plants of Mrs. Haliburton, Mr. George Glenny, Mrs. Forsyth, and Mrs. G. Rundle.

Japanese varieties appeared better done than we have seen them at Oxford. The four gaining the premier award were staged by Mr. M. Jefferies, who had Le Chinois, the most perfect example in the show, Fair Maid of Guernsey, Angèle, and Source d'Or; Rev. J. Dodd, 55, St. Giles' Street, Oxford, was a good second, with beautiful examples of General Gordon, Madame de Sevin, Mdlle. Lacroix, and Source d'Or; Mr. J. Green, 12, Adelaide Street, Oxford, third, with La Nymphe, Source d'Or, Flambeau, and Le Chinois; while for three Miss Greswell headed the list with compact, well-finished examples of Duchesse de Gerolstein, Flambeau, and Source d'Or. Mr. T. Tollitt, 14, Adelaide Street, Oxford, carried off the second prize with creditable specimens of Mons. Charles Hubert, La Nymphe, and Flambeau; Mr. J. Beesley third with James Salter, La Nymphe, and Source d'Or. Pompons were about an average both in the number and quality of the specimens. Mr. M. Jefferies was awarded the first card with faultless examples of Sœur Melanie, Mr. Holmes, Prince of Orange, and Golden Aurora; Mr. T. Tollitt, second, with Prince Victor, Sœur Melanie, St. Michael, and Mrs. Bateman; while in the class for three, Mr. J. Beesley was placed first with Fremy, St. Michael, and La Vogue; Mr. J. Green, second, with Sœur Melanie, Mrs. Bateman, and Stella.

Single specimens made a very showy bank of colour. For a Japanese, the Rev. J. Dodd was first with a matchless Mdlle. Lacroix; Mr. M. Jefferies, second, with Source d'Or; and Mr. T. Tollitt, third, with Striata Perfecta. For a large-flowered variety, Mr. M. Jefferies well deserved the first place with a beautifully-finished example of Mrs. G. Rundle; Owen Grimbly, Esq., second, with Mrs. Forsyth; Rev. J. Dodd, third, with Guernsey Nugget. For a large-flowered anemone, Mr. A. T. Clark, Charles Street, Iffley Road, Oxford, put up the best example ever shown here of Georges Sand; Mr. M. Jefferies, second, with Gluck, a little past its best. For a pompon, the card went to Mr. M. Jefferies for a grand Sœur Melanie; Mr. J. Beesley, second, with St. Michael; while for a pompon anemone, Mr. M. Jefferies presented a most unique example of Mr. Astie; Owen Grimbly, Esq., second, with the same variety; Mr. T. Tollitt, third, with a well-bloomed Astrea. Standards were numerous, and presented compact, well-formed heads of bloom. For four varieties, Messrs. Green, Jefferies, and Grimbly taking the cards; the prizes for "grafted" standards going to Mr. J. Green, first; Mr. J. Cantwell, 174, Kingston Road, Oxford, second; Rev. J. Dodd, third, with specimens which had been worked with from eight to twelve varieties each. Pyramids were good, but fewer than usual.

PRIMULAS made a good show, the double forms being regarded as super-excellent. For four, Mr. George Jacob, Mill Lane Nursery, Witney, was placed first; Mr. C. Jacob, Barton Nursery, Headington, second; Mr. H. J. Thornton, 64, Walton Street, Oxford, third. For six singles, Owen Grimbly, Esq., took the lead with well-grown plants of the newer varieties; Mr. S. Checkley, Corpus College, Oxford, second; Mr. M. Jefferies and Thomas Arnall, Headington Hill, Oxford (gardener, Mr. S. Coster), being third and fourth respectively; while for four Mr. J. Green, C. A. Hanley, Esq. (gardener, Mr. G. Pearce), The Mount, Oxford, Mr. H. J. Thornton, and Mr. W. Harris, Fern Cottage, Kingston Road, Oxford, shared the awards.

CUT BLOOMS produced a rich display, but the crush of visitors prevented the minute examination of the principal boxes, and, therefore, the names of the incurved flowers cannot be appended. The following, however, were pronounced the winners in the big class for twenty-four distinct blooms: P. Southby, Esq., Bampton (gardener, Mr. G. Neal), first; S. Gulliver, Esq., Aylesbury (gardener, Mr. W. Tipler), second; and Rev. R. H. Charsley, St. John's Lodge, Oxford, third. For twelve: First, F. Ryman-Hall, Esq., Summerhill Villa, Oxford; second, Mr. R. Richards, Stapleton, Bristol; third, Mr. J. Dearlove, Cherwell Street, Oxford (brewer's foreman); and Mr. W. Bunn, Mount House, Oxford, fourth. For eighteen, Mr. M. Jefferies and Mr. T. A. Chambers, Bridle Lane, Iffley, Oxford, divided the prizes awarded. For a specimen bloom P. Southby, Esq., was first with a noble Princess of Teck; F. Ryman-Hall, Esq., second with Princess of Wales; S. Gulliver, Esq., third with a well-built Alfred Salter; and W. H. Wall, Esq., fourth, with Guernsey Nugget. For twelve of one variety the competition was very keen. P. Southby, Esq., first with a grand dozen of Princess Teck; Owen Grimbly, Esq., second with Mr. Bunn; Rev. R. H. Charsley third with Mr. Jay; W. H. Wall, Esq., bringing up the rear with Guernsey Nugget. Reflexed and anemone flowers were presented by numerous exhibitors, Messrs. Southby, Richards, Jefferies, and Wall securing the principal awards.

Japanese varieties were in equal force to the other sections. The premier box of twenty-four distinct was staged by P. Southby, Esq., who had large, fresh examples of Belle Pauline, Baronne de Prailly, Ceres, Japonais, Meg Merrilies, Fanny Boucharlat, Madame C. Audiguier, Jeanne Delaux, Mons. Brunet, Mons. Harman Payne, Mons. Astorg, Fair Maid of Guernsey, Thunberg, Triomphe de la Rue des Châlets, Comte de Germiny, Carmen, Ethel, Lucifer, Album Striatum, Dolores, Apollo, and Album Plenum; S. Gulliver, Esq., second, with prime examples of Hiver Fleur, Le Chinois, Baronne de Prailly, Peter the Great, Madame C. Audiguier, Comte de Germiny, Mons. Ardene, Madame Bertier Rendatler, Margnerite Marrouch, Sarnia, Soleil Levant, Mons. Astorg, Thunberg, Jeanne Delaux, Oracle, Source d'Or, Roseum Superbum, Mons. Lemoine, Angèle, Fair Maid of Guernsey, L'Incomparable, Elaine, and Gloria Solis; W. H. Wall, Esq., a creditable third. In the class for twelve, Mr. R. Richards was strong with blooms of Belle Pauline, Fanny Boucharlat, Grandiflora, Mons. Delaux, Sceptre de Toulouse, Madame Bertier Rendatler, Mdlle. Lacroix, Madame C. Audiguier, Magnum Bonum, Comtesse de Beauregard, Comte de Germiny, and Thunberg; the Rev. R. H. Charsley and Mr. M. Jefferies were second and third..

Pompons and pompon anemones were an interesting display, being set up in triplets with their own foliage.

FRUIT was a most attractive feature, the apples and pears being of large size and richly coloured. Some of the stewing pears turned the scale at twenty ounces.

MISCELLANEOUS CONTRIBUTIONS included a number of very tall specimen standards from Mr. Walker, Thame, who also exhibited a large basket of zonal pelargoniums and a collection of six varieties of grapes in rich clusters. One other exhibit demands notice, namely, the splendid array of triplet trusses of the newer forms of zonal pelargoniums staged by Messrs. Cannell and Son, who had Lady Reed, Kentish Fire, Ajax, Queen of the Belgians, Swanley Gem, Plutarch, Kate Greenaway, Mr. H. Cannell, Norah, E. Pearson, Lord Chesterfield, Clytie, Edith George, C. H. Swinstead, F. Kauffer, New Guinea, and Favourite among the single forms. The best of the double zonals comprised Tendresse, Kohu, Lord Derby, Spade Guinea, Belle Nanceinne, Negro, Lacinal, and Australian Gold. Of the single chrysanthemums the most striking were Talford Salter, Catherine Wheel, Crushed Strawberry, Helianthus, Lady Churchill, and Brislis. The Japanese forms were Moonlight, Sarnia, Erectum superbum, Gloriosum, Mons. Freeman, and Belle Valantinoise.

BANBURY CHRYSANTHEMUM AND FRUIT SOCIETY, NOVEMBER 24.

The first show of the Banbury Society was held in the Exchange Hall on the above date, and, in common with the many others of its kind, scored a success. During the summer months many of the floral devotees of "the town of sweet cakes" had occasion to mourn the abandonment of their annual August Show (the one holiday of the town), but, as a set-off, it was deemed wise to attempt a display of chrysanthemums and other autumn subjects,

with a result fully justifying the attempt, exhibitors being found ready to assist outside the boundary of the borough, and who very largely made the show. The building, somewhat spacious, was well filled with products on the ground floor, and another season, by utilizing the two side galleries for the fruit, potatoes, and onions, a very large area of promenading space might be available for visitors, who crush at every show almost to inconvenience.

The appearance of the hall was most attractive, the semi-circular orchestra being filled in with a collection of greenhouse specimens and chrysanthemums tastefully disposed by Mrs. P. J. Perry, who also put up at the opposite end of the room about eighty dishes of the choicest of fruits in season, representing the stocks kept at her nursery, added to which were bouquets, wreaths, chaplets, &c., arranged in superior style.

PLANTS.—The schedule contained forty classes, the prizes offered producing no less than two hundred and eight entries. In the classes for plants, the premier group, arranged by Mr. T. Cummings, gardener to J. Gillett, Esq., Banbury, was marked by freshness and the large size of the individual flowers; Lord North, Wroxton Abbey (gardener, Mr. Doherty), being second, and Mr. A. W. Macnaughton, Vineyard Nurseries, Neithrop, Banbury, third. In the classes for six and three large-flowering, six and three Japanese, the prizes were chiefly awarded to Mr. M. Jefferies, Summertown, Oxford, and Mr. J. Green, Adelaide Street, Oxford; and as the varieties are referred to in the report of the Oxford Show a repetition is not needful here; Lord North, however, gaining the second places for six large-flowering specimens and six Japanese with large, straggling specimens. For a single specimen, Japanese, Mr. M. Jefferies held his own with a fine example of Le Chinois; Lord North was second with Elaine; he also secured the first for an immense bush of Julie Lagravere; Mr. J. Green being second with a compact standard of Mrs. G. Rundle.

CUT FLOWERS.—In the cut flower department the boxes were very numerous in each class. For twenty-four blooms (Japanese), distinct, Mr. Reuben Richards, Stapleton, Bristol, was accorded the post of honour for large, fresh specimens of Sarnia, Jeanne Delaux, Madame Bertier Rendatler, Mdlle. Lacroix, Duchess of Albany, Fair Maid of Guernsey, Magnum Bonum, Madame Feral, Gloriosa, Dormillon, Thunberg, Madame C. Audiguier, Comte de Germiny, Marguerite Marrouch, Meg Merrilies, Sceptre de Toulouse, Belle Pauline, Mons. Delaux, Fanny Boucharlat, Grandiflorum, Comtesse de Beauregard, Japonais, Triomphe de la Rue des Châlets, and Mons. Brunet; P. Southby, Esq., was second with a very excellent level lot of blooms, including Lucifer, Thunberg, Madame C. Audiguier, Jeanne Delaux, Fanny Boucharlat, Mons. Brunet, Carmen, Ethel, Apollo, Album Plenum, Triomphe de la Rue des Châlets, Dolores, Alba striata, Fair Maid of Guernsey, Mons. Harman Payne, Mons. Astorg, Meg Merrilies, Ceres, Baronne de Prailly, Comtesse de Beauregard, Japonais, and Belle Pauline; S. Gulliver, Esq., Aylesbury (gardener, Mr. Tipler), third. For twenty-four large-flowering, P. Southby, Esq. was to the front with excellently set-up forms of Lady Carey, Jardin des Plantes, Hero of Stoke Newington, White Venus, Barbara, Princess of Wales, Empress Eugenie, Cherub, Lord Alcester, Mr. Brunlees, Lord Wolseley, Prince Alfred, Mr. G. Glenny, Pink Venus, Mrs. Heale, Isabella Bott, Mabel Ward, Rev. J. Dix, Golden Queen of England, Beethoven, Princess Teck, Lady Talfourd, Lady Slade, and Angelina; S. Gulliver, Esq., second, for a fair average collection; F. J. Myers, Esq. (gardener, Mr. W. V. Smith), third, with an excellent selection. For twelve, the cards were placed on very meritorious stands, F. C. Aplin, Esq., first; Mr. J. W. Symington, second; and Mr. R. Richards, third; the premier for nine blooms going to Mr. H. Wingrove, The Gardens, Rousham Park, who put up popular varieties with foliage, a practice which ought to be encouraged. For twelve, of one variety, P. Southby, Esq., led with a dozen Princess of Teck; F. J. Myers, Esq., second with Hiver Fleur; W. H. Wall, Esq., third, with Guernsey Nugget.

FRUIT.—There were twelve classes devoted to the fruit display, sixty dishes of pears, and one hundred dishes of apples, forming a most beautiful feature of the shows, no less than 1,600 fruits being staged, irrespective of a large show of grapes. The Blenheim Oranges gaining the premier were equal to any ever exhibited in competition in the county, these hailing from Rousham Park.

POTATOES.—The neighbourhood of Banbury has long been celebrated for the handsome tubers usually to be met with at its annual shows, and the present occasion proved no exception to the rule. For twelve dishes, the card went to R. A. Cartwright, Esq., who staged bright handsome examples of Sutton's First and Best, Blanchard, London Hero, Edgcote Purple, Snowdrop, Reading Russet, Vicar of Laleham, Favourite, Lady Truscott, Reading Ruby, Prizetaker, and Edgcote Seedling; Mr. A. V. Cross, second, with Snowdrop, Reading Russet, Matchless, Edgcote Purple, Prizetaker, Tremont, Coldstream, Vicar of Laleham, Blanchard, and Snowflake. For six dishes, Mr. Tom Tooley, was placed first with Schoolmaster, Mr. Bresee, Vicar of Laleham, Chancellor, Reading Russet, and Magnum Bonum: Mr. J. Green, Oxford, second; and Miss Gillett, third, with fair samples. For four dishes, two kidney, and two round, R. A. Cartwright, Esq., was again to the fore with extra handsome specimens; while for one dish of Kidney, Captain Benyon led with a grand dish of Snowdrop; R. A. Cartwright, Esq., second, with the same variety; the last-named being first for a dish of round, with good examples of Adirondack; J. Gillett, Esq., being awarded second.

ONIONS.—Famous for the production of handsome bulbs of the White Spanish type, Banbury promises to be the birth-place of varieties which astonish ordinary mortals in the production of bulbs of immense size and fine contour. At this show Mr. H. Deverill, The Seed Stores, Cornhill, Banbury, made a great show of wonderfully fine bulbs. In the competition for twelve onions, Mr. G. Neal, Bampton, was a good first, with bulbs of his Anglo-Spanish, which turned the scale at 16½ lbs.; Lord North, being placed second with Rousham Park Hero, weight 14½ lbs. For six, R. N. Byass, Esq., Rousham Park, was first for a dish of Rousham Park Hero, weighing 8½ lbs.; the second prize falling to Mr. W. Slarke, gardener to Earl Ellesmere, with Anglo-Spanish, weight 7¾ lbs.

The judges were Mr. J. Walker, Thame, and Mr. George Ward, Oxford.

AYLESBURY CHRYSANTHEMUM SOCIETY, NOVEMBER 25.

Fair weather favoured the promoters of the exhibition held in the Corn Exchange of the old Bucks centre, and the results, both floral and financial, were thoroughly satisfactory. As has been mentioned in reports of previous shows, the bulk of the specimen plants are trained as near nature as possible, and the display of this section is particularly attractive, the only shape (hard trained) that is attempted is the pyramid form, and these have a very easy-looking air about them as they unfold their beautiful flowers on all sides.

SPECIMENS.—In the class for nine large-flowering, C. Threlfall, Esq. (gardener, Mr. Maggs), was first with large examples of Mrs. Sharpe, Cloth of Gold, Mrs. Dixon, Fingal, Mrs. Forsyth, Christine, and Guernsey Nugget; E. D. Lee, Esq., Hartwell House (gardener, Mr. W. Robins), was second with large bushes, which had not been disbudded, of Mrs. Dixon, Hereward, Miss Mary Morgan, Mrs. George Rundle, Mrs. Sharpe, Mr. George Glenny, golden and pink forms of Christine, and Mrs. Forsyth; H. A. P. Cooper, Esq. (gardener, Mr. Morton), who was third, staged smaller specimens, carrying well-developed blooms, of Mrs. Dixon, Jardin des Plantes, Pink and Golden Christine, Julie Lagravere, Mrs. Forsyth, Cloth of Gold, Guernsey Nugget, and another. For six varieties, C. Threlfall, Esq., was again first, E. M. Kenney-Herbert, Esq. (gardener, Mr. W. Green), second, and Mr. E. D. Lee third. For three varieties, E. M. Kenney-Herbert, Esq., Mr. C. Daniels, and Mr. J. Pettey took the prizes in the order of their names. For a single large-flowered specimen, C. Threlfall, Esq., was first with Guernsey Nugget; S. Gulliver, Esq. (gardener, Mr. W. Tipler), was second with Mrs. Sharpe; and E. D. Lee, Esq., third with Jeanne d'Arc.

For six Japanese, excellent groups were submitted, C. Threlfall, Esq., leading with faultless specimens of Soleil Levant, Roseum Superbum, Le Chinois, Mons. Bouyer, Peter the Great, and La Nymphe; E. D. Lee, Esq., second, with Fair Maid of Guernsey, Madame B. Rendatler, Elaine, Peter the Great, Source d'Or, and Elvire. For three, the best were Katakina, Peter the Great, and Fair Maid of Guernsey, staged by H. A. P. Cooper, Esq.; Mr. H. Gurney (gardener to Mr. Brandon), put up for second place healthy examples of Angèle, Hiver Fleur, and Peter the Great.

Pompons were beautifully staged, dense bushes presenting a mass of colour characterising those in the class for six, the card going to E. D. Lee, Esq., for the white and lilac forms of Cedo Nulli, Mr. Astie, Dick Turpin, Mdlle. Marthe, and Salamon; C. Threlfall, Esq., second, with Bijou de Horticulture, Golden Mdlle. Marthe, Dick Turpin, Antonius, White Cedo Nulli, and Salamon. Equally attractive was the class for three, in which H. A. P. Cooper, Esq., was first with pretty-shaped plants of Mdlle. Marthe and White and Lilac Cedo Nulli; Mr. J. Petty, a good second, with Salamon and White and Lilac Cedo Nulli.

GROUPS staged for effect on eight feet square were excellently done, the premier arrangement, which was exhibited by Mr. T. Shrimpton, Aston Clinton, was formed of twenty-five bushes of Japanese and incurved, faced with a front row of pompons, altogether a fine group; H. A. P. Cooper, Esq., was second, with a group remarkable for the high quality of the blooms; Mr. C. Daniels, third; Mr. H. Gunn, fourth; and H. M. Kenney-Herbert, fifth. No standard forms were presented, but pyramids were done better than usual. C. Threlfall, first, with Golden and Lilac Cedo Nulli and Mdlle. Marthe; H. A. P. Cooper, Esq., second, with Mdlle. Marthe and Lilac and White Cedo Nulli.

CUT BLOOMS.—A large show was made with blooms, although one or more prominent growers in the neighbourhood did not compete. For forty-eight, S. Gulliver was adjudged worthy of the premier award, his Japanese flowers being Hiver Fleur, Le Chinois, Baronne de Prailly, Peter the Great, Madame C. Audiguier, Meg Merrilies, Comte de Germiny, Belle Pauline, Oracle, Thunberg, Jeanne Delaux, Mons. Astorg, Brilliant, Soleil Levant, Sarnia, Madame B. Rendatler, Source d'Or, Roseum Superbum, Mons. Lemoine, Angèle, Gloria Solis, Elaine, Mons. Ardeoe, and L'Incomparable; while of incurved, good blooms were presented of Hercules, Jardin des Plantes, Lord Wolseley, Alfred Salter, Golden Queen, Hero of Stoke Newington, John Salter, Queen of England, Mrs. W. Shipman, Princess of Wales, Isabella Bott, Mabel Ward, Faust, Jeanne d'Arc, Mr. Bunn, White Globe, Prince Alfred, Lord Alcester, Pink Christine, Mrs. Heale, Barbara, Golden Eagle, and Mrs. Weston. In the second class, which was for thirty-six, Mr. Bailey presented well-developed examples of Lord Alcester, Empress of India, Soleil Levant, Bouquet Fait, Mr. Brunlees, Ethel, Mr. Bunn, Jeanne Delaux, Venus, Boule d'Or, (the finest bloom in the show, the florets from six to seven inches long), Baronne de Prailly (another thumping flower), Cherub, Safranot, St. Patrick, Princess of Teck, Triomphe du Nord, Mrs. Forsyth, Cloth of Gold, Alfred Salter, Golden Christine, Barbara, and Peter the Great; Mr. C. Daniels second, his best blooms being Madame C. Audignier, Baronne de Prailly, Mrs. Heale, Mrs. W. Shipman, Princess of Wales, Lord Beaconsfield, Hero of Stoke Newington, Jeanne d'Arc, Angèle, and Le Chinois; E. D. Lee, Esq., third, his box containing superfine specimens of Jeanne Delaux, Thunberg, Barbara, Madame C. Audiguier, Jardin des Plantes, Père Delaux, Princess of Wales, Eve, Prince Alfred, Nil Desperandum, Mabel Ward, Etoile Toulousaine, and Mons. Desbreux. For twenty-four, Japanese excluded, several nice boxes were staged, Mr. Bailey scoring a good all-round first with Golden Queen, Cherub, Bendigo, Mabel Ward, Lord Alcester, Empress of India, Hereward, Golden Christine, Mr. Bunn, Antonelli, Barbara, Lady Slade, Oliver Cromwell, Novelty, and Venus; E. D. Lee, Esq., second, with specially noticeable blooms of Barbara, Sir Stafford Carey, Eve, Princess of Wales, Lord Derby, and Ethel de Fraine; while for twelve, the best box came from Edward Mawley, Esq., who staged a very level dozen, including White Venus, Venus, Mrs. Dixon, Baron Beust, Jardin des Plantes, Lady Hardinge, Princess of Teck, Barbara, Refulgens, Mrs. George Rundle, Mr. Corbay, and Nil Desperandum. One box of fairly good blooms were staged, having been cut from plants grown in a bed-room, on a landing, and such kind of make-shift places.

The stands of Japanese were but replicas of the boxes in the larger numbers. S. Gulliver, Esq., and E. D. Lee, Esq., in the twenty-fours, and Mr. Bailey, E. Mawley, Esq., and Mr. J. Petty, for twelve varieties, dividing the honours.

VASES OF CHRYSANTHEMUMS mixed with ferns and other foliage are prominent features here. C. Threlfall, Esq., was first with an arrangement in which young shoots of crotons had been utilized to advantage. The second card went to H. A. Cooper, Esq., and the third to Mr. T. Shrimpton.

FRUIT included some sixty dishes of apples and pears, and among other attractive contributions were a dozen examples of Easter Pippin, of this year, side by side with a dozen gathered in 1885, the exhibitor being E. D. Lee, Esq.

POTATOES.—These always form a good feature at this show, although the number of dishes fall shorter than the exhibits at Banbury. For six dishes, distinct, E. D. Lee, Esq., was first with Blanchard, Schoolmaster, Cosmopolitan, Mr. Bresee, Snowdrop, and Vicar of Laleham; second, Mr. J. Williams, Old Bank, Aylesbury (hon. secretary), who put up Vicar of Laleham, Schoolmaster, Beauty of Hebron, Ashleaf, Queen of the Valley, and Snowdrop. For four dishes S. Gulliver, Esq., was first for Mr. Bresee, Schoolmaster, Vicar of Lalebam, and Snowdrop; Mr. J. Terry, second with Ashleaf, Schoolmaster, Snowdrop, and Adirondack; while for a single dish Messrs. C. Daniels, S. Gulliver, and G. Franklin each put up Snowdrop. In this department Mr. Simms, the Bull Hotel, exhibited a sample of Vermont Champion, six potatoes planted in 1885, producing three-quarters of a bushel. These

again planted this season have yielded fourteen bushels of sound tubers, large and fairly handsome, save their deep eyes. The quality was tested at the judges' luncheon, where they were served up as balls of flour, and pronounced of good flavour.

Among the odds and ends on view were a large number of table specimens of decorative greenhouse and stove plants from Messrs. Ingram and Whitefield, who also made a grand display of bouquets, crosses, and wreaths.

The judges were Mr. J. Walker and Mr. A. Young.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.

The annual meeting of this society was held in the Music Hall Buildings, Aberdeen, on Saturday evening, the 27th ult. There was a large attendance of members; Councillor Lyon, chairman of the acting directors, presided. The secretary, Mr. A. M. Byres, C.A., Aberdeen, read the notice calling the meeting, and thereafter the minutes of last annual meeting, which were approved. The directors' report and statement of accounts were then read as follows: "In submitting the annual report for 1886, your directors desire to express the grateful thanks of the society to her Majesty the Queen for the handsome prize which her Majesty has been graciously pleased to continue this year. The best thanks of the society are due to the Right Hon. the Earl of Aberdeen, Sir William Cunliffe Brooks, Bart., M.P., Sir Francis Grant, Bart., of Monymusk; J. H. Bott, Esq., Sutton Hall, York; the Town Council of Aberdeen, Lord Provost Henderson, ex-Lord Provost Matthews, and others, for their contributions to the prize list. The society held two exhibitions during the year in the Music Hall, Aberdeen; and while the exhibits were fully up to the average of former years, both as regards excellence of quality and number of entries, your directors regret that the public did not attend in such large numbers as the nature of the exhibitions warranted. The total income for the past year amounted to £360 1s. 7d., and the expenditure to £333 17s. 3d., leaving a surplus of £26 4s. 4d. to be deducted from the adverse balance of £41 16s. brought forward from last year, thus reducing it to £15 11s. 8d., which sum, the directors are hopeful, will be cleared off next year."

In proposing their adoption, the Chairman reviewed the work of the society for the past year, and congratulated the members on the financial success which had attended the same, notwithstanding the somewhat meagre attendance of the public at the autumn exhibition. After referring to the general depression which had affected similar institutions, he touched on the many advantages to be derived from supporting such a society, and concluded by expressing the hope that by another year the society would be entirely free from debt. The motion was seconded by Mr. Falconer, Aberdeen, and unanimously agreed to. The Chairman intimated that Lord Provost Henderson had kindly agreed to become hon. president. Shoremaster Sutherland, in eulogistic terms, proposed "The Re-election of the Directors," which was seconded by Ex-Baillie Gordon, and agreed to. On the motion of the chairman, a cordial vote of thanks was accorded to the secretary for his energetic labours during the past year; and, on the motion of Sergeant-Instructor William Fraser, a like compliment was paid to the chairman, who in reply said that no effort would be wanting on his part to make next year even more successful than the past for the society. A letter was read from Sir Francis W. Grant, Bart., of Monymusk, intimating the presentation of a silver cup, value £5, for the best table of plants for next year's show. The best thanks of the society were ordered to be conveyed to the donor. The members supped together in the Douglas Hotel, Aberdeen, yesterday evening (Friday, 3rd inst.), at eight o'clock, this being a revival of an old custom in the society.

POTATO TERCENTENARY, ST. STEPHEN'S HALL, WESTMINSTER, December 1 to 4.

The exhibition, which formed an important part of the programme of the "Potato Tercentenary" committee, although of comparatively small extent, is not without interest to cultivators. The collections staged in competition for the medals offered, are sufficiently numerous to fill four stages extending the greater part of the length of St. Stephen's Hall, and the quality of the tubers is on the whole remarkably good. In addition to the potatoes, there is a large and very interesting collection of old books, chief amongst them being the works of Parkinson and Gerard, and a considerable number with portraits of Sir Walter Raleigh, whose "History of the World" is represented by several volumes.

In competition for the prizes offered for a collection comprising not less than six or more than twelve varieties, two dishes of each, Mr. Chopping, Periwinkle Mills, Milton, Sittingbourne, was awarded the gold medal for a collection of great excellence. The whole of the tubers are rather large, very even, free from defects, and remarkably bright in colour. The varieties represented in the collection are Schoolmaster, Reading Russet, Adirondack, Purple Perfection, The Belle, a handsome-coloured round; Colonel, Purple Perfection, Reading Ruby, Chancellor, White Elephant, Village Blacksmith, Rufus, and Sutton's Abundance. The silver medal offered as the second prize was awarded to Mr. J. Divers, Pitshill, Petworth, who has a very fine collection, comprising examples of Washington Hero, International, Mr. Bresee, Snowflake, White Elephant, Vicar of Laleham, The Dean, Reading Giant, Adirondack, Reading Russet, Edgcote Purple, and Schoolmaster. Mr. W. Kerr, Dargavel, Dumfries, was awarded the bronze medal offered as the third prize for a collection consisting of medium-sized and especially well-coloured tubers. The varieties forming the collection are Mammoth Pearl, Village Blacksmith, White Elephant, Eclipse, Adirondack, Chancellor, Mr. Bresee, exceptionally fine; Schoolmaster, Queen of the Valley, International, Vicar of Laleham, and Snowdrop.

Several exhibitors who failed to obtain a place on the prize list have staged collections, evincing cultural skill of a high order. Chief amongst them is Mr. J. Hughes, The Gardens, Eydon Hall, Byfield, Northamptonshire, who has a very fine collection which has been highly commended. The varieties shown by Mr. Hughes comprise, Adirondack, London Hero, Purple Perfection, Chancellor, Sutton's Prizetaker, Queen of the Valley, Early Regent, Crimson Beauty, Snowdrop, Reading Russet, Bountiful, and The Captain. In addition to the foregoing, Mr. Hughes has good examples of Sutton's Seedling, Fidler's Perfection, The Dean, Village Blacksmith, and Snow Queen, a very handsome white round. Mr. E. S. Wiles, Edgcote Gardens, received the compliment of a high commendation for a collection in which were remarkably well-finished tubers of Sutton's First and Best, Reading Russet, Abundance, Snowdrop, The Dean, Sutton's Prizetaker, Edgcote Purple, Mottled Beauty (a very handsome kidney richly mottled with purple), Edgcote Seedling, Reading Ruby, Lady Truscott and Sutton's Favourite. Mr. Howard, Bridge, Canterbury, and Mr. Chadwick, Ealing, are deserving of much praise for the excellence of their collections.

The principal contributions to the miscellaneous class are the collections from Mr. C. Fidler, Reading; Mr. J. Watkins, Pomona Farm, Withington, Hereford; Messrs. Hooper and Co., Covent Garden; and Messrs. Vilmorin and Co., Paris. Mr. Fidler has presented thirty-six dishes, in which occur good samples of Reading Giant (a handsome white kidney of comparatively large size), Fidler's Perfection, Imperator, and Snow Queen. The collection from Mr. Watkins consists of between fifty and sixty dishes, and includes most of the best kinds at present in cultivation. Messrs. Hooper and Co. have good samples of about twenty of the finest varieties in cultivation, which are staged in neat shallow baskets. In Messrs. Vilmorin and Co.'s collection are samples of Princesse, Chardon, Joseph Rigault, Seville d'Ortie, and other Continental varieties, and baskets of early potatoes sprouted in readiness for planting in the forcing pit. Messrs. J. Carter and Co., High Holborn, exhibited their Liliputian potato, which, as indicated by its name, is remarkable for the small size of its tubers.

The principal exhibitors of books are Mr. Weldon, Great Queen Street, W.C., and Dr. Brushfield, of Plymouth, the last-mentioned having a large and highly-interesting collection, which includes fine copies of Sir Walter Raleigh's "History of the World." Mr. M. J. Buckley, of Savoy House, London, has exhibited several souvenirs of Sir Walter Raleigh's house in Ireland, which are referred to on another page.

The new seedling potatoes were presented for special medals that were equivalent to first-class certificates. There were ten varieties in this class, and all save one were cooked for comparison. Finally, the special medal was awarded to a handsome white-round named *Clipper*, from Mr. Lye, gardener to the Hon. Mrs. Hay, Cliffe Hall, Market Lavington. The novelty is characterized by beauty of appearance, and the very best table quality. As judged on this occasion, it promises to be of importance.

The judges were Mr. Shirley Hibberd, Mr. R. Dean, and Mr. W. Earley.

GRAVESEND AND NORTH KENT CHRYSANTHEMUM ASSOCIATION.

The thirteenth annual show of this flourishing society, recently held in Milton Hall, Gravesend, surpassed in many respects the best of the society's exhibitions held in previous years.

The trained plants, always a strong feature at Gravesend, were this year in unusual force, the entries being the largest ever received. The specimens were of more than average excellence, and the long bank extending the whole length of the spacious hall presented a very brilliant appearance. The extreme evenness of excellence attained by the various growers was a subject of very general remark. Among the principal exhibitors in these classes were Mr. J. Kitchingham (chairman of the association), Mr. J. Hollman, Meopham; Mr. J. Pope, Gravesend; and Mr. T. Richardsen, Singlewell. The most successful exhibitors in the amateurs' classes were Mr. J. Bardoe, of Northfleet, and Mr. W. B. Carpenter, Gravesend. The pompons from the last-mentioned exhibitor were greatly admired.

In the cut bloom classes Mr. R. Phillip, of Meopham, was very successful, and was awarded the first prize for twenty-four incurved and twenty-four Japanese, for finely-developed blooms. Mr. Hollman, Mr. Stevens, Northfleet, and Mr. J. Taylor, Rosherville, were among the successful exhibitors in these classes, and the amateurs were well represented by Mr. Bardoe, Mr. Wiltshire, Swanscombe, and others.

Fruit, as might be expected in such a season, was excellent in quality. The The first prize for a collection was awarded to Mr. Phillip, the other successful exhibitors being Messrs. Pope, Kitchingham, Richardson, and Taylor. The four dishes of dessert pears, for which Mr. Pope was awarded the first prize, were of more than average merit, being large in size and of excellent quality. The first prize for black grapes was awarded to Mr. Phillip, who had good bunches of Gros Colmar. Grapes were also well shown by Messrs. Kitchingham, Richardson, and others.

On no previous occasion has the competition in the class for collections of vegetables been so keen. In the result, Mr. Phillip was first, and Messrs. Stevens, Pope, and Hollman were awarded the remaining prizes in the order of their names. The amateurs' collections were also of great merit, and Mr. W. T. Dunk, Northfleet, obtained premier honours.

In a somewhat keen competition the first prize for dinner-table decoration was awarded to Mr. Phillip; Messrs. Taylor and Richardson being second and third. Much to the regret of the committee, the space available for groups is extremely limited, but the gardeners were represented by charming arrangements shown by Messrs. Stevens, Kitchingham, and Richardson, the first-named receiving the premier prize. In the amateurs' section the first prize went to Mr. W. B. Carpenter, and the second to Mr. J. W. Turner, Gravesend. Four huge bunches of black and white grapes (Lady Downs and Sweetwater), sent, not for competition, by Mr. Finlay, gardener to J. Willoughby Brown, Esq., of Gravesend, attracted much attention; as did also a collection of apples sent by Stephen Hubbard, Esq., of the Old and New Falcon Hotels, Gravesend. The miscellaneous exhibits also included a splendid collection of cut blooms from Mr. William Etherington, Swanscombe; on his stands were fine blooms of Belle Pauline, Japonais, Jeanne Delaux, Sarnia, Carmen, and Fair Maid of Guernsey. There were also good blooms of several new varieties.

The arrangements were admirably carried out by Mr. John Fairey, the secretary, and a small sub-committee.

CHELTENHAM ROOT, GRAIN, AND CHRYSANTHEMUM SOCIETY.

The sixteenth annual exhibition of this society, held a short time since, was quite up to the average of previous years, and in every respect highly satisfactory. Apples were staged in large numbers and in excellent condition. There was a beautiful display of grapes; the classes for specimen chrysanthemums were well filled; and vegetables, particularly potatoes, were as usual very good.

For six specimen chrysanthemums, distinct, large-flowering, Mr. P. H. Osborne gained the first prize; second, Mr. E. Pates; and Mr. Pilgrim third. For four the first prize went to Sir A. Ramsay, Bart., the second to Mr. Pilgrim, and the third to Mr. P. H. Osborne. In the class for six specimens, Japanese, Mr. Pilgrim gained the first prize, Mr. Chapman the second, and Sir A. Ramsay, Bart., the third. Mr. Pilgrim was again placed first for three standards; Mr. E. Pates second, and Mr. P. H. Osborne third. Mr. Pilgrim also took the first prize for a single specimen; Mr. P. H. Osborne and Sir A.

Ramsay, Bart., second and third. For six pompons, distinct varieties, Mr. P. H. Osborne and Mr. Pilgrim were first and second respectively. In the class for four pompons Mr. P. H. Osborne was again first, Mr. Pilgrim second, and Mr. E. Pates third. Mr. Pilgrim was awarded the first prize for a single specimen, Mr. P. H. Osborne, the second, and Mr. E. Pates the third. The first prize for the best basket of mixed chrysanthemums was awarded to Mr. Pilgrim, the second to Mr. Fielder, and the third to Mr. Barns. Primulas, epiphyllums, and eupatoriums were well shown, the principal prizetakers being Mr. Pilgrim, Mr. E. Pates, Mr. R. W. Linwood, Mr. Enos Smith, Mrs. Gillian, and Mrs. Thompson.

In the classes for cut blooms Mr. F. Styles, gardener to Mrs. Healing, Southwick Park, was very successful, being first for eighteen and twelve incurved and for twelve Japanese; Mr. J. Smith, gardener to Mr. E. Thomas, Tewkesbury, second in each class; the third place in the class for eighteen blooms was occupied by Sir A. Ramsay, Bart.; and Mr. A. Cook was third in the other two classes. Mr. E. Pates was awarded the first prize for the best arranged vase of cut flowers, open to nurserymen; and Mr. Pilgrim was second. Mrs. Gillian was first in the corresponding class, open to amateurs; second, Mr. H. Chapman.

Fruit occupied a very large space. Mr. A. Cook took the first prize for a collection of dessert apples, no limit to number of dishes; Mr. H. Burns second; and Mr. Moorman third. For four dishes, open to amateurs only, Mr. A. J. Skinner was first; and Mrs. Gillian second. For collections of culinary apples Mr. Smart, gardener to Mr. D. G. Jebb, was first; Mr. Burns second; and Mr. A. Cook third. In the class for four varieties Mr. P. H. Osborne was placed first; and Mr. A. J. Skinner second. For the best dish of pears Miss Holder was first; Mr. J. Turk second; and Mr. Moorman third. The principal prizetakers in the four classes provided for grapes were Mr. P. H. Osborne, Mr. A. Cook, Mr. Smart, and Mrs. Graves.

Vegetables were well shown by Mr. A. J. Skinner, Mr. A. Cook, and Mr. J. Turk. Potatoes were staged in large quantities, and the quality in most cases was excellent. Mr. John Aplin, gardener to W. M. Baker, Esq., Hasfield Court, Gloucester, was awarded the first prize in the principal class provided, staging about thirty-six varieties; Mr. A. Cook second. In the classes for single dishes Mr. H. Barnes, Mr. A. Cook, Mr. P. H. Osborne, Mr. Pleydell, Messrs. E. Smith and Son, and Mr. J. Aplin were the most successful exhibitors.

The judges were Messrs. Hitch, Hebden, and Hamlett.

LEEK ROSE SOCIETY.

The general annual meeting was held at the Swan Hotel, on Monday evening, November 29, Mr. A. Holden in the chair. The annual report and balance-sheet showed that the society was in a flourishing condition, that many lovers of the queen of flowers had commenced to grow them, and others had increased their collection considerably. The committee congratulated the subscribers upon being able to pay the prize money in full promptly.

The following were then elected upon the committee for the ensuing year: Messrs. W. Capewell, J. Garner, A. Holden, C. Kemp, M. Mellor, J. Shallcross, J. Broster, J. Gilman, and J. Knowles.

Mr. H. W. Nixon was again elected hon. secretary and treasurer.

INDIGENOUS VEGETATION OF AUSTRALIA, WITH SPECIAL REFERENCE TO THE EUCALYPTI.

By Joseph Bosisto, M.P., J.P., President of the Royal Commission for Victoria.

The indigenous vegetation of Australia is evergreen. In England it is deciduous—that is, trees that annually lose their plants.

The fresh green scenery of June over the face of England is ever absent in primitive Australia. The Daisies and Buttercups, Primroses and Cowslips, do not deck her pasture lands; neither do her people behold the Mayflower hedges or view the Chestnut leaf, or the glossy dark copper foliage of the Beech. And yet Australian flowers are gay in colour, and the plant life is varied and pleasing. Sundews and Orchids, wild Pelargoniums and native Fuchsias, and Heath blossoms in almost endless coloured tints, abound in many parts in reckless profusion; these and many other flowering and foliage plants intermingle their varied hues over the surface of the land. Along the side of the creeks and watercourses may be seen during many months of the year, the Mimosa trees in full bloom, the tufted bunches hanging like golden balls, and perfuming the air with the sweet scent of the cassie. Even in the forests around, evergreen Fern trees grow in luxuriance and beauty under the shade of tall timber trees, where can be seen pretty tiny flowers peeping up between the broken pieces of the fallen shed bark from the Gum trees. Parrots and cockatoos scream their wild notes, wrens and robins and other gay-coloured birds twitter about the scene, and all over reigns a bright sunny sky. These and other tropical and subtropical beauties greatly compensate for the absence of England's native flowers.

But the lively scenery and pretty flowers of Australia are not so much the object of this paper as it is to give some interesting facts of a peculiar vegetation known as the Eucalyptus, which exists and reigns almost supreme over the greater portion of Australia and Tasmania, although entirely absent in the other islands of the south, with the exception of a few species in New Guinea. There can scarcely be a doubt but that at some period of the world's history Tasmania and New Guinea formed a part of Australia; hence the Eucalyptus may be considered as a vegetation purely Australian. Strong evidences exist proving that the Eucalyptus is an ancient Australian vegetation. River beds of great antiquity have been met with, at depths varying from one hundred to two hundred feet, and even deeper, in various alluvial gold mining districts of Victoria, revealing occasionally massive timber trees without any sign of decay, belonging to the family of the Eucalyptus, chiefly those of the Red Gum (rostrata) and the Ironbark (Leucoxylon) species. Some species growing at the present day on the alluvial flats, mountainous ranges, and in the valleys attain a prodigious size, both as to girth and height, bespeaking their longevity, possibly contemporaneous with the Cedars of Lebanon.

The word "Eucalyptus," from *eu*, "well," and *kalypto*, "to cover," is aptly chosen to distinguish this splendid family of plants from all others. This characteristic is observable in the limb of the calyx completely covering the flower before expansion; and during its gradual development the operculum, or lid, is uplifted in shape like an extinguisher, which falls off immediately the flower becomes matured. The chief characters of all Eucalypts are in the firmness of the calyx, the absence of petals, the numerous rows of stamens inserted close to the edge of the calyx tube, the stamens being nearly always fertile, and also the many form variations of the anthers in the different species. This systematic arrangement was made by the late venerable Bentham, and acquiesced in by our Government botanist, Baron von Mueller, as being the wisest to adopt.

The Eucalyptus is an evergreen. It casts its bark annually; but this does not take place, like the falling leaf of England, at one given period of the year, hence there is always a rough and ragged appearance on the trunk of the tree. In those pictures in the Victoria Court which depicted Australian bush scenery this may have been noticed, and was not, therefore, the fault of the painter, as some persons have imagined.

In the vegetable kingdom the Eucalypti belong to the Myrtle family, so placed on account of their bearing certain botanical outlines similar to those of the garden Myrtle of England; but the physical character, as well as some peculiar botanical features of the Eucalypts, place them as a distinct genus in the Myrtle family of plants. Considering the vast area of the Australian continent, consisting of something over 3,000,000 of square miles, and measuring 2,500 miles from west to east, and 2,000 miles from north to south, it is surprising to find one tribe of trees forming at the present day four-fifths of the whole of the indigenous vegetation. An Australian traveller frequently feels the monotony of the scenery; but this is greatly dispelled by noticing the interesting variations in the leaf formation, in the colour both of leaf and flower, in the appearances of the tree-bark, and in the shape and varied stature of the trees.

Of the 150 kinds or species found existing over Australia, it can be easily understood that the variations must be very great indeed.

On the mountains and in the valleys, and on alluvial flats where the woodman's axe is but seldom heard, stand gigantic Eucalyptus timber trees, in girth varying from 16 ft. to 80 ft., and in height from 200 ft. to 420 ft., and that often without a branch, the top being capped with radiating branches (like the ribs of an umbrella) full of foliage.

On the undulating lands, although bearing many Acacias and a variety of other kinds of trees, the prevailing feature is the Eucalyptus; no matter where the traveller journeys this vegetation is generally present.

Throughout Australia it may be viewed as a firm friend to man and beast. To the cattle depasturing, and to the tens of thousands of sheep grazing over the pasture lands of the country, it gives shelter from the midday sun and from dewy night. The wandering swagsman, or the travelling bushman, reaching no homestead at sundown, finds rest under its wide-spreading branches, and often shelter within some patriarchal gum tree, which, although standing firm and erect, has become through old age hollow in the centre, sufficient to give him, or even half a-dozen other persons, a comfortable rest-house for the night. To many of the early pioneers of Australia have these trees given a nightly home, and many a meal of damper and mutton, and many a pipe of peace have been partaken inside their cavernous recesses.

In the scant rain tracts of Australia there are many millions of acres on which grow a scrub of dwarf Eucalypti, averaging in height not more than eight feet; this scrub is so dense that it almost shuts out the sight of sun and sky. Once an untutored traveller loses the track, and gets entangled but a small distance in this forest of sticks and leaves, the chances are that he never returns either to kith or kin again. Many persons travelling through this country have died for the want of water, and yet there is always a supply sufficient to sustain life close at hand, did they but know it; for in one kind of this dwarf vegetation there is lodged in the stem about half a pint of pure water. As a bushman generally carries a tin pannikin and a small tomahawk, he has nothing to do but to cut down one of these stick-like stems and place the lower end of it into this vessel, when he will in a short time obtain water. This strange tract of country I have traversed; there is not a sound of life to break the solemn silence, scarce a bird to be seen, and not a stone or a pebble to be obtained the size of a marble; a few dingoes or wild dogs prowl about here and there at night. Native wells scattered far apart over an area extending some thousands of square miles are to be met with, but they are more frequently dried up than otherwise; and yet the soil in many parts is well adapted for wheat growing; it is a mixture of sand, decomposed ironstone and vegetation, with a substratum of limestone. Weird is the scene; still the vegetation found growing jungle-like over these lands contains health principles both for climate and for suffering humanity.

The Government of Victoria is, I am happy to say, fully alive to the advantages of irrigation. Only very recently appeared in the London papers a cable message from Melbourne, stating that the Hon. Alfred Deakin, Chief Secretary, had introduced a Bill in the House of Assembly providing for a system of irrigation embracing an area of three million two hundred and fifty thousand acres, to be carried out under the management of the Water Trust, but vesting the supreme control of the works in the Government. The system is expected to prove of immense benefit to farming interests. The expense is estimated at £3,800,000.

It is the Eucalyptus which has given character to Australia, both in climate and in the health and comfort of her people. From the heavily timbered Eucalyptus forests down to the scrub I have just mentioned, every variety of wood is obtainable; whether it be for ship or house building, or for docks or bridges, for carriages or waggons, for land fencing or garden ornamentation, or for fuel, its variety is unbounded and its durability is in many cases equal to its longevity. In the several Australian courts the timber trophies consisted chiefly of the many species of the Eucalyptus, or, as they are termed in Australia, Gum trees; an examination of these will have satisfied any person that I have not exaggerated the timber value of these trees.

Although the leading forest timbers of Australia consist of the Eucalyptus, yet there are a variety of other kinds. In the Eucalyptus the wood varies in character quite as much as do other kinds obtainable from other timber trees. For instance, the well-known Blue Gum (E. globulus) is a hard light-coloured timber of great strength and tenacity, as well as durability, extensively used for beams and joists in buildings and for railway sleepers, also piers and bridges. A comparative test has been made between some Blue Gum, English Oak, and Indian Teak. The Blue Gum carried fourteen pounds weight more than the oak, and seventeen and a-quarter pounds more than the teak per square inch.

The Red Gum tree (E. rostrata) is a very hard compact wood, possessing a handsome curled but short grain, red in colour, well adapted for many purposes in ship-building, such as heavy framing, beams, and knees; it is also used in the construction of culverts, bridges, and wharves, and by wheelwrights for the felloes of heavy wheels, and is employed in Australia for railway sleepers and engine buffers. Owing to an acid it contains, termed "eucalyptic acid," it resists the attack of the Teredo navalis, or sea-worm. The Iron-bark Gum tree is one of the hardest and heaviest of our native woods.

The Stringy-bark tree (E. obliqua) is an easy splitting wood, and is usually employed for palings, shingles, and posts. In like manner do all the varieties change. Many varieties of Tree Acacias are met with in all the forests of Australia, such as the Myall and the Wattles, also Pines, Banksias, Casuarinas, Pittosporums, Eugenias, Melaleucas, and others too numerous to mention.

It is to be deplored that just now the country is being subjected to a wasteful destruction of many kinds of the Eucalyptus. Some of the varieties in various districts are totally disappearing, and without some determined and immediate action on the part of the Governments of Australia, but few decades will pass before a timber dearth sets in.

The subject of forestry has attracted the attention of most countries of the world; even in Australia botanists, builders, contractors, and legislators have uttered a warning voice. The lands of Australia at present are full of the seed of timber trees; the selectors of our lands knew this right well. Let them but neglect to cultivate their farms for a season or two, they find them covered with a growth of young timber plants consisting of the Eucalyptus and Acacias; but tree seeds, although covered with an epicarp in order to protect the germ from an early loss of life, yet cannot retain their power of germination for many years when the lands are kept under cultivation. Vegetation aids materially in equalizing the temperature and climate of a country. There can be no doubt that the climate of Australia, speaking in general terms, is not so hot as it was forty years ago. The modification is produced by cultivation and the opening up of lands which formerly were covered with dense forests, tangled bushes, ferns, climbing plants, lichens, and mosses. But the climate of an extended area like Australia cannot be dealt with in one general statement. The highest mountain is less than ten thousand feet high, and few exceed six thousand five hundred feet in height. Majestic alpine chains of ranges stretch through many parts. The snow line of Australia is less in altitude than most other countries, arising probably from the cold antarctic winds receiving their first break on these bleak mountain ranges. Aërial, oceanic, and terrestrial magnetic currents produce many changes over so vast a continent. The rainfall of Australia varies considerably in many parts; in the hill districts approximately it may be stated to be fifty inches per annum; in the undulating woodland districts, from thirty to fifty inches; on the adjoining plains, twenty inches; over the wide expansive plains, away from mountains or hills, from five to fifteen inches; while farther on into the interior, rain has been known to be absent for two or three years together. All these things affect climate, but there is nothing in the physical features of Australia to promote miasma. Its lagoons and swamps are not extensive; most of them are dry during the summer months; and even where they remain otherwise there are surroundings of a healthy character, especially the tan barks and leaves of the Eucalyptus, which fall in, obviating thereby any ill effect.

The physical geography of Australia does not differ in its general outline from that of other countries. The first Victorian geologist—now Professor Selwyn, the Government geologist of Canada, reported that: "In general structure, character, and composition in geological sequence, and in physical and palæontological relations, the rock formations are in all repects analogous to those of other regions." But there is a factor at work throughout Australia which makes the climate so acceptable to human life, and that is the Eucalyptus vegetation, belonging, as I have before intimated, to the Myrtle family of plants. It is full of aromatizing odours. The sense of smell when in our forests, or even travelling in the country, bears ample testimony to the presence of its volatile bodies in the air, for there is no mistaking the odour, as it is different from all others. There is not a single species but what possesses in its leaves a volatile essence; each kind varies in percentage of yield; but still of the vast number they can be reduced for practical illustration under eight types, or species, namely:—

The Viminalis, or Manna-yielding Eucalyptus.
The Odorata, or sweet smelling.
The Rostrata, or Red Gum tree.
The Obliqua, or stringy-bark.
The Leucoxylon, or Iron-bark.
The Globulus, or Blue Gum.
The Dumosa, or Mallee.
The Amygdalina, or peppermint-scented Eucalyptus.

The eight kinds I have mentioned supply the minimum to the maximum; the minimum yielding seven fluid ounces of the volatile essence, and the maximum 500 fluid ounces, or twenty-five imperial pints from every 1,000 pounds weight of fresh leaves. No vegetation occupying so vast a country contains so much volatile odour in its leaf portion as the Eucalyptus. Assessing alone the whole colony of Victoria (being that part of Australia in which most of my experiments were made) at the low average of supply of 20 ounces, or one pint to the acre, we have 9,730,500 gallons of an essential and volatile substance held at one and the same time in the Eucalyptus vegetation.

So far as I have been able to proceed in this investigation over the continent of Australia, similar conditions exist; so that it may be safely asserted that in the whole of the leaf surface of the Eucalypts in Australia there is continually 96,877,440,000 gallons of this volatile material. If, therefore, the whole of the odorous principles were retained in the leaves until set free by the art of man, in that case its effect on climate would fail; but if they are given up freely by the natural forces of the tree under the aid of light, heat, or electricity as existing around, or by some or all of these forces in combination, then we have good reason to value the Eucalyptus vegetation beyond all others in being capable of influencing the climate of a country for purposes of health. Leaves of trees necessarily are in close connection with the roots; together they keep up a continuous action of exhalation and replenishment. Evergreen trees, especially the Eucalyptus, unlike deciduous trees, which sleep during many months of the year, work constantly, though at times less energetically. Deciduous leaves generally perform their functions on one side only, that is, they change the sap juices of the plant on the side turned upward to the sun; but in the case of the Eucalyptus it is quite different; these have a double action. There is no difference in the anatomy of the two sides of the leaf; breathing pores abound on each side, and the cells containing the volatile oil run through the leaf. These oil cells in most cases are visible to the naked eye, and can be counted in hundreds. Light and warmth operate alike on both sides of the leaf, each being suspended in a line with the axis of the tree, giving facility for the remarkable and interesting movement of the petiole or leaf-stalk, which is continuous in its action under the warm currents of the air, or the direct rays of the sun, keeping one side of the leaf's surface to face the sun or the warm air current, and so establishing perpetual leaf operation. Now it is by the natural forces of the tree and the leaf action acting in unison that the watery and odorous bodies are continually set free in the air, and in such minute and diffusive atoms that they may be expressed as the fragrant breath of the tree, requiring as it does thousands of its compound particles to form a single drop. Under such circumstances these odorous bodies speedily change their molecular condition, and supply to the atmosphere an extra amount of active oxygen; it is this unceasing health factor throughout Australia which makes its climate, on the whole, the finest in the world.

Replies to Queries.

S. M. C.—It is impossible to name a chrysanthemum by the aid of half a dozen separated florets. We often cannot name complete flowers.

H. T.—We cannot answer the question about the book. It is a question of law, not of horticulture.

Bowling Green.—G. Y.—Lime water will accomplish all you want, and will do no harm whatever.

Names of Fruits.—J. G., Tooting.—Hacon's Incomparable. R. K.—Pears, 1, Glou Morceau; 2, Beurré Diel. Apples, 3, American Mother; 12, Blenheim Pippin.

Names of Plants.—H. R. E., Halesworth.—The chrysanthemum you are growing under the name of Verner's Pink is Princess of Wales. The other variety is Princess of Teck, the flowers of which are blush passing to white. Biddles.—1, Dielytra (Dicentra) eximia; 2, Sedum spectabile.

W. B.—The larvæ represent a destructive beetle, and it will be to your interest to wage war against it to any extent possible. An effectual way of dealing with it is the one we have recommended in the case of the black grub of daddy longlegs. It consists in simply scratching the earth with a piece of stick around the collar of the plants you have reason to believe are in danger. By this simple proceeding the enemy is discovered and dislodged, for he is always near the surface.

Hydrangeas.—Reader may use his discretion as to pruning the hydrangeas. The usual practice, and one that answers well, consists in cutting them back to plump buds near the base of each young shoot, but if the whole growth is left its full length the plants will flower as well the next season as those that are pruned, and as a matter of course they will be more tree-like, and will require proportionate pot room. If you are in doubt prune back at once, and shake out and repot as soon as the now dormant buds begin to start. By this practice you secure dwarf, compact plants, and a few bold heads of bloom.

Violets.—F. G.—To ensure a continuous supply of flowers from the Neapolitan violets a moderate degree of bottom heat is necessary. We would therefore advise you to make up a bed of leaves in a pit or frame, and then plunge the pots to about one-third their depth. The warmth afforded by the leaves will be sufficient to maintain the plants in a progressive state without unduly stimulating, and an abundance of flowers will be the result, provided, of course, the plants have strong crowns. It will be necessary to ventilate freely in fine weather, and to cover the lights with mats, refuse hay, or other available material of a suitable description.

Cinerarias.—A. H. Edinburgh.—It is in all cases advisable to so regulate the growth of cinerarias, that they will bloom at the desired time without their being pushed on in heat or having their growth stopped. In your case stopping will be necessary, for if the plants are allowed to grow unchecked they will bloom at least a month before they are required. The flower stems should be pinched back to the fourth or fifth joint from the base, and the sooner it is done the better. The flowers produced by laterals are not, as a rule, of so high a quality as those of plants grown without stopping; but with careful management your specimens will probably flower satisfactorily.

Seakale.—W. B. M.—By starting a good batch of roots now you will have an abundant supply of seakale early in the year. It is an excellent practice to place the roots in the mushroom house when forcing in the open border is not resorted to, as they have sufficient warmth to start them quickly, and the light is excluded from the new growth. But as you have no mushroom house, it will be necessary for you to force the roots either in the cucumber house or plant stove, as may be the most convenient. It is, in some respects, preferable to utilize a part of the cucumber house, from which you are now commencing to cut fruit, but there is no great objection to placing the roots in the stove, provided a place can be found for them somewhat out of sight. In forcing seakale in a glass structure it is necessary to put the roots in a box about two feet in depth, and then so cover it that every ray of light will be excluded. The roots must, as a matter of course, be placed in an erect position with soil packed firmly between them, and reaching to within an inch or so of the crown.

TRADE CATALOGUES.

KELWAY AND SON, LANGPORT, SOMERSET.—*Gladioli*, 1886 87.

E. CAMPBELL, COVE GARDENS, GOUROCK, N.B.—*Gladioli*, 1886-87.

CROMPTON AND FAWKES, ANCHOR WORKS, CHELMSFORD.—*Conservatories, ranges of growing-houses, boilers &c.*

G. STEVENS, RAVENNA ROAD, UPPER RICHMOND ROAD, PUTNEY.—*Chrysanthemums.*

Obituary.

RECENTLY, Mr. CHARLES GREEN, for many years gardener to the late Mr. W. W. Saunders, at Reigate, and more recently to Sir George Macleay, Pendell Court, Bletchingley.

ON the 24th ult., M. AUGUSTE VAN GEERT, the well-known horticulturist of Ghent, in his 68th year.

ON the 25th ult., Mr. H. EWEN, of the Chiswick Nursery, Turnham Green.

MUSTARD SEED is realizing a better price than last year. At the first market at Wisbech, the best samples made 12s., against 10s. 6d. last year. Inferior seed was sold at 7s. to 8s. per bushel,

"THERE IS UNQUESTIONABLY" no better remedy in the whole world for all cough and throat troubles than KEATING'S LOZENGES—any medical man will assure you of this fact. Relief is speedy; they contain no strong acting, but only simple drugs; the most delicate can take them. Sold everywhere in 13½d. tins.—[ADVT.]

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 10 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
12	S	**3rd Sunday in Advent.**	7 59	6 2	3 49	5 28	8 27	2 12	2 32	11 37	11 57	40·7	Oncidium incurvum	Mexico.	346
13	M	*Lucy, Virgin and Martyr.*	8 0	5 34	3 49	6 20	9 22	2 52	3 12	—	0 17	40·7	Oncidium Oblongatum	Guatemala.	347
14	Tu	Prince Albert died, 1861.	8 0	5 5	3 49	7 38	10 12	3 34	3 56	0 37	0 59	40·6	Oncidium unguiculatum	Guatemala.	348
15	W	Izaak Walton died, 1683.	8 1	4 36	3 49	8 53	10 54	4 18	4 40	1 21	1 43	40·5	Lycaste Skinneri	Guatemala.	349
16	Th	General Sir W. E. Baker died, 1881.	8 2	4 7	3 49	10 9	11 27	5 3	5 27	2 5	2 28	40·4	Lycaste Skinneri alba	Guatemala.	350
17	F	Oxford Michaelmas term ends.	8 3	3 38	3 49	11 26	11 58	5 54	6 20	2 52	3 19	40·2	Lycaste Skinneri rosea	Guatemala.	351
18	S	☾ Last Quarter, 6h. 39m. morn.	8 4	3 8	3 50	Morn.	After.	6 48	7 19	3 45	4 13	40·0	Lycaste Skinneri superba	Guatemala.	352

Exhibitions and Meetings for the Ensuing Week.

MONDAY, DECEMBER 13.—NATIONAL CHRYSANTHEMUM SOCIETY.—Annual dinner, 6 p.m.

Auction Sales for the Ensuing Week.

MONDAY, DECEMBER 13.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Dutch Bulbs and 2,000 Lilium auratum.

WEDNESDAY, DECEMBER 15.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; 3,000 Lilium auratum, Plants, Bulbs, Roses, &c.

FRIDAY, DECEMBER 17.—Messrs. Protheroe and Morris, at their Central Sale Rooms, 67 and 68, Cheapside; Orchids.

MONDAY, DECEMBER 13.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Dutch Bulbs, &c.

WEDNESDAY AND SATURDAY, DECEMBER 15 AND 18.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Roses, Fruit Trees, Shrubs, Border Plants, Dutch Bulbs, &c.

THURSDAY, DECEMBER 16.—Mr. J. C. Stevens, at 38, King Street, Covent Garden; Orchids in Flower, 10,000 Lilium auratum from Japan, &c.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a colnmn, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

*** THE CHRISTMAS NUMBER OF GARDENERS' MAGAZINE will be published on Saturday next., price 6d. Two Sheets of Engravings and a Floral Almanack for 1887. The principal contents comprise: True Story of Merlin the Magician; A Fern Hunt; A String of Pearls; The Blue Rose; An Interview with a Prodigal Son; Jacob's Rod and the Art of Divining; The Origin of Tam O'Shanter; The Man of Ross; Rational Rhymes; An Experiment with Legs of Mutton, &c., &c. Subscribers requiring extra copies are desired to order them at once, as the nnmber cannot be reprinted.

*** THE GARDEN ORACLE for 1887, price 1s., contains all the information proper to an almanac for the desk and library-table, and, in addition, a review of the horticulture of the past year, and a new and complete catalogue of Florists' Auriculas, in which descriptions and characters are given of many varieties never before catalogued.

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The Gardeners' Magazine.

SATURDAY, DECEMBER 11, 1886.

THE TERCENTENARY OF THE POTATO may be described as a success on a small scale, and within narrow limits; and as a promise also of good things to come. It was ushered into being mysteriously; it was not known to so many as a dozen persons who were the promoters, or what were their plans and purposes. It is no matter for surprise, therefore, that while it was certainly a success within limits, beyond those limits, and in view of the general public, it was a failure, and conspicuously so as regards the attendance of visitors. There were a few good men immediately associated with it, and these, by their admirable efforts, raised it to a certain level that will justify us in saying it has acquired importance in the history of the potato, that will render it useful hereafter as a landmark. We cannot pretend to regret the failure, for there was absolutely nothing done to ensure the kind of success that is looked for in such an undertaking, and that is absolutely needful as a justification of the energy expended. The success, however, gives a bright side to the record, for new ground was broken, scientific questions of the highest interest obtained scientific attention, and something was seriously accomplished towards clearing up the doubts that cloud the story of the introduction of the useful root into Europe.

It is impossible to say how many questions may properly arise for discussion in a Potato Congress; but, beyond all doubt, the passage of the plant across the Atlantic, although of no importance to the cultivator, is quite worthy to be dealt with as a literary subject, and would probably prove rich in compensations to any who should succeed in tracing the true sequence of the facts. Mr. Mitchell has instituted an admirable comparison of the parts respectively played by Drake and Raleigh in the matter, and has, at least, shown the way that must be followed by other students in the critical investigation of the history. The question of the identity of Solanum tuberosum in connection with Mr. Arthur Sutton's experiments in hybridizing, has aroused more than a passing interest, and we shall certainly hear more of it as time develops new facts and puts a new light on old facts. The present practical lesson of the discussion is obvious. The experiments must be repeated *de novo*, with materials agreed upon as correct to name; and this will be not less enjoyable and, we should hope, not less advantageous, than the experiments that are so far completed. What has been gained *has* been gained, and no alteration of labels can affect its value. Therefore, to begin again does not undo or invalidate what has been done; for a substantial stage of advance in the improvement of the potato has been actually accomplished.

The collapse of the International Exhibition has been a cause of grief to many, but the inevitable must happen, and what has happened was inevitable long before the climax was reached. But the Tercentenary makes amends, in some degree, if only in providing a sort of continuity; for now we can say that the living dog is better than the dead lion, being as an exhibition much less, but as an illustration and engine of inquiry much more, than its predecessor. Probably to many, besides ourselves, the idea of a permanent organisation on the basis of this tercentenary, and for a continuation of its work, must have occurred. It is not for us to call upon the promoters of this tercentenary to do something in the direction we suggest, for they, like other men, must be free in all such matters. But it might not be difficult to establish a healthy and hearty co-operation of botanists, travellers, cultivators, and others presumably interested in the potato, for an annual meeting comprising a conference and an exhibition, both on a comprehensive plan, and with aims higher than were ever entertained by the International Committee. Such a result of the present gathering would grandly condone for the shortcomings that grieved the critics in the solitude of St. Stephen's Hall. It would revive some glories and create new ones; it would go far towards effecting that union of "science with practice," which is now acknowledged to be the key to all advancement in material civilization.

REPORT OF PRIMULA CONFERENCE, April 20 and 21, 1886, appears in the newly-published number of the *Journal of the Royal Horticultural Society* (Vol. VII. No. 2). With it is associated a report of the Orchid Nomenclature Conference, held at Liverpool, June 30, 1886. The editing and general production command commendation; and it is satisfactory to see that the journal lives, for the lapse of time between successive issues does appear sometimes to threaten a break of continuity. It is possible that this primula report will be in demand, and, therefore, we regret we cannot announce where it may be purchased or at what price. The Fellows of R.H.S. are, of necessity, provided for, because it will be sent to them; but the great public has an interest in this subject, and Mr. Dewar's list of species and forms of primulas is perhaps the best thing in the report; but the whole thing is sound, and it taps the most various veins of the mine, and is altogether fresh and interesting. The time will come, and perhaps is near, when to speak in praise of conferences on the model of those promoted by the R.H.S. will be as gilding refined gold, a wasteful and ridiculous excess. But the thing is new enough to bear it for the present, and so evidently advantageous is it that we grieve to know there is nothing of the kind in the air, or even in the minds of the movers at South Kensington. All will agree with the remark of Sir Joseph Hooker when he said, "I regard these conferences as of the greatest importance, both from a botanical and horticultural point of view. If they remind me of one thing more than another, it is of the pleasant days I used to spend more than fifty years ago at the horticultural meetings in Regent Street. I have always longed that such days might come again." Many good and true men will, with Sir Joseph, long that

such days may come again, and will be of our mind to grieve that there is at present no prospect of any conference in the coming year. A conference on lilies would be equally delightful and beneficial.

Mr. A. Hume has been engaged as gardener at Gosford Castle, Armagh, the seat of the Earl of Gosford.

National Auricula Society (Southern Section) will hold its annual exhibition April 26, 1887.

National Carnation and Picotee Society (Southern Section).—Annual exhibition of this society will be held July 26, 1887.

Trondhiem Horticultural and Agricultural Exhibition will be held July 4 and six following days.

Mr. Lowry has succeeded the late Mr. Sargeson as gardener at Trafford Park, Manchester, the residence of Sir H. H. De Trafford, Bart.

Massachusetts Horticultural Society sends first part of "Transactions for 1886," a handsome octavo volume of 226 pages. Amongst the contents are excellent papers on fruits, forests, orchids, gladioli, and the decoration and management of cemeteries.

Australian Centennial Exhibition will be held in Melbourne, March, 1888. The colonies of Victoria and New South Wales are united in this undertaking, a most decided step towards Colonial Federation.

Kew appears to be too much concerned about the alleged confusion of Solanum maglia and S. tuberosum. From the tone of Mr. Baker's letters one might suppose Kew to be conscious of a need for whitewashing; but outside of Kew no such thought prevails, and those who are best able to judge will gladly agree with Earl Cathcart, in speaking of the Royal Garden as an "invaluable national institution." That it is infallible dare not be said, but to be over sensitive when suspected of the misplacement of a label is to give a touch of unintended humour to the business.

Foreign Fruits have come into the market slowly, and far below the average of previous seasons. Messrs. Keeling and Hunt report: Oranges are of good quality and selling well, some best St. Michael's *ex* Sparkling Glance, first cargo of the season having reached high prices. Sour oranges are still very scarce. Lemons are generally poor, the bulk being of low quality. Fine fruit meets with a ready sale at high prices. Grapes have improved in value, stocks are getting very low, and any good fruit, likely to keep, will no doubt still further advance. Apples meet with a ready sale at an advance in prices, the market being nearly cleared of the enormous quantity arrived during the last fourteen days. The fruit is also of better quality and in good condition. Chestnuts are in fair demand. Black Spanish are very scarce. Barcelona nuts have advanced in value. Brazils are very scarce and dear. Coker nuts are plentiful and cheap. Imported onions in condition and quality are excellent, and sell freely at good prices. Pineapples are plentiful, and many have been sold at moderate rates. The market is likely to be regularly supplied now that the St. Michael season has commenced.

The conformation of the flower of Cypripedium is the subject of a paper contributed to the Linnæan Society by Dr. M. T. Masters. His argument is based on the course of development in the minute anatomy and arrangement of the fibro-vascular bundles, and on the examination of the comparative morphology of the flower. Organogeny affords in this case only doubtful testimony, as the flower is irregular from the first. The distribution of the primary fibro-vascular bundles and of the offshoots from them affords more conclusive evidence of the true construction of the flower, and, if studied in conjunction with the comparative morphology, leads to very satisfactory results. By these means it becomes easy to refer the flower to the ordinary type seen in a regular pentacyclic and trimerous monocotyledon, from which it is reasonable to infer it may have originated. The deviations from the type have arisen from concrescence or inseparation of some part, inordinate development of others, and complete suppression of a third series. The author cited instances showing numerous intermediate gradations between the ordinary conformations of *Cypripedium* and that of the ideal type, thus proving that what was at first a matter of speculation and inference from imperfect evidence was borne out by actual fact.

The Order of the Chrysanthemum.—On Tuesday last Prince Komatsu invested the Prince of Wales with the most exalted Order of the Japanese Empire—that of the Chrysanthemum. The Prince of Wales received the Emperor of Japan's Envoy at a quarter-past three at Marlborough House, to which place Prince Komatsu was conveyed in the Prince of Wales's State carriage from the Alexandra Hotel, Hyde Park. The Order was conferred on the Prince to manifest the sense of the Emperor of Japan's obligations to Her Majesty's Government. The Order has previously been bestowed upon reigning Sovereigns alone, with the exception of Prince Bismarck, who is the only personage other than a Sovereign wearing it. The Earl of Iddesleigh, as representing the British Government, introduced Prince Komatsu to the Prince of Wales, and the Princess Komatsu was presented to the Princess of Wales by the Countess of Iddesleigh. The Order of the Chrysanthemum consists of a star and collar, the former being in the form of a silver-fluted cross with a large ruby in centre, and the latter being a "blaze," with ruby, hung round the neck by a riband. In receiving the insignia the Prince of Wales expressed his great satisfaction at the warm friendship existing between England and Japan, and acknowledged the high honour bestowed upon himself and the country.

THE LOWEST FORMS OF LIFE.

Professor Ray Lankester, F.R.S., who fills the chair of zoology in University College, Gower Street, is giving a course of six lectures on the elements of biology at the London Institution, Finsbury Circus. In the first lecture, Professor Lankester said that the science known as biology had for its object and scope the discovery of the causes of living things and of the phenomena of life. Biology is one of the group of concrete sciences, which includes geology and astronomy likewise, and just as it is the object of the geologist to refer the phenomena of the earth's crust and its history to the laws of chemistry and physics, and as it is the astronomer's business to explain the movements of the heavenly bodies by the laws of mechanics, so it is the business and aim of the biologist to explain all the varied forms and activities of living things and life itself as results of physical causes—forming no exception to the recognized properties of matter embodied in what are known as the laws of chemistry and physics. This explanation, the lecturer said, had become possible owing firstly to the discovery of the ultimate properties and composition of the material of which living things consist—viz., protoplasm, and secondly as a consequence of the firm establishment by Darwin of the law of evolution or gradual development from the simple to the complex.

The lecturer had in a previous course of lectures in that place given an outline of the doctrines of Mr. Darwin, and he proposed on the present occasion to devote the time at his disposal to a consideration of protoplasm and the various forms to which it gives rise, the manner in which these forms are produced, and the various properties and qualities which protoplasm may exhibit. All living things are either single minute corpuscles of protoplasm, or are built up of a number of such minute corpuscles. These ultimate corpuscles, averaging the one-thousandth of an inch in diameter, are spoken of as "cells." It was Theodore Schwann who first showed that all organisms are built up of these cells, and who pointed out in his celebrated "cell-theory" that the substance of which each cell is composed is a centre of active chemical and physical change—in fact, it is a real unit of life, and that the life of the whole animal or plant is but the sum or total of the lives of all the different individual cell-units which are united to form that animal or plant. Not only was this true, but it had been shown since Schwann's time that every living thing—whether plant or animal—starts its individual life as a single corpuscle or cell. The egg-cell or germ has this nature. Cells multiply by a process of binary fission, and it is in this way that the single egg-cell gives rise to the vast aggregates of cells or corpuscles of protoplasm which form the tissues of a large animal or plant. But there are many animals, and many plants too, which never advance in complexity of structure beyond the condition of a simple cell or single corpuscle. These are the unicellular plants and animals, and are microscopic. They furnish an admirable means of studying the ultimate properties of protoplasm.

Professor Lankester then took for special study an example of a unicellular animal and an example of a unicellular plant, sketching the properties and life-history of each. He afterwards proceeded to compare with these single cells from those which built up the tissues of a higher animal, selecting a cell from the staminal-hairs of the spiderwort, one from the human skin, and lastly a colourless corpuscle from the blood. Finally it was pointed out that there is a division of labour and a differentiation of structure among the millions of cells building up the body of a multi-cellular organism. The whole animal or plant was compared to a republic, and the cells to its citizens—each class with its special aptitudes and its special work to perform for the good of the whole community. It was in this process of differentiation of structure and division of labour that progress in the structure of organisms had been possible. It was thus that natural selection, or survival of the fittest, had operated, favouring the better organized cell-communities, and leading thus to more and more complex and perfect structures, until such marvellous groupings of cell-units were produced as we see in the human hand, the eye, or the liver, each consisting of many different kinds of cells bound together in layers and bands and each active in different ways so as to give as a result the wonderful mechanisms or organs above named. Professor Lankester promised that in future lectures he would follow out the cell-structure and division of labour among organs and tissues in certain typical plants and animals, and to discuss the difference between plants and animals.

In his second lecture, Professor Lankester addressed himself to the discussion and illustration of protoplasm and cell-structure. All living things, he said, were either single minute corpuscles called cells, or were built of a number of such cells, diagrams of which were shown. Every living thing was at one time a single cell—the egg-cell, in accordance with the accepted axiom *omne vivum ex ovo*. Every living thing sprang from an egg. Diagrams representing the most characteristic types of such egg-cells were pointed to in illustration. The fissure of generative cells, and thereby their multiplication, was next spoken of, and the typical kinds of cell division were discussed with the aid of diagrams. The essential substance of cells was known as protoplasm. Schwann's history of the constitution of cells was next expounded. There were, he said, unicellular and multicellular organisms. Passing to the properties of protoplasm, the lecturer named as the first, irritability or special reaction to environment shown in movement and other changes. The next mentioned was the chemical production of horn, wood, fat, &c. The third was the consumption of oxygen, carbonic acid being given out in return. Fourthly, came the constant chemical replacement of the substance of the protoplasm itself, *i.e.*, by the taking in of new material in the shape of food, and the throwing out of the old matter by the process of waste or excretion. Fifthly, accordingly as the new material taken in just balanced the loss, or was in excess of it, there was in the one case simple maintenance of bulk, or in the other growth or multiplication. A sixth property of protoplasm was the maintenance of form in spite of a constant change of substance. The requirements of protoplasm were shown to be (1) oxygen; (2) due limits of temperature; (3) protection from violence, mechanical or otherwise; (4) moisture; (5) food, *i.e.*, a constant supply of certain substances containing the chemicals, carbon, hydrogen, nitrogen, oxygen, and sulphur.

PRESENTS.—Everyone is now thinking what they will give their friends at CHRISTMAS or NEW YEAR'S DAY. The housewife, the mother, and the sister can every day in the year present a most acceptable gift to each member of the household, "A GOOD CUP OF TEA." To ensure its being really good, ONLY that QUALITY which is known to be the BEST gives satisfaction. HORNIMAN'S TEA has deservedly had the character for 50 years, of being the CHEAPEST and the BEST, and being "ALWAYS GOOD ALIKE;" most who use it will take no other. It is necessary to SEE the Importers' signature, W. H. and F. J. HORNIMAN and Co., on every packet, as there are many base imitations offered to the unwary.—[Advt.]

Notes of Observation.

SURE BEARING PLUMS.

There is a large number of different sorts of plums, and amongst them some of great merit, but there are not many that are sure bearers. Victoria is the most popular of all culinary plums, and very properly so, for, whether grown in the form of bushes or trained to walls, it is the most constant bearer we have. It moreover produces fruit of large size and well coloured. The Red Magnum Bonum is the next best in point of productiveness. With us, grown against a wall with a west aspect, it has not failed to produce a good crop every season for the past ten years. It is hardly so productive as a bush tree as the Victoria, but it is a fairly good cropper in this form. The yellow Magnum Bonum is not so certain in bearing, but it is much better in that respect than some of the others. The Dymond is also a useful variety, but there are none equal in bearing qualities to the other three named. As a dessert plum the Duke of Edinburgh is equal to any of the others of that class as regards its cropping qualities, and in appearance and flavour superior to many. It has purple-coloured fruits, which are of medium size and good flavour. It is a very desirable kind to grow as a bush or pyramid. J. C. Clarke.

WINTERING GLOXINIAS.

No doubt cultivators differ in their practice of keeping the corms of gloxinias during the winter, and when one has found out a really good plan of wintering the corms I advise them to keep to it, as it is not pleasant when the stock is overhauled in the spring to find that some of the best corms have decayed. I have been a grower of this beautiful flower for some years and have tried many plans of keeping the corms when they are in a dormant condition, and I find there is no better way than to allow them to remain in the soil in which they have been grown. I dry off my stock in a gradual manner in the autumn, and when all the leaves have fallen, I place the pots on a shelf in the warmest corner of the greenhouse, where the temperature remains very steady at about 50 degrees. I do not give them any water during the winter, and when I turn them out in the spring I generally find every one perfectly sound. I have always found that I had more losses when they were wintered in a damp soil and a low temperature. As a matter of fact I have proved that it is better to keep the corms in paper bags all winter than to expose them to a low temperature. But I say to all who can command a regular temperature of about 50 degrees in the soil, and keep it dry, let the corms remain, and if this is done you will find the corms quite sound in the spring.

R. H. B.

CHRYSANTHEMUMS IN CUMBERLAND.

I was rather surprised to read "J. C. C.'s" note in the Gardeners' Magazine of November 27, in which he states that his chrysanthemums have been so unsatisfactory this season. Here, on the west coast of Cumberland, within half a mile of the sea, they have been very fine. We have not, indeed, had them so good for several years. I have a south wall one hundred yards in length, and between six and seven feet in height, which is planted with chrysanthemums. From the beginning of the second week of November until quite the end of the month, the plants were literally a sheet of bloom from one end to the other. The varieties against the wall are the same as those we have under glass, and our practice is to fill up the vacancies in the spring with the plants that were flowered under glass in the autumn previous. In some severe winters they are all killed with the exception of Dr. Sharpe, Pink Christine, and Peach Christine. These have withstood the effects of the severest weather experienced during the past twenty years, and may therefore be pronounced perfectly hardy. They bloom most profusely, and are very effective. A variety, which I believe to be Princess of Wales, is also especially good for outdoor culture. It blooms very freely, and the blooms assume a much deeper hue than those usually seen on the exhibition stage. I would add that the chrysanthemums were sheltered from the north-east storms we have had. W. C.

Carkickle Gardens, Whitehaven.

EARLY-FLOWERING CHRYSANTHEMUMS.

Herewith I send you the names of a few of the best of the early-blooming chrysanthemums as they flowered here, and for the information of those who have not grown the varieties I have added the colour of the flowers and the months in which they are at their best. Many of the varieties are new, and all are well adapted for the supply of cut flowers, and for the decoration of the garden and greenhouse. The three most useful varieties are, Flora, a fine yellow pompon, which has an excellent habit, and blooms profusely throughout July and the three following months; Madame Desgranges, a well-known Japanese variety, bearing large pure white flowers, and in perfection from August to October; and Golden Madame Desgranges or G. Wermig, which blooms at the same time, and has bright yellow flowers, Other good pompons of special value are: Petite Marie, pure white, in bloom in July and two following months; Madame Jolivart, pure white, in perfection in September and October; Mrs. Cullingford, white, rather large and very fine, in bloom during September and October; and Lyon, bright purple, very effective, flowers in September and October. Early Japanese varieties other than Madame Desgranges and its golden sport that can be specially recommended are Bouquet Estival, bright purplish rose, very distinct and good, September and October; Mastic, bronzy yellow, October; J. H. Laing, blush white, October; and Madame Laing, rose, October. Robert Owen.

Floral Nursery, Castle Hill, Maidenhead.

CHRYSANTHEMUM, MRS. NORMAN DAVIS.

From Mr. Mizen, Mitcham, has been received a box of blooms of this fine incurved chrysanthemum, which is deserving of a warm welcome from cultivators. As stated by Mr. Mizen in the accompanying note, this variety was obtained as a sport from Princess of Teck, which is well known both for exhibition purposes, for its value during November, and for the supply of flowers for decorative purposes during December. When submitted to the Floral Committee of N.C.S. on November 25, both flowers and foliage were carefully compared with those of Princess of Teck, and we had no doubt whatever as to its origin, and a first-class certificate was conferred upon it. The flowers have two distinct forms characteristic of those of the type, and the colour is equal in brightness to Mr. Bunn, which is one of the most effective of the yellow chrysanthemums at present in cultivation. That this novelty will flower equally as late as the parent there can be no doubt, and it must be regarded as a valuable acquisition.

George Gordon.

GAULTHERIA PROCUMBENS AS AN EDGING.

I do not know whether Gaultheria procumbens has ever been suggested as an edging for a border. I tried it a year or two ago at Oakwood round a bed containing principally deciduous plants, and now, at this dead season, the bright red berries and glossy green leaves have a very pretty effect. I was struck with the frost-resisting power of a Veronica with narrow leaves and white flowers, which I have as V. salicifolia, but which a good authority tells me is wrongly named. The thermometer at Oakwood last night went down to 23 deg. Fahr., yet I could cut sprays from plants in full exposure perfectly untouched. The narrow leaves and feathery white flowers made a useful addition to a table nosegay, chiefly consisting of Pernettyas with different coloured berries and the open seed pods of Iris Fœtidissima, both very pretty but rather solid. George F. Wilson.

Heatherbank, Weybridge Heath.

ORCHID NOTES.

Phajus Humboldti is figured in the current number of *Reichenbachia* from a plant that flowered in the Burford Lodge collection. This species, and the much more beautiful *P. tuberculosus*, were introduced by Messrs. Sander, of St. Albans, from the interior of Madagascar, through a young Frenchman, Mons. Leon Humboldt, who stated that the plants were found growing at the base of large trees, and that they were moist all the year round. It is further stated that "the best grown plants have been treated similarly to Malayan Phalænopsids, or to other Madagascar orchids, such as Aeranthus sesquipedalis." I have not grown P. Humboldti, but have had considerable experience with its allied species P. tuberculosus, and have no hesitation in saying it is one of the most capricious orchids ever imported, and, like some other capricious things, the most lovely. I found it growing with great freedom in the collection of Mr. Augustus Sillem at Laurie Park, Sydenham; but, with the same treatment exactly, the plants would not move at all in our own collection. We had one plant which kept perfectly sound for eighteen months, but it never started, and ultimately died out. It succeeded admirably with Mr. G. F. Wilson at Weybridge, while Sir Trevor Lawrence and, I believe, Mr. Lee found it a difficult subject to deal with. Where it did well it was growing in the warm house in moist and living sphagnum.

Of Chysis bractescens there is a most artistic plate. The cultural directions are excellent, and a meed of praise is given to collectors for aiding cultivators "by stating the conditions under which the plants they discover grow in their native haunts." C. bractescens grows in thick forests on the stems and branches of large trees. It is a deciduous species, and should be grown in a teak basket, suspended near the roof, in a well-ventilated part of the East India house. The resting period begins about the end of summer, when the plants should be kept cooler and in a dry state at the roots, until they start into growth in the spring.

Masdevallia Backhousiana is also figured; it is a handsome variety, or species rather, of the Chimæroid section. We grow it in our own collection, and I find it succeeds admirably in the cool-house from May to October, and during the rest of the year suspended near the roof glass in the cattleya house. It is not very plentiful; but grows freely in teak baskets, the flower stems push along on the surface or under it, and the flowers hang over the sides of the baskets. Curious or weird looking things they are. The leaves I find are very liable to be attacked by red spider, which may do much mischief before it is discovered. This pest we destroy by dipping the leaves in tobacco water.

Cattleya citrina forms the subject of Plate 20. This species succeeds well in a much cooler temperature than most others of the same genus. Teak, apple, or hawthorn blocks are recommended to grow it upon. They require a long season of rest, during which period they should receive no more water than will prevent the bulbs from shrivelling. Imported plants should be purchased only in December and January, when they are at rest. It is found in Mexico, growing on oak trees, and always downwards. In the States of Oaxaca and Vera Cruz it is most common. The first plants received in England were sent from Oaxaca by Mr. Robert Smith, and the first flowers were obtained in April, 1839, in the Duke of Bedford's collection of orchids at Woburn Abbey. It was figured in Bot. Mag. in 1840, and the flowers from which the drawing was taken were stated to be scentless.

J. Douglas.

NOTES FROM THE ORCHID HOUSE.

AT no season of the year is the value of a well-furnished orchid house so apparent, or so likely to be highly appreciated, as during December and the two following months, so great is the contrast it presents to the other plant structures. The stove is fairly bright with poinsettias and a few other subjects that are at their best during the winter. But in the conservatory there are but few flowers during these months, unless there is a spacious forcing house or pit at command, from which to draw successional supplies of plants. Within the orchid house, on the other hand, there is a display of colour at once rich and varied, and that without the plants having to receive special attention to accelerate their flowering season. At the present time our orchid houses, if not containing so brilliant a display of colour as during May and June, when so many of the cattleyas and dendrobiums are in perfection, present a surprisingly beautiful appearance. There are, indeed, so many distinct kinds in flower that it would occupy more space than you could probably well spare to do more than enumerate a few of the most important.

ANGRÆCUMS are well represented by the magnificent A. sesquipedale, which will long remain one of the very finest of the winter-flowering orchids. Our plants are grown in pots filled to about two-thirds of their depth with rather large crocks and sphagnum moss, and they make the most satisfactory progress, and bloom as freely as could possibly be desired.

CALANTHES contribute materially to the display of colour, as C. Veitchi, of which we have a rather large stock, is now in perfection. This fine hybrid is grown chiefly in eight-inch pots, three bulbs in each, and the spikes produced by our best examples are very fine. Sometimes we hear expressions of regret that the plants are leafless at the time they are in bloom. But practically this is not a point of great importance. It would undoubtedly be an advantage to have the flowers relieved by the bold foliage, but we overcome all difficulties by intermixing the calanthes with the evergreen kinds in such a way that the pots and bare pseudo bulbs are not visible. The calanthes have also a very attractive appearance when the pots are placed in a groundwork of maidenhair or some other fern. Rising from amongst the fern fronds, the spikes of bright rosy-pink flowers are singularly pleasing in appearance. The two well-known forms of C. vestita are also flowering freely, and although less striking in appearance than C. Veitchi are very attractive and are exceedingly useful for the supply of cut flowers. C. Regnieri introduced a few years since is a very desirable addition to the genus; the flowers which are produced on rigid wiry spikes are of the purest white with brilliant crimson blotch at the base of the labellum.

CATTLEYAS do not figure very largely, but there are sufficient in bloom to contribute materially to the attractions of the structure in which the Mexican orchids have a place. C. gigas has been very good, but we have only a few flowers left of that beautiful species. C. Percivaliana is well represented, as we have seven or eight comparatively large plants in bloom, and the majority have flowers remarkable for their large size and superb colouring. C. Trianæ, of which there are so many varieties that hardly two are alike, is now coming freely into bloom, and from the appearance of the plants we shall have an abundance of flowers until quite late in the spring.

CYPRIPEDIUMS are in such strong force that we have at least twelve species and varieties in full bloom. Of this comparatively large number special mention must be made of C. Spicerianum, which is certainly one of the most beautiful of the lady's slippers flowering at this season of the year. Very useful also is C. Harrisianum, which blooms very freely, and is remarkable for the great length of time the handsome flowers retain their freshness. The old and well-known C. insigne is by no means the least attractive of those now in perfection, and its varieties, Maulei and Purpureo-punctatum, are two of the most beautiful forms in the house. The flowers of the first-mentioned of the two varieties are distinguished by the large size of the dorsal sepal, and snowy whiteness of its margin, whilst the dorsal sepal of the flowers of the other is very richly blotched with purple. C. Leeanum, a hybrid between C. insigne and C. Spicerianum, is one of the gems of the season. Our plant, which is rather small, has two well-developed blooms, which at once arrest attention by reason of their great beauty. In shape the flowers are intermediate between those of the two parents, and the dorsal sepal is pure white, with green base and lines of purple spots in the centre.

LÆLIAS include L. autumnalis and L. anceps, the last mentioned being now at its best. We have several good dark forms in bloom, and one or two white varieties, which formed part of the large importations that attracted so much attention two years since, are flowering for the first time, These, if not equal to the white variety shown at South Kensington the other day, are exceedingly beautiful.

LYCASTE SKINNERI, although not as yet at its best, is beginning to make an impression, for seven or eight plants are already in bloom. We have a few flowers also of the rare L. Skinneri alba, which is one of the most chaste of the white orchids, and fully entitled to the popularity it enjoys.

ODONTOGLOSSUMS now in bloom comprise O. Alexandræ and O. Pescatorei, and the first mentioned is now flowering so freely, as to produce of itself a really attractive display. It is so well known as not to require commendation, but it must be said that it is the most useful of the cool orchids flowering in the winter. O. Rossi majus, if less useful than the foregoing species, is not wanting in beauty, and nicely-flowered examples present a very attractive appearance.

PHALÆNOPSIS are exceptionally attractive, for in addition to a wealth of flowers of the snowy-white P. grandiflora, we have some fine racemes of the comparatively new P. Sanderiana, which is one of the most beautiful of the phalænopsids. The varieties differ considerably in colour, the best being those with deep rosy-pink flowers. P. rosea is also flowering freely, but its pigmy flowers do not appear to great advantage in contrast with those of the foregoing species.

SACCOLABIUM GIGANTEUM is the only species flowering in winter, and it is satisfactory to be able to state that it is free in blooming and immensely attractive. The flowers are produced in long racemes, and are exquisitely coloured with rose on a pure white ground.

SOPHRONITIS GRANDIFLORA produces a very bright effect suspended from the roof. This we grow on blocks of wood with a little moss, and it is surprising how freely the plants bloom under these conditions. There is one point in connection with the sophronitis which is generally overlooked, and that is the length of time the flowers retain their freshness. We have had flowers of the species here mentioned in the best possible condition fully ten weeks. ORCHIDOPHILIST.

MESSRS. KELWAY AND SON'S NEW GLADIOLI.

IN the communication on the cultivation of the gladioli with which we were favoured last week by Mr. J. Kelway, selections were given of the finest varieties in commerce, and as they were prepared by a master hand they should be followed by cultivators. For the information of those who take a special interest in the cultivation of new kinds we give brief descriptions of varieties now being distributed for the first time. To indicate more clearly the remarkable advance that has been made in the improvement of these beautiful and highly effective flowers, we have had an illustration prepared from drawings made of three of the varieties exhibited by Messrs. Kelway at the meeting of the Royal Horticultural Society, August 24. This illustration, which is necessarily considerably below the natural size, represents the fine form of the flowers of the several varieties, and the admirable way in which they are arranged on the spikes.

When Mr. Kelway first engaged in the work of raising seedling gladioli the flowers were not only small in size and indifferentin form, but they were widely distributed on the spike, which, in cons equence was wanting in effectiveness. As Mr. Kelway has informed us in some of his earlier communications, he was the first to recognise the importance of the flowers being closely arranged and facing in one direction. From the first he has kept these points in view, and as the result of his well-directed labours we have a race of varieties which are as remarkable for the massiveness of the spikes as they are for the large size, and superb form of the flowers. In this respect the Langport varieties are far in advance of those raised on the Continent, and in the form and substance of the flowers they are certainly not surpassed. The flowers, more especially of the later introductions, are of exceptionally large size, the segments are of great breadth, and well rounded, and they possess the important quality of being so well expanded that the colouring of the face is seen to the best possible advantage. Messrs. Kelway, whilst continuing to improve the form of the flower and the build of the spike, have been successful in obtaining several exquisitely beautiful shades of colour which are practically new in the gladioli. The names and colours of the varieties of the current season are as follows:—

Aner.—A very beautiful variety; the spike massive, and the flowers, which are of the finest form, are bright mauve flaked and shaded with purple.

Cacus.—A pleasing variety, with large cerise coloured flowers shaded and feathered lake.

Clarence.—A handsome dark variety; the flowers marone shaded with red, and painted with purple.

Colonel Macfie.—A charming light variety; the flowers of full size, and beautifully flaked with lilac on a white ground.

Dora Thorne.—A distinct and beautiful variety with finely formed flowers, richly suffused with rose on a cream-coloured ground.

Duchess of Westminster.—An exquisitely beautiful variety; the flowers white, tinted and veined with rose.

Empress of India.—A superb variety with spike of exceptional size; flowers large, white, freely feathered and flaked with mauve.

Lady Salisbury.—A remarkably fine variety, the flowers of superb form, and not less than three inches across the face, and beautifully feathered with carmine on a white ground.

Lord Carnarvon.—An effective variety of high quality, the flowers scarlet with pure white throat.

Lord Rothschild.—A very handsome variety; the flowers very large and of grand form; the colour brilliant scarlet crimson, shaded with purple.

Mrs. Foster.—A beautiful variety; the flowers of full size, white, tinted flesh, and flaked with rose.

Prince Edward of Saxe Weimar.—Very distinct and highly effective; flowers large and of a brilliant orange scarlet hue, flaked at the edge with violet purple.

Prince Henry.—A fine dark variety, with large flowers of fine form and a rich purple hue, the throat pure white.

MR. LYE'S SEEDLING POTATO, *Clipper*, certificated at Tercentenary for combining beauty and high quality with good cropping qualities, will be sent out by Mr. Fidler, who has purchased the stock. It is a handsome white round, making a fine appearance in market or on the table.

HORNSEY WILL NOT PURCHASE the Churchyard-bottom Woods at Highgate, the result of a division on the proposal being; For the purchase, 1,322; against, 2,762; the majority on the wrong side, 1,440. Hornsey will regret its want of public spirit, but when regret comes, it will probably be too late to ensure any of the fruits of repentance.

GROUP OF NEW GLADIOLI RAISED BY MESSRS. KELWAY AND SON, LANGPORT, SOMERSET.
1, *Lady Salisbury*; 2, *Prince Edward of Saxe Weimar*; 3, *Empress of India*.

SHORT NOTES FOR SMALL GARDENS.

By the VICAR'S GARDENER.

FORCING LILIES OF THE VALLEY.

No one can force the lily of the valley in a satisfactory manner unless the crowns have been well prepared, and the earlier they are required to flower, the more necessary it is that the plants should have been specially cultivated for the purpose. Where home grown roots are depended upon, they should be grown in good soil in a position in the full sun, and have been planted at least three years. They may then be expected to lift with plump crowns, that if treated kindly in the forcing pit may be expected to produce a good number of flowers. The beginning of the new year is soon enough to commence forcing, and where the flowers are required for cutting the plants are better lifted in good sized clumps and placed in pans or boxes. This should be done a fortnight before they are taken into a high temperature. In the meantime they should be placed in the greenhouse to give them a gentle start. When practicable the pans should be placed on a gentle bottom heat with a top heat of 75 to 80 degrees, as they require a warm temperature to bring them on, otherwise the cultivator may have longer to wait for the flowers than he expected. A layer of moss should be placed on the crowns, as it prevents the air of the house from drying them up too much. As the season advances fresh supplies should be introduced. In the month of March a maximum temperature of 70 degrees will be better than a higher one, and if they are forced steadily the spikes of flowers will be stronger. Where large quantities are required for Easter decorations it is a capital plan to make up a hotbed and put a frame on it, and after placing a thin layer of soil on the manure put in the roots. In a moist genial temperature they will come on in fine condition in five or six weeks. The temperature of the frame should not exceed 70 degrees, and for the first fortnight a mat should be kept on the light to keep the plants dark.

HARDY-FLOWERING SHRUBS FOR FORCING.

The Persian Lilac is an admirable subject for early forcing. The simplest way to manage it is to have three sets of plants growing in the open ground. This will give a change of plants every third year, and during the interval they will have time to make fresh growth and recruit their strength. The plants may be lifted and put into the pots in which they are to flower, and after standing in a greenhouse temperature for a fortnight they may be introduced into the forcing pit. A temperature of 60 degrees is high enough to bring them into flower. As soon as they go out of bloom the branches should be pruned hard back, and at the end of May the plants may be returned to the reserve ground. Spiræa Thunbergi is also useful for forcing into flower early. It may be treated as is recommended for the lilac, and then there will be strong plants to select from. As it flowers on the wood of the previous year's growth, all the young branches must be taken care of. Every bud on these shoots will give a bunch of flowers, which are white, and these are accompanied with just sufficient fresh young leaves to make them acceptable. The double-flowered plum is also an excellent plant for forcing. The flowers, which are in the form of little rosettes, are of snowy whiteness. This plum is readily propagated by means of cuttings of the young wood, and in three years the young plants may, with liberal treatment, be had large enough to force. Under the three years' system of forcing they make excellent growth. Excepting the year in which they are to be had in flower they are cut down to within a few inches of the ground, as they produce the most flowers on the previous year's growth.

Double-flowered peaches are also very attractive when well bloomed and associated with other subjects in the conservatory. Especially are they acceptable when brought into flower in advance of the peaches on open walls. They are the most satisfactory when cultivated altogether in pots. As soon as they go out of flower all the wood which has produced bloom should be cut hard back, and then, with a liberal system of management, they will in the same season make wood strong enough to flower the next year. A temperature of 55 deg. to 60 deg. is ample to bring them into flower.

Azalea mollis is a most excellent subject for flowering early. To give the plants time to recover themselves after being forced, they want growing under the three years system, and then they have sufficient strength to produce good trusses of flowers. Azalea amœna is a hardy evergreen species, which produces large quantities of purplish crimson flowers, which are of much value, whether on the plant or in a cut state.

HERBACEOUS PLANTS FOR FORCING.

Solomon's Seal is readily forced. The great point to observe in the cultural details is to secure good clumps of well-developed crowns, so that they may be lifted without injury, and be potted in rather large pots. We grow our plants in a border in the kitchen garden, where they are allowed three or four years to become established. In the month of November I take a spade, and lift out some of the most prominent pieces. These are lifted bodily, and taken to the potting bench, where they are reduced, so as to be potted into twelve-inch pots. When these are carefully forced, they produce from ten to twelve handsome spikes of flowers, which, when fully developed, arch over in a graceful manner.

ASTILBE JAPONICA.

For early forcing the best results are obtained by growing the plants in pots. For later work, plants grown in the open ground and potted up in November do very well. With respect to growing the plants in pots, I must be more explicit, and say that plants for early forcing in 1888 should be potted during the present winter, and be grown altogether in them. Plants so treated, owing to the confined root space, ripen off their leaves earlier in the autumn than those grown in the open ground, consequently they have a longer rest, and are more readily brought on when introduced into a higher temperature. To grow them successfully the pots should stand in saucers of water all the summer, and if it is manure water so much the better. Those to be grown in the open ground should be planted out where the soil is rich and deep. Whether large or small plants are wanted, the best way to increase the stock is by division of the root. The pieces should be planted out eighteen inches apart each way, and during dry weather in the summer they must be liberally watered, as they are moisture-loving subjects. When potted up in the autumn for forcing they should be placed in as small pots as possible without mutilating them too much. This plant requires a temperature of 65 deg. to 70 deg. to bring it into flower by the beginning of February.

CHRISTMAS ROSES OR HELLEBORES.

THE Christmas Rose, or "Winter Rose," as it is called in Devonshire, is essentially the flower of the winter season, and has always held, and always will hold, a cherished place in our affections. To apply the name "Christmas Rose" to the whole of the Hellebore race is certainly misleading and a trifle ridiculous, as the species and varieties vary greatly in their season of flowering, some shining forth with power in autumn, others in mid-winter, and a few in March and April. But English names our readers crave for, at least the amateur section, and argue that they simplify matters, whereas they render the nomenclature more puzzling and mixed. The Christmas Rose proper is *Helleborus niger*, the type of the family and one of the best of the whole genus for the garden. Around this famous plant cling many interesting and curious superstitions. By the Romans it was held in great veneration and used as an antidote to witchcraft and evil spirits. Thus they blessed the cattle with the Hellebore, and with the same magic plant hallowed and perfumed their dwellings. The digging up of this root was made the occasion of a solemn and imposing function accompanied with the singing of hymns and other devotional exercises. Before the sacred root could be dug up it was necessary to obtain the sanction of Æsculapius and Apollo, to whom the person entrusted with the delicate operation would pray, with his face turned to the east. The mention of "Æsculapius" reminds us that Helleborus niger is the source of the black hellebore, and was used largely in olden times as a purgative; but it has now dropped almost completely out of use. In Ferrand's "Love Melancholy" it is referred to as follows: In vain should the physician attempt, with all his medicines and *helleborisms*, the cure of those that are sick with love, or any like passions.

We have shown sufficiently that the plant before us has a history, and if not valued as an adornment for the garden by the ancients, at least its valuable medicinal properties were not unknown. As yet we have only mentioned H. niger, but we must range further to find the gems of the hellebore genus. We have to thank the hybridists for the splendid varieties now in our gardens, and though they are few in number they are of sterling usefulness. As one result of their labours we have the glorious *Altifolius*, also known as "maximus" and "major." This may be held up as a reproof to those foolish tyros who rail against the florists as perverters and destroyers of nature. It is of massive growth, and the boldly-shaped flowers are of spotless purity, invaluable, we need scarcely add, for decorations of the most chaste description. It blooms earlier than the type, often shining forth with power long before the chrysanthemums have finished their gay career, and thus it forms an important link in the flowery chain which connects golden autumn with grim winter. Another fine form of H. niger is *Angustifolius*, the foliage of which is of considerable length and deep sea green in colour, while the flowers are as pure as those of Altifolius. It is far from our wish to burden the reader with names, but there is another variety that by reason of its exquisite beauty demands notice. This is *H. caucasicus*, partaking both of the character of the type and also of "Altifolius," and recommended for its distinctness, The growth is massive, and the flowers white, tinged with purple on the exterior, and sweetly, though not powerfully, scented.

When we have disposed of H. niger and its varieties we have disposed of an important section of the Hellebores, as what we are now about to mention are far less beautiful, though not less worthy of consideration. These will suit the hellebore fancier who collects species and varieties, and cultivates them with religious care, and then raves about their peculiar and distinct beauty. They certainly are peculiar and beautiful, but those who want an abundant supply of flowers at the cheapest rate had best confine themselves to the commonest, which are the best. The first on the list, taking them in alphabetical order, is *H. atrorubens*, a plant of robust habit, and producing in March or April in great profusion brightly coloured flowers, deep purple in bud, and when expanded of a violet hue, which changes to profound purple. This is found in the woods of southern Europe, and requires a sheltered position to develop to perfection. *H. colchicus* is certainly desirable, and the last in bloom; the imbricated flowers are of a rich plum colour, while the leaves and stems are of a similar hue. The flowers, however, vary considerably in size and colour, so no definite description can be given; one of the best of the varieties is *Punctatus*, a heavily-spotted form. We have a British species in *H. fœtidus*, which is handsome, but not of sufficient beauty to merit a place in a small garden. The foliage forms the most conspicuous part of the plant, and this is luxuriant, large, and profound green. The flowers are green with a trace of crimson. *H. guttatus* and its varieties, *Leichtlini* and *Commerzienrath Benary*, are of sterling merit, the first mentioned variety having flowers delicately spotted with pale crimson on a snow white ground, while in the other case they are spotted with a deep shade of the same colour. *H. purpurascens* would perhaps

satisfy a fancier of hellebores, but it is not of sufficient importance for a place on the select border. *H. odorus* will be valued for the delicate and refreshing fragrance of its medium-sized, greenish-coloured flowers. Both hail from Hungary. *H. olympicus* is of neat habit, and has flowers white, tinged lightly with green. *H. orientalis* is the last, but not the least, for it is one of the most valuable of all the late flowering kinds, and its varieties, *Apotheker Bogren, Gretchen Heineman,* and *Purpurascens*, are valuable additions to the class. In the type the flowers are globular, large, and effective in colour, being rose within and of a deep purple on the exterior. The flowers of the varieties mentioned range through several shades of purple, and all are freely spotted.

Culture of the hellebore is not a troublesome matter, as they require ordinary conditions, and all may be grown without the aid of artificial heat. They are well suited for prominent positions in the garden, and such kinds as Altifolius should be planted liberally, as they pay well in an abundance of snow-white flowers, that will be found useful for the epergne or the dinner table. Although their requirements are few they must have strict attention. A heavy soil and some amount of shade suits them, and when once planted leave them alone, as they detest being disturbed, and, if lifted often, show their dislike to the pernicious practice by dying. Those who intend to go in for hellebores should make a start in the spring with good healthy tufts that will bound away at once and flower freely the following autumn. It is the best plan when the plants are coming into bloom to place over each one a bell glass or handlight, as the flowers when assailed with winds and rains soon lose their purity of tone and become valueless for bouquets or choice decorations. We are now speaking of those who only grow a few. But the cultivator who requires a plentiful supply will proceed upon a different plan.

In large establishments it is the practice to set apart a plot in the reserve ground for them. The bed is formed of substantial soil, and a shady corner is selected, as when fully in the open the plants stand a chance of being roasted if the summer is very hot. The planting should be done in the spring, and during the summer supply liberally with water, as if allowed to go dust dry for any length of time they will suffer keenly. The time to put the frame on is when the flower buds begin to appear, and, of course, a frame of the size of the bed must be procured. It is necessary to give plenty of air when genial weather prevails, as the object of the cultivator should be to encourage the flower stems to push up strongly, which they will not do if kept in a confined atmosphere. When the weather is frosty cover the light with mats to afford additional protection, and if this course is followed an abundance of well-formed flowers of surprising purity will reward the cultivator. After the beauty of the plants is over remove the frame, unless the weather is wintry, and then the plants must have protection.

There is another method of ensuring a supply of flowers early and in good condition. This consists in lifting the plants when the flower buds begin to show, and putting them in baskets filled with cocoa-nut fibre refuse, or some similar material. Then transfer them to a warm pit, and after the flowering is over, stand the baskets in a sheltered, shady position out of doors, where they may remain until sufficiently hardy for planting out in the border or reserve bed.

C.

CHRYSANTHEMUM ECHOES.

Last week, when referring to the meeting of the Floral Committee on the 24th ult., it was intended to allude to another matter in connection with chrysanthemum nomenclature besides the spelling, but somehow it quite escaped my attention. Everybody knows full well the inconveniences caused by a flower having two or three names; there is also the further prejudice to the grower of two or three flowers bearing the same name. Never until this year has so much confusion been caused in this way, and my old friend Mr. G. S. Addison, the late secretary of the Lambeth Amateur Chrysanthemum Society, rendered a considerable service to the public last February by contributing a rather exhaustive list, in which there were numerous examples of different flowers bearing one name.

At the floral meeting just mentioned we were both forcibly reminded of this fact by the presentation of two varieties named respectively Iona and Mrs. Glover. These two names were long ago bestowed upon other flowers, and I quite agree with Mr. Addison when he says, "It is a matter of regret that raisers should be afflicted with such bad memories, when christening their new varieties, as to forget how many times they have used the same name." Although I am strongly averse to the practice of crowding long lists of names into an article like this, which some writers appear to resort to for the purpose of making their contributions longer than is actually necessary, I will draw attention to the complaint now made by giving a few examples of this reprehensible custom. Those who are fully acquainted with the catalogues perhaps do not need it; but, on the other hand, there are many who have neither the time nor the inclination to wade through them for the information which would probably save much disappointment and expense.

There are at the present time in commerce three flowers of the name of Arlequin, two Aurore Boréale, two Bijou, two Carmen, four Ceres, two Cœur Fidèle, three Flocon de Neige, two Gazelle, two Graziella, two La France, two La Joyeuse, two Le Gracioux, two Mdme. Boucharlat aîné and a Mdme. Boucharlat, two Mdme. Hoste, a Mdme. Clos, a Mdme. Thérèse Clos and a Mdme. Marie Clos, two M. Cossart, a M. Robert Owen and a Robert Owen, two M. William Holmes, two M. H. Elliott, two named after Mr. Boyce, two after Paul and Son, two after Mr. N. Davis, but in the three latter cases with only a slight difference in the Christian name or the addition of the word Monsieur or Messieurs, as the case may be; two Jupiter, two Mandarin, two Lady Matheson, two Orphée, two Rob Roy, two Roi des Japonais, two Tendresse, three Venus, and so on *ad infinitum*. This list then is by no means a perfect one, but merely given to show how much care is required on the part of intending purchasers to see that they obtain the variety which they wish to grow. Another fruitful source of error is that there are innumerable varieties with the same surname, but only distinguished by the prefix M., Mdme., or Mdlle.

In the early part of the present year the editor of the Gardeners' Magazine published a catalogue of Japanese and hybrid Japanese chrysanthemums introduced from Continental gardens and nurseries compiled by myself, and a little study of that catalogue will save many a grower from disappointment, although it only includes the varieties of French origin which had, up to that time, come to my knowledge. Since then I estimate that no fewer than three hundred new Japanese flowers have, or will have, made their appearance by the beginning of the year 1887, and should it meet with his approval it is proposed to give a supplemental catalogue some time in the month of March next.

The report of the Grand Chrysanthemum Gala at New York reminds me of those at Pau, Troyes, Paris, St. Etienne, and Ghent. As to the latter one, I know nothing beyond being informed that one was held there last month, and that our Belgian friends have become fellow sufferers of that wondrous malady, chrysanthomania. It is so rarely that English exhibitors appear at any of the Continental shows, that I think it worth while to chronicle an interesting event which has just happened at Troyes. This exhibition was opened on the 14th ult., and among the names mentioned in a report, appearing in *Le Petit Republicain de l'Aube*, which are familiar to me as prominent exhibitors on the Continent, such as Lemoine, Bruant, Mercier, Ceuzin-Jacob, Delaux, De Reydellet, &c., I find G. Stanton Partr, place des jardins Henlen on Tames (Angleterre) medaille de vermeil de Troyes. This I take to be G. Stanton, Park-place Gardens, Henley-on-Thames, whose collection of chrysanthemums was last year very favourably noticed in the *Revue Horticole* when they were endeavouring to teach the Frenchman how to grow on the bighloom system. I heartily congratulate my compatriot, and can only add that if a few more of our countrymen were to send some exhibits across the silver streak, they would probably be well satisfied with the result. The French shows would then certainly be more deserving of the title International than they are now.

Outdoor chrysanthemums are all over, the fog, rain, and frosts having conspired to mar their beauty, and make them poor, wretched objects, only worthy of pity instead of admiration. I cut mine down on the 3rd, but am well content with the blooms I had. The best were: Fair Maid of Guernsey, La Charmeuse, M. Cochet, Mdlle. Cabrol, Fahian de Médiana, Belle Paule, Jewess, Rubra Striata, Père Delaux, Julie Lagravère, Dr. Sharpe, and Golden Christine. Some of these quite surprised my neighbours, and many were fit to cut for show, had it not been for the unkind wayin which the adjacent chimneys had combined to pepper them with soot.

I do not remember having seen so many new incurved sports for some years as during the past season; there must have been at least five or six presented to the Floral Committee. Another matter of interest is the influx of a similar number of large-flowering anemone varieties which, added to those we received last year, will greatly increase that section. It is proposed to deal with these welcome visitors on a future occasion.

The subject of the first chrysanthemum is, I observe, not yet exhausted, and another apparent adherent to Mr. Burbidge's opinion has appeared on the scene. Independently of the pictorial delineations of the old chrysanthemums there are long verbal descriptions of these ancient varieties in existence, and I hope before next week is over to be able to hunt them up and see how far they agree with the view now expressed. Mr. Forsyth was the distributor, I believe, of the variety Dr. Sharpe something like ten years ago, when that gentleman, who was an old grower, resided at Waltham Cross, and as Mr. Forsyth is still living, he could probably give us some particulars concerning the parentage of the variety bearing the doctor's name. The account given by Mr. Burbidge himself in the first edition of his work on the chrysanthemum seems quite feasible; but if the Gardeners' Magazine travels as far as New Zealand, and this should meet the eye of the veteran Stoke Newington grower, he will perhaps favour us with a line or two in explanation.

C. Harman Payne.

New Plants, Flowers, and Fruits.

Streptocarpus Dunni (*B.M.*, 6,903).—A very interesting gesnerwort, with large rugose leaves and massive cluster of flowers pale salmon tinted red.

Achillea rupestris (*B.M.*, 6,905).—A pretty species from Calabria, flowers white.

Tillandsia chrysostachys (*B.M.*, 6,906).—A fine Vriesia, inflorescence yellow.

Brodiæa Douglasi (*B.M.*, 6,907).—A fine species from Western America, flowers nodding in a compact umbel; pale blue.

TWO HEROES OF STOKE NEWINGTON.

ON Monday evening next, the Four Swans in Bishopsgate will fold their wings around a number of good men who love chrysanthemums, for the annual dinner of the National Chrysanthemum Society will bring the men together, and the Swans will comfort and sustain them. It is not for us to antedate the bill of fare, or prognosticate the programme; but we will assuredly hope to prophesy when events have told their tale. But it must be within propriety to say that on the auspicious occasion the "National" connection intend to present to Mr. William Holmes a testimony of esteem and regard by way of acknowledgement of his devotion to the cause of the golden flower that we have made our own by the gracious generosity of the great Chinese people. And it is on the cards—at least, we hope it is—that Mr. Edward Sanderson, the president of the society, will perform the act of presentation, and all the company will there and then joyously make the welkin ring.

It is but little we can do to promote the happy meeting; indeed, our business is simply to look on and make a brief record, hoping to speak of the event in a proper spirit, even if, through lack of power, we fail to do it justice. We have prepared the way for the consideration of the matter in these pages by asking the two worthy gentlemen to sit in front of our camera, and we have secured, what we hope will prove, speaking likenesses. However, speaking men are better than speaking likenesses, and those who take part in the cheerful solemnities of lark pie, moistened with "mum," and followed by a symposium in which the gentlemen named will not be mum, have something better in prospect than to dwell on these counterfeit presentments.

Mr. Sanderson was one of the founders of the Stoke Newington Chrysanthemum Society, when, in the year 1846 Mr. James, of the "Rochester," the elder Mr. Holmes, of Frampton Park, Mr. George Taylor, who wrote the first book on the universal flower, and Mr. Tant, a sound critic in all floral matters, joined their forces for a demonstration destined to move the world, and draw all men to the standard of the celestial star that now rules the autumnal floral firmament. Mr. Sanderson has laboured earnestly and incessantly in advancing the popularity of his favourite. He has grown it well, exhibited it triumphantly, and given encouragement and help in all directions as occasions for such have arisen. He has seen all the steps and stages in the advance of the flower, and has advanced with it now in the expansion of the old society to suit the borough of Hackney, and again in the further expansion to associate it with "National" interests, for, in truth, he who promotes the innocent pleasures of a people, may be a greater benefactor, and a truer hero, than he who fights the battles or teaches by precept without practice. It is impossible to say how much good a man moved by the spirit of our friend, and with business tact and skill to back it, may accomplish; but it is possible to say that energies so applied can never work harm—there is but *one side* to that particular question.

MR. EDWARD SANDERSON,
First President of the National Chrysanthemum Society.

Mr. William Holmes is a fine chip from a grand old block. His father made a cheerful light wherever he appeared; he looked the good man he was known to be, and none doubted that in mind and body he was all of a piece. The son has disappointed no one. He took up the work at the point his father left it, and we have seen much of him since he became secretary of the National. And here it should be said—for this is the gist of the matter—that Mr. William Holmes is *honorary secretary*, and there is a proper reason for an open acknowledgment of his good public work. He began business in this particular line when elected honorary secretary of the "Bero' of Hackney Chrysanthemum Society" in the year 1877, and the men moving in the matter, seeing the stuff he was made of, secured him for the secretaryship of the National.

The case illustrates the great redeeming feature of modern civilization. The world is selfish, calculating, and in love with narrow grooves; but there are not wanting men who can step out of the grooves and forget self in order to be useful in ministering to the higher aims of life. While such men are to be found society is saved against itself, and it is unnecessary to weigh or measure them or make comparisons of their respective ranges of work. A secretary of a chrysanthemum society may by faithfulness to his trust make the world better than he found it, and we fully believe that Mr. William Holmes is one of the men who will correspond to such an expectation.

HISTORY OF THE NATIONAL CHRYSANTHEMUM SOCIETY.

THE presentation which will form such an important part of the programme of the annual dinner of the National Chrysanthemum Society on Monday next has so quickened public interest in the society that a short history of it will probably prove acceptable to a large section of our readers. As a national society, it has had so short a life that all who take an interest in the chrysanthemum must be familiar with what it has accomplished; but as the outcome of the Stoke Newington Society, it has had a long and eventful life, and a history which must ever be intensely interesting to those who pay special attention to the flower, whether as cultivators or otherwise.

To trace the history of the society from the commencement it is necessary to go back a period of forty years, for it was in 1847 that it held its first show and began to exercise its influence on cultivators. Like many other great undertakings, it had a very small beginning, for the records show that the first exhibition was held in a room of the "Rochester Castle," a hostelry well known to chrysanthemum growers of the old school, and consisted of three stands of blooms, twelve each, which were grown by Mr. William Holmes, Mr. Robert James, and Mr. Tant. In a sketch of the history of the chrysanthemum which appeared in the GARDENERS' MAGAZINE of August 26, 1871, the origin of the society is thus described.

"Picture if you can one of our old wayside hostelries, and call it the 'Rochester Castle.' Go back five-and-twenty years and picture the low-roofed parlour wherein every evening a number of the better class of tradesmen and small gentlemen of the village enveloped themselves and each other in clouds of tobacco smoke, and while stirring their toddy, discussed the politics of the day and the latest scandal of the district, and the personal predilections of the most prominent members of 'the parlour.' There you shall see a big, handsome man, of generous, rosy face, and the complexion and expression of a true Anglo-Saxon; or, if not that, at least as fine a typical Englishman as a searcher after ethnological types could desire. This is Robert James, the landlord of the 'Rochester,' a first-rate host, an enthusiastic and able florist, a man of broad sympathies and healthy tastes. The chrysanthemum has become a pet of his, and he has formed a collection of some five-and-twenty sorts. The talk of the parlour turns upon floriculture, quite according to custom, and an exhibition of chrysanthemums is determined on, and Robert James takes the lead as treasurer and advocate; and of all the workers in the movement best of all lays claim, by his activities, to be for ever after known as the father of the first chrysanthemum society. Thenceforward for full ten years Stoke Newington stands almost alone in its public vindication of the flower, and the annual exhibitions of the society create a local stir, and exercise a little beyond, through the reports that appear in the public prints."

At the original meeting when the society was formed, there were present: Messrs. James, Holmes, Argent, Tant, Merry, Hayes and Nichols, the last-mentioned being appointed secretary, a post which he held until 1851. In the following year the exhibition was held in the bowling alley of the "Rochester Castle," when cut flowers were contributed in larger numbers than in the previous year, and specimen plants were shown. It must be understood that up to the commencement of the competitive gatherings of the "Stoke Newington Florists' Society for the Cultivation and Exhibition of the Chrysanthemum" there had not been a single variety grown for exhibition, and, therefore, there was no standard or style of merit established. Every man had his own notion of the right way, or had no notion at all, and would be content to let things drift. For the most part they did drift, and a very pretty show was the result. The second exhibition was remarkable as being the first at which

specimen plants were presented to public notice, and it may be mentioned as a point of some interest that Mr. West of the Walnut Tree Nursery presented a finely-flowered example of the richly-coloured Annie Salter. Cut blooms were contributed by the late Mr. William Holmes, father of the present hon. secretary of the National Society, and Messrs. Argent, Merry, Tant, and other cultivators of the chrysanthemum in the district. This exhibition was so far successful that it became evident to the members of the executive that more space would be required in subsequent years for the shows than could be found in the "Rochester Castle" or its grounds. Therefore, for the exhibition in 1849 the Manor Rooms, Stoke Newington, were secured, and the results fully justified the steps taken, for there was a large display of both plants and cut flowers and a good attendance of visitors. A fairly good style, both for plants and cut flowers, had by this time become established, growers were rapidly increasing in number and advancing in skill, and the public were interested in the promise of what had thus far been accomplished. The third show is remarkable also as being the first at which the anemone pompons were exhibited, the late Mr. George Taylor, one of the most successful cultivators in Stoke Newington, presenting a beautiful stand of flowers.

The work of the society at this time was not limited exclusively to its annual exhibitions. Meetings for chrysanthemum discussions were held, and on March 28, 1850, Mr. W. Holmes read a paper on the cultivation of the chrysanthemum, which was the first essay written on the subject. It is interesting to note that but few of the flowers are now in cultivation that Mr. Holmes recommended as the best in their respective colours. The varieties enumerated as the best in the year in which the essay was read, comprise Defiance, Goliath, General Moreau, Campestroni, King d'Or, Pilot, Perfection, Beauty, Aristides, Queen of the Belgians, Queen Victoria, Vesta, Lady Cameron, Phidias, Princess Marie, Queen of England, Imperial, Superb, Clustered Yellow, and Two-coloured Incurved. Other varieties that were regarded with much favour at that time were Aimée Ferière, a small flower remarkable for its exquisite colouring, Annie Salter, and Temple of Solomon, a handsome reflexed flower which was represented by excellent blooms at the recent exhibition at Lincoln, and it was presented at one of the meetings of the Floral Committee of the N.C.S. of the current season.

The exhibitions continued for several years to be held in the Manor Rooms, a wretched barn-like structure ill-adapted for the purpose, and were highly successful, and regarded with much interest by cultivators throughout the country, the show held in 1850 was a very great advance upon those held in the three previous years as proved by the fact that in the class for twenty-four blooms there were eight competitors; in the class for twelve blooms twelve competitors, and in that for six blooms the competition was so keen, that no less than nine prizes were awarded. In 1851 there was a change in the officers, Mr. John Edwards becoming president, and Mr. E. Sanderson, the present president of the National, taking the post of secretary, the duties of which office he performed with singular advantage to the society. Meetings for discussion were held at intervals, and on February 27, 1851, Mr. George Taylor read an essay which attracted much attention at the time, and formed the basis of his book on the cultivation of the chrysanthemum, the first work of its kind published. The exhibition of this year was also a great success, for, in a report of the show, the founders of the Stoke Newington Chrysanthemum Society are described as having "arrived at the very summit of perpetual fame by the productions of last Thursday submitted for the gratification of an immense assemblage." It is further reported that "Plants, cut blooms, company, and general arrangements vied with each other for the mastery of excellence, and a perfect whole was the result." The sum of £40 was taken at the doors, and amongst the names of the successful exhibitors we find that of Mr. E. Sanderson, whose hand we rejoice to say has not lost its cunning in handling the flower.

During the next seven years the history of the society is comparatively uneventful. It continued to increase in numbers and to hold exhibitions of great excellence until 1858, when a disruption took place, and the society was split into two parts. One section of the divided body went to the "Rochester Castle," with Mr. Sanderson as chairman, and Mr. Wortley as secretary, and the other made its headquarters at the Manor Rooms, with Mr. John Edwards and Mr. Howe as president and secretary respectively. Two years after the division in the camp Mr. John Edwards died, and Mr. Shirley Hibberd was elected president of the old society in his place. In 1862 the schism at Stoke Newington came to an end, and, as the result, there was, thenceforward, as previous to 1858, but one society, and the meetings were held at the "Rochester Castle" as heretofore. The last of the exhibitions at the Manor Rooms was in 1863, and this, although fairly successful, was not equal to some of those held in previous years, and it became evident that the shows wanted expanding, as they had ceased to be a surprise, and other shows were being held in other parts of the metropolis. In 1864 the show was held in the Kingsland Tabernacle, which was not much better than the Manor Rooms, and the following year the schoolroom at West Hackney was secured for the purpose of the show, and a very poor affair it was. In the two following years the exhibition was held in the British Schools, near the Abney Park Cemetery, but these did but little to enhance the prestige of the society or improve its financial position.

Two exhibitions were held in 1868, one at the Luxembourg Hall, Dalston, and the other in the New Assembly Rooms, Defoe Road, Stoke Newington, and the exhibitors who took a prominent part in the first were conspicuous also at the second. From 1869 to 1873 the exhibitions were held in the Assembly Rooms, with varying degrees of success, but on the whole the financial results were by no means satisfactory. In 1873 Mr. Howe retired from the post of secretary, and his place was filled by Mr. Rainbow, and in the year following it was decided to alter the name to the Borough of Hackney Chrysanthemum Society, and hold the shows in the Hackney Town Hall. These steps were taken, and in 1874 and the two following years the shows were held at Hackney. They were attended with a fair measure of success, but not sufficient to satisfy the executive, and it was decided to break new ground by going to the Royal Aquarium, Westminster. On this resolution being carried out it was determined by some of the old members resident in Stoke Newington to form a new society, and again hold exhibitions in the district, and the society now known as the Stoke Newington and Highbury Chrysanthemum Society is the result.

MR WILLIAM HOLMES,
First Honorary Secretary of the National Chrysanthemum Society.

The first exhibition at the Royal Aquarium was held in 1877, in which year Mr. William Holmes became honorary secretary. It is interesting to note that at this time the members numbered 52, and the amount disbursed in prizes was proportionately small. From this time there was a very rapid increase in the number of members, for in 1883 there were 200 on the books. Concurrently with the increase in the number of members there was an expansion of the operations of the society, the classes in the schedule being materially increased and the prizes greatly augmented. The society had, indeed, attained to so high a position at the end of 1883, that at the annual meeting, held in January, 1884, it was decided to change the name to one more in accordance with the character of its work, and designate it the National Chrysanthemum Society. At the same time it was decided to appoint a committee to which novelties might be submitted. That the steps then taken have been approved by those who are interested in the chrysanthemum has been proved by the large accession of members during the past two years—the number being now 399, and the great interest taken in its exhibitions.

CHRYSANTHEMUM CULTURE UNDER DIFFICULTIES.

I was delighted to read in the Gardeners' Magazine Mr. Gordon's description of the very fine chrysanthemums which were grown and exhibited so successfully at Lincoln by Mr. Brailsford; and grown under difficulties. Further description in the Gardeners' Magazine of Mr. Brailsford's platform and glasshouse would be most acceptable to many amateurs who labour under the same difficulties and are fond of flowers.

W. C.

TERCENTENARY OF THE POTATO.

ST. STEPHEN'S HALL, WESTMINSTER, DECEMBER 1 TO 4.

THE exhibition held in connection with the tercentenary having been reported by us last week, it remains to say something of other features. In the year 1585 Drake started on his great expedition against South America, and took St. Jago, Carthagena, St. Domingo, and St. Augustin. In the year 1584 Raleigh obtained a patent for colonizing Virginia. In the year 1588 Harriott, the mathematician, who accompanied Raleigh to Virginia, published his account of the expedition, and mentioned the potato as the openauk. Thus various considerations suggest that we may with propriety at the present time celebrate the 300th year of the cultivation of the potato in this country. It must be said, however, that the celebration would be equally appropriate (chronologically considered) next year and the year after, as in this; and, therefore, should any further action be taken, the designation "tercentenary" might be retained for a few years at least, if thought likely to be useful to fix the idea in the public mind.

BOOKS.—Considering that this thing was got up in haste and almost in secret, the general result was more satisfactory every way than might have been expected. The display of maps, diagrams, books, and botanical specimens was of the most interesting kind, but unfortunately the few on whom fell the burden of the work, and who were, perhaps, the most deeply interested in the subject had but little time left for the investigation of the curiosities. The leading books representative of botany and horticulture in the age when real science began to dawn on mankind were shown in considerable numbers, and consequently one could compare copies of such well-known works as those of Dodonœus, Matthiolus, Clusius, Parkinson, and others. But there were rarities on view, and quite a collection of gems, in the shape of literary trifles, prints, and original pictures illustrative of the age of Elizabeth, many of them having no special bearing on the potato question, although possibly useful to the student for side lights. Indeed, this was somewhat of a Drake, Raleigh, and Hawkins show, with the Spanish Armada in the midst thereof, and a quite unique little portrait of Queen Elizabeth, that one accepted as contemporary, not knowing anything of its history, but hoping much to see it again with the aid of leisure to see it properly. Particularly interesting were: Garcilasso's "Comentaries Reales" (Lisbon, 1604) and a number of dictionaries of the native Andean languages in which the name for the potato occurs—Gerard's "Herbal" (1597), Johnson's edition of Gerard (1633), Parkinson's "Theatre" and "Paradise" (1640 and 1629 respectively), Dodonœus's "Pemptades" and "Stirpium" (1583 and 1554 respectively), Clusius's "Rariorum Plantarum" (1601), "Matthiolus" (1598), and "Προδρομος" (1620), "Hortus Eystettensis" (1630), L'Obel's "Stirpium Adversaria Nova" (1570), "Plantarum Historia" (1576), and "Kreudboeck" (1581), Acosta's "Historia Naturaly Moral de los Indios" (1590), Cieza de Leon's "Chronica de Peru" (1553 and 1554), and Hakluyt's collections in the blackletter and subsequent editions. The hand-painted figures of Solanum tuberosum and S. maglia from Peru, Mexico, and Chili, supplied by Mr. J. G. Baker, F.R.S., of Kew, were not the least attractive amongst the many good things presented.

IRISH POTATOES.—The special exhibition from the residence of Sir Walter Raleigh was described in a note in our last issue. It should here be said that the potatoes from Raleigh's garden, presented by Mr. M. J. Buckley, of Savoy House, London, were fair samples of the growth of the past season, as also of the average growth and quality of the potatoes that form so important a part of the dietary of the Irish peasantry. These potatoes must be held to justify all the abuse wherein William Cobbett expressed his detestation of "Ireland's lazy root." They are poor in size, inconceivably ugly, scabby, dirty, diseased, and ill smelling. We much regret we did not have a few cooked in Mr. Bower's admirable apparatus, for if they are eatable by Englishmen under any circumstances, good cooking might enable one, at least, to taste them. When travelling in Ireland we get better things than these; it may be that the hideous truth is carefully concealed from strangers. The specific gravity of these tubers is so low as to indicate that they contain but little else than water, and, therefore, must become diseased on the slightest provocation by bad weather. Men who subsist on such food cannot be exemplary citizens, for they have no stake in the world whatever.

There was a muddle in the organization of the conference, but the elements fell together at times, and excellent addresses were made to the very small audience collected. On Thursday, the first, and one of the best of the papers was that by Mr. W. S. Mitchell, M.A., Mr. William Carruthers, F.R.S., being then in the chair.

WHENCE CAME THE POTATO?—Mr. W. S. Mitchell, M.A., read the first paper on "The Historic Consideration of the Question—Whence Came the Potato to England?" He said that, having already published the details of his researches on this matter, he would allude to a few of the important particulars requiring discussion. It was his own opinion that future generations would regard these conferences not so much as a celebration of the past, as approximately marking the commencement of a new era in potato culture. The studies made by Mr. Baker with regard to the wild species of potatoes in connection with the suggestion of cross-breeding, selection, hybridization, and grafting were all new; and an important question in relation to those subjects was whether the species that we had been cultivating for three hundred years was distinct from the South American. According to history our potato was a Virginian importation, but he thought it impossible that this could be correct. His task had been to go through the history of the period so as to see where the mistakes had arisen. History had misled botanists, and it would be useful at this tercentenary occasion for us to thoroughly wipe out the historic troubles arising through the carelessness of previous writers, so that future workers might have their path cleared for them. Mr. Mitchell then gave the reasons which induced him to believe that the potato had been introduced into England by Sir Francis Drake in 1586. He believed that Drake had originally obtained the tuber from South America, either by purchase or plunder, and had conveyed it to England at the conclusion of the voyage in which he relieved Raleigh's Virginian colony. The potato thus being brought in Drake's ships, but with Raleigh's colonists, would reconcile the contradictory traditions which ascribed the introduction of the potato to both Raleigh and Drake.

The Chairman said that although he had already been over this ground with Mr. Mitchell, he was not altogether satisfied with his explanation. He thought it probable that the potato might have reached Virginia even in those early times as an article of food. The question of the native locality of the potato was a very doubtful one. We had not yet obtained that absolute certainty about the wild plant which really represented the Solanum tuberosum. If the potato had in old days been valued as highly as it is now, there is no reason why it should not have been scattered over the new world before the arrival of Columbus.

A paper by Mr. W. Herries Pollock, M.A., on Drake's Expedition of 1586 was then read by Sir Richard Pollock. The paper gave an account of Drake's voyage of 1586, of the places touched at, and the enterprises carried out.

CULTIVATION IN PERU.—Mr. Clements R. Markham, C.B., F.R.S., of cinchona fame, then read a paper upon "Potato Cultivation by the Incas and other Andean nations." He said that the original home of the potato was in the Cordilleras of the Andes in South America. There it had been cultivated from time immemorial over an extent of 3,000 miles. When the Spaniards first arrived the potato was a domesticated plant in the kingdom of the Chibchas, in the province of Quito, throughout the empire of the Incas of Peru, and in Chili. This fact of its immemorial cultivation rendered it difficult to ascertain with certainty the localities where the potato was indigenous. It was most probable on the whole that the potato originally grew wild in suitable localities throughout the Cordilleras of Peru and Chili. A description of the physical geography of these districts, and of the system of government under which its inhabitants lived, then followed. Mr. Markham observed that the government was practically a theocratic socialism which secured an almost complete absence of distress and pauperism among the people, and under which the potato became a cultivated plant. The potato was unknown further north than the highlands of Bogota in Columbia; and it was there that one of the three American civilizations had its root, viz., that called by the Spanish conquerors the Mysca nation. Its people spoke a language called Chibcha, which is now extinct. But vocabularies have been preserved, and they revealed the fact that the ancient people of Bogota cultivated the potato extensively, and had produced several varieties.

THE WILD POTATO.—Mr. J. G. Baker, F.R.S. (Kew), read a paper upon "The Wild Germs of Tuberous Solanums." He said that the well-marked, thoroughly distinct species of tuber-bearing solanums were five in number, and were all natives of America. These five were the Solanum tuberosum (including numerous sub-species and varieties), the Solanum Commersoni, the Solanum cardiophyllum, the Solanum Jamesii, and the Solanum oxycarpum. The potato of cultivation originated from the first-named species. The tuberosum in one form or another extended down the western side of the American continent from the Rocky Mountains, in latitude 30 deg. north, to the Chonos Archipelago, off the coast of Patagonia, in latitude 45 deg. south. Within this area were found no less than 16 forms, so far different from one another that they had been named by some botanical writers as distinct species. They were not so, however, in any comprehensive sense. The tuberosum was, therefore, one of those polymorphic vegetable types, of which we have very similar examples in the old world in the genus Rubus, the raspberry, the cloudberry, and the saxatilis. The extreme forms looked very different from one another when they were placed side by side, but in the whole series there was to be found no very decided gap of character. Though the potato had been cultivated in Europe for 300 years, we knew very little that was trustworthy about the deterioration that might be produced in the distinguishing characters by changes of climate and soil. He wished that some one would undertake to monograph the tuberous solanums in the same thorough way that Mr. George Maw had just monographed the crocuses. We did not at present even know clearly whether S. tuberosum, the commonly cultivated esculent, was really an original type or a form produced by man's agency, and in investigating the relations to it of the other 15 tuberous forms there was scope for the labour of a lifetime. He would add that Mr. Markham's paper was of exceptional value and interest, and if nothing more came from the conferences, a new era in the history of the potato had been inaugurated by Mr. Markham's contribution. It contained an enormous flood of information, which would put the botanical and historical bearing of the question in an entirely new light. Botanists had not had the least idea of the large extent to which it appeared the potato was cultivated at the very early period Mr. Markham has mentioned.

POTATO DISEASE.—Mr. G. Murray, F.L.S., of the British Museum, read a paper on "The Potato Disease," his remarks being illustrated by a number of diagrams of the fungus in its various stages. He said that the history of the disease was a recent one as compared with the history of the potato itself, notice having been first called to it in 1845, when it was probably brought to this country from Belgium. After describing the nature of the fungus, Mr. Murray said that he had satisfied himself that the disease was propagated by the spores being distributed by the wind. A number of glass slides, such as are used with a microscope, having been covered with glycerine and placed on the lee side of a field of infected potatoes, when a slight breeze was blowing, it was found that after an exposure of a few hours the slides each contained a number of these spores. From continuous microscopic investigation it had been seen that the complete fungus was produced in three hours; and this fact accounted for the sudden and disastrous spread of the disease. No system of earthing up the potatoes could, he believed, be efficacious in checking the disease, neither could confidence be placed in any legislative enactments regulating the planting of potatoes.

Earl Cathcart said it would be interesting to know whether the potato disease were an effect or a cause. With regard to the degeneracy of the potato, he might mention that it was a fact that no supposed disease-resisting potato had ever existed for more than about 20 years. That, in itself, he

considered to be an argument in favour of the theory that plants are liable to degenerate when over-cultivated.

Mr. Henry Leveque de Vilmorin (of the French National Society of Agriculture) then read a paper upon "The Introduction of the Potato into France."

On Friday, at the morning sitting, Mr. W. S. Mitchell presided for a time, but, having to leave, his place was taken by Dr. Maxwell T. Masters, F.R.S.

Production of Varieties.—Dr. Maxwell Masters, F.R.S., read the first paper upon "The Production of Varieties by Cultivation." He said that the question for discussion was whether the modes which we now adopted for the purpose of obtaining new varieties was sufficient to insure the attainment of the object worked for. On the whole, he did not think they were, and he would take the opportunity of drawing attention to the extreme vagueness that attended all the efforts at the present time to raise new varieties of the potato. A wider knowledge and a greater precision in scientific method were much wanted. The practical men were rather apt to depreciate the value of scientific inquiries, but he believed that a little more information upon the object aimed at and the best way of attaining it would be very beneficial. The most general method of producing varieties was that of selection; but he was of opinion that nothing useful could be derived from this method. Another process was that of cross breeding, or producing new varieties by the application of the pollen of one variety to the stigma of another. This method had been practised for many years. The third method was that of hybridization proper, or the crossing of two reputedly distinct species. This process had not been much attended to in England until it was taken up by Messrs. Sutton at Reading. There was yet another mode by which new varieties might be obtained—namely, grafting. Very many potato cultivators absolutely denied the possibility of anything like grafting, but he believed it to be a practical and realizable idea. He had himself obtained intermediate forms by the process, and he had seen remarkable results obtained by grafting the potato on to the tomato and other species. These were all the methods at present practised for gaining new varieties of the potato; there might be more, but he did not think it probable. What he would wish to emphasise was that all these modes, except that practised by Messrs. Sutton, were merely ringing the changes on the old varieties over and over again. If any really important result were to be obtained in the future in point of greater adaptability to our climate, power of resisting disease, or general robustness, we should have to infuse a new strain into our varieties, and the only way to do this was by hybridization of species. It was not necessary to confine the experiments to tuberous solanums only, but other hardy species of the solanum might be put under requisition. The process, however, would be very long and tedious, and it would hardly be within the power of private individuals to undertake the experiments, which would require quite twenty years of constant attention.

The Chairman referred to the want of scientific knowledge associated with what was called practical knowledge, illustrating his remarks by pointing out that when Lord Cathcart offered a prize for an essay on the potato disease, out of the ninety-four competing papers sent in not one was considered to evince sufficient knowledge of the subject to deserve the prize.

Mr. Alexander Dean said that at the time when the prize was offered for an essay on the potato disease scientific men themselves hardly understood the subject. With regard to the process of selection for producing new varieties, he could say, as a person who had had much experience in the matter, that the only result to be obtained was a slightly better stock for a year or two, which, however, would soon degenerate. The only real means by which distinct varieties had been introduced was by cross-breeding; and by this means from the simple Solanum tuberosum, a thousand distinct varieties had been obtained. They had also produced many varieties entitled to be called disease-resisting, and had put themselves in the position to say that potatoes were never better or cheaper than at present.

Mr. Arthur Sutton (Reading) said that he did not wish to claim any of the credit for having originated the experiments referred to by Dr. Maxwell Masters. The idea had emanated from Lord Cathcart, and he believed that in its execution they had a pleasing example of the union of scientific and practical knowledge. He had never known any new variety to be originated by selection, and he believed such a thing to be impossible.

Mr. William Earley said that, while he did not assert the possibility of obtaining new varieties by the process of selection, the fact was not to be overlooked that by continually choosing the best specimens of a variety a better standard of excellence was maintained.

Mr. Charles Ap Thomas said that he had resided for 25 years in Chili and Peru, and was conversant with the edible plants there. There were three varieties of the potato, one of them, the yellow potato, being very suitable for introduction into England. Its name was given it on account of the colour of its flesh; and it was very similar to the Rector of Woodstock variety. It was indigenous to the soil and had been found in the country by the Spaniards when they first arrived.

Papers were read by Mr. Richard Dean on "The Cultivation of the Potato," by Mr. Alexander Dean on "Raising new Varieties," and by Mr. Earley on "The Advantage of Early Lifting of the Crop as a Preventive of Disease."

At the evening sitting Mr. T. H. Bolton presided, the subject for consideration was the carriage of potatoes by land and water, and the rates of freight to which they were subject.

Rates of Transit of Potatoes.—The Chairman said it was generally admitted that the railways had hardly answered the requirements of the public either as to accommodation or cheapness of transit. In the last Parliament a measure had been introduced, on the responsibility of Mr. Gladstone's Government, to place the railway companies under greater supervision, and to require that they should more fully discharge the duties which had, under Parliamentary sanction, been intrusted to them. This measure was not then carried through, but its passing into law was only deferred, and the railway companies would have finally to submit to Parliamentary control. We had had very great reason to complain of the unfair preference that was practically given to foreign producers in connexion with the main trunk lines into the great cities. It was no use for the railways to plead that they could not afford to satisfy the demands of the public, for it could be seen from any returns that most of the chief lines were paying good dividends.

Mr. W. A. Hunter, M.P., then read a paper on the subject under discussion. He said that the subject of railway charges for the carrying of potatoes might be considered under the following heads: (1) Preferential charges in favour of foreign as against home grown potatoes; (2) Irregularities in the charges compared with the service rendered; (3) charges by railway companies exceeding the *maximum*; (4) excessive proportion of the charges to the value of the article; (5) suggestions for cheapening the rates of conveyance. With regard to the last consideration, could cheaper rates be obtained? It was first to be remembered that as it stood now the law could do nothing to help the potato grower. On the Brighton line the rate charged per ton per mile, exclusive of collection and delivery, varied between 4d. and 6d., while in America the Pennsylvania Railroad Company charged less than ½d. per ton per mile on the average of its whole goods traffic. This was lower than the English average for the coal traffic only. The secret of the low American rates was not in the unremunerative character of the work done, but in the mode of conducting railway business. What was required was a truck rate besides a tonnage rate. By such an arrangement the trader could have the option of sending by the present system or of having a truck and loading it as he pleased and with what he pleased up to the full carrying capacity of the waggon. At a rough guess he would say that an eight or ten ton truck ought to be charged about 6d. per mile for short distances (say under 40 miles), and a diminishing rate for long distances, so that for 200 miles it ought not to exceed 4d. per mile. It might be said that though this system would be beneficial to the large trader it would not be so to the small trader. Indirectly it would, however, for the moment a fair truck rate was established a class of carriers would spring up who would collect the traffic of small men and make their profit by sending full truck loads. Under the present system the independent carrier had been exterminated, and the railway companies had established a monopoly. If a truck rate were fixed the business would be made more profitable to the companies, and at the same time the railway monopoly would be smashed.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Camellias.—Extremes of temperature, moisture, or drought will cause the buds to fall; and it will be as well now to see that all camellias are really moist at the root, for sometimes after the soil becomes dry the water passes away on the outside of the ball without any benefit to the roots whatever. A dry heat is very injurious to camellias now.

Cinerarias should be coming on nicely now to bloom. Those selected for the first bloom to be near the glass and in a warm place; those to be grown on must have a shift, and be kept as cool as possible. Green fly must be kept down, and the cineraria grower has enough to do generally in this business. Plenty of air will be required by all alike, and regular supplies of water.

Conservatory.—It is undoubtedly desirable to keep the conservatory gay, yet climbers and other permanent occupants must not be forced into growth prematurely. Heat enough must be maintained to prevent mildew and to allow of giving air freely; but the cultivator must endeavour to hit the golden maxim of keeping things safe and in order without pushing anything into growth before its time. If mildew occurs on valuable subjects, apply sulphur directly, but any nearly worn-out subjects that are becoming mouldy had better be got rid of altogether. Be very cautious in giving water; give enough, and not a drop to spare. A good time for a general watering is on those bright mornings when a west wind blows, and it seems as if spring had suddenly set in. Another time when watering must be generally attended to is when fires are going to keep out frost, for then it is that plants are likely to be dried up and irreparably injured.

Heaths, in common with other hard-wooded plants, require for this season of the year a little extra care to protect them from injury by damp, undue fire-heat, and frost. It is a practice with many to nurse them too much, for they love air and light, and have little liking for artificial heat. They should now all be comfortably housed, and in such a way that they may have free ventilation. Watering must be performed with caution; always endeavour to give them rain-water, and take great care that they do not flag too much. On the other hand, never let them be sodden. The best time to water is early in the day, so that the damp will dry up before closing the house. If this is not attended to, mildew will appear, which is a very destructive agent, and must be checked by dusting with sulphur the parts affected. This is often produced by placing the plants too closely together, thus preventing a proper circulation of air through and between them. Care must be taken in giving air that they do not have too much when they are likely to catch easterly winds. At such times give it on the opposite side, if a span-roof house.

Greenhouse to have as little fire-heat as will be safe, and to be kept as dry as possible. On the occasion of a sudden frost there is a tendency to get up a brisk heat at night, and much harm is done by running the temperature up to 60 deg. or more and then leaving the fire to go out, so that by the morning they are exposed to a temperature of 35 deg. or less. The amateur must endeavour to avoid such extremes. By a little watchfulness it may generally be known when frost is to be expected; the fire should then be lighted early in the day, and allowed to go very low at night, and be banked up the last thing, so as to burn slowly until morning.

FLOWER GARDEN AND PLEASURE GROUNDS.

Flower-sticks are important items of garden furniture, and this quiet season may be well spent under cover in preparing a plentiful supply for next season. For ordinary purposes the best flower-sticks are made by splitting what are known as four-foot double selected laths, which the bricklayer or lathrender will supply. These should be split and cut to proper lengths, the edges rounded off, and the ends pointed, and then the whole should have two coats of paint. They will last longer if the pointed ends are dipped in hot pitch, which prevents their rotting in the soil. Flower-sticks of this sort are generally painted green, but they should be separated into two or three lots in sizes, and be painted two or three different colours, such as reddish brown, green, and dark umber. These three colours will match nearly all the various kinds of stems of plants which the sticks may be used to support. The strong shoots of fuchsias that have been cut down in the open ground make excellent flower-sticks, and need no painting, because of their natural colour; the hardy fuchsias make first-rate flower-sticks, and the common snowberry may be cut down for the same purpose—the stout rods trimmed for sticks, and the light ones put aside for use as pegs, for which purpose they are very tough and trustworthy.

FRUIT GARDEN AND ORCHARD.

Bush Fruits to be propagated by cuttings of ripe stout shoots of last year. The buds should be removed from the bottom of the cutting to within four

inches of the top, so as to form a clear stem and prevent suckers. Lay on a thick coating of half-rotten dung between gooseberry and currant bushes, and in dry weather prick it in with a fork, so as to avoid injury to the roots. Raspberries to have a heavy mulch, which is not to be pricked in; any disturbance of their roots is a great injury. Good crops of currants may be obtained from standards, which are easily grown, and have a very handsome appearance when loaded with fruit.

FRUIT TREES to be planted with all speed; if delayed much longer the next year's crop may be lost. Always trim away by a clean cut all bruised and jagged portions of the roots; place the original collar at the level of the soil, so that the tree is no deeper than it was before, and fill in with soil in a friable condition. No tree will prosper if the roots are puddled in with wet pasty earth.

YOUNG FRUIT TREES ON WALLS, especially pears and plums, and not unfrequently peaches and nectarines, after being planted two or three years, become so vigorous that their wood more resembles willows grown for basket-making than the firm and short-jointed wood we look upon as the precursor of a plentiful supply of fruit. Then to depend on the pruning-knife, as usually applied to the branches of such trees for subduing their unruly luxuriance, is a fallacy; for whilst their roots riot in the full enjoyment of a fresh-made border without check or hindrance, so long will they continue to renew their gross and unfruitful growths, as they penetrate deeper year after year, getting further from the influence of the sun and air. The proper course of procedure is to apply the knife to the root in conjunction with the spade and digging fork, carefully removing the soil from the roots, lifting one by one all the fibrous roots towards the surface, and those that take a decided downward direction into the subsoil raise up if possible, and place them horizontally, or, if that cannot be done, cut them entirely through. If, however, the trees be not too large—say, not more than four years planted—they will often be benefited by being entirely lifted, placing them again in the hole after the bottom is levelled; but if the soil is stiff or wet fill up the hole, mixing a portion of porous soil or charred refuse during the process, and then place the tree on the surface, raising a small hillock of soil over the roots, and upon that place a mulching of litter, in order to protect them from winter's cold and summer's heat.

KITCHEN GARDEN AND FRAME GROUND.

KITCHEN GARDEN work now comprises the digging, trenching, and ridging up of vacant quarters, according to the character of the soil and the crops that are to be grown. By proceeding with this work now the soil will undergo a thorough pulverization from the action of the weather. Potatoes in clamps and in outhouses should be made safe from frost by the application of additional coverings where necessary.

MUSHROOM BEDS should be kept covered during bad weather with dry straw, and over that reed or straw hurdles, to throw off the wet and prevent entrance of frost. During mild bright days take off all the coverings, expose the beds to the air, and cover up again with fresh dry straw. This management will keep the beds in bearing and without deterioration of the produce. Mushrooms frequently fail at this time of year owing to the cooling down of the beds. It is impossible to maintain them in a bearing state at a temperature below 60 deg., and an additional 10 deg. is an advantage. The safest order of procedure is to make up a fresh bed every month.

PLANTS OF THE ALPS.

By H. CORREVON, Director of the Jardin d'Acclimatation, Geneva.
Translated by R. IRWIN LYNCH, A.L.S., Curator of the Botanic Garden, Cambridge.
(*Continued from page 737.*)

GROSSULARIACEÆ.

Ribes alpinum, L. (granite).
,, *petræum*, Wulf. (lime-stone).

Two shrubs of the mountainous region, growing large by cultivation.

SAXIFRAGEÆ.

Saxifraga umbrosa, L.
,, *rotundifolia*, L.
,, *cuneifolia*, L.
,, *apennina*, Bertol. (Southern Tyrol).

These species love shade; the last prefer a light soil, and do not like excessive moisture; they are very hardy.

Saxifraga Hostii, Tausch. (Tyrol).
,, *aizoon*, L.
,, *gaudini*, Brügger.
,, *elatior*, M. and K. (Eastern Switz. and Tyrol).
,, *crustata*, Vest. (Tyrol; lime-stone).
,, *purpurata*, Gaud.
,, *cotyledon*, L.
,, *Portæ*, Stein (Tyrol).
,, *brevifolia*, Sternb.
,, *carinthiaca*, Schott and Kotschy. (S. Aizoon, Jacq.)
,, *elongata*, Engl. (Eastern Switz.)
,, *lantoscana*, B. and R. (Eastern Alps).
,, *lingulata*, Bell. (Dauphiné Alps).

All these species, belonging to the group Aizoon, are extremely easy to cultivate. With exposure to sun, a stony soil of slight depth, and little moisture they always succeed. They sow themselves abundantly on the rockery, where they sometimes produce hybrids. This happened in the Botanic Garden, where I observed an intermediate form between *S. Cotyledon* and *S. Aizoon*. The Alpine Garden of Acclimatization received from Dr. Regel, seeds of many varieties and forms of *Saxifraga Aizoon*. All have grown, and are on their way to prosperity.

Saxifraga florulenta, Moret.

This very pretty and rare species is met with in the Maritime Alps, in the neighbourhood of Nice. Its culture is difficult. It would be necessary to try it while yet quite young, planted in walls and on the perpendicular position, which it naturally adopts in a wild state. I have never succeeded with it.

Saxifraga diapensioides Bell (Valais and Tyrol).
,, *cæsia*, L. (lime-stone).
,, *squarrosa*, L. (Tyrol).
,, *patens* Gaud.
,, *Burseriana*, L. (Tyrol).
,, *Vandellii*, Sternb. (Eastern Switz. and Tyrol).
,, *Tombeanensis*, Boiss. (Southern Tyrol).
,, *cæsia* (diapensioides var.) *squarrosa* (Tyrol).

All these are rock species, and require dryness. It is well to plant them on slopes between two stones or in the crevices of walls.

Saxifraga arachnoidea, Sternb. (Southern Tyrol).
,, *cernua*, L.
,, *hieracifolia*, W. and K. (Tyrol).

These plants are rather difficult to flower in cultivation. I have succeeded with them in a mixture of turf, sphagnum, and grit. (See "Special Treatment.")

Saxifraga controversa, Sternbg. (S. adscendens, L.)
,, *petræa*, L. (Southern Tyrol).

Require an exposure to the sun, and a soil rich in humus; the first does not succeed on lime-stone, while the second requires it.

Saxifraga stellaris, L.
,, *hispidula*, Roch.
,, *glabrata*, Sternb.
,, *Engleri*, D.C. (Tyrol).
,, *aphylla*, Sternb.
,, *pedemontana*, All. (Mont. Rosa).
,, *acaulis*, Gaud. (High Alps) (moschata var. compacta, Koch.)
,, *muscoides*, Wulf.
,, *laxa*, Sternb.
,, *atropurpurea*, Sternb. (moschata var. atropurpurea).
,, *crocea*, Gaud. (moschata var. crocea).
,, *maculata*, Reich.
,, *pygmæa*, Haw. (Tyrol) (moschata var. pygmæa).
,, *Facchinii*, Koch. (Tyrol) (muscoides var. Facchinii).
,, *androsacea*, L.
,, *scoloides*, L. (Tyrol; lime-stone).
,, *aizoides*, L.
,, *atrorubens*, Bertol. (Tyrol) (aizoides var.).
,, *tenella*, Wulf. (East Alps).
,, *aspera*, L.
,, *bryoides*, L.
,, *intermedia*, Heg. (aspera var.).
,, *mutata*, L.
,, *Seguieri*, Sprgl.

These various species love a turfy, moist, and spongy soil, with an exposure to the sun. The turf is replaced, when not at hand, by a one-third proportion of sphagnum. It is necessary, however, to drain the niches well, in order that the moisture may not produce algas and mosses. *S. mutata* requires to be planted on a slope in clayey soil.

Saxifraga Allionii, Gaud. (moschata, Wulf. forma robusta).
,, *exarata*, Will. (Tyrol and East. Switz).

These two plants are mossy Saxifragas, which quickly carpet the rocks, which they ornament very prettily.

Saxifraga hypnoides. (West Alps and Cevennes).

Requires no special culture.

Saxifraga retusa, Gouan.
,, *Rudolphiana*, Horns. (Tyrol) (oppositifolia var.).
,, *oppositifolia*, L.
,, *Hegetschweilerii*, Brügg. (Tyrol).
,, *biflora*, All.

The five different saxifragas belong to the upper and glacial zone. They flourish very well in cultivation, but require a well-drained, dry soil, of little depth, and an exposure to the north or the east.

Zahlbrucknera paradoxa, Reich.
Chrysosplenium alternifolium, L.
,, *oppositifolium*, L.

Three plants of the lower and mountainous region; they love moisture and shade.

UMBELLIFERÆ.

Hacquetia (Dondia) *Epipactis*, D.C. (Carinthia).

Sun, rich soil.

Astrantia bavarica, F. Sch.
,, *carniolica*, Wulf.
,, *major*, L.
,, *carinthiaca*, Hoppe.

Deep rich soil and exposure to the sun.

Astrantia minor, L. (granite).

Spongy, turfy soil, and shaded position.

Eryngium alpinum, L.

Succeeds admirably in the ordinary soil of the garden; it requires rich and deep ground, and a slightly-shaded position.

Bupleurum stellatum, L.
,, *petræum*, L. (Southern Tyrol).
,, *ranunculoides*, L.
Libanotis athamantoides, D.C.
,, *montana*, Crntz.
,, *gracilis*, Rchb. (Southern Tyrol).
Athamanta cretensis, L. (lime-stone).
,, *Matthioli*, Wulf. (Southern Alps).
Meum athamanticum, Jacq. (lime-stone).
,, *mutellina*, L.
Heracleum alpinum, L.
,, *montanum*, Schleich.
,, *pyrenaicum*, Lam. (Southern Alps).
,, *austriacum*, L. (Eastern Alps).

Sun, soil deep and rich. These plants have a fairly strong development, and should only appear on large rockeries or in the picturesque corners of the wild garden.

CAPRIFOLIACEÆ.

Sambucus racemosa, L.
Lonicera nigra, L.
,, *cærulea*, L.
,, *alpigena*, L.

Suitable shrubs for ornamenting large rockeries and rock masses of the wild garden.

Linnæa borealis, L.

See "special treatment."

"ANY DOCTOR WILL TELL YOU" there is no better Cough Medicine than KEATING'S LOZENGES. One gives relief; if you suffer from cough try them but once, they will cure, and they will not injure your health, they contain only the purest and simplest drugs, secretly and skilfully combined. Sold everywhere in 13½d. tins.—[ADVT.]

Exhibitions and Meetings.

ROYAL HORTICULTURAL SOCIETY, December 7.

Floral Committee.

Present: G. F. Wilson, Esq., in the chair; Dr. Masters, Major Lendy, Rev. W. Wilks, and Messrs. J. Laing, H. Bennett, T. Baines, R. Dean, H. Herbst, J. Walker, James Hudson, William Holmes, H. Cannell, G. Duffield, Charles Noble, H. Ballantine, W. B. Kellock, J. Dominy, H. M. Pollett, E. Hill, H. Turner, J. O'Brien, H. Low, J. Douglas, and G. Paul. The members who, as will be seen from the foregoing list of names, mustered in strong force, had a very light tax imposed upon their time and strength on this occasion, for the subjects submitted were few in number, and the majority were of comparatively little importance.

Several orchids were shown, chief amongst them being an example of Odontoglossum Alexandræ, bearing a large, splendidly-developed panicle of flowers, from Mr. Searing, gardener to C. J. Partington, Esq., Heaton House, Cheshunt, who was awarded a cultural commendation. Mr. Heimes, gardener to F. A. Philbrick, Esq., Oldfield, Bickley, submitted a beautiful white form of Lælia anceps, for which he was awarded a certificate of the first class. Mr. W. Bull, King's Road, Chelsea, exhibited a new and beautiful Lady's Slipper, from Cochin China, under the designation of Cypripedium callosum, which had the distinction of a first-class certificate conferred upon it. Mr. F. J. Paul, gardener to J. G. Browning, Esq., Forest Farm, Windsor Forest, exhibited a well-flowered specimen of Cypripedium intermedium, a handsome hybrid obtained from a cross effected between C. villosum and C. insigne. The flowers, as indicated by the name, are intermediate in character between the two parents, the labellum and petals resembling those of the flowers of C. villosum, whilst the dorsal sepal is similar to that of C. insigne.

From Messrs. H. Cannell and Sons, Swanley, came a collection of zonal pelargoniums, which presented a very brilliant appearance, and, as is customary, attracted a full share of attention. The varieties comprised Queen of the Belgians, a pure white variety of special value for flowering during the winter months; Hyacinth, deep rich scarlet; Mary Caswell, peach pink, a very pleasing shade of colour; Mr. Cannell, scarlet crimson, a superb variety, effective in colour and of high quality; Lady Reed, flesh colour with bright vermilion centre; Lord Chesterfield, rich magenta, a finely-formed and effectively-coloured variety; Kate Greenaway, bright pink; Cato, orange scarlet; Swanley Gem, soft red; Kentish Fire, brilliant crimson; Olivier, soft salmon, exquisitely beautiful, and Linette, rosy red, large and good. A vote of thanks was accorded the firm, who exhibited also flowers of several of their beautiful strains of primulas. Mr. J. King, Rowsham, Aylesbury, exhibited Calla æthiopica Chameleon, a variety obtained from seed, and differing from the type in having leaves remarkable for their rich metallic lustre. Mr. King submitted also two handsome fern-leaved primulas, named respectively Lord Wolseley and Jubilee, the first mentioned having bright crimson flowers, and the latter flowers of a bright rose carmine colour, with pure white margin. A vote of thanks was accorded Mr. King. Messrs. Hooper and Co., Covent Garden and Twickenham, contributed a large basket of tree or perpetual flowering carnations, all of which were well bloomed, the result being a highly effective display of colour. Especially conspicuous amongst the varieties was Irma, an excellent bright rose coloured flower. Mdlle. Carle, pure white, and Louise Chretien, white striped with red, are also well deserving of mention. Mr. Cowley, gardener to F. J. Tantz, Esq., Studley House, Hammersmith, exhibited three anthuriums, evidently seedlings from the now well known A. Andreanum, and was accorded a vote of thanks.

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, exhibited a beautiful group of miscellaneous plants, and a stand of twenty-four blooms of Chrysanthemum Mrs. H. J. Jones, a fine golden sport from Ethel, which, like the parent, is invaluable for decorative purposes in a cut state or otherwise at midwinter. The miscellaneous plants included the exquisitely beautiful Hoop Petticoat narciss, Narcissus monophyllus, which had a first-class certificate conferred upon it. The plants, which were in five inch pots, and admirably flowered, had been grown in a cold frame with sufficient protection to keep them safe from frost, the bulbs having been potted in August last. Mr. Ware had a large and well-flowered clump of Hellebrus niger maxima, one of the finest of the forms of the Christmas rose; and examples of Primula obconica and P. floribunda, both of which, with protection from frost, are practically perpetually flowering. Messrs. C. Smith and Son, Caledonian Nursery, Guernsey, exhibited blooms of Chrysanthemum Governor of Guernsey, a yellow Japanese variety, similar in character and colour to Peter the Great. Mr. Hans Neimann, Harborne Road, Birmingham, exhibited a variegated form of Poinsettia pulcherrima, the leaves of which are broadly margined with creamy white.

Fruit Committee.

Present: H. J. Veitch, Esq., in the chair; Dr. Hogg, and Messrs. J. Burnett, W. Warren, J. Woodbridge, G. T. Miles, S. Ford, J. Smith, T. B. Haywood, H. Weir, F. Mason, G. Norman, C. Ross, F. Rutland, W. Denning, R. D. Blackmore, W. Paul, G. Bunyard, and P. Crowley.

The most important of the contributions before the committee were the pineapples from Mr. T. Coomber, The Hendre, Monmouth, who received the compliment of a cultural commendation. The fruits comprised two large, well-ripened Smooth Cayennes and one Charlotte Rothschild, the last-mentioned weighing about 7 lbs. Mr. J. Harris, Singleton, Swansea, exhibited six fruits of the Queen pine, and was accorded a vote of thanks. Veitch's Standard Bearer celery, a red variety attaining a large size, and likely to prove especially valuable for exhibition and market culture, was represented by good examples from Mr. W. R. Strong, Wellington College, who was accorded a vote of thanks. Seedling apples were exhibited by Messrs. Caldwell and Sons, Knutsford, Mr. Stewart, Longford Park, Malden, and several other exhibitors, but no award was made.

Novelties.

First-class certificates were granted as under:

To Mr. Mizen, Mitcham, for

Chrysanthemum Mrs. Norman Davis.—A bright yellow sport from Princess of Teck, from which it differs only in the colour of the flowers. A valuable addition to the late flowering varieties.

To Mr. W. Bull, Chelsea, for

Cypripedium callosum.—A handsome species introduced from Cochin China. The foliage is comparatively large and richly marbled with dark green; the flower comparatively large, the labellum rich purple, the petals green suffused with purple, and marked along the upper edge with small marone bosses as in C. argus; the dorsal sepal of great breadth, and bright rose purple, with green base and pure white margin.

To Mr. Heimes, Bickley, for

Lælia anceps virginalis.—A very fine variety: the flowers which are of the purest white, are of exceptionally large size, and remarkable for their excellent form and substance.

To Mr. T. S. Ware, Tottenham, for

Narcissus monophyllus.—A well-known and beautiful species with grass-like leafage and creamy white flowers, which, with the protection of a cold frame, may be had in bloom at midwinter.

To Mr. G. Stevens, Putney, for

Chrysanthemum Carew Underwood.—A handsome form obtained as a sport from Baronne de Prailly, and differing from that variety in the flowers being of a rich bronzy rose colour.

Mr. J. Hans, 16, Mayola Road, Clapton, exhibited a new watering-pot, which was considered a great improvement on the watering-pots at present in use, and highly commended.

NATIONAL CHRYSANTHEMUM SOCIETY, December 8.

A meeting of the Floral Committee of the National Chrysanthemum Society was held at the Royal Aquarium, Westminster, on Wednesday. There were present: E. Sanderson, Esq., president, in the chair, and Messrs. William Holmes, R. Ballantine, R. Dean, E. Berry, C. Herrin, C. Gibson, J. Wright, G. Stevens, N. Davis, J. Mardlin, H. Cannell, T. Bevan, and George Gordon. Very few novelties were staged, but the meeting was one of the most interesting of the series, as Mr. C. Harman Payne exhibited a collection of coloured drawings of chrysanthemums collected from various sources, and representing about two hundred varieties new and old. The plates of the old kinds were especially interesting, and attracted much attention from both members of committee and visitors. There appeared to be a concurrence of opinion that Dr. Sharpe is perfectly distinct from the large-flowered kind first introduced to this country, and figured in the *Botanical Magazine*. There was also an equal concurrence of opinion as to the value of the services rendered by Mr. Payne in exhibiting so large and comprehensive a collection, and the silver medal of the society was unanimously awarded.

The under-mentioned are the most important of the novelties submitted:—

White Ceres.—A very fine Japanese variety, of immense value for the decoration of the conservatory and the supply of cut flowers late in the season. The flowers are like those of the type, large in size, full, and elegant in character, but they differ from them in colour, being pure white. First-class certificate. Exhibited by Mr. E. Beckett, who staged a stand of twelve finely-developed blooms.

Prince Leopold.—A distinct Japanese variety, with medium-sized, somewhat globular flowers, richly coloured bronze and golden yellow. Commended. Exhibited by Mr. E. Beckett.

Carew Underwood.—This handsome sport from Baronne de Prailly, which was certificated by N.C.S. early in the season, and by R.H.S. on Tuesday, was represented by well-grown blooms from Mr. E. Beckett and Mr. G. Stevens, Putney. The first-mentioned staged also excellent flowers of Baronne de Prailly.

Eugene Laujaulet.—A gathering of this excellent golden yellow anemone pompon was shown by Mr. E. Beckett.

King of Primroses.—A Japanese variety of American origin; the flowers rather small, globular, and of a buff-yellow colour; likely to prove useful for decorative purposes. Exhibited by Messrs. H. Cannell and Sons, Swanley.

Welcome.—A Japanese variety, raised in America, with medium-sized orange and brown flowers, which, like the last-mentioned, may be useful for decorations. Exhibited by Messrs. H. Cannell and Sons.

Mrs. H. J. Jones, a bright yellow sport from Ethel, which has been referred to on several occasions, was represented by a good box of blooms from Mr. T. S. Ware.

Ivan.—A distinct Japanese variety, with large, well-formed flowers of a bright rose-purple hue, the florets tipped creamy white. Exhibited by Mr. R. Owen, Maidenhead.

Citron.—A Japanese variety; the flowers of medium size, with reflexed petals, and of a bright citron-yellow colour. Exhibited by Mr. R. Owen.

Mr. Hobain.—A Japanese variety, with rather large flowers of a pleasing purplish-rose colour. Exhibited by Mr. R. Owen.

Governor of Guernsey.—A Japanese variety, with flowers similar in character and colour to Peter the Great. Exhibited by Messrs. Smith and Son, Guernsey.

Syringa.—A Japanese variety; the flowers large in size, distinct in colour, and of a pleasing pink hue, but somewhat thin. Exhibited by Mr. Bettesworth, gardener to R. Ewing, Esq., Burton Grange, Cheshunt.

Votes of thanks were unanimously accorded Mr. Sanderson, Mr. R. Ballantine, and Mr. W. Holmes for the services rendered at the several meetings held during the season.

The following is the index to the coloured illustrations exhibited by Mr. C. Harman Payne:—

1 to 9. Various species not of the Indian, Chinese, or Japanese types.

Particular attention is drawn to the following 17 plates of old varieties:—

23. Old Purple.—The first large-flowering Chinese chrysanthemum imported into Europe by Mons. Blanchard. Date, 1789.
25. Changeable White.—The first sport fixed in England, 1802, occurred at the Bishop of London's garden, Fulham.
27. { Golden Yellow.—Imported from China, 1802.
    { Quilled White.—Imported from China, 1808.
29. Quilled Pink.—Imported from China, 1819.
31. Curled Lilac.—Imported from China, 1820.
33. Superb Clustered Yellow.—Imported from China, 1820.
35. { Semi-double Quilled Orange.—Imported from China, 1820.
    { Small Yellow.—Imported from China, 1821.
37. Tasselled Yellow.—Imported from China, 1824.
39. Changeable Pale Buff.—Imported from China, 1824.
41. Two-coloured Red.—Imported from China, 1824.
43. { Semi-double Quilled Pink.—Imported from China, 1820.
    { Quilled Salmon.—Imported from China, 1819.
45. Quilled Flamed-yellow.—Imported from China, 1819.
47. { Early Crimson.—Imported from China, 1820.
    { Large Quilled Orange.—Imported from China, 1820.
49. Name not ascertained.
51. Two varieties, the names not ascertained.

53 { Sulphurea.—Imported from China, 1802. Sanguinea and Expanded Crimson } Two of the first English seedlings raised by Mr. Isaac Wheeler, of Oxford, who began in 1832.

55 { Minerva and Freestone's Seedling. } Also English seedlings. Raised by Freestone, of Downham, Norfolk, who followed Wheeler, in 1835.

63. Chrysanthemum Indicum.—Copied from the specimen in the Herbarium of Linnaeus.

65. Chrysanthemum Indicum.—Copied from a drawing in the possession of the Old East India Company, 1823.

67 to 75. Chrysanthemum Indicum, now called Pompons.—Varieties raised about 1850, the names of which appear on the plates.

77 to 101. Chrysanthemum Indicum.—Modern varieties mostly between 1860 and 1870.

113. King of Crimsons and Nancy de Sermet.—This illustration published in 1847.

115 to 149. Incurved and Reflexed Varieties of C. Sinensis.—Names are given on the plates.

157 to 189. Japanese and others.—Since 1860.

Some of those, from No. 115, are had illustrations of really good flowers, Angelina to wit. Others appear, however, to be more faithful illustrations.

NATIONAL AURICULA AND NATIONAL CARNATION SOCIETIES.

The annual meeting of the southern sections of these societies was held in the Crush Room, Albert Hall, on Tuesday, H. J. Veitch, Esq., in the chair.

The report presented by Mr. James Douglas, the honorary secretary, was unanimously adopted; the office bearers for the ensuing year were elected, the dates of exhibition fixed, and the schedules revised. The whole of the officers during the past year were re-elected with the exception of the treasurer, Mr. H. R. Rolt, who resigned. Mr. Shirley Hibberd was elected treasurer; Rev. H. H. D'Ombrain was elected a member of the committees of both societies; and Mr. T. Fife and Mr. C. Phillips were added to the committee of the National Auricula Society; and Mr. T. E. Henwood and Mr. M. Rowan to the committee of the National Carnation Society.

In the revision of the schedule of the National Auricula Society it was decided to reduce the prizes offered in the class for fifty plants to three, which are of the value of £4, £3, and £2 respectively. The classes for collections of Alpine auriculas have been increased to three, and the Alpine primulas have had two classes set apart for them. Single and double primroses are to be shown separately, and for each section a class has been provided, in which six varieties are to be shown.

Rule 10 in each schedule was altered to enable exhibitors to show new varieties separately or in collections at their discretion. Under the revised rule all new flowers are eligible for certificates, whether shown in collections or not, provided notice is previously given in writing to the secretary, and the entry cards are placed with them.

ABERDEEN CHRYSANTHEMUM SHOW.

The annual show of chrysanthemums, under the auspices of the North of Scotland Horticultural Association, was opened in the Music Hall Buildings, Aberdeen, on Friday, the 3rd inst., and continued until the evening of Saturday, the 4th inst. Mr. Peter Esselmont, M.P. for East Aberdeenshire, opened the exhibition with an appropriate speech. This winter exhibition was inaugurated by the society some years ago for the purpose of promoting the culture of chrysanthemums, and the specimens of this beautiful flower exhibited on Friday and Saturday bore emphatic testimony to the success with which this idea has been carried out. Being confined to one flower the show, of course, looked small compared with the summer exhibitions, but coming at this season of the year it possessed a peculiar interest for lovers of flowers. The exhibition was, in point of quality, very much superior to that of last year; while, as regards the number of entries, it did not fall behind its predecessors. The wet autumn of 1885 prevented chrysanthemums from ripening the wood, and detracted, therefore, considerably from the appearance of the flowers, but this season has been much more favourable, and, in consequence, this show was much more satisfactory.

The distinguishing feature of the exhibition was the cut blooms, of which there were some exceptionally fine specimens. There were also collections of primulas and ferns, which reflected much credit on the growers. Pot plants were few in number, and this is said to be due to the stormy nature of the weather under which the exhibition was held, many intending exhibitors having decided not to forward their specimens in case they might be nipped with frost. Japanese varieties were exceptionally good, while chrysanthemum bouquets have never been shown in greater numbers or in better condition. Mr. Ogg, Morkeu, had an easy first in most of the classes for professional gardeners, while Mr. A. Grigor, Fairfield, Mr. W. Scorgie, Foresterhill, and Mr. R. Grigor, Sunnybank, gave a good account of themselves. In the amateur classes, Mr. James Minty, Mr. A. Gillespie, and Mr. J. R. Whyte (all of Aberdeen) carried off the chief honours. A very creditable box of chrysanthemums for exhibition was sent by Mr. M'Leod, Ardmiddle, which was deservedly very highly commended; and another box which elicited favourable comment was that sent by Mr. Peter Harper, of the Duthie Public Park, Aberdeen. Ferns in both the professional and amateur classes were very creditable to the respective exhibitors. Messrs. W. Smith and Son, nurserymen, Aberdeen, sent for exhibition a stand of dracænas, palms, &c., and Mr. Ogg, Morkeu, a capital lot of primulas. The judges were: Messrs. M'Leod, Ardmiddle, and Dunlop, Stracathro.

SMITHFIELD CLUB CATTLE AND ROOT SHOW.

The annual exhibition of cattle, roots, and implements, which has been held by the Smithfield Club, at the Agricultural Hall, Islington, during the past week was so great a success as to show that there is no abatement in the interest taken in these gatherings, either on the part of the agriculturists or the general public. Cattle were rather below the average in numbers, but the majority of the animals were fully up to the average in quality. Roots were, as usual, shown in large quantities and high-class conditions, and all descriptions of implements were fully represented.

Messrs. J. Carter and Co., High Holborn, had an imposing stand, on which were arranged well-grown examples of their stocks of mangels, swedes, and turnips, so generally known for their handsome appearance and high quality. Associated with the roots were dried specimens of flax of English, Irish, and Scotch growth. On the stand were also arranged examples of those varieties of the tobacco which have been proved by the firm to be best adapted for cultivation in this country. With these were "cured" specimens, which were equal in appearance to the best tobacco of American growth.

Messrs. Sutton and Sons, Reading, exhibited a large and effectively-arranged collection of roots, comprising highly-developed examples of their excellent stocks of swedes, yellow and white-fleshed turnips, kohl rabi and mangel. Chief amongst the latter were the roots of Normanton Wonder, one of the best of the globe types, and those of Suttons' Mammoth Long Red, one of the roots of the latter weighing 73 lbs. Messrs. Sutton and Sons also had a very interesting collection of potatoes, comprising Duke of Albany, Imperator, The Colonel, Schoolmaster, Prime Minister, Reading Russet, Suttons' Seedling, and other first-class varieties.

Messrs. E. Webb and Sons, Worsley, near Stourbridge, contributed a very large stand, on which were represented the stocks of mangels, swedes, and turnips, with which the name of the firm has long been identified and so well-known for their excellence. In addition to the agricultural roots, Messrs. Webb and Sons exhibited collections of potatoes, grasses, and tobaccos.

Excellent collections of agricultural and other roots were exhibited by Messrs. Harrison and Sons, Leicester, Mr. F. R. King, Coggeshall, Messrs. T. Gibbs and Co., Down Street, Piccadilly, Messrs. A. Hall and Co., Westbury, and other firms. A very interesting collection of agricultural produce was contributed by the Dominion of Canada.

NATIONAL ROSE SOCIETY, ANNUAL MEETING, DECEMBER 9.

The annual meeting of the National Rose Society was held on Thursday last in the Covent Garden Hotel, Henrietta Street, W.C. The chair was taken by the Hon. and Rev. J. T. Boscawen, and there was a large attendance of members, amongst those present being: Rev. H. H. D'Ombrain and E. Mawley, Esq., hon. secretaries; Rev. J. H. Pemberton, Rev. F. Page-Roberts, Rev. Alan Cheales, Rev. T. W. Flintoff, Rev. F ster-Melliar, and Messrs. G. W. Piper, T. B. Hall, E. B. Lindsell, R. E. West, J. D. Pawle, T. W. Girdlestone, F. Cant, G. Bunyard, G. Prince, C. E. Cuthell, J. T. Strange, John Bateman, A. G. Slaughter, B. Cant, E. Wilkins, F. R. Burnside, H. Appleby, R. Bloxam, G. Paul, A. Turner, T. B. Haywood, and W. Rumsey.

After the notice convening the meeting and the minutes of the annual meeting of 1885 had been read by Mr. E. Mawley and signed, the Chairman nominated Mr. G. Paul and Mr. T. W. Girdlestone scrutineers for conducting the ballot for officers and members of committee for the ensuing year. A brief discussion took place as to the mode of conducting the election, and the Rev. H. H. D'Ombrain then read the annual report, which is as follows:—

"In presenting this report, the Committee wish to remind their members that the society has now completed its first decade; and in looking back upon the hopes expressed at its foundation, they cannot but feel that those anticipations have been, in many respects, more than fully realised. The society has from the very first enjoyed the confidence of the rose-growing community generally, and has already affected a considerable improvement in the management of local rose societies, and their methods of exhibition, besides bringing about the almost entire discontinuance of two days' rose shows. Indeed its influence in these respects has even extended to other special societies in this country, as well as to some of those recently started on the Continent, and in our Colonies. It has also, besides leading to the wider cultivation and exhibition of show roses, helped much to encourage the growth of those garden varieties which find such favour with many horticulturists at the present time.

"The past year has in no way come short of its predecessors in the success which has attended the society's operations. Its two exhibitions, the metropolitan show, at South Kensington, and the provincial show, at Birmingham, have, as usual, brought together very fine collections of roses, as well as a large number of visitors more or less interested in the culture of our national flower. The exhibition at Birmingham was particularly interesting, as it was new ground for the society, and the fixture being well timed in the season, there was an unusually large display of fine flowers. That at South Kensington was one of the most extensive the society has yet held, but owing to the hot dry weather which prevailed on the exhibition day and for some time previous to it, the individual blooms were not, as a rule, so large as are usually seen there.

"The medals struck from the society's new dies have been much appreciated, and are on all hands admitted to be greatly superior in design and execution to those previously issued.

"With regard to finance, the committee are unable to report so large a balance as last year. This, however, will be found to be almost entirely due to the large expenditure on the dies for the new medals, and to the additional prizes awarded this year at both the metropolitan and provincial exhibitions. The total receipts have amounted to £590 14s. 7d., and the expenditure to £583 15s. 7d., leaving a balance for the financial year of £6 19s.

"In making arrangements for 1887, the committee hope to hold their metropolitan exhibition as usual at South Kensington, where the superintendent of the Royal Horticultural Society's gardens, Mr. Barron, hopes so to arrange the staging in the conservatory that the flowers may be displayed to better advantage, and at the same time be more convenient for both exhibitors and visitors. In order to carry out the original intention of the society as a national one, the committee have entered into arrangements with the Royal Caledonian Horticultural Society for the provincial show to be held in Edinburgh on July 13. The Lord Provost of Edinburgh has kindly consented to take an interest in this exhibition, and every endeavour will be made to render this, the first show the society has held out of England, in all respects a successful one.

"The privileges of members are the same as in former years; Subscribers of £1 being entitled to two private view tickets, and also to four transferable tickets, admitting at the same time as the general public. Members subscribing 10s. are entitled to one private view ticket, and also to two transferable tickets. Each one of these tickets will be available at either of the Society's Exhibitions. Members who are subscribing for the first time in 1887, will receive a copy of the Society's Illustrated Catalogue of exhibition and garden roses."

"It is again the pleasing duty of the Committee to express their best thanks to those kind friends who have undertaken in different parts of the country to act as the Society's Local Secretaries; for it is unquestionably in a great measure through their exertions that the number of Members has been so well maintained.

"It may be interesting to give here the amount received in Subscriptions during the past nine years, as this will show the gradual but substantial progress the Society has made during this period: Subscriptions received: 1878, £213; 1879, £217; 1880, £239; 1881, £247; 1882, £274; 1883, £274; 1884, £280; 1885, £298; 1886, £292."

Mr. T. B. Haywood, treasurer, next read the financial statement, as under:—

BALANCE-SHEET.—YEAR ENDING NOVEMBER 30, 1886.

RECEIPTS.

Balance at bankers				£10	19	1
Subscriptions (including £1 1s. for 1887)				291	17	6
Donations				5	0	0
Affiliation fees and for medals from affiliated societies				66	0	0
From Royal Horticultural Society				80	0	0
From Birmingham Horticultural Society				100	0	0
For prizes for 1887—						
Rev. J H Pemberton (special prize)	£2	0	0			
Admiral Strange (two prizes of 10s. each)	1	0	0			
				3	0	0
Catalogues sold				3	18	0
				£590	14	7

EXPENDITURE.

Prizes, South Kensington Show	£254	0	0
Prizes, Birmingham Show	152	0	0
Medals	7	14	2
Medals for provincial societies	52	17	0
New medal dies	20	0	0
Printing, stationery, and advertising	28	7	6
Postage, telegrams, messengers, and sundry expenses	23	8	11
Secretary's travelling expenses to arrange shows	6	17	6
Expenses, South Kensington Show	7	16	6
Expenses, Birmingham Show	6	19	0
Cleaning and engraving challenge trophies	3	15	0
Assistant secretary and accountant	20	0	0
Balance at bankers	6	19	0
	£590	14	7

The Chairman, in moving the adoption of the report and financial statement, congratulated the members on the success which had attended the work of the society, and considered that they had good cause for satisfaction with the results. He also thought it a good opportunity for suggesting that local secretaries and others interested in the society should use their influence to maintain it in the high position it now so worthily occupies.

In the course of the discussion which followed the Rev. H. H. D'Ombrain said that should any difficulty arise as to holding the metropolitan exhibition, which is fixed for July 5, at South Kensington, as in previous years, arrangements could probably be made for its being held at Olympia, near Addison Road Station, Kensington, which is well adapted for the purpose. With reference to the provincial exhibition to be held at Edinburgh, July 13, he had good reason for believing it would prove a great success. The Lord Provost had promised his influence, and a considerable sum had been already received by the Council of the Royal Caledonian Horticultural Society towards the special prize fund. Referring to the provincial exhibition for 1888, Mr. D'Ombrain said that an application had been received from Darlington to hold the show in that town; and he thought as the previous exhibition held at Darlington had been so successful, it would probably be to the advantage of the society to take the application into consideration.

Rev. Alan Cheales, in seconding the motion for the adoption of the report and balance-sheet, said that with a member roll of four hundred and twenty-five societies in affiliation, they had no cause for fear as to the future of the National Rose Society. On being put to the meeting, the motion was carried unanimously.

As the result of the ballot which was declared at this stage, the following are the officers for the ensuing year: President, the Rev. Canon Hole; vice-presidents, the Hon. and Rev. J. T. Boscawen the Rev. J. M. Fuller, Robert Hegg, LL.D., James McIntosh, and the Lord Provost of Edinburgh; hon. treasurer, Thomas Burt Haywood; hon. secretaries, the Rev. H. Honywood D'Ombrain and Edward Mawley; general committee, H. Applehy, Rev. H. A. Berners, Rev. H. B. Biron, R. Bloxam, G. Bunyard, J. Burrell, Rev. J. B. M. Camm, B. R. Cant, F. Cant, Rev. A. Cheales, Captain Christy, E. Claxton, J. Cranston, Rev. A. Foster-Melliar, Rev. F. Gall, T. W. Girdlestone, W. J. Grant, T. B. Hall, G. P. Hawtrey, J. Shirley Hibberd, C. F. Hore, W. J. Jeff-ries, E. B. Lindsell, Dr. M. T. Masters, F.R.S., Rev. F. Page Roberts, G. Paul, F. C. Pawle, J. D. Pawle, Rev. J. H. Pemberton, G. W. Piper, G. Prince, W. Rumsey, J. Sargant, A. Slaughter, A. Turner, R. E. West, E. R. Whitwell, E. Wilkins, Rev. W. Wilks, and W. H. Williams; hon. auditors, J. D. Pawle and F. T. Wollaston.

A discussion arose, in which the Rev. H. D'Ombrain, Mr. T. B. Hall, Rev. J. H. Pemberton, Mr. G. Paul, Mr. B. Cant, and other members, took part as to the advisability of continuing to offer the challenge trophies at the metropolitan exhibitions as at present, or of offering them alternately in London and the provinces. As the result of the discussion, the committee were instructed to consider the question and report to the next annual meeting. Mr. G. Paul suggested that the exhibition at which the trophies were offered should be the principal one of the year, a suggestion which met with general approval.

Mr. B. Cant referred to the question as to the best stocks for roses, and quoted from a letter in which the writer said he had roses on the manetti, which were at least twenty years old, and in the most vigorous state of health.

Votes of thanks were accorded to the Horticultural Club for the use of its rooms, to the officers for their services, and to the Chairman.

The annual dinner was held in the evening under the presidency of the Hon. and Rev. J. T. Boscawen. The majority of the members, whose names are given above, were present, and a very enjoyable evening was spent, the toasts being few and the speeches brief.

TRADE CATALOGUES.

JOHN CRANSTON AND CO., KING'S ACRE, HEREFORD.—*Fruit Trees, Forest Trees, Rhododendrons.*

CHRYSANTHEMUMS IN FRANCE.

IN Mr. Harman Payne's compact and useful "Short History of the Chrysanthemum" it is stated that the French florists have been at work on the flower about twenty years. They have not only produced varieties of far greater superiority to any of the earlier kinds, but they have been instrumental in producing varieties which in brilliancy of colour may be said to be unparalleled.

This, it should be borne in mind, does not apply to the incurved kinds, but more particularly to the Japanese and Pompon varieties. They have created a new race hitherto unknown, which we call the Japanese Anemone, and of this class, although consisting of something under a dozen distinct sorts, much may be expected. The most prominent raisers in France of very recent times, with some of whom the author is in personal communication, are:

Dr. Audiguier, the raiser of Dr. Barrié, Joseph Durban, L'Infante d'Espagne (syn. Soleil Levant), Mdlle. Blanche Pigny, Mons. F. Marrouch, Mons. J. M. Pigny, Souvenir du Maréchal Niel, Silvie, Madame Berthe Pigny.

Mons. Boulanger, who has sent out Gloire de Mazargue, and several other sorts not very generally grown at the present time in this country.

Mons. Victor Lemoine, who raised Fulgore, several Pompons, and large-flowering varieties.

Mons. Bernard, who sent out Gloire Rayonnante, M. Frémy, Reine Margot, was also the raiser of a few Pompons and others.

Mons. Boucharlat, noted principally for his Pompons, some of which belong to the liliputian class.

Mons. Lacroix, not to be confounded with the amateur of the same name, a comparatively new raiser, whose best known flowers are Mdlle. Moulis, Souvenir de la Reine Mercédès, Parasol, Mdlle. Lacroix, Flocon de Neige, Tendresse, the splendid incurved Jeanne d'Arc, the Japanese Anemone, Fabian de Médiana, wrongly printed in English catalogues Fabias de Maderanaz.

Mons. Marrouch, to whom we are indebted for Madame Clémence Audiguier, Marguerite Marrouch, Mons. Marrouch, Madame Clos, Madame Thérèse Clos, Marie Jolivart, Mdlle. Cahrol, Sœur Dorothée Souillé, and Souvenir de l'Ardenne.

Mons. Pertuzes, whose flowers are not very well known in England, excepting perhaps Timbale d'Argent and Triomphe de la Rue des Châlets.

Mons. de Reydellet, an amateur raiser of great promise, whose new Japanese Camieu received a first-class certificate last autumn at the Crystal Palace. He has altogether in the last few years raised and distributed a large number of varieties, amounting now to upwards of one hundred.

The last French raiser to be mentioned and the most important of all, for he must be known at any rate by name to every grower in this country, is Mons. Delaux. He it is who may proudly consider himself as the rival of Mr. Salter, although it must be distinctly stated that his conquests have been most brilliantly exemplified in the Japanese section, in which Mr. Salter had but little opportunity of working. Mons. Delaux and his son are perhaps of all florists, both English and French, those who have followed up with the grandest success the new road opened up by the introduction of the Japanese Chrysanthemums by Mr. Robert Fortune.

During a period extending over more than eighteen years they have been working and searching at the sacrifice of great cost and labour to produce an assemblage of these plants worthy of a place in the finest collections. It is almost entirely to them that we English cultivators are indebted for the majority of those splendid Japanese flowers which for years past have been, and are continuing to be, imported into this country. In fact, there is hardly an exhibition held here where the smallest stands do not contain some blooms of these eminent florists' raising. It would almost necessitate a volume by itself to give a list of their productions, which comprise chrysanthemums of every section, but it would be an act of extreme discourtesy were the author not to mention some of the well-known flowers sent out by these gentlemen, especially as he has reason to be grateful for no little useful and interesting correspondence with Mons. S. Delaux fils. Those which have been in cultivation here for some few years past, and generally known, are Agréments de la Nature, Alexandre Dufour, Albert de Naurois (syn. Albert), Bouquet Fait, Cœur fidèle, Dolorès, Eclatant, Elégance, Emeraude, Etoile du Midi, Flambeau, Francois Delaux, Général de Lartigue, Gloire de France (wrongly called by some La France), Hiver Fleuri, Ile Japonaise, Isidore Féral, Japonais, Japon Fleuri, Jeanne Delaux (syn. F. A. Davis, wrongly catalogued J. Delaux in many English lists, and thus easily confounded with Jean Delaux, an older and now nearly uncultivated variety), Le Nègre, L'Incomparable, L'Ile des Plaisirs, La Charmense, La Frisure, Laurence, La Bienvenue (syn. J. Hillier), Le Chinois (syn. Chinaman), M. Delaux, M. E. Pynaert van Geert, Orphée, Rêve de Printemps, Source d'Or, Tricolor (syn. Mr. J. Starling), and many others. Among the importations from this source during the last two seasons, the following varieties have been distinguished by having first-class certificates awarded to them: Mons. Astorg, Mons. Tarin, Flamme de Punch, Margot, Beauté des Jardins, Madame de Sevin, Brise du Matin, Mons. Moussillac, Souvenir du Japon, and Fernand Féral.

To an English grower it will seem strange that such a thing as a Chrysanthemum society does not exist in France. Some of the horticultural societies are giving special attention to the flower latterly, but the exhibitions would appear to be few and far between. There was one about 1876 in the south of France, but it was hardly heard of here. Since then there may have been others, but little attention has been paid to them by the English, especially as the French method of culture generally practised is to aim more at the development of a large number of blooms on a plant than the culture of what we know as show flowers.

Last year there was one at Paris and another held under the auspices of the Chalons Horticultural Society, at both of which medals were awarded to the successful competitors. At the latter place the schedule of prizes was not arranged in a similar way to ours, and was divided into classes in the following manner:—

First section, pot plants.—Group 1.—For the best seedling variety or varieties not yet in commerce.

Second section, group 2.—For the best and largest collection comprising all kinds.

Second section, group 3.—For the finest collection of 100 select varieties.

Second section, group 4.—For the finest collection of 40 select varieties.

Second section, group 5.—For the finest Japanese collection.

Third section.—Cut flowers.

Third section, group 6.—For the finest and largest collection comprising all kinds.

Third section, group 7.—For the finest collection of 100 select kinds.

Third section, group 8.—For the finest collection of 50 select kinds.

Third section, group 9.—For the finest collection of Japanese varieties.

Fourth section.—Objects of artistic culture and decoration.

Fourth section, group 10.—For bouquets, baskets, &c., made up with Chrysanthemums.

Fourth section, group 11.—For the best treatise on the Chrysanthemum.

At this Exhibition nearly every French amateur and professional raiser of any standing in the horticultural world took part, and a banquet brought the proceedings to a close. It is curious to note that the cut flowers, which numbered 3,000, instead of being exhibited in boxes or show boards, were shown in glass bottles, and so great a stir did the show create in the town that the local floricultural journal devoted upwards of five pages to the event. There was also a subvention granted by the municipal Council of the town, a precedent that if acted upon in this country would gladden the hearts of many a grower here. As a consequence of this the Chalons Horticultural Society appointed a Special Committee to organise and conduct an international plebiscite in favour of the Chrysanthemum, and some of the English growers were invited to take part in it, but the result like that held in this country in 1883 can hardly be regarded as an entirely satisfactory or useful one from an exhibitor's point of view. It may prove of some little interest to point out that the Committee in conducting the ballot issued voting papers to the leading cultivators, in which not more than fifty varieties were to be named. The papers on their return were examined by the Committee, and the fifty varieties which received the largest number of votes were selected and arranged in the relative order. The result was as follows :—

Triomphe de la Rue des Châlets	Royal Soleil
Erectum superbum	Perle des Blanches
Gloire Rayonnante	M. Moussillac
Source d'Or	Maréchal Soult
Laciniatum	M. Roux
Fair Maid of Guernsey	Richard Larios
M. Planchenau	Alexandre Dufour
Bras Rouge	Fabian de Médiana
M. Frémy	M. Cronsse
Madame Clemence Andiguier	L'Infante d'Espagne
Yellow Dragon	Dr. Audiguier
La Charmeuse	Flamme de Punch
La Frisure	Aimé Ferrière
Souvenir de la Reine Mercédès	L'Incomparable
La Vierge	Reine Margot
Pink Perfection	M. Delaux
L'Automne	M. Castex
Sœur Mélanie	Empress of India
Marguerite Marrouch	Patrie
Perle des Beautés	Mdllo. Cabrol
Fée Rageuse	Lady Selborne
Père Delaux	M. Elie
L'Ile des Plaisirs	Dr. Masters
Timbale d'Argent	M. Astorg
Belle Paule	M. Patrolin
William Bull	

Short History, pp. 33—36.

Literature.

The Animal World and *The Band of Mercy* are beautiful and useful books, published by Messrs. Partridge on behalf of the Society for the Prevention of Cruelty to Animals. They are on a plan the public have become familiar with, and which may at least be described as pictorial. The literary matter consists chiefly of anecdotes, essays, and descriptions of the pictures, these last being usually illustrative of the habits, construction, and intelligence of animals. They are veritable museums of wonders for young people, and while they inculcate lessons of kindness, they convey much useful information that young people are in need of, and that when so pleasingly offered them, they do not fail to grasp with healthy intellectual appetites.

Old Jonathan (148, Aldersgate Street).—The yearly volume of this attractive "district and parish helper" is rich in attractions for the young, and for those elder ones who can enjoy innocent pastime and wholesome teaching, enlivened by anecdote, and song, and story. The pictures are delightfully appropriate to the kindly tone of the literature, and not a few of them are true works of art.

Morton's Almanac for Farmers and Landowners (Cassell).—This is the first of the rural almanacs for 1887 that has reached us. But we make no complaint of the late publication of such works, as not a few unreflective ones are now doing. A considerable portion of the programme of exhibitions and other business for 1887 is yet to be arranged, and the almanacs that represent rural tastes and industries should contain as many announcements of forthcoming events as can be secured without putting them absolutely out of time as regards publication before the year opens. Morton's is one of the famous almanacs, and it is as good as ever—a necessity for all interested in the land and its produce.

Library of English Literature. By HENRY MORLEY (Cassell).—Part 47 of this admirable work equals in interest any that have gone before. It sparkles with essays, criticisms, extracts and pictures, illustrative of the works of Campbell, Scott, Shelley, Jane Austen, and other of the stars of first magnitude that have made a glow in the firmament of modern literature. The portrait of Shelley at page 380, from a drawing by Miss Curran, is, we fear, but a poor thing, and we will at least hope the "impossible" poet was not quite so peevish looking.

Doré Gallery (Cassell).—Part 45 contains The Plague of Jerusalem, The Forest and the Woodman, The Milkmaid and the Milk-pail, St. John Beholding the Ruins of Jerusalem, and The Light in the Wood, a fine series full of the spirit of the master.

Hibberd's Familiar Garden Flowers (Cassell).—Part 24 contains Chrysanthemums and Cactus. The work will be completed in 100 parts, forming five volumes.

Quentin Durward in Ward and Lock's selected Waverley novels, is completed by the publication of part 8, and will be followed by "The Antiquary."

Our National Cathedrals (Ward and Lock).—Part 2 of this new and useful and we must add, handsome serial, is filled with pictures and descriptions of Canterbury Cathedral. Probably a better shilling guide to the venerable edifice could not be found. It is not, however, for any such special purpose that this series has been projected, but for the higher one of a complete illustrated history of the cathedrals of the country.

From Messrs. Ward and Lock we have also received *History of England*, part 2; *Universal Instructor*, part 25; *Popular Histories*, part 14; *Amateur Work*, part 60; *Sylvia's Home Journal, and Family Journal.*

Ladies' Treasury for December contains an effective design for a group of pinks to be worked in embroidery, an illustrated paper on the peepul tree, a very excellent paper on the adornments of Hindoo women, and something about Indian carts and carriages.

Correspondence.

CLASSIFICATION OF DAHLIAS.

I AM sure other amateurs as well as myself will hail with satisfaction the remarks of Mr. Moore, in your issue of November 27, relative to the classification of the dahlia, which is at present very unsatisfactory and perplexing. If, as suggested, the proposed new classification should be decided on by the committee, I should endorse the opinion that tipped flowers, whether the ground be light or dark, should form a separate class under the head of "laced" or "frilled."

There is another matter however to which I would draw the attention of the committee, and that is, it is highly important they should consider the position of amateur cultivators, and give us the proper definition of the word "amateur." It might well be asked, Who is the amateur? As at present designated, he is anybody who does not sell or cultivate under the heading of florist. Therefore, the nobleman's or gentleman's chief gardener, with his assistants, ranging in number from one to twenty, with his glass houses, pits, &c., often exceeding those of the florist, and an unlimited supply of material, time, and money, is pitted against the amateur proper. This is unfair to the *bonâ fide* amateur, who, by reading valuable articles from the various papers, coupled with his own small knowledge, gained chiefly by hard-earned experience, becomes imbued with a desire and love for flowers. I think, therefore, that if the dahlia shows at the Crystal Palace, Royal Horticultural Gardens, Aquarium, and other places, are to be augmented by the amateur, this subject should receive well-merited attention. I should suggest that there be classes for florists, &c., gentlemen's gardeners where more than two men are kept, and amateurs with only one assistant. I believe if this were done the exhibits would be more numerous. I am also of the opinion that those who are not annual subscribers should pay an entrance fee of five shillings for each class in which they enter.

Towards the end of last year I wrote to Mr. Barron, at Kensington, urging greater scope for the amateur, and was rewarded handsomely by finding, when reading this year's schedule, that they had been wiped off the exhibition board (so far as dahlias are concerned). I trust for better luck this time, and on learning that something is to be done, will promise my mite of a guinea to the subscription list. W. MIST, *Chairman Ightham Cottage Gardeners' Society, Ightham, Kent.*

MESSRS. SUTTON AND SONS' POTATO EXPERIMENTS.

I am sorry to observe in the horticultural press that in relation to recent potato experiments some reflections have been made in regard to the authorities at Kew. With Mr. Baker, F.R.S., of Kew, I have to-day visited the Reading collection. We have been vastly interested, and, I am allowed to say for both of us, instructed. Messrs. Sutton and myself are the persons most interested, and I beg to add we are grateful to the Kew authorities for unvarying attention and kindness, and we have nothing but appreciation to express in regard to that invaluable national institution. CATHCART.

50, Portland Place, London, W.,
December 4, 1886.

Replies to Queries.

Names of Plants.—K.C.B.—Your plant is Justicia speciosa. E. W., Curraghmore.—We cannot make out the name you wish to be answered under. The plants are: 1, Lycaste Skinneri; 2, Zygopetalum crinitum; 3, Dieffenbachia seguine; 4, Sanchezia nobilis; 5, Hippeastrum vittatum; 6, Passiflora quadrangularis; 7, Euonymus Japonicus; 8, Aristolochia Sipho; 9, Begonia Sambo; 10, Pteris argyrea; 11, Cotoneaster rotundifolia; 12, Escallonia macrantha; 13, Ribes stamineum; 15, Forsythia viridissima; 17, Aucuba Japonica (green-leaved); 18, Spiræa hypericifolia; 19, Arbutus Croomi; 20, Photinia serrulata; 21, Garrya elliptica; 22, Berberis dulcis; 23, Spiræa Thunbergi; 24, Stachyslanata; 25, Schizostylis coccinea. Should you favour us with more than six specimens at any future time we must decline to look at them. W. C.—Your chrysanthemums are: 1, Dr. Sharpe; 2, Pink Christine; 3, Peach Christine; 4, Empress of India; 5, not sufficiently developed; 6, Mrs. Haliburton; 7, probably Felicity; 8, Peter the Great; 9, Princess of Wales. G. R. J., Tottenham.—The flowers have lost their colour, and it is impossible to identify them. J. W. M. B.—1, Cupressus Lawsoniana; 2, Libocedrus decurrens; 3, Thuia orientalis aurea; 4, Cupressus Lawsoniana var.; 5, Retinospora plumosa; 6, Retinospora ericoides.

Obituary.

ON the 27th ult., Mr. FROMOW, of the Sultan Court Nurseries, Chiswick, in his 72nd year.

ON November 27, at his residence, Parkinson House, Parkinson Lane, Halifax, Mr. EDWARD POHLMANN, an ardent cultivator and a successful exhibitor of Auriculas at both the northern and southern shows, in his 61st year.

ON the 4th inst., at his residence in Ovington Square, Mr. ARTHUR GROTE, Fellow of the Royal, the Linnean, and the Horticultural Societies, aged 62 years. Mr. Grote was many years engaged in her Majesty's Indian Civil Service, but was best known as a naturalist, and the contributor of the introduction to Hewitson's "Descriptions of Indian Lepidopterous Insects."

DECEMBER 18, 1886.

THE GARDENER'S MAGAZINE CHRISTMAS NUMBER

CHRISTMAS ROSES.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M.tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
19	S	**4th Sunday in Advent.**	8 5	2 38	3 50	0 43	0 50	7 50	8 24	4 44	5 15	39·8	Brassavola Digbyana	West Indies.	353
20	M	Cambridge Michaelmas Law Term ends.	8 5	2 9	3 50	1 58	1 17	8 58	9 35	5 49	6 23	39·7	Cattleya Trianie	Brazil.	354
21	Tu	*St. Thomas.* Michaelmas Sittings end.	8 6	1 39	3 51	3 13	1 46	10 12	10 45	7 0	7 37	39·4	Cœlogyne Cummingi	Singapore.	355
22	W	Perceval shot, 1788.	8 6	1 9	3 51	4 26	2 18	11 20	11 52	8 10	8 45	39·0	Cœlogyne Gardneriana	Khoosea.	356
23	Th	Prince Albert buried, 1861.	8 6	0 38	3 51	5 37	2 54	—	0 18	9 17	9 43	38·9	Zygopetalon Clayi	Gard. hyb.	357
24	F	George I. (Greece) born, 1845. [morn.	8 7	After.	3 52	6 43	3 38	0 45	1 8	10 10	10 33	38·7	Zygopetalon crinitum cœruleum	Brazil.	358
25	S	Christmas Day. ● New Moon, 9h. 55m.	8 7	0 22	3 53	7 41	4 27	1 34	1 57	10 59	11 22	38·4	Leptotes bicolor	Brazil.	359

PORTSMOUTH CHRYSANTHEMUM, FRUIT, FLOWER, and VEGETABLE SHOW will be held on NOVEMBER 10th and 11th, 1887, when, in addition to a Challenge Cup value £25, upwards of £100 will be offered in prizes for competition. Persons desirous of advertising in schedule should apply at once to the Hon. Secretary, 26, Queen Street, Portsea. F. POWER.

SCALE OF CHARGES FOR ADVERTISEMENTS.—Five lines and under, body type, 2s. 6d.; each additional line, 6d.; half a column, £1 15s.; a column, £3; one page, £9.

Advertisements for the Current Number must be sent not later than Wednesday, and for Monthly Parts not later than the 24th of each Month, addressed to the Advertisement Office of the *Gardeners' Magazine*, 148 and 149, Aldersgate Street, London, E.C.

ADVERTISEMENTS of HORTICULTURAL or AGRICULTURAL SOCIETIES and SHOWS are inserted on the Leader Page at 1s. per line.

ADVERTISEMENTS OF SITUATIONS VACANT, or from persons seeking employment, 1s. each four lines (28 words), and 3d. per line after.

TERMS OF SUBSCRIPTION.—Post free from the Office, 4, Ave Maria Lane, London, E.C. to any part of the United Kingdom, One Copy, 2½d.: 3 Months, 3s.: 6 Months, 6s.: One Year, 11s. 6d. (including the Christmas Number). To America, Australia, Belgium, Canada, Denmark, France, Germany, Holland, India, Italy, Spain, Sweden, and Switzerland, 14s. per annum.

*** THE GARDEN ORACLE for 1887, price 1s., contains all the information proper to an almanac for the desk and library-table, and, in addition, a review of the horticulture of the past year, and a new and complete catalogue of Florists' Auriculas, in which descriptions and characters are given of many varieties never before catalogued.

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The Gardeners' Magazine.

SATURDAY, DECEMBER 18, 1886.

CHRISTMAS APPEARS TO COME MORE FREQUENTLY than in years gone by, for we used to think it a long time coming, and now it comes so suddenly as to find us unprepared: in fact, we have not yet made a single plum-pudding. We shall have to ask our readers if there has been any change in the almanac? It surely cannot be twelve months since we last addressed the constituency on the subject, in direct view of the ivy embrace and the mistletoe bough. On the supposition that no radical change has taken place, we must cling to the conservative notion that our state of doubt is the consequence of complete contentment. This is sound philosophy, for contentment takes no thought of the morrow, and, therefore, cannot be expected to anticipate Christmas. As a matter of course, we cast the responsibility on our readers; they have made us happy by appreciation of our labours, and happiness is happily ignorant of the flight of time. The printer has, however, compelled us to face the fact, and we find the fact has a face of its own, requiring on our part only a little shaving, brushing, and a clean collar. We are assured that fasts and festivals are following in proper order, and that Christmas is a festival with a touch of the too fast in it for some people, a statement which, we are sure, will not come home to any of our readers. It is sufficient that we recognize the working of the machine that is eternally making everybody and everything older and older, and yet is itself the very fountain of immortal youth, for Time witnesses creation as well as destruction, and while we groan that we have grown older, we hear the children shouting their joy, because old Time for them has strewn the world with flowers. Halting places on life's road afford opportunities for rest and reflection, and possibly the cessation for a few hours of the customary bustle of the world is of incalculable benefit to humanity, and the best feature in the amenities of Christmas. But we should like to be right in our chronology, and shall politely ask if Queen Anne is dead, ditto the Emperor of Morocco, and the judicious author of Hot Codlins? When we can grasp the facts we will discourse upon them; in the meantime, which is kept at Greenwich, we shall imitate the people at Dulwich, who are said to be indifferent to things that do not interest them.

The year that will be dawning when many of us are yawning is to be the year of joyous jubilee. If there were any prospect of a pension by saying a lot about it, we would fill these columns with some wondrous stuff. But as the case stands we let it fall; and while hoping the Jubilee will behave itself, we bethink us of our own affairs. We solemnly intend, and intend solemnly, to celebrate the year 1887 by pursuing the even tenor of our way, which cannot be a base way, because the tenor would be out of it. Yes, we are so well satisfied with our parliamentary position that we shall leave well alone, for Truth, who lodges in our well, would take it ill if we were to disturb her. We shall begin the year at No. 1730, and close it with No. 1782. Then having tasted another Christmas we shall begin again with No. 1783, and so on, for ever. Pray do not talk to us about dissolution of Parliament; we do not hear of such a subject in a Christmas number. The only change in our course that we have resolved on is that we will watch the almanac, so that we may be found jogging on without any need of jogging. We will, therefore, appear in the same form and at the same price as heretofore, and we shall go on in the old way scouring all the ends of the earth, and the horns of the moon if need be, to obtain good things for our readers. Should we meet with the tail of a comet, it shall be continued in our next. Behold, here is the old ship with canvas set to run before the steadfast breeze, and the same old man is at the helm and hopes to stick to the tiller until another elm shall change the course. Now, with ten thousand thanks to friends all around, and a Merry Christmas to them all: May joy crown the cup that Providence has filled with plenty.

NEWCASTLE SPRING SHOW, April 20 and 21, 1887.

HULL CHRYSANTHEMUM SOCIETY will hold its exhibition next year, on November 17 and 18.

A TREATISE ON TOBACCO CULTURE, by Mr. E. J. Beale (of the firm of James Carter and Co.), will be published in the course of a few days.

CHRYSANTHEMUMS are holding out well in the west, for Messrs. Lucombe, Pince, and Co., have still a fine exhibition in their Exeter Nurseries.

MR. FAWCETT, assistant in the British Museum, has been appointed to the post in Jamaica, vacated by Mr. D. Morris, on his appointment as assistant director of the Royal Gardens, Kew.

CANADIAN AND NOVA SCOTIAN APPLES are being received in large quantities, upwards of 30,000 barrels having reached the London markets during the past fortnight.

THE PRINCESS OF WALES PLANTED A TREE in the pleasure grounds of Luton Hoo, on Monday last, to commemorate her visit to that beautiful place. There is no sylvan scene equally near to London that makes so glorious a display of leaf colours in autumn as Luton Hoo.

HENEQUIN, a fibre obtained from the leaves of Agave sisalina, is becoming one of the most important of Mexican exports. In 1884-85 the quantity exported was 93,000,000 lbs., of the value of £550,000 showing a large increase upon previous years.

METAL-EDGED BOXES for the Parcels Post are superseding those hitherto in use as being both stronger and cheaper. The invention is due to Herr Scherbel, of Dresden; the manufacturers are Messrs. Mansell and Co., Milton Street, London.

TWENTY-FOUR HOURS OF FOG IN LONDON increases the consumption of gas coals by one great company to the extent of 3,500 tons. A day's fog in London means three steamer cargoes of coal for that company from our gas coal pits. It is a marvellous testimony to the influence of the weather. To London it means the payment to one company of over £5,250.

NORTH OF SCOTLAND HORTICULTURAL ASSOCIATION.—The papers to be read at the meetings arranged by the association for the early part of next year are as under: Botanical Geography, by Mr. Maitland, and Herbaceous Plants, by Mr. W. Cunningham, February 18; Worms, by Professor Nicholson, March 18; Formation of Lawn Tennis Grounds, by Mr. A. Giles; Amateur Grape Growing, by Mr. J. Scott, April 15; and Bees, by Mr. L. Tait, May 10.

The Illustrations.

THE YUCCA IN GARDEN SCENERY.

The picture tells its story so effectively that, for the purpose of this note, the details may be considered of more importance than the principle. The plant that gives a special tone to the scene is *Yucca recurvifolia*, known also as *recurva* and *pendula*, the very best for garden purposes of the noble genus it represents. In general character this fine plant comes near to the rigid-leaved Y. gloriosa, but is less robust in habit, and has the advantage of a pliant leafage, which results in the elegant pose by which it is distinguished. It is remarkably free in flowering, and such a group as appears in the centre of the scene is unique in beauty when the flowers are at their best, which occurs late in the season when the glow of colour in the flower-beds is fast declining. Very many readers will at once recall the picture as one of the many interesting features of the R.H.S. Gardens at Chiswick. Of equal interest with the yuccas, perhaps, though less telling in black and white, are the grape vines and clematis trained to poles and chains to enclose the space to which the yuccas form the appropriate centre.

THE CENTURY PLANT.

In the early part of the summer the conservatory of R.H.S., at South Kensington, was adorned with a flowering plant of *Agave Americana*, of which we secured a figure in order to place it before our readers as the true century plant. The majestic outlines of the huge beauty are sufficiently attractive without the aid of a story, and, indeed, of this plant we have no story to tell. Mr. Thomas, the able gardener at Chatsworth, informs us that the plant is one of several that he found in the place on taking possession as the successor to the late Mr. Speed, and he can give no information as to their history. It may be sufficient to say, however, that while the belief is current that the "century plant" never flowers until it has attained the age of 100 years, those of which we have sufficient records appear to have flowered when about sixty years old. The yuccas are sometimes called century plants, which is simply absurd, because they so frequently flower, and are in fact "flowering plants" in the ordinary sense of the term. But Dasylirions, Beaucarneas, Fourcroyas, and a few of their kindred take many years to prepare for flowering, and in common with agaves, are much exhausted and disfigured by the event. But when in flower they are magnificent examples of vegetable beauty.

CHRYSANTHEMUMS AND CHRISTMAS ROSES.

These beautiful drawings will suggest to our friends the florists that the artists have their rights to look at flowers in their way, which is not at all the florist's way, but much more of the world's way, and it must be said the way of nature. Now, after long service in the court of Queen Flora, we have to appear as renegades, but the momentary change of face will not ruin us. Flowers are for florists certainly; and they are also for mankind at large, and there are two sides to every arguable question.

THE FIRE ENGINE.

It is a rare sight to see a fire engine on its way to save a country house, for it is in the crowded streets of the town men are most familiar with it. Few scenes are at once so appalling and so magnificent as a great house flaming amidst the wintry woods, while afar off is heard the sound, fast augmenting from a murmur to a roar of help that is coming. The spirited picture may fill anyone with thought sufficient to dispel the gloom of a winter day.

THE CONNOISSEUR.

This party is of necessity "not so young as he was," because when he *was* as young as that, he only talked of "pots" ironically. But now, having a shrunk shank, and a much trained eye, and more knowledge than he can profitably employ, and less vigour than is required for outdoor sports, he loves pots, and tries to live up to them. If you will give him time he will, as the result of the inspection he is making, tell you all about this precious jar, which he playfully calls a pot, and it will seem to you that he knows every pot in creation. Perhaps he does; who dares to say he does not?

SPORTS ON THE ICE AND A COOL MARKET.

These are bits of winter life from Russia, where the winter is so constant and serious that humanity in all its forms has to be ingeniously adaptive; for amusement, for employment, for defence against cold, and for maintaining communications. A disquisition on these subjects would not be half so pleasant as five minutes of the icy whirligig, or one taste from the tempting stall that makes a lively shop in the snowfield.

THE PET PIGEON.

It is rather surprising that while pigeons are the most familiar of house and temple haunting birds, they are not often coaxed into domesticity as pets. Their melancholy coo is against them, and in their conversation with man they are decidedly stupid. We have seen wondrous performing pigeons, but the enjoyment of the result of long training was much marred by the unholy speculation as to the flavour the bird would have in a pie. Well, every one to his and her taste. Mr. Bromley has but to say, and we shall be delighted to make proposals to the mistress of the pigeon whose pleasing portrait is presented.

THE GRANGE.

What is a grange? Echo answers: Ask Mariana, whose address may be obtained on application to Shakspere or Tennyson. While advising Echo to attend to her own business, we will remark that a grange is a special kind of granary; a sort of secular abbey placed apart for a prior's residence, and for reception within its barns and cellars of the tithes in kind whether of grain or wool or what else. For modern usage a grange may be a picturesque house of antique aspect, but a great hall it cannot be, because in old times the great hall, like the abbey, had its grange or granary, which was often surrounded by a moat, not so much for defence as for the supply of fish for the table.

About a stone-cast from the wall
A sluice with blacken'd waters slept,
And o'er it many, round and small,
The cluster'd marish-mosses crept.
Hard by, a poplar shook alway,
All silver-green, with gnarled bark:
For leagues no other tree did mark
The level waste, the rounding grey.

DUMBARTON CASTLE.

In the Arthurian cycle Dumbarton ranks equal in importance with Edinburgh, Stirling, and Carlisle as one of the strong positions often contended for by rival factions, and the occasional seat of kingly power. In the story of Merlin, it is possibly the centre of that region of "Celidon" in which the bard exercised his calling, and from which he went forth to the disastrous battle of Arderydd. That point, however, need not be here debated, but it may be proper to point to the curious correspondence of the rocky heights to which the legends direct us, whether in the storm of war or the occasional seasons of peace and festivity. It was but the most natural course of events for such positions to be seized upon by the dominant power, and whether the castles that now adorn them be new or old, these places of difficult access must have been occupied for military purposes from the very earliest times.

National Dahlia Show, 1887.—A meeting for organising will be held at the Botanic Garden, Queen's Road, Chelsea, at 2 p.m., on Wednesday next, December 22.

Willow-leaved Veronica (*V. salicifolia*) has proved perfectly hardy at Wisley. At the last meeting for the current year of the Scientific Committee of R.H.S., Mr. G. F. Wilson exhibited sprays from plants growing in an exposed position in his garden at Wisley, where they had been subjected to a temperature of 15 deg. without injury. Mr. Wilson described the species as seeding very freely.

Specimens of the Earliest Known Linen Paper were exhibited by Professor Church at the December meeting of Scientific Committee of R.H.S. One specimen was a portion of an episcopal register of 1273, from Auvergne, and another, which was dated 1289, had entries of revenue inscribed upon it. The earliest authentic linen paper hitherto known is from a memorandum of the fourteenth century, now in the British Museum.

How many Named Show Auriculas have been definitely registered in the books and papers that treat the subject technically? The question is of some interest. We have seen no such complete list as the one we have prepared for the issue of the *Garden Oracle* for 1887. It comprises 348 varieties, at least fifty of which have never before been catalogued. Shall we now assume that this is the total number of varieties that may be recognized as having a definite place in the history of the flower?

Dr. Aitchison's Collections of Plants from Afghanistan comprise about 800 species, many of which are of economic value. The umbelliferous order appears in great force in the collections. The plants yielding asafœtida, of which perhaps *Narthex asafœtida* is the most important, were especial objects of his search. The scented root of *Ferula suaveolens* appears to be of importance in the commerce with Persia, and *Orchis latifolia* has a place as a food plant, the starchy roots supplying salep.

Royal Caledonian Horticultural Society continues in a most prosperous condition. From the financial statement presented to the annual meeting, held a few days since, it appears that the receipts during the past year amounted to £1,140 14s. 11d., and the expenditure to £1,101 1s. 2d., thus leaving a balance of £39 13s. 9d. The total funds of the society now amount to £1,037 17s. 10d. The Marquis of Lothian was re-elected president; Mr. A. Milne and Mr. J. Paterson were elected to seats on the council in place of the two retiring members; and Mr. J. Stewart (secretary) and Mr. P. Neill Fraser (treasurer) were re-elected to their respective offices.

Essex Field Club.—The Council of the Essex Field Club has determined in future to issue the "Transactions" and "Proceedings" of the Club combined, in the form of a monthly periodical, entitled "The Essex Naturalist, being the Journal of the Essex Field Club." The journal will contain papers read before the club, reports of past and announcements of future meetings, and, as space allows, notes and communications upon any matters of interest connected with the natural history, botany, geology, and pre-historic archæology of Essex. We believe that this is a new departure in the policy of local societies—at least in the South of England—but the plan has been adopted by the Essex Club from a rapidly-growing conviction, that if local societies are to flourish and do useful work, it is necessary to devise some means of "keeping touch" with their members, and encouraging inter-communication among them. The first number of the "Essex Naturalist" will appear in January next, and will be conducted by Mr. W. Cole, who has edited the publications of the club since its establishment seven years ago.

A JOLLY ROW IN THE GARDEN.

Not long since, I was invited to attend a meeting to be held in the gardens of my Lord Turnip Tops. On my arrival at the gardens, instead of being conducted, as I expected, into a large hall or spacious tent, I was very civilly shown the way into the potting-shed, and invited to be seated upon a flower-pot, and was then very politely told that only those who were representative men would be allowed to speak. As it was solely a representative meeting it was, of course, select. I found there had already assembled a goodly muster of the representatives of our gardens—some from Japan, the Azores, China, Southern America, and, indeed, from all quarters of the globe. The meeting, shortly after my arrival, commenced, Mr. Pine Apple being unanimously voted to the chair.

On rising, the Chairman said: Brothers in distress,—We are met here to-day to discuss matters relating to our grievances, for we are by ignorant and unthankful men subjected every day of our lives to more than we can bear, and I hope, by a calm statement of facts concerning our different complaints, we shall obtain such a mass of correct evidence as will satisfy our masters that our complaints are entitled to respect. And what is more, that the abuses from which we have suffered for so long ought to be instantly removed. Personally, the Chairman said, I have to complain of being sometimes too hot and sometimes too cold. Our gardener is a quiet, inoffensive sort of man, and lets the young men do pretty much as they like. The consequence is that sometimes they forget to bank up the fire at night, and then before morning I get miserably cold. The other day they happened to be a few yards away from my quarters, and allowed the sun to nearly burn me up before they gave me any air. At other times I am obliged to drink a lot of cold water when I don't want it, which makes me ill for days afterwards, and vexes me, because I have many a time seen them go past me, and seeing me almost dead for the want of a drink, and they would not give it me. I don't stop here, Mr. Pine Apple continued, because I have exhausted my list of grievances, but because time is short, and I think I have said enough to show any unbiassed mind that I am not out of place in occupying this chair, and that it is quite right we should lay our case before the owners of gardens, and give them a chance of seeing that the treatment we receive is right and consistent with our various requirements. For this purpose, I shall be glad to hear what my friends here have to say, that our wrongs may be made known in the proper quarter.

Mr. Grape Vine then rose and said: I think myself extremely fortunate, after what I have endured in my master's garden, that there is a piece of me left to appear here to-day; for after being several times roasted and twice parboiled, besides being frequently stewed, you may guess that I am about this time pretty tender. Nevertheless, what little there is left of me you see here, and I am sure I must have been made of tough stuff in the first place or I should have been dead long ago. But I don't mean to die yet; I mean to live on, although they have taken off several of my limbs, and mutilated my feet in a frightful manner. I am here on purpose to support our noble chairman in his endeavours to have our wrongs redressed.

Mr. Beechwood Melon was here carried up on the platform, for he was evidently not used to walking, and from his haggard appearance, received the hearty sympathy of all present. He began by saying it pained him beyond measure to hear his neighbours complain so bitterly of the treatment they had received from the gardeners, because he did not know before he came there that things were so bad all through the garden as they now appeared to be. He had suffered a good deal in his time, but had borne it patiently without murmuring, until now, because he thought through some foolish fad of the gardeners, he was no favourite. But in this he was deceived, for all alike seem to suffer from the whimsiness of the blue apron fraternity. Under my present master, he said, I have suffered a good deal: in fact, I have never recovered entirely from the effects of, on one occasion, being put into a damp cold bed, which so settled in the whole of my system, that now I constantly require very warm and comfortable quarters to be able to get along at all. Sometimes these conditions are denied me, and then I get sickly and cannot thrive; and when such is the case, it would shock any kind heart to listen to the abuse that is heaped upon my fair name, by those who profess to know what I want, and how I should be treated. Now to come to business. I beg to propose the following resolution: "That owners of gardens be petitioned to import a batch of gardeners from Greenland"—I propose this resolution because all my friends tell me that the Greenland gardeners are kind-hearted

WINTER SPORTS OF CHILDREN IN RUSSIA.

people, and that their heads are quite full of common sense. I am afraid to say any more, for fear our old gardener should make it too hot for me when I get back.

Mr. Cucumber was the next speaker. His long lanky appearance, and yellow looking skin, evidently showed that he had for some time suffered from a serious malady. Finding himself amongst a number of sympathising friends, he was at first quite overcome with emotion, and could not for some time find words to express his feelings, After a short time, he rose, and said he was overcome more by the expression of good feeling he had there received from his unfortunate neighbours, than from what he had actually suffered, although his sufferings had not been light. Now he hoped to see a way clear of getting some better treatment than he had lately received. He said it was well known that he was suffering from a chronic disease, which the clever gardening doctors called gumming, and pronounced as incurable. But he could tell them that if they would leave off burning his toes, and otherwise maltreating him, they would find as in former times, he would enjoy a perfect immunity from diseases of all kinds and relieve them of all anxiety as far as he was concerned. At the same time, he said, I am quite sure the gardeners will not submit to be taught the only right way of treating me and my friends. I shall, therefore, he said, second the resolution of my old chiel, Mr. Melon, that proprietors of gardens be invited to get a shipload of gardeners from Greenland or some other land where whiskey is unknown and beer a prohibited article of commerce.

Mr. Loveapple appeared now upon the stage, and in an excited manner began a somewhat exhaustive speech by first saying that no member in the room had suffered so much from the capriciousness of gardeners as he had. At one time, he said, he was discarded from a good many gardens in favour of a Yankee feller, but they soon found out their mistake, for after all he was found to be as good a servant as any of the far fetched customers. I have now, he said, in many cases been installed again in my old position; but that is not the only piece of bad treatment which I have to complain of. Entirely against my will I have been made to do duty in season and out of season, thereby completely ignoring my air and light loving nature. One of our old delvers, instead of letting me increase my family in my own way, actually took off some of my limbs to convert into plants, so as to be thought clever. But I thought, and I still think, that he was—well, never mind what I thought, unless you like to call him a curmudgeon.

Mr. French Bean was next invited to speak, and began by saying he felt completely miserable from the effects of the cold and fresh air, having just come out of the stifling atmosphere of the forcing house, where the gardener had forgot to give any fresh air for a week past, and he could only stay long enough to say he was right glad to see his friends had at last made up their minds to seek redress for the wrongs inflicted on them. But he said, I don't know which are most to blame, the owners or their gardeners, for we all have suffered. Nor, he continued, am I very sanguine of getting much relief from either, for I believe there are six of one and half a-dozen of the other. The owners are proud and the gardeners are foolish. Only the other day I heard our gardener abusing me in a shameful manner in the presence of some ladies that his lordship had brought down from the hall. I heard him say we were the dirtiest things he had to grow. But he forgot to tell them that we had not been washed for more than a week. Every good gardener knows we ought to be washed twice a-day; nor did he tell them that what little air we got was parching hot and dry. I say, he continued, it is very cruel to neglect us in this manner and then blame us for getting dirty, and to blame us, too, in the presence of ladies is much too bad.

A COOL MARKET IN THE SNOWY NORTH. *Drawn by Clough Bromley.*

At this point Mr. French Bean was quite overcome, and had to be carried to his quarters in a fainting condition, which caused the Chairman to postpone the meeting. This he did with the following remarks: "I am glad that this meeting has been held, because it will show the gardeners that we do not mean to be trampled out of the earth without making an effort to let the proprietors of gardens know how we have been treated. We have our faults and failings, I know," said the Chairman, "and so has every other member of the vegetable world; and so have the gardeners, and so have the cooks. If we are to be sent to table in a proper manner the owners must look to the cooks at last. It is my duty now to adjourn this meeting until the 31st of February, 1999, at which time I hope all will be present that have favoured us with their presence to-night. Mr. Melon proposed a vote of thanks to the Chairman, and Mr. Cucumber called for three groans for the gardeners, which were lustily given, and the meeting broke up.

I have only now to say, Mr. Editor, that, as was my duty, I have sent you a truthful report of this remarkable meeting, and I hope it will prove as interesting to your readers as it was to

Your Reporter.

Correspondence.

WILL IT PAY?

I was highly amused the other day by reading your answer to a correspondent who had presented you with the everlasting cry of *cui bono?* You very politely told him—that is if I read aright—although you were willing to do what you could, it is unreasonable to expect you to be able to hinder men who have pumpkins instead of heads upon their shoulders from gravitating towards the workhouse.

You were quite right. A man who wishes to practise gardening as a profession should apprentice himself to another who is competent to teach him, and he would then gain a knowledge of what will and what will not pay, and there is no other road whereby such knowledge can be arrived at.

I have no recollection whatever as to what your correspondent's question was, other than the fact that it ended in the afore-mentioned query, but if I cannot tell him and others like-minded what *will* pay, I can tell them one thing which will *not*, and if they will take the trouble to read this note to its close, they will have no difficulty in seeing what I allude to.

It may be that after what I have said above the good man may cry, "Where are your credentials as a teacher?" A very proper question to ask under the circumstances. I come of a race of gardeners. My father was one, my grandfather, his father, and when I was a boy there was a tradition in the family that our line had been traced back for many centuries, and the last man those who took that trouble arrived at was one Adam, and he was a gardener!

All this would count for very little were it not for the fact that I began gardening almost as soon as I began walking, and have practised it ever since, and now—well, I will not state my age, but simply mention that when I meet a lady in whose eyes I wish to appear to the best possible advantage, I am ungallant enough not to remove my hat, but simply raise it. Gentlemen of a certain age will well understand this. Not getting enough of gardening by acting in that capacity for a private gentleman, I carry on a market establishment by the aid of hired labour.

You will be prepared to hear, after what I have said, that I take a great interest in all that is written concerning my business, and for the benefit of those who are new to the art, I would like to say a word concerning a most pernicious practice which has become very prevalent of late.

Most weekly news-sheets now devote a column to gardening, and I think it is time the horticultural press proper took note of the kind of thing provided for the casual reader. The other evening I took a stroll into my market establishment to have a chat with the chief of the staff, whom we will call Joe. Joe thrust a popular weekly sheet into my hand with the remark, "Master, Big Horn is at it again, kindly give me that blast, for us young men don't seem to have such good eyes as you older ones;" and as he ceased speaking he clasped his arms around a stout pear tree as though he expected to be swept away by a tornado. I took the sheet and read aloud: "Strange as it may appear, many people still plant the Penny Loaf Brussels sprout. A gigantic mistake. Hear what Mr. Sapiont, gardener to My Lord Tomnoddy, at Puffum Park, writes: 'Last year I planted a seed of Big Horn's sprouts. One of our young men took a button to the kitchen, and the cook divided and sub-divided it till she had cut enough out of the heart to make dishes of sprouts for sixteen people, all of whom declared it to be the most delicious they ever tasted. The youngest stable boy fatted three prize rabbits with the refuse and one handful of barley meal. Our shepherd here ran short of green food last winter, and his flock were doing badly in consequence. I gave him leave to take ten buttons, and they carried him through the five months' winter, which the good man, with tears in his eyes, told me was a "blessing." I took him to mean the sprouts, and not the winter. When his lordship heard what I had done he raised my salary twenty pounds per year. A friend of mine hired three acres of ground and planted it with Big Horn's sprouts. He sent the produce to the Borough Market, and with the proceeds bought the ground, redeemed the land tax, and gave his wife a new silk gown. Another friend planted twenty acres; he has now retired with an ample competency.' Seeds of the above monstrous, glorious, delicious, and fortune-making vegetable, one guinea each."

I naturally thought that this was an ordinary advertisement, but on looking at the top of the column I saw it purported to be an article by Mr. ——— for the benefit of the readers of the paper. I threw down the sheet and said to Joe, "Sow a good breadth of sprouts out of the seed we bought from our old friend Mr. Fairman." I should have thought no more of the matter had not Joe—whose ears were erected at such words as "raised my salary" and "gave his wife a new silk gown" (Joe was lately married)—said, "There is never smoke without some fire, master; you be the sovereign and I will be the shilling, and we will have a seed of those sprouts and divide the profit, I take five per cent." "Very well, Joe, says I, "when I was your age the Big Horns of that day got many a sovereign out of me, this one shall have one too, and it may be he deserves it. I see there is a Mr. Moderate advertises sprout seeds in the same paper at a shilling each, we will try one of his." "That reminds me," said Joe, "that there is a new man advertising—one Smallsqueak—his seeds are threepence each; I will dock myself of my Sunday's pint of beer and buy one, and we will have a sprout trial."

The seeds were sent for, and duly came to hand. Joe sowed them himself, and labelled each with a tally big enough for a tombstone, on which were inscribed their names and supposed virtues. All came up and became of plantable size. We gave Big Horn's plant half an acre of ground, enriched with twenty tons of sound stable manure, and watered it every dry day with fifteen gallons of sewage. The other two had a quarter of an acre each, to which had been applied ten tons of stable manure, and each plant had seven and a-half gallons of sewage every dry day.

The next November Joe and myself inspected the sprouts, then walked off to the packing-shed and sent a man with orders to cut them close to the ground, and mix them, and bring them to us. When he brought them in we tried to distinguish which was which, but for the life of us could make out no difference. As we were sending thirty thousand cabbages to Covent Garden the next day we sent the three sprouts in one of the hampers, and I apprised my friend Mr. Sellwell of a sample of sprouts on the way which I wished him to particularly inspect, and try the market as to what they would realize if a large quantity were forwarded. Two days afterwards I received his report. "Sprouts good. Plenty here like them from Loamshire, and also from Stonyshire. Price one penny per stem." We cut twenty thousand of our old friend Mr. Fairman's sprouts and sent them to Sellwell, and three days afterwards he wrote to say the sprouts were all sold, and never in all his experience did he get a lot which were so true to the sample sent.

Now, Mr. Editor, I think, from the above—which is true in substance and in fact—the correspondents who are for everlasting dinning into your ears *cui bono? cui bono?* may learn one lesson, and that is, nothing will pay except so learning your own particular business, whatever that may be, that you can judge for yourself.

Just one word more and I have done. What arrangements are made for supplying our weekly newspapers with their columns of garden literature? Surely they are not written by competent gardeners, stimulated by that fertilizer of nearly all good work—money! At least, they cannot all be so written, or why are some firms *always* lauded, and others of equally good repute *always* neglected, by any particular paper? If there is one reason above all others why I buy your paper, it is because you insist upon being fair to all alike by not recommending anybody, but leave each and all to advertise their own wares in the proper place—the advertisement columns. I would like to caution all whom it may concern that it will not pay to listen to the sound of every Big Horn blown. When they are blown in the light of day as advertisements the novice may very safely allow a considerable percentage of the sound to pass by, and then catch enough for his purpose; but when the sound emanates from a fog, so that you cannot fully examine the mechanism which produces it, the advice of an old man is—pay no heed to it, it will not pay.

Midlandshire.

Literature.

Locksley Hall Sixty Years after. By Alfred Lord Tennyson. (Macmillan),—In this new volume of poems by the Poet Laureate, the hero of Locksley Hall appears with sixty years added to his age since last we heard of him, and he is in a less hopeful, and we fear in a less healthful frame of mind. There is much real poetry in the new Locksley Hall, but we feel too often that the author speaks more for himself than for his hero. The "Promise of May" is a dramatic poem not adapted for the stage and rather too pregnant with modern philosophy and the sophistry that passes for such. But here is a gem from the work—a most delightful and truly Tennysonian lyric—

What did ye do, and what did ye saäy,
Wi' the wild white rose, and the woodbine sa gaäy,
An' the midders all mow'd, and the sky sa blue—
What did ye saäy, and what did ye do,
When ye thowt there were nawbody watchin' o' you,
And you and your Sally was forkin' the haäy,
At the end of the daäy,
For the last loäd hoäm?

What did we do, and what did we saäy,
Wi' the briar sa green, and the willer sa graäy,
An' the midders all mow'd, and the sky sa blue—
Do ye think I be gawin' to tell it to you,
What we mowt saäy, and what we mowt do,
When me and my Sally was forkin' the haäy,
At the end of the daäy,
For the last loäd hoäm?

But what did ye saäy, and what did ye do,
Wi' the butterflies out, and the swallers at plaäy,
An' the midders all mow'd, and the sky sa blue?
Why, ooom then, owd feller, I'll tell it to you;
For me and my Sally we sweär'd to be true,
To be true to each other, let 'appen what maäy,
Till the end of the daäy
And the last loäd hoäm.

Familiar Trees. By G. S. Boulger, F.L.S., &c., *with coloured plates* by W. H. J. Boot. (Cassell.)—The completion of the first series of this work at a moment when it is especially valuable for presentation purposes is a happy circumstance. It ranks in size and style with the "Familiar Flowers" and "Familiar Birds," in the series of light and useful aids to the study of nature that Messrs. Cassell have had in hand for some years past, and that now may be said to form a distinct and beautiful library. We are bound to say that although when the first number of this work reached us, we saw that a good thing was coming, it far surpasses in every way the good thing we expected. The coloured figures represent the several trees as picturesque objects in a style that may be likened to finished water-colour drawings, and in separate plates the leaves, flowers, and fruits are represented with happy touches of artistic truth combined with technical accuracy. M. Boulger's text is admirable; the book is one of the most acceptable the season has brought us.

JACOB'S ROD,

And its Wondrous Works in Modern Times.

Men who bustle about the world do not escape some knowledge of the divining rod, for it is occasionally forced upon their attention by respectable witnesses of its efficacy, who never weary of defending it against the doubters who are silent and the sceptics who openly, and perhaps scornfully, avow their disbelief. Were there no respectable witnesses, this thing would be known only to the diligent students of the curiosities of the dark ages, because, as regards its place amongst the agencies of civilisation, there can be no mystery whatever. It has no place amongst those agencies; it is absolutely unknown as a practical utility; it lives in the minds of a few, who, we must confess, do almost ensure respect for it, by reason of the place they hold in society, as the least likely to cherish delusions.

Very much has been written on the subject, although very little has been seen; in fact, it is a favourite subject with the explorers of the border land that is supposed to lie between the world of facts and some other world that is filled with things that might be true. It is no part of this paper to prove that the divining rod is allied to necromancy, and therefore worthy of respect only in proportion to the credence it obtains by combining profession with deception, which is the essence of all necromancy, no matter what name it may bear. The reader cannot be deceived as to our opinion on the matter, but we do not attempt to enforce that opinion; it will be time to do so when we are challenged, and for all that at present appears, belief in the divining rod is not so objectionable as belief in some other forms of necromancy.

We have taken from the shelf an interesting book that treats at length of this subject. It is a small thin octavo, bearing the title "Jacob's Rod: *A translation from the French of a rare and curious work*, A.D. 1693, *on the art of finding springs, mines, and minerals by means of the Hazel Rod. . . . Published by the Translator*, Thomas Welton, 13, *Grafton Street, Fitzroy Square, London.*" The book is without date and bears no printer's name, but it is not a rarity, and may be occasionally met with, its present value being from ten to twenty shillings. Its claim to special attention is found in its systematic and serious treatment of the subject, and for this reason we shall hope to derive from it some accurate information on the belief that prevailed in the efficacy of the occult instrument, "the hazel rod."

We have the key to the philosophy on which the treatise is founded in the opening chapter, which begins as follows:—

"The most healthy philosophy allows that the stars influence all sublunary things, and that the quality, which is proper and individual to each body, animate or inanimate, depends absolutely, or derives its nature from that which the star impresses on it, which rules over it even from its generation. Experience convinces us every day of this truth, and teaches us at the same time that the knowledge of the chief part of these different qualities are closed letters for men, that certainly they discover some, but there is only the Sovereign Being who has a perfect knowledge of them; and when he permits, that mortals draw some of them from the darkness in which their ignorance keeps them buried," &c., &c.

We soon learn that a knowledge of Jacob's rod is the direct gift of God by the influence of the stars, and those who receive the gift are born under the planets Mercury or Saturn, and under the signs of Aquarius and Taurus. The planets and other heavenly influences determine what particular line of business the privileged person shall follow in the use of the hazel rod. "For example, some discover only water, others only mines, others one sort of metal, some only boundaries; in fine, some to whom the rod turns in rising against the stomach, and others to whom it turns in descending to the earth." The reason of this exclusiveness in the specific use of the gift is clearly stated. "The virtue or power is not attached to the wood, not to the instrument one uses, but rather to the efficacy of blood of him who uses it. It is the blood which causes the wood to turn by the impression it communicates to it at the moment the man takes it with his two hands."

Now we shall get to business with a clear knowledge of the thing, and the frontispiece, containing figures of four modes of using the rod, will be instructive. It appears to be undecided what the form of the rod should be, but "that which the Patriarch used was only a stick, such as is generally carried in the hand." However, the favourite instrument is a forked stick like the letter Y, "because its movement is more rapid and perceptible, or possibly because in turning in the hand it indicates and marks with the point the place where the hidden thing is."

It is important to know that "It is indifferent how one holds the rod, and each person, according to the power of his ascendant, by his prudence, and by use, may take a particular posture, as may be most convenient and useful, to make his discovery." The figures show how the use may be varied. One method is "to hold it straight, the point uppermost, and the backs of the two points closed, against the ground," as in the figure marked A. The second way is "to hold it flat, the point in front, and the backs of the two points which close it turned against the body," as in B. The "third posture is the middle between those two, by which one holds the point neither entirely up nor entirely in front," as in C. Figure D shows that "the experiment is without fraud, for the stick turns upon the palm of the hand."

Now that the reader knows how to do it, the question will arise, what does he wish to do? In the course of the 128 pages before us we learn that this hazel rod will do almost anything that may be desired in the way of discovering water, minerals, and other treasures that are hidden within the earth. Have we lost something, the diviner can find it. Has a murder been committed, he can discover the concealed body and bring the truth to light. Has the course of a boundary line become obscured by neglect or made the subject of dispute, the hazel rod will mark it out, and put the surveyors, the lawyers, the records of the manor, and even Domesday Book itself under foot as contemptible agencies of useless contentions.

In recent discussions on the divining rod it has been defended almost exclusively as a means of finding water, and it may trouble the few who prefer to believe in it to learn that when the stars and the blood are propitious the hazel rod becomes a perfect substitute for the detective police. There ought to be no "mysteries" of undiscovered murders with such a potent instrument as this at the command of mankind. We call in geologists to assist us in finding water and precious metals, and we employ a costly police force while we might dispense with such slow and uncertain aids by employing the men who go about professing to handle the rod effectually, instead of ignoring all such, as we commonly do when the serious business of life is before us.

One more extract shall suffice. At page 72 the author disposes of the "last difficulty which remains to be examined." It is "the movement of the rod over limits." The explanation is delightfully simple. The stick is moved to define a boundary by a stone that "begins to enclose in

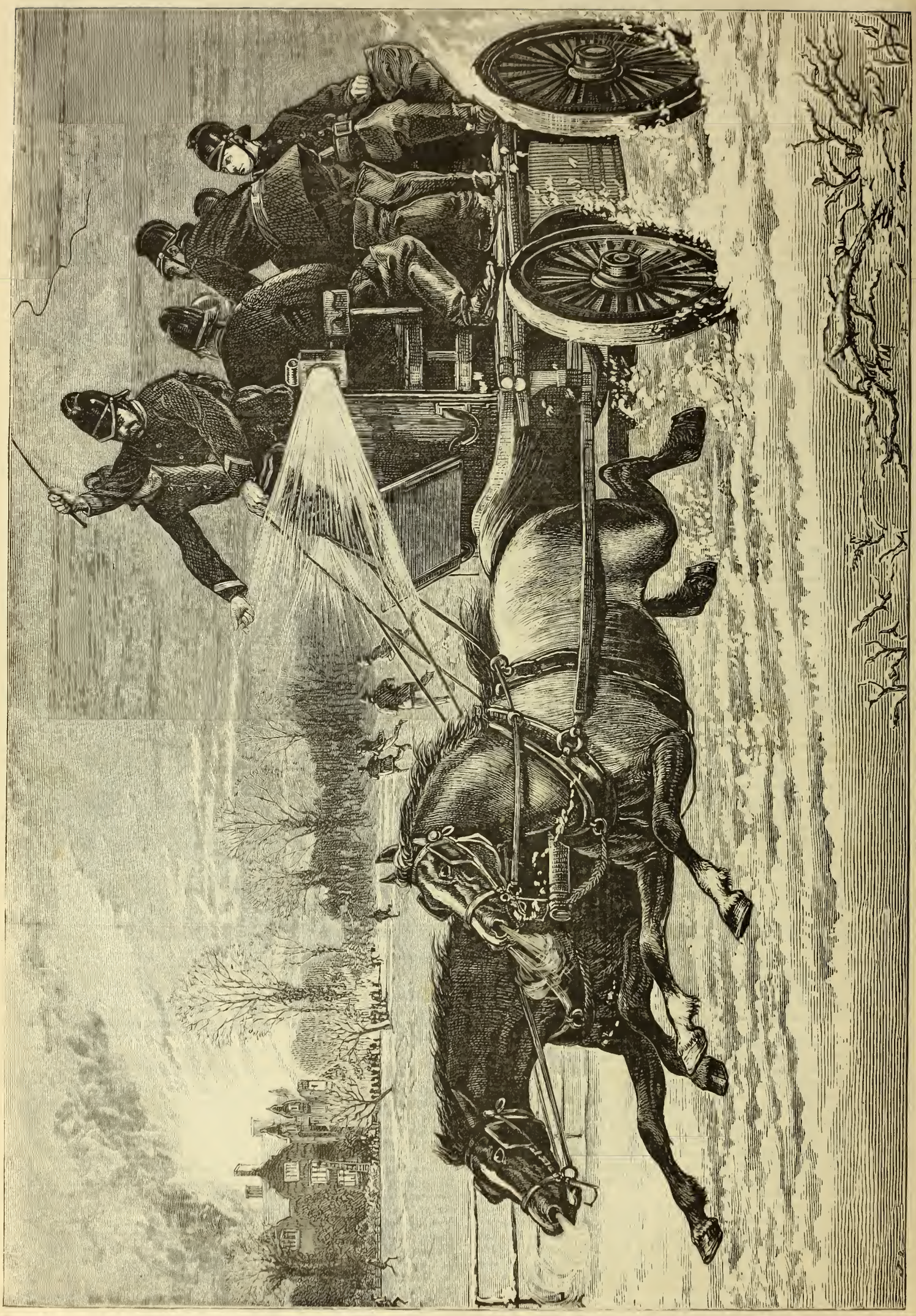
Fac-simile of Frontispiece to "Jacob's Rod," showing four modes of employing the hazel rod.

itself animated particles which cause this movement." What follows is equally interesting and to the purpose, but for the present, perhaps, we have quoted enough to render clear the use and purpose of the divining rod.

PROTECTIVE CAVES FOR TENDER PLANTS.

Many years ago I visited a garden where the mud banks had been hollowed out so as to make caves to shelter plants. A short time back, acting on this idea, and having a quantity of mould got by digging out a pond, I made a long mound, and at the north side of this let in pieces of sandstone, so as to make back, sides, and top, and brought the soil so as to cover them. I then planted among them known hardy ferns, such as Hypolepis millefolium, and Adiantum pedatum, two caves of Adiantum cuneatum. The shelter and warmth of the covering earth have made these resist the frosts of the last two, and of the present winter. I mean to carry out this plan on a larger scale, and believe that Primula obconica, which was not much cut in the open last winter, and possibly P. floribunda may be grown out of doors by this means. I have some shelters which I believe to be new, and which promise well. When these have been proved a little longer, I propose to send you a note on these; meantime, I may say that a common wicker hen-coop, with bracken worked round it, makes a good portable shelter.

Heatherbank, Weybridge Heath. George F. Wilson.



THE GRANGE IN FLAMES—HASTE TO THE RESCUE.

THE CONNOISSEUR.

Drawn by H. Stacy Marks.

THE FESTIVAL OF THE ROSE.

[The Festival of the Rose is not a fiction; it has been celebrated at the village of Salency in Picardy for upwards of twelve hundred years. It was instituted by a Lord of the Manor, under the reigns of Childeric and Clovis, in the fifth century. This respectable man gave yearly to the village-maid of Salency, who bore the fairest reputation, a hat or crown of roses, and she was certain of being sought in marriage in the course of that year. It is said he paid the distinguished tribute to one of his own sisters, whom the public voice deemed worthy of the Rose. This reward became a powerful motive for good conduct in the young women of Salency, and there were instances of more than one candidate for the Rose in the same year. By the rules of the institution, not only the fair claimant, but her parents, brothers, and sisters were to be deemed irreproachable, and the slightest deviation, even from order, excluded the candidate. It is hardly possible to conceive how this reward contributed to excite in the people of Salency the love of virtue and regularity. All the inhabitants, composed of forty-eight families, were sober, industrious, honest, and benevolent, and there is not an example of a gross misdemeanour having been committed there by a native.]

Part the First.

With unresisted sway has Passion long
Glowed in the breathings of poetic song;
Ye fair! O leave awhile the tempting page,
And let a nobler strain your hearts engage!
Virtue for once in gay attire would strive
To rival love, yet keep delight alive;
But should her aim through these weak numbers fail,
Should frowns condemn the dull but well meant tale,
By one soft sonnet every care remove,
And give your souls again to joy and love.
And thou, dear native vale! of whom I dream
While Cambria's distant landscape seems my theme;
Ye woods of Devon, still to Fancy dear!
Translucent stream, whose murmurs still I hear!
Forgive, if Memory's tints to Feeling true,
Refuse to yield to Fiction's fainter hue;
If Poesy herself despair to trace
Those lines beloved, which Time can ne'er efface.
Thus, to disguise his love, the enamoured swain
To some imagined object breathes his pain;
And thus, O Muse! to imaged scenes I soar,
Far from those beauties I must view no more.
A theme less dear shall happier lays impart,
While the true form lies pictured in the heart.
There is a village little known to fame,
(I call it Milton, for I love the name)
No fairer village blessed Arcadia's plains,
Nor Auburn's bard lamented happier swains.
By mountains sheltered from the northern gale,
Its airy site in turn protects the vale,
Whose emerald meads a river flows along,
Recorded haply in the Druid's song.
There, safe from tempests, flourish stately trees,
And singly scattered woo the summer breeze;
While o'er bright pebbles wandering as it will,
A silver serpent winds along the hill,
Plays mid the cottages, then through the wood
O'er rocky fragments gushes to the flood.
To paint the natives of this favoured spot,
Their simple virtues, and distinguished lot,
Mock not, O Muse! my legendary page,
With far-fetched figures from the golden age;
Nor dream the rude, unlettered form they wore
Of clowns, who know to toil, and know no more.
What cannot virtue joined to power achieve,
Warm to improve, and active to relieve?
A castle frowns, arrayed in Gothic pride,
Deep in the valley by the crystal tide,
On whose opposing bank wild mountains rise,
And lose their oak-crowned summits in the skies.
In this retreat a gentle couple dwelt,
As e'er for misery sighed, for anguish felt;
The high-born Egbert, still in manhood's prime,
Pledged to beneficence his wealth, and time;
Though oft in senates heard, by crowds admired,
Now mid his long-loved fields he lived retired,
Despising pomp, improved his vast domain,
And urged to industry the rustic train;
Enticed a son, on whom his soul was placed,
Through paths of rectitude, by science graced;
And blessed in love with all that man holds dear,
Found Earth Elysium with Matilda here.
She with the beauty of her sex combined
Each soul-subduing grace of womankind;
With taste and feelings tempered to enjoy
The gay delights that female life employ,
She knew their magic, and allurement fled,
To safer joys by love and prudence led,
Now, child of Genius, with delight she roved
Among the scenes sublime her pencil loved;
Now with botanic eye explored the sod,
And traced in every herb and flower her God;
Or while her white arms clasped the sounding lyre,
Sung to wild chords, what love and bliss inspire;
From her mild features melting kindness beamed;
A gift of Heaven to indigence she seemed:
Her bounties fell, as May's soft vapours fall,
Unseen, and silent, but reviving all,
And ne'er since Egbert gained Matilda's hand
Had Want's chill lineaments defaced the land.
The gentle dame, to solitude resigned,
Yet felt the yearnings of an active mind;
For restless Nature, though supremely blessed,
Frets with monotony, or sinks depressed.
To extend her bloom beyond youth's fleeting hour,
To wake to energy each tender power,
No fair usurpers of a mother's charms
Made joys of care, and pleasure of alarms.
Oft as she pondered tales of other times,
And marked the various rites of various climes,
The Rose of Salency her fancy caught,
And dwelt revolving in her busy thought:
"And why," she cried, "shall Albion's ample field
"In virtuous deeds the palm to Gallia yield?
"Why, mid the numerous offerings made to Vice,
"No glorious meed to female worth entice?
"O Virtue! Milton too shall worship thee.
"Nor yield her bloomy wreath to Salency."
And now she chose the spot, and fixed the day,
And warm benevolence chased care away;
No more her bosom for an impulse pined,
The promised scene electrified her mind.
On the large oak's fantastic branch displayed,
That near the house of God dispensed a shade,
Wove by her snowy hand, a flowery wreath
Held the light talisman that waved beneath,
Where, soon in every rustic heart enchased,
These words in golden characters were traced:
"Ye village fair! who panting for renown,
"From youth and beauty seek a transient crown,
"Whose virgin hearts have numbered sixteen years,
"And now grown conscious, swell with hopes and fears,
"Let the warm glow a nobler aim inspire;
"Learn to excel, and Virtue's meed acquire.
"Observe great Nature's choicest gifts among
"Some object still supreme amid the throng;
"Mark mighty Snowdon's cloud-surpassing height;
"Mark yon bright star amid the gems of night;
"And hear the nightingale in Ervyn's grove,
"With note excelling, mourn her absent love:
"That nymph whose emulative mind shall claim
"The bright distinction of unsullied fame,
"Who shuns with stedfast step the snares of youth,
"And keeps unblemished modesty and truth,
"With toil and temper pays parental care,
"And seeks with holy awe the house of prayer,
"Crowned with the Rose, shall hail the happy hour
"When Hope led Virtue to her cottage bower."
Matilda yearly held her rural courts
On the green theatre of rustic sports,
Where oft beneath the umbrageous foliage placed,
She with her lord the grateful circle graced,
Would join the dance, or with a smile engage
To hear the oft-told tale of trembling age;
Where'er she turned, her object still the same,
Conferring benefits that want a name.
Labour and penury too oft remove
The rose of beauty from the cheek of Love;
But bounded plenty, intervals from toil,
The mountain breezes, and the cultured soil,
The blush of innocence, the smile of truth,
Gave God's own finish to the charms of youth.
The nymphs of Milton were the shepherd's dream,
The nymphs of Milton were the poet's theme,
And ne'er did idolizing lover swear
By eyes so bright as daily opened there.
And now to deck my votive numbers, Muse!
Matilda's brightest constellation choose.
Fresh as Aurora, as an angel true,
Clear as the rill her eyes celestial blue,
Wild as the fawn, but innocent as wild,
The pretty Rosalind on Nature smiled.
Her cares were pleasures, and her duties choice;
The bliss of others made her heart rejoice;
So pure her mind, her passions so serene,
She scarcely guessed what chastity might mean,
Or whence arose her blush unbidden knew,
When modest Nature raised the charming hue.
But Virtue loth that Apathy should share
Her influence o'er the bosom of the fair,
Bade Love assail with every soft desire,
And prove her faith as gold is proved by fire.
Once when to feed a kid whose dam had strayed,
Among the wild rocks climbed the active maid,
A new Apollo, of the sylvan chace,
Beheld her supple form, her glowing face.
In vain, with Daphne's haste, she strove to shun
The path of Edmund, noble Egbert's son;
In vain, with downcast looks, she strove to fly
The eager glance of wondering Edmund's eye,
While the fresh breezes of the mountain air
Waved like a web of gold her auburn hair.
Too soon her blushing cheek and azure eyes
Revenged the slaughter of his feathered prize;
The youth entranced, embodied seem to see
The Bard's immortal "Nymph sweet Liberty,"
Whom while his heart adored, alas! his own,
Winged with a sigh, at Love's first call had flown.
Still hounded Rosalind, nor looked behind,
Though Edmund's graceful figure filled her mind,
Till as beneath the sacred oak she sped,
The warning tablet trembled o'er her head;
With boding heart the prodigy she viewed,
But virtuous hope her fainting soul renewed,
While Spring's first roses budding in the grove,
With promised triumph foiled the darts of Love.
No hope cheered Edmund, now condemned to know
The torments poets call delicious woe,
The Hebe peasant agonized his heart,
Nor dared his tongue th' ignoble flame impart;
Study no more, nor sylvan pleasures pleased,
Nor friendship's social joys his sufferings eased;
Alone he roamed amid the forest shades,
Or wooed the pensive Muse in moonlight glades.
In vain Matilda marked the change, in vain
Tried each maternal art to soothe his pain;
In vain fond Egbert for his sorrows pressed—
He sighed—and bade them in his bosom rest.
At length his wishes to distraction grew,
And to the well remembered rocks he flew;
There though the oaks still crowned the mountain green,
Though still the breeze blew fresh, the fern looked green,
The goats still browzed, the setting sun shone bright,
No blue-eyed vision blessed his longing sight.
Now to the woodlands, where with pious care
The cheerful Rosalind would oft repair,
Spite of the summer beam, or winter's cold,
To gather fuel for the sick and old,
Young Edmund watched her, and in vain essayed
With vows to move the ever-flying maid.
Or when rich Autumn spread her clustering store,
Beside her mother at her vine-wreathed door,
As oft half pleased, half sad, she turned her wheel,
And mused on him for whom she dared not feel,
Then in a hunter's manly garb arrayed,
Bright as Endymion, bursting from the shade,
Some prey escaped, some loss the lover framed,
Now pleaded weather, now his courser blamed,
And words denied, a fleeting glance expressed
The impassioned anguish of his struggling breast.
With eye maternal Winifreda viewed
His soft appeal, and virtue's lore renewed;
Now prayed, and trembled for her tempted child,
Now with a mother's pride in secret smiled.
At length by merit conquered Edmund came,
And yielding, vowed an unoffending flame;
His only prayer that one revolving year
Might veil their union from his parents' ear.
Ah, Rosalind! beware his manly grace,
His pleading sighs, and love-illumined face.
How soft his words!—Alas, her heart beat high!
Again the tablet trembled in her eye.
Her fancy pictured in the tints of youth,
The roseate wreath, the milk-white robe of truth;
She heard Matilda's harp, the festal song,
Her mother's blessings, and the applauding throng.
Then fear reversed the anticipated scene,
The rose grew pale, the meadow lost its green;
Shame from her temples snatched the envied crown—
And ah! what wretch could bear Matilda's frown?
Could live to hear her mild complaints upbraid
Her Edmund, plighted to a peasant maid?
Ah no!—if Love himself should tell his pain,
Still would she live a nymph of Cynthia's train.
True to her vow, to grateful honour true,
The fair denied, and far young Edmund flew,
Despairing, sad, forsook his native plain,
And sought by travel to forget his pain;
Love sickens at the touch of honest pride,
And in his manly bosom, pined and died.
In beauty equal to the blue-eyed maid,
The gentle Marian sighed amid the shade,
Nor sighed for love; resistless duty there,
A willing captive, chained the stedfast fair.
Deep in the tangled mazes of the wood,
Far from resort, her brother's cottage stood,
With him she dwelt, and shared, by Pity given,
A task ordained to smooth her path to Heaven.
Full rose her bosom, as the dove's wing fair;
Dark flowed the tresses of her silken hair;
But care had paled the lustre of her cheek,
Her eyes were milder, and her mien more meek;
Still in those eyes such true expression dwelt
Of all she practised, and of all she felt;
So sweet her accents, and so soft her air,
That shepherds pitied, and adored the fair.
In vain they pitied, and in vain they pressed,
No weak emotion struggled in her breast.
Forsaken orphan! at an age to miss
A mother's fond reproof, a mother's kiss,
She no'er forgot a dying mother's prayer,
Who left a hapless sister to her care,
On whom in vain had infant beauty smiled,
Fever subdued, and madness grasped the child.
Nor unrequited care, nor long restraint,
Nor scenes of dread made Marian's courage faint.
As Heaven to blossoms tempers adverse winds,
Hope tempers misery to feeling minds.

Oft when the nymphs their festal evenings kept,
She watched the bed of woe till frenzy slept,
Then with sad pleasure mused on moments past,
When every sun rose brighter than the last,
Or cheered her prospect with the fragrant prize,
Though scarce to hope her timid wishes rise.
A year had fleeted since in happier hours,
Young Marian blushing under fruits and flowers,
To Egbert's castle grateful offerings bore,
And join'd her mite to grandeur's sumptuous store.
Her Marian's gifts Matilda's smile approved;
Her modest eye, her bashful grace she loved;
On her retiring merit ne'er was lost,
She deemed it safest, and she prized it most,
And warm to sensibility's appeals,
Loved to teach diffidence what courage feels.
Thus while the trembling doubt repressed desire,
She bade her Marian to the rose aspire,
And since stern fate had proved her angel mind
Bright as her form, and as her features kind,
The friendly hope to anxious wishes rose
That Virtue's meed might soothe the damsel's woes.
And now though last not least, in virgin pride
Advance sweet tenant of the river's side, [name,
Bright stranger! thou whose wayward doom, and
Must from the Muse a sad digression claim.
Close on the stream that wanders through my lay,
A hut and nets a fisher's wealth display;
There many a year, of storms nor flood afraid,
Had Cymry Owain plied the wily trade,
Oft with adventurous bark would stray from home,
And tempting danger, to the ocean roam. [loud,
Once when the waves rolled high the winds roared
With humbled sail the foaming tide he ploughed,
When on a rock a surge-beat vessel bore;
Down sunk the shrieking crew, and rose no more,
Save one young female whom the buoyant wave,
And Nature, pitying Nature strove to save.
An infant to her cold maternal breast
With terror's strong convulsive grasp she pressed;
A powerful net the affrighted fisher cast;
The babe revived, the mother breathed her last.
Then with his helpless charge too weak to weep,
Rocked by the heaving of the boat to sleep,
With double zeal he plied his wearied oar,
And brought her safe to Milton's happy shore.
Now should my numbers in romantic strain
Her birth unfold, and wild adventures feign,
But spite of Poesy for fiction famed,
She grew in beauty, but was never claimed,
A coral cross the sea-born baby wore,
And sea-born Coral was the name she bore.
Old Cymry Owain was a childless man;
With Coral's smile a father's care began.
One trite, but sterling maxim trained her youth,
"Do good, shun evil, ever speak the truth,"
This precept still he preached, 'twas all he knew,
But, unlike some who preached, he practised too.
And now his trembling limbs, and failing sight,
Bade Coral's care his guardian care requite;
When o'er the hills his feeble steps he bent,
And on her ready arm for succour leant,
He blessed the wave that from its bosom gave
An angel guide to lead him to the grave.
Nor had blind age his doating fancy led
O'er her loved form imagined charms to shed,
Her graceful stature, and distinguished mien,
Stamped her with one accord the village queen.
Her clear brown hue, more rare in Britain's Isle,
Enhanced the vivid lightning of her smile,
When sparkling mirth through vermeil lips displayed
The pearly treasures of the river maid;
While on her cheek health's animating dyes
Increased the brilliance of her large dark eyes.
When fondly tending him, whose silver hairs
With silent eloquence engaged her cares,
Spring's early blossom seemed the blooming maid
When Winter's snow still lingers in the shade.
Matilda with approving eye beheld,
And joyed to see her glorious aim excelled,
For ne'er till now had Milton village known
At once three claimants of the roseate crown.

Part the Second.

O Music! Heaven whose breath thy song inspires,
Seraphic hosts in endless youth attires:
From earth the voice of innocence conveys
The purest incense of celestial praise,
And when Matilda to the holy fane
With mild persuasion drew the village train,
And mid her virgins struck the golden lyre,
She seemed Cecilia with her sainted choir.
'Twas the most sacred of those solemn days
Whose rites religious piety obeys,
Matilda summoned her melodious train
To wake to gratitude a holy strain.
High mid the vocal throng was Coral's name,
No strain was music but when Coral came,
Untaught, unimitating, Nature's child,
So sweet she warbled forth her carols wild,
So clear they floated on the silent air,
It seemed some Syren had endowed the fair:
But when inspired she hymned to simple lays
In plaintive harmonies her Maker's praise,
Waked to new sense the unfeeling learned to feel,
And angels listen'd to the soft appeal.
The deep bell called, the morning shone serene,
And Coral in her country vest of green,
Hope's cheerful hue, whose visions filled her breast,
The church-way path with fond obedience pressed.
Her zeal might own a secondary cause,
But judge the nymph by Nature's gentle laws;
Her Arthur haply waited on the green
To meet with looks of love the village queen.
Nor think Matilda frowned on virtuous love,
The amorous reed oft sighed in Milton's grove;
Her constant heart too well the blessing know
Of long attachment to one object true.
Among the swains one youth above the rest
With manly worth, and manly beauty blest,
For lovely Coral had confessed a flame,
Nor did the maid deny his pleaded claim;
But when her willing heart in change was given,
A purpose sacred in the sight of Heaven,
Checked by his sigh, and watered with her tear,
Chilled the warm hope, but made that hope more dear,
No bridal right she vowed should fix her doom,
Till the grass waved o'er ancient Cymry's tomb.
The path wound steeply from the river's side
Through groves with Flora's early treasures dyed,
Amid their bloom the rill a moment slept,
And formed a glassy pool by Naiads kept,
So clear the water, so surpassing praise,
What nymph could view, and not remain to gaze?
Ah, hapless Coral! 'twas some fiend that took
The spotless semblance of this limpid brook,
Nor could the green-haired sylph thy honours save,
Who saved thy beauties from a watery grave.
Breathless she reached the spot; its cooling shade,
And tempting mirror charmed the truant maid,
Who held by vain delight forgot, I ween,
The church, the choir, even Arthur on the green.
Still as she gazed, Love ever danger's guide,
Her swain conducted to the fatal tide,
Softly to chide her lingering step he came,
But staid to press for what he meant to blame.
Ah! never, never let the fair delay,
When love, accepted love, implores her stay,
When Zephyr's breath, and beechen bowers invite
To converse sweet, and undisguised delight.
Though Virtue still her spell on Coral kept,
Her handmaid Prudence lulled by flattery slept;
Bright as she was, an offering culled by love
Might add one smile, and ev'n her charms improve;
Her shepherd-hat a string of wood-bells bound—
To deck her bosom could no flowers be found?—
In vain to woo the lover's choice they pressed,
Each when compared her passing bloom confessed,
A wild rose smiled—her blushes made it pale;—
The violet—no—her breath would scent the gale;
Her bosom was so exquisitely fair
It seemed the sun had feared to trespass there;
A lily on the snow could not be seen—
At length a blossom won still robed in green,
But ah! no more soft hope it emblemed now—
Shame and dismay obscured her radiant brow,
When Echo wafted from the hallowed ground
The last vibration of the solemn sound.
Ere at the porch arrived the panting fair
Alas! the hour was past to enter there,
While from the vaulted dome clear accents rise,
And seem to lift a spirit to the skies.
To her, unusual sweetness marked the strain,
For ever banished from the vocal train,
For life excluded from the roseate throne,
And doomed to weep unpitied, and alone,
For ne'er again should Arthur's flatteries move,
All, all her grief she owed to him and love.
And "O kind guardian of my youth!" she cried,
"Whose pity saved me from the angry tide,
"May Powers of mercy veil from thee the blame,
"Nor rumour pierce thy ear with Coral's shame."
Her grateful wishes were not lost in air,
But ah! no pitying angel heard her prayer.
She reached her cot with quick, disordered pace,
Grief's first impression on her speaking face,
As clouds surcharged distilling lucid tears,
So mid her chon curls the maid appears,
But Cymry Owain was not doomed to know
His Coral's penitence, his Coral's woe;
Adorned with trophies of his former deeds,
With wonders of the deep, with shells, and weeds,
Lo! in a bower where oft, with age opprest,
Nursed by the noontide beam he loved to rest,
As if too weak to see his darling weep,
The good old man had sunk to endless sleep.
To paint her anguish words and numbers fail,
And like Apelles drop, O Muse! the veil.
In the old castle hall, the seat of state,
Was kept the record of mysterious fate,
For none who wrote, with daring eye might look
On the past pages of the sacred book.
There strictly registered, the deeds and name
Of each fair candidate were traced by fame;
But hearts so upright marked this village train
That each complaint seemed urged with honest pain.
Full many a wrested truth the leaf contained,
One only falsehood had its bosom stained,
That stain (O pause my lyre a moment here)
Demands the meed of one digressive tear,
For ah! it nipped in bud the sweetest flower
That ever bloomed in Love's delicious bower,
Lost Jessy thou! whose grief-devoted name
Speaks to each heart that ever felt a flame.
Her lover waited but one day, with pride,
Crowned with the rose, to call the fair his bride,
No voice demurred, no rival could arise,
By every modest hope she claimed the prize,
When by a slander traced that fatal morn,
From their fond grasp was every blessing torn.
So deeply venomed was the well-forged tale,
Friendship believed, and chastity turned pale.
Her lover framed in honour's sternest mould,
By passion fired, by pity uncontrolled,
With frantic agony forsook the ground,
And left his Jessy fainting with the wound.
Truth soon dispelled the cloud, her fame was cleared,
But ne'er again the wretched youth appeared,
In climes of death he mourned her fancied shame,
And breathed his last repeating Jessy's name.
She, like a blossom seized by gelid dew,
With patient sighs bade every joy adieu,
And ere a year's revolving moons were o'er,
Sought her rash lover on a safer shore.
A fate as dire awaited Rosa's youth,
But angels hovered o'er the child of truth.
As weeds are mid the fairest harvest found,
Near Milton lived a thing for spite renowned,
With blight malignant cankering every breast,
It best personified the bleak north-east.
Ask not its age, or shape, or whence it came,
Nor maid nor matron old shall hear the shame;
None question ghosts who in their chambers glare,
Already horror struck to find them there;
But since its attributes a witch might claim,
Her sex be woman's, Sycorax her name.
Her early years, her early vices grew
In the rank culture of a gipsey crew,
Who taught the imp to blandish at command,
Or cross with omen dire the trusting hand;
To croak wild ballads, and in wizard rhymes
Recite terrific tales of ancient times.
By arts like these she saved a scanty store,
And to this spot her pelf and malice bore,
Where long she dwelt, her origin unasked,
For with industrious zeal her hours she tasked,
And with a mien demure, and rigid tone,
Decried all virtue to enhance her own.
The old endured her in this sweet retreat
As peasants place a scare-crow in their wheat,
While, as the Indian worships fiends, the young
Submissive bowed to deprecate her tongue.
But blue-eyed Rosalind, as pure as gay,
Defied her spleen, or smiled the sting away;
Hence this hyena looked with steadfast hate
On her bright form, her youth, and happy fate;
Oft in the wood she saw young Edmund wait,
And oft had watched him to the cottage gate,
And armed with these offences vowed to tear
The envied garland from her auburn hair.
Now rose the stated morn with radiance bright,
And chased the moon-beams from a summer night,
With throbbing hearts the sleepless nymphs arise,
But hope's warm glow the wonted bloom supplies.
Soon to the fane the candidates repair,
And breathe to Heaven an unassuming prayer,
That not their merits, but attempts may plead
A trembling title to the glorious meed.
To call the shepherds to the festal ground,
Harps spread their merry minstrelsies around,
And pipes, the music of the mountain scene,
Mix with the flute their melodies serene;
While to the threshold of each chosen maid,
Matilda by the hand of taste arrayed,
With groups of sportive children scattering flowers,
Repaired to lead them from their cottage bowers.
Light as the fleecy clouds that cooled the day
O'er her fair limbs concealing draperies play,
Or clinging round with every breeze, unfold
The soft proportions of her perfect mould;
A web of texture fine as insects fling
From leaf to leaf amid the gems of Spring,
Waves o'er her polished neck, and clustering hair,
And shields their beauties from the encroaching air,
Her ripened charms had passed youth's earliest prime,
And yet had rather gained, than lost by time,
Her form more full, her features more refined,
With new intelligence displayed her mind,
Subsiding blushes gave more conscious ease,
Gave grace more play, and wit more power to please.
Adorned in snowy vests, her gifts of love,
With tresses loose her beauteous virgins move
In bright procession; at their head is seen
Rosalind's wild grace, and Marian's modest mien,
While swarming round in motley colours gay,
Shines Milton village in its best array.
Before them, circled with a rustic choir,
A cherub-form in Zephyrus' attire
Waves high the blooming chaplet in the air,
Triumphant ensign of the destined fair!
But where was Coral? where the village queen?

Where her quick smile, and animated mien?
Matilda's gentle summons to prevent
A scroll mysteriously the damsel sent,
That at her honoured throne she soon would kneel,
And crave her pardon, and the cause reveal.
For Coral's fault, so wept, was still unknown,
With Cymry's spirit all surmise had flown,
The sudden dart of fate concealed her blame,
And he who saved her life, had saved her fame.
Well generous Coral this delusion knew,
And vowed by Cymry's precepts to be true.
Long had she purposed in her candid thought
At loved Matilda's feet to breathe her fault,
Still as each day returned, her lover's prayer,
And virgin fears withheld the trembling fair,
But now, alas! the fatal hour was come,
And Coral steadfast to fulfil her doom.
Where spreading oaks exclude the sultry beam,
Straight to the new-mown borders of the stream,
Whose grassy treasures sweetest when they die
Perfume the breeze, and revel on the eye,
Advance the troop, and lead with rustic grace
The kind Matilda to the appointed place.
A chestnut's sheltering arms with blossoms spread,
And woodbines hung, o'er-canopy her head,
Where in hoarse murmurs tumbling from the hill
Pours in cascades the accumulated rill.
The lovely candidates in silence wait
Around her turf-raised throne the award of fate;
And now the names proclaimed, her mandate given,
In accents gentle as the breeze of Heaven
The sound of blended flutes in breathings clear
Calls youthful Marian first to rise and hear.
Soon as the page unfolds its ivory breast,
With notes of more than life and death impressed,
The timid maid of fair and tender form
Droops like a silver lily in the storm;
But when the harmony of well earned praise
Her mild perfections speaks in softest lays.
When the blunt tribute of unvarnished truth
With honest warmth extols her matchless youth,
Her cares, her patient tenderness appear,
And wound while they delight her modest ear,
She seems that lily when reviving rays
Gild her white bells, and on her beauties gaze.
Applauding murmurs through the hallowed ground
Mixed with the name of peerless Marian sound.
When like the moon emerging from her shroud,
The dusky bosom of a midnight cloud,
In deep confusion and in sable dress,
Lo! mid the wondering throng is seen to press
A lovely vision, who dissolved in tears
Prostrate before Matilda's feet appears,
Repentant Coral! who her presence sought
To own her folly, and lament her fault,
To crave one smile from her, and then disclaim
The hope of triumph, and the wreath of fame.
While spake the maiden, to herself severe,
On every cheek appeared an answering tear,
The dew of praise, in early youth to find
So pure a model of a noble mind.
The eager villagers with one accord
Hailed Coral worthy of the bright reward,
But justice first impelled the impartial dame
To hear unblemished Rosalinda's claim.
And now the merry harp proclaims her turn,
Her blue eyes sparkle, and her blushes burn,
But lo! an arrow from a hidden bow
Strikes not with more dismay the wounded doe,
Than (would that pity had the stain effaced)
These strange devices on the tablet traced.
Lady beware, Lady beware!
All are not fair that seem so fair;
Spite of thy frown, who claims the crown
Thy crown would wear.
Lady beware!
Lady so kind, Lady so kind!
Unkind is faithless Rosalind,
Who claims the Rose, with thorny woes
Thy brows would bind.
Lady so kind!
Lady beware, Lady beware!
Where is thy son, O where, O where?
Spite of thy tears, soon he appears,
And weds the fair.
Lady beware!
In speechless agony the damsel stood,
And horror from her red cheeks stole the blood.
Her tender parent with the shock oppressed,
Strove to defend, and fainted on her breast.
The good Matilda racked with doubts and fears,
Now spurns the thought, now sheds maternal tears,
While acclamations rend the azure skies,
"Queen of the garland, virtuous Marian, rise,
Thou only perfect, thou deserv'st the prize!
When as Matilda rose with mournful grace
On Marian's brows the votive flowers to place,
Resounding wheels, the hoof of mettled steeds,
Arrest her purpose, and the maid recedes,
For see alighting on the festal green,
A happy group illuminates the scene;
The noble Egbert with paternal pride
Conducting Edmund and a lovely bride.
From soft Ausonian shores this beauty came,
Bright as her clime, and of illustrious name;
Beneath refulgent skies, in fragrant groves
Where even cold Apathy relenting loves,
This fair enchantress by a mutual flame
Had cancelled humble Rosalinda's claim,
And by a guardian's avarice doomed to wed,
From hateful chains with love and Edmund fled.
Again the blush of Rosalind appeared.
To see her triumph near, her honour cleared,
Pressed to Matilda's sympathising breast,
Her tears found passage, and her feelings rest,
While Edmund told with all the fire of youth
Her long resistance, and unshaken truth.
Now strike the lyre! and now with loud acclaim
Let Echo dwell on Rosalinda's name!
Who lowly kneeling, from the virtuous dame
Received the recompense of well-earned fame,
While Love lay hid among the enraptured swains,
And threatened vengeance for his slighted pains.
The gentle Marian with a meek embrace,
And sister's greeting, yields with matchless grace,
A brighter palm her piety repaid,
And crowned with joy the unassuming maid,
Health spread her blooming wings, by Mercy led,
And from the weeping cottage Frenzy fled.
Ingenuous Coral by her sorrows proved,
Blessed with her hand and heart the youth she loved,
And the loathed Sybil who confessed her crime,
Abhorred and exiled, fled the happy clime.
Matilda's bliss refined let those explain,
Approved of Heaven, who have not lived in vain.
'Twas this fond aim inspired my trembling lay,
This aim shall chace the critic's frown away;
An aim fulfilled, if in some spot serene,
Where Virtue still protects the hamlet scene,
Warmed with my verse one young enthusiast cries,
"O happy Rosalind that gained the prize!"

Work for the Week.

CONSERVATORY AND GREENHOUSE.

Cinerarias and Calceolarias for specimens may now want a shift; they must on no account get pot-bound, or they will bloom prematurely. Water on fine mornings, and beware of green fly and mildew.

Climbers in greenhouses may now have special attention to reduce their dimensions; lay in wood for next summer, and clear the walls and trellises.

Pelargoniums to be cautiously watered and allowed to rest. Specimens may be tied out and stock struck late may be shifted and kept growing.

Chrysanthemums may be disposed of very easily by setting aside in a cool greenhouse one store-pot of each variety it is intended to propagate, and destroying all the rest. That is certainly a good way of wintering a large number in a small space. Good stools in six-inch pots will furnish any number of cuttings when required. People who have no glass can pack the roots close together under a wall or fence, where some dry straw can be thrown over them during severe frost.

FLOWER GARDEN AND PLEASURE GROUNDS.

Compost.—Every cultivator of flowers should secure now a good supply of turf from a loamy pasture, and of turfy peat or silky yellow loam in which the common brake grows plentifully. These should be stacked up in high ridges like walls, so that the frost will penetrate the whole mass.

Manure spread among choice shrubs will protect their roots from frost. In spring the manure can be levelled, and all rough stuff raked off.

Rhododendrons that have been many years planted require a little refreshing at the root, and this is the best time to do it. A mixture of very rotten cow-dung and leaf-mould is an excellent surfacing material, or two or three inches of rotten cow-dung only will do.

Roses requiring protection must have attention. Plantations of roses should now be mulched with half-rotten dung, which will protect the roots from frost; snow will carry much of its goodness into the ground. Roses yet out of the ground should be planted without delay while there is yet a chance of fair weather.

FRUIT GARDEN AND ORCHARD.

Bush Fruits should be planted, pruned, and manured as opportunities occur, so as to keep well abreast of the work. Gooseberries and currants may be lightly forked between to mix the manure with the soil, but raspberries should have three or four inches of dung, not very rotten, laid over the surface, and the soil between them should not be dug at all.

Orchard House Trees may be pruned at once, and washed with a solution of Gishurst Compound of a moderate degree of strength—say, eight ounces of the compound to a gallon of soft water.

Routine Work must be proceeded with in favourable weather. Dig round old fruit trees, and lay down a layer of old dung six inches thick, in a ring, three feet round the stem of each, and the size of the fruit will be improved next season. Trees that are sufficiently luxurious should not have manure. Give protection to any tender fruit trees, and lay boards in a sloping direction over vine borders to shelter them from excessively cold rains. Trees properly taken up and properly planted ought not to miss the move in the slightest degree, but you are sure to lose a whole season if they lie about waiting to be planted. Strawberry beds may be made in the course of the ensuing month, provided the soil be in proper condition, but it is not a good time to plant strawberries.

KITCHEN GARDEN AND FRAME GROUND.

Routine Work.—Make plantations of rhubarb, seakale, asparagus, and horseradish. Roots of dandelion, packed together in leaf-mould and put into gentle heat, where they can be kept quite dry, will furnish a delicate salad in five or six weeks. Turn over manures, and put aside in heaps to be frozen, rotted leaves and other materials suitable for potting, and when well sweetened and pulverized remove to bins in the potting shed to keep dry for use. Have sticks and stakes tied up in bundles ready for use; wheel turf and weeds to the muck pit; get pots washed and sorted over, and crocks sifted into sizes for the potting bench. This is a good time to make new drains, improve watercourses, and plant hedges. Sow early peas and beans on warm dry slopes; broccolis to be heeled over with their heads to the north.

Forcing.—Keep asparagus, rhubarb, and seakale going for succession. French beans will soon be in request, therefore make a liberal sowing, and place the pots in a temperature of about 70 deg. Lay a few picked tubers of early potatoes on a warm flue to sprout for planting over dung-heat, and get a bed or two ready.

CHRYSANTHEMUM ECHOES.

A friendly correspondent in a letter to me a few days since, after referring to the echoes, says, "I hope you intend keeping on with them long." As there may be other readers of this magazine who are interested in this column, it is, perhaps, as well to state that it is not intended to continue "Chrysanthemum Echoes" after the middle of January. By that time the late-flowering exhibition will be over, and the season virtually at an end. It would hardly be fair to the general reader to monopolize the valuable space of this paper beyond that period, as everything should receive its due share of attention in its own season.

I met an old grower last week who remembers quite well the purple chrysanthemum, and he told me that somewhere between twenty and thirty years ago he had in the garden of a house where he formerly lived several plants of that variety. He believes they are still in existence, and promises to secure some cuttings if the present tenant will permit him. If he succeeds it will be another interesting addition to the old sorts recently gathered together, especially if it be true to name. There is good reason for thinking that many of the old Chinese chrysanthemums are yet in cultivation, but there may be some difficulty in recognizing them when found. In old-fashioned gardens one may frequently meet with a great bush-grown plant, the name of which the owner has entirely forgotten, or probably never knew. When inquiry is made, you are told, Oh! that was here before I took the house, or some such similar reply. By looking after these, we may one day discover Madame Poggi and other good old favourites.

Now for a few more words on the old purple and Dr. Sharpe, and I have done with the subject altogether. From a well-known horticultural work, published about sixty-five years ago, I extract the following: "The purple chrysanthemum has been called the old red, the old purple, and the quilled purple. The

plant grows usually about 4 feet high; the branches produce the flowers in a loose corymb or cluster. The flowers in this variety expand about a fortnight after the earliest sorts; they have a strong scent, resembling chamomile; their colour is rather a dull purple, the florets not growing very compactly together, and projecting form a sort of expanded tassel-like flower, which generally has a dependent or nodding appearance; the expansion of a large well-formed flower is from two and a-half to three inches; the middle of the flower is generally filled with the long radiate florets, but sometimes a few short yellow florets are seen, and form a disc in the centre; it is then considered as semi-double; the radiate florets are tubular, but usually expand with a flat lip, splitting on their inside to more than half their length; their backs are a purplish gray, which is seen as the flower is viewed in front, when the quills are not opened, giving a two-coloured appearance to the whole flower; the external florets are larger than those which are nearer the centre." Growers of Dr. Sharpe will kindly read this description attentively, and when it is added that the writer of the foregoing description says, "occasionally a branch of this will produce white flowers," if anybody can assert that Dr. Sharpe and the old purple are identical, then the compiler of these Echoes is a double Dutchman, and the family tradition that he is a descendant of the noble race of transatlantic redskins is verily an idle and vain story.

Anticipation is usually better than realization. For a week past I have had the National dinner before my eyes. It will be such a joyful company; men we know by name but have never seen will be there; handshaking galore, introductions to all the *gros bonnets* of the chrysanthemum world, then a feasting and a junketing, the like of which was never known (I have already put myself on half rations to do justice to the evening's spread), then the calumet of peace brought out and the fragrant weed enjoyed, and finally a grand pow-wow, which will be interrupted by merry laughter, huzzas, and shouts of joy, that will make the walls resound. But I forget; when this is printed it will all be o'er, and the reader will have a full, true, and particular account of the events of the evening before him.

The French are busy getting their catalogues ready for next year. I suppose the English are, too, although I have only been favoured with Mr. Davis's and Mr. G. Stevens' up to the present. From two Continental growers the news has arrived that they will distribute 160 new flowers between them. There are about five others to be added to the list, and, estimating their collections of novelties at thirty for each of the five, it looks as if we shall suffer from an *embarras de richesses*. Of course they will be all new things; no old ones under new names—certainly not. Did they ever?

I do not like to prophesy, because, as a rule, I cannot see farther through a brick wall than most people, and we have it on good authority that gentlemen whose vocation it is to foretell events of the future are not very favourably regarded by the inhabitants of the country in which they dwell. This week I make an exception, and venture to predict that among the new flowers of next season there will be a considerable proportion with such nice easy English names that there will never be any more bother or trouble in spelling them. That is a treat in store for some, and the thanks of a grateful public will no doubt be due to their humble servant, C. H. P.

THE PET PIGEON. *Drawn by Clough Bromley.*

Among French Japanese varieties which are continually and persistently misspelled by the trade grower and reporter of exhibitions is "Monsieur Henry Jacotot." The flower was sent out in 1883 by the raiser, correctly named, but it is rarely so-called in this country. The gentleman after whom it was named I can affirm with absolute certainty, bears the English christian name of "Henry," and not the French equivalent "Henri," just as the celebrated journalist of the *Débats* is John Lemoinne, and not Jean. On one occasion when endeavouring to explain this point to a friend, I was calmly informed that if Cullingford was right it must be Henri. I collapsed.

The *Gardeners' Chronicle* last week in a short paragraph, refers to my recent exhibit in the following way: "It was announced that an album of the Queen of Autumn has been prepared for publication by Mr. Herman Payne." Now,

know ye all to whom these presents shall come that I am not, never was, and never shall be a German, that I loathe, abominate, detest, abhor, and hate everything that is Teutonic. I can neither suffer man, woman, nor child of that nationality, and although I have been in several parts of that pauper bestricken country, I never want to go again, unless perhaps to pay another visit to the grand old cathedral at Cologne. Ten years ago, thinking I should like to read Schiller and Goethe in their native garb, I sat me down to study their language; but after several months of hard labour, during which time I seriously endangered my uvula, and almost gulped up my tonsils, the project was renounced for ever. Call me English, French, Belgian, or even the son of a gun if you like, but a German never.

IN last week's number of the GARDENERS' MAGAZINE "W. C." inquires about chrysanthemums grown under difficulties, and which were referred to by Mr. Geo. Gordon a week or two previously. If W. C. lives on the Surrey side of the water, I should like to take him for a walk round the houses where some of the members of the Lambeth Society live, and he would then see more plants grown under difficulties than he imagines to be the case. One of the members of that society (who has, it is said, since discontinued growing) invariably grew his trained plants on the roof of his outbuildings. *Labor omnia vincit.*

I REALLY must bring out the red that has been lying in pickle so long for our worthy friends who contributed all the claptrap about Thibaut et Keteleer. There is not space enough this week, so it shall be reserved as a relish for their Christmas dinner next Saturday. And I heard a funny story the other day, which may amuse these sagacious expounders of French manners and customs.

C. HARMAN PAYNE.

Exhibitions and Meetings.

NATIONAL CHRYSANTHEMUM SOCIETY.

ANNUAL DINNER, DECEMBER 13.

THE annual dinner of the National Chrysanthemum Society was held at the Four Swans, Bishopsgate, on Monday evening, and proved the most successful of the festive gatherings of the society. The chair was occupied by the president, E. Sanderson, Esq., and there was a large number of the members and friends of the society, many of the guests coming from long distances to take part in the presentation to the highly esteemed honorary secretary, Mr. William Holmes.

The Chairman, after the usual loyal toasts had been duly honoured, rose to propose "Continued Prosperity to the National Chrysanthemum Society." In doing so, he said he could not refrain from expressing his surprise at the remarkable development which the society had undergone of late years, or of contrasting the position it now occupied with that occupied by the society when known as the Stoke Newington Chrysanthemum Society. It then exercised a most important influence on the cultivation of the chrysanthemum, but it was so insignificant as compared with what was being accomplished by the National Society that he would not attempt to institute a comparison between the two. He had not been particularly favourable to the change of name, but when it was made he considered it his duty to use his utmost efforts in conjunction with other members of the executive, to make the society worthy of the name it bears. That he had done, and he was fully assured they would all agree with him, that the work which was being accomplished by the society was in every way worthy of an association which claimed to be national in its objects and aims. In proof of this he would be content with a brief reference to the exhibition held in November, which had certainly not been equalled in the annals of the chrysanthemum.

The toast having been received, the prizes were distributed to the successful exhibitors, the secretary stating that the total amount disbursed at the November show was £223 3s. 6d. The prizes included two silver medals, respectively awarded to Mr. G. Stevens and Mr. W. Holmes, and a bronze medal awarded to Mr. Sullivan. The silver medal awarded at the recent meeting of the Floral Committee to Mr. Harman Payne for his collection of coloured plates of chrysanthemum was presented to that gentleman. Advantage was taken of the opportunity to present Mr. C. Gibson with a silver cup, which had been subscribed for by a few friends in recognition of his skill as a cultivator, as evinced by the fine collection of forty-eight incurved blooms presented at the November exhibition. The presentation was made by Mr. E. C. Jukes, who heartily congratulated Mr. Gibson on his success.

Mr. R. Dean proposed "The Health of the President," and in doing so did full justice to the services he had rendered by the admirable manner in which he had discharged the important duties of president of the society for so many years, and to his success as a cultivator and exhibitor of the chrysanthemum. Mr. Sanderson having briefly responded, Mr. Jukes proposed "The Health of the Vice-President," R. Ballantine, Esq., who in reply, said with others who had taken an active part in effecting the change in the name and the aims of the society, he rejoiced that their labours had been crowned with so much success.

The Chairman then said he had in the course of his long life acted in many capacities, and had many pleasing duties to perform; but in looking back he could not call to mind any event which gave him so much pleasure as he now felt in asking the company to drink to the health of their honorary secretary, and in requesting Mr. Holmes to accept the illuminated address and the three beautiful silver epergnes, with which he was commissioned to present him. It was highly gratifying to him to state, as he was sure it would be gratifying to Mr. Holmes to know, that there were upwards of one hundred subscribers to the testimonial fund, and that not one of them had been asked to contribute. In asking Mr. Holmes to accept these expressions of their regard, he would not dwell upon the services he had rendered, for all assembled were well acquainted with what he had accomplished, and knew him as a man whom they were delighted to honour.

Mr. William Holmes, who was enthusiastically received on rising to return thanks, said he rejoiced to know that he had so many good friends, as proved by the handsome testimonial that had been presented him by the chairman. He was not altogether unacquainted with the fact that some of the members and friends of the National Chrysanthemum Society were desirous of showing their appreciation of his services. But he had no idea that so magnificent a testimonial would be presented him, and he was so taken by surprise, that he was unable to find words that would adequately convey to them his appreciation of the kindness shown him. He had taken an active part in the management of the society during the past fourteen years, and as he had taken a leading part in the various changes which had been made in the society, he was immensely gratified by the success it had achieved. By reference to the list of members it was found that there were now 399, a number which would be augmented by at least twenty-five at the next meeting. As some indication of the extent of the last exhibition he would mention that of cut blooms there were no less than 3,720, whilst the entries in the other sections of the schedule were equally satisfactory. But great as was the success which had been achieved it must not be thought that there was very little further to be done. It was felt by many friends of the society that they should have a fifty guinea challenge vase, and publish an annual catalogue, with both of which propositions he heartily agreed.

The toast of Committees was proposed by Mr. Bird, for which Mr. G. Stevens, Mr. George Gordon, Mr. N. Davis, and Mr. Figgures severally responded. Mr. Gordon, who represented the Floral Committee, said he was highly gratified to find in his communications with chrysanthemum growers in various parts of the country, that on all sides the work of the committee was regarded with much interest, and their decisions received with respect.

In the course of the evening the special prize fund for the ensuing year was in accordance with the usual custom started, the Chairman reminding the members that it will be impossible to maintain the high character of the exhibitions unless liberal contributions are made to the funds.

Replies to Queries.

Large Grub.—Rectory sends a large grub, which is easily identified as that of the great cockchafer, *Melolontha vulgaris.* It is a destructive creature, but rarely appears in this country in sufficient numbers to obtain special attention. It is more injurious to grass than to garden crops, but has a kind of universal appetite. It is to find this fat beast that the rooks so closely follow the plough. It can be got rid of in gardens only by destroying it when turned up by the spade. Therefore good cultivation is its chief enemy.

Repotting Camellias.—T. P.—Camellias may be successfully repotted when commencing to make new growth in the spring, and immediately after the flower buds are set in the summer. Which is the best season for performing the operation will depend entirely on the health of the plants. If they are in an unsatisfactory condition at the roots, whether from an impoverished soil or a derangement of the crocks, it will be advisable to repot in the spring; but if they are in a healthy state it will be as well to defer the operation until the summer.

A Garnishing for Soups.—W.—It is not generally known that the tender tops of seedling peas are useful for garnishing soup. The way to secure the tender tops is by sprouting the seeds on a thick piece of felt, which should be well moistened with tepid water. Place this in a shallow tin or on a soup plate in a warm corner of the kitchen, and keep it wet. In a comparatively short time the plate will be covered with delicate greenery, and when the shoots have progressed an inch or two cut them off, and they will prove useful as garnishings to a well-made soup. Successional supplies can, of course, be maintained by making sowings as soon as one batch of seed has germinated. The tops should be boiled in the soup about two minutes only, which will render them tender without spoiling their colour.

Brazil Nuts.—Enquirer.—Brazil nuts are not produced singly in a pod as you suppose, but several together, sometimes as many as thirty, closely packed in vertical series in a spherical or oval shell of great hardness. It is not often the pods reach this country, but by diligent searching amongst the greengrocers' shops they may sometimes be found at this season. The botanic name is *Bertholletia excelsa.* In Venezuela, Brazil, and Guiana, there are large forests of this tree, which skirt the banks of the Rio Negro and Amazon. When seen at home its majestic grandeur at once impresses the traveller, the trees frequently rising over one hundred feet in height, noble and dignified, with stout shapely trunks and leaves of vivid greenness. When the pods have come to maturity they fall from the trees, and are then gathered up by the natives, who split open the case of flint-like hardness, and remove the nuts, which are then packed in baskets for exportation. The trade in these nuts is considerable, as the oil extracted from them is used for several purposes. This rich, sweetish oil is very abundant, and a recently-imported nut will, when lighted, give quite a bright flame.

Ivy in Decorations.—Vitis.—The ivy was not in the early ages employed for the decoration of churches, probably owing to its association with the Bacchanalian orgies, which were held in Rome in honour of Bacchus, to whom the ivy was dedicated. But by reason of its adaptability for decorations it has become a favourite. An old carol in honour of the ivy runs as follows:—

"Ivy is soft and meek of speech,
Against all bale she is bliss,
Well is he that may her reach.

Ivy is green with colours bright
Of all trees best she is;
And that I prove will now be right.

Ivy beareth berries black,
God grant us all His bliss,
For there shall He nothing lack."

Van Thol Tulips for the Table.—Lady Gardener may certainly employ the Van Thol Tulips for the decoration of the table, as owing to their bright colour they form effective adornments. When judiciously set off with Selaginellas or some similar greenery they show to advantage, but care must be taken not to employ too many, or there will be a preponderance of red. Pots of these tulips are valuable for decorating sideboards and corners of the apartments, and the flowers last fairly well in a heated room. Immense quantities are produced annually for the market at this season, as a visit to Covent Garden will show. The bulbs are usually potted in November for flowering at Christmas, and when a large number is required the bulbs are packed close together in shallow boxes filled with a light soil. Sometimes cocoa-nut fibre only is employed. The bulbs to be seen in pots at this season of the year have not been grown in them from the very first, as, if this were the case, nine chances to one if they would all flower at the same time. The usual plan is to select bulbs in an equal stage of development and transfer them to pots, the number for each generally being three.

DECEMBER 18, 1886.

Supplement to the Gardeners' Magazine,

CHRISTMAS DOUBLE NUMBER.

THE GRANGE.

From a Drawing by Clough Bromley, Esq.

THE TRUE STORY OF MERLIN THE MAGICIAN.

BY SHIRLEY HIBBERD.

In the story of King Arthur, as attempted in outline in our Christmas number, 1885, Merlin is mentioned incidentally, and with no reference whatever to the position assigned him in the romances, as the king's adviser and as the prophet of the time. In a "true story" of Arthur, Merlin may have but a small place, and, in fact, may be excluded without damage to the current of events, and even from the chain of causation, where philosophy may be allowed to assist. But for all that, he is well adapted to embellish the true story, as he does embellish and greatly enrich the romances, for magic is a great element in old world literature, and ofttimes a miracle is absolutely necessary to make anything move. Sir Thomas Malory gives evidence of this everywhere in his delightful pages, and from him is taken, indirectly, the figure of Merlin as he appears in the "Idylls of the King." He is brought before us as pursued by the wily Vivien, who has plied the blameless king with her arts and failed, making thereby "the laughter of an afternoon."

> And after that, she set herself to gain
> Him, the most famous man of all those times—
> Merlin, who knew the range of all their arts,
> Had built the King his havens, ships, and halls.
> Was also bard, and knew the starry heavens.
> The people called him Wizard; whom at first
> She play'd about with slight and sprightly talk,
> And vivid smiles, and faintly-venom'd points
> Of slander.

The moral of the story is suggested in the outset, our Laureate following in this, as in other particulars, the general purport of the romances. But that moral lifts the legend to a higher level than the wont of such, and gives a touch of sublimity to a character and a fable that, in its way, amply justifies both.

> For Merlin once had told her of a charm,
> The which if any wrought on anyone
> With woven paces and with waving arms,
> The man so wrought on ever seem'd to lie
> Closed in the four walls of a hollow tower,
> From which was no escape for evermore;
> And none could find that man for evermore;
> Nor could he see but him who wrought the charm,
> Coming and going, and he lay as dead,
> And lost to life and use and name and fame.

It is enough. Vivien plied her arts, obtained the charm, and by its means quenched "the great Enchanter of the Time," who sleeps still in the hollow oak "in the wild woods of Broceliande."

Although Merlin may be omitted from the true story of Arthur, as having but little to do with it, he is the most interesting character in the whole of the story, save alone the blameless king and the blameful Lancelot. The romancers have made him infamous; the Kymry have exalted him as poet and prophet; the mediæval bards have added to his fame by ascribing to him works that are loaded with predictions, fulfilled because written subsequent to the events predicted. As an ideal character he attains his greatest stature in the tedious French romance called "Merlin," from which Sir Thomas Malory obtained a portion of the material for his "Morte d'Arthur." Therein he appears as a child born of a nun, and having no earthly father—a common beginning for one intended to work miracles, as many of our grand old books testify. He has his home in Northumberland, and there a Master Blase from time to time commits to writing the events reported to him by Merlin. He is a willing necromancer, and decidedly favourable to wickedness. It is he who contrives the trick by which Uther Pendragon obtains the chaste Ygrain; for, having slain her husband, the Duke of Tintagel, Merlin enables him to personate the duke, to the deceiving of Ygrain, and thence arises the grave question of the legitimacy of Arthur, which Merlin settles with his persuasive explanations. At the close of every important episode Merlin hurries to Master Blase, and the adventure is at once converted into history. All things are possible to him, from the building of a fleet of warships to the transference from Ireland to Salisbury Plain of the monument known as Stonehenge. He is at one time a loathsome pander, reflecting mediæval immorality; at another a teacher of religion, and a prophet divinely inspired. He composes verses; he has the gift of becoming invisible, and, the corollary of that, the assumption at any time of any shape; and in his literary capacity his chief work is a poem on apple trees, really written long after he had ceased to be, and implying a desire on the part of the later bards to present him to posterity as a sort of prophetic costermonger.

The true Merlin is probably a worthy character and a genuine poet. The first serious attempt to reconstruct him on a basis of facts forms a part of the learned and acutely critical essay on ancient British poetry that appears as an appendix to Sharon Turner's "History of the Anglo-Saxons." The whole of the works attributed to Merlin, so far as can be recognized by judicious editors, who have explored the resources of Kymric literature, are to be found in what for present purposes may be described as original texts in the "Myvyrian Archaiology of Wales," edited by Messrs. Jones, Williams, and Pughe, published at Denbigh, 1870. Of his position in the Mabinogion we shall not speak, because there is something better at command to put us in the way of facts, that at this time we shall prefer to fancies. In the monumental work of Thomas Stephens on the "Literature of the Kymry," Merlin obtains justice as one of the earliest British bards, and the true history of this interesting personage takes us over the very same ground that we had to trace in the story of Arthur, for Merlin was a hero of Strathclyde, and his banner might at this day be planted on the towers of Dumbarton Castle, which certainly was the centre of more than one of Arthur's conflicts with Picts and Saxons. The Red Book of Hergest and the Black Book of Carnarvon contain the best available texts of the elder British bards, the last named being enriched with the Avallenau, or the song of the apple trees, attributed to Merlin, which Mr. Turner regards as his "beyond all dispute." And he quotes from Cynddelu's Elegy on the Death of Owen to show that Merlin was in the great battle of Arderydd, and that his memory was cherished as of great renown—

> On the progeny of Run lie the red earth and stones:
> Ominous, not glad tidings, was the fate of the Chief:
> It is an omen of the pain of agitated terror,
> To the finger from the splendour of the palace,
> To the minstrels whose request was for slender coursers.
> But to the crimson'd wolf of terror, and to the ravens it was a boon.
> Frequently it will come to the memory of the profound Bards;
> To Cynddelu it forebodes delay to his claims of honour.
> Of the honoured sovereign—the armour of the host of raging slaughter—
> Of Owen, God has determined the day;
> Of the venerated head appropriately predominating in Britain.
> Thus in the conflict of Arderydd, wrath stalked through the battle,
> Amid ruin and falling slaughter,
> Over myriads of men, over Merddin, who was illustrious.

In the chronological order of the bards of whose works there remain texts, Aneurin appears first, his time of chief activity being from A.D. 510 to 560. His principal work is the Gododin, a descriptive poem of great historical value. The next in order is Taliesin, 520 to 570, his poems relating chiefly to conflicts between Britons and Saxons: his principal patron was Urien, whose praises he sings in no ambiguous manner. We next have Heinyn, bardd Maelgwn, 520 to 560, of whom but little is known. Then comes Llyarch Hen, 550 to 640, a bard of high rank, author of elegies that have historical value, and of a pleasing trifle called the "Cuckoo." Merlin, Merddin, or Merdhin, appears to have written between 530 and 600, and his appearance in the battle of Arderydd enables us to fix a date for his season of high activity. Those that follow, of whose works copies exist, are about a hundred; the dates of their works ranging from 520 to 1390, the last in the list being Gruffydd ab Adda ab Davydd, or Griffith, son of Adda and grandson of David.

In the story of Arthur we had to recognise three of the name and reduce them to one. Now we have to recognise two Merddins, one the son of Morvryn, or Merlin the wild; the other Merddin Emrys, the Merlin Ambrosius of Nennius, Geoffrey of Monmouth, and the romances. They lived at the same time, and are one and the same beyond all doubt, the Strathclyde and the Caledonian forest being their proper home, and the frequent retreat of the romance Merlin to Blase in Northumberland being consistent with the occasional visit of the bard to some lettered holy man in the North, for in the sixth century "Northumberland" was the country north of the Humber, and the Kymry contended with Picts, Scots, and Saxons, not only in the Forest of Celidon or Caledonia, but further north even than Ben Lomond. In the subjoined extract from the work of Stephens, the bard is set before us with his lady companion, thus affording a kind of historical, or at least critical, commentary on Tennyson's episodical chapter in the "Idylls of the King."

Merddin Emrys appears as a boy before Vortigern about the year 480; and Merddin ab Morvryn at the court of Rhydderch Hael in 570 is an old man, whose "hair is white as winter hoar," and who is on the point of death. It is, therefore, much more probable that both names belong to the same person than that there should be two persons endowed with supernatural powers, living in the same locality, at the same time. And there is nothing improbable in the supposition that he might have lived to be ninety years old, when the average age in the Vale of Glamorgan was a hundred and twenty years. Merddin ab Morvryn is apparently the person whose character formed the nucleus from which the other was developed. In the appellation "ab Morvryn" we evidently have a fact, but he soon loses his reality. At the court of Rhydderch Hael he was called *Laloiken*, or *The Twin*, and that appellation (though at the present day the Welsh predicate nothing of twin births but good fortune) evidently had considerable significance; for in the dialogue between Merddin and his sister, Gwenddydd perpetually calls him "My *world-famed twin-brother*." Castor and Pollux, Romulus and Remus, Esau and Jacob, all famous, are cases in point. In that poem Merddin ab Morvryn is invested with all the attributes that were afterwards centred in the person of Merlin the enchanter; but as the ancient Welsh would scarcely invest two men of the same name with supernatural power, we are compelled to conclude that the Merddin who has a parent is the only real personage. This is clearly the germ of the latter creation; and as the bards of the twelfth and succeeding centuries put the predictions which Merddin Emrys utters in Geoffrey's book into the mouth of Merddin ab Morvryn, and this more than a century after that history had been given to the world, they would appear to have considered them identical. Further, the "White Lady," who is mentioned as the companion of Merddin Emrys, in both the verses of "The Graves" and in the later romance, is the same person as Gwenddydd, *the lady of the day*, the sister of the son of Morvryn.

The student of ancient literature is sufficiently familiar with great men who were without fathers; but to discourse on the subject here would be to indulge in discursiveness to the disadvantage of the story. The case of Bryan the Hermit, in the "Lady of the Lake," will occur to the reader of Scott, and St. Samson, Bishop of Llandaff, affords a parallel case. As we get hold of the real Merlin we can the better afford, perhaps, to be amused by the fictions current as to his beginning and his end. It will suffice here to sum them up in a few words. He had no earthly father, but was the child of the Devil. As to his end that was equally simple. He went to sea in a glass vessel in order to see the fishes, and was never afterwards heard of. Merddin Emrys is a fiction, originating, probably, in a blunder of Nennius. Merddin, the son of Morvryn, was a reality. In his youth he was in attendance on Ambrosius, the

King, of Roman descent; in the fulness of his manhood he fought in the battle of Arderydd, and was illustrious as a bard, and, so far as we know, never pretended to magic or prediction, or took part in the desperate wickedness imputed to him in the mediæval romances.

The version of the Romance of Merlin, included in the series of the English Text Society, is prefaced with an essay by W. D. Nash, Esq., author of a critical commentary on the works of the bard Taliesin, and one of the few masters of these difficult subjects. Mr. Nash does not agree with Mr. Stephens as to the identity of the two Merlins, but if compelled to make a final election he will, doubtless, prefer as the reality the fatherless Merddin Emrys; but his reasons appear to me wanting in cogency. However, we are to welcome every ray of light, whatever its colour, when groping in such a dark place as this region of Celtic romance, and the following from Mr. Nash's essay is very much to the purpose now before us:—

It appears to be historically certain that about the date of the sixth century there lived a person who, under this name of Merddin, or, as it is written in the oldest Welsh form, Myrtin, acquired celebrity as a bard, if not as one gifted with supernatural powers. According to the Welsh genealogies, he belonged to the same northern clan which furnished nearly all the heroes and personages of Welsh romance, with the exception of Arthur himself and his immediate ancestors, who are represented as of southern Armorican descent. So far from being of unknown or mysterious birth, the pedigree of Merddin Caledonius is as well ascertained as that of any other British celebrity. He was the son of Madog Morvryn, descended in the sixth or seventh generation from the chief of the great clan known to us by the probably corrupt name of Coel Godebog, and a kinsman of the undoubtedly historical chieftain and warrior Urien Rheged. The event which appears to have rendered him celebrated, and to have been the source of his fame as a prophet, was the circumstance of his having become insane, and consequently an object of superstitious veneration, after the disastrous battle of Arderydd, fought between the Cumbrian chief Rhydderch Hael, and another Cymric, Regulus Gwenddoleu, the son of Ceidio.

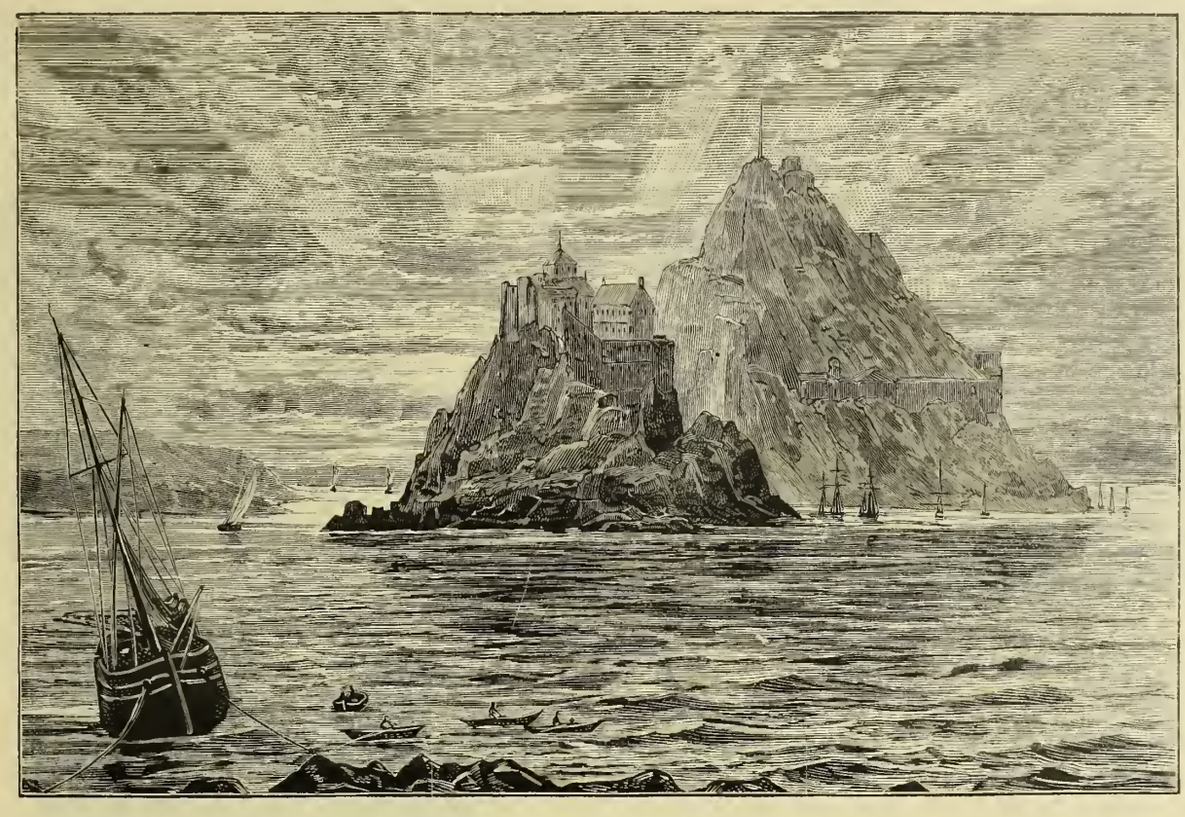
Merlin's madness may be taken as a fact, but the traditions vary as to the cause of it, one representing that his mind was shattered by the appearance of a phantom, but for the present purpose it seems enough to know that the battle of Arderydd was not only a tremendous disaster but a disgrace as well, for the side on which Aneurin and Merlin fought owed their defeat to the plentiful drinking of mead on the eve of the conflict. Merlin saw his kinsmen cut down as the reward of their folly, and amongst those who fell were Gwenddoleu, his patron, and the son of his beloved sister Gwenddydd. Why seek in conjecture for the cause of Merlin's madness, when such facts as these demand consideration? In the Gododin, Aneurin is loud and frequent in his lament for that dread day—

The warriors went to Cattraeth with the dawn,
Confident in exposing themselves to the inevitable fate;
They had drunk the yellow, sweet ensnaring mead,
Merry had been the hours, merry the singers.
Red became their swords and plumage,
Their white shining blades and square helmets,
* * *
The warriors had hasten'd swift, all running together;
Short were their lives drunk over the distill'd mead.
The host of Mynydawc abounding with gold were in distress.
The price of their banquet of mead was their lives.

But nowhere in the Gododin does the lament sound more real than in the lines—

They had drank together the sparkling mead by the light of rushes;
Pleasant was its taste, long was its woe.
Cyt yven vedd gloow wrth liw babir
Cyt vei da ei vlas y gas bu hir.
Turner, H.A.S., III. 546.

In the Myvyrian Archaiology the poems attributed to Merddin fill more than fourteen pages. They comprise a dialogue between Merddin and Ysgolan; predictions delivered when in his grave; a dialogue between Merddin and Gwenddydd, his sister; the Apple Trees; the songs of the Pigs; and the Burrowings. Stephens cites one that causes a sort of watering of the mouth, or say a very keen desire for the text. He says, "In addition to these, Llwyd, in his account of the MS. called 'Y Kwtta Kyvarwydd o Vorganwg' says it contained a prediction uttered by Merddin before Arthur; but this does not seem to have been published." The first in order of time is the dialogue between Merddin and his sister. This takes the *form* of a series of predictions, but in reality it records facts, and may be regarded as a versical form of history, at all events, so far as to the order of princes, from Rhydderch Hael to Howell the Good. The chronology of the facts condemns the alleged authorship, but the plan of the poem suggests that Merlin laid the foundations of an early system of teaching history in a manner adapted to a state of society in which predictions were better esteemed than records. Here is a sample from Stephens, of the interesting relic:—



DUMBARTON CASTLE, THE STRONGHOLD OF ALCLYDE.

Gwenddydd.
I will ask my fame-proclaim'd twin-brother,
—The fierce in battle;
After Rhydderch who will be?

Merddin.
As Gwenddoleu was slain in the Battle of Arderydd,
And I have come from among furze—
Morgan the Great, son of Sadurnin,
Will come from Edinburgh,

Gwenddydd.
I will ask my famous twin-brother,
Bardic president about the waters of the Clyde,
Who will rule after Morgant?

Merddin.
As Gwenddoleu was slain in the blood-fray of Arderydd,
The voice of the country
Will dispose of the power to Urien.

Gwenddydd.
Thy head is of the colour of winter hoar
May God relieve thy necessities,—
Who will rule after Urien?

Merddin.

Heaven has pressed heavily upon me,
And I am ill at last—
Maelgwn Hir will rule over Gwynedd.

Now, whatever theory we adopt as to the authorship, the verses, so far, are full of interest, for they carry us northward to the scenes of the frequent Kymric conflicts with invaders, and they assist us to locate the true birthplace of the Arthurian story. Let us accept the conclusion of Llwyd that they were written about 940 ; that was not too late, we may suppose, for a correct geographical estimate of Merlin's sphere of operations, and the power in his time of the Kymry up to and beyond the line of the Clyde and the Forth, where, of necessity, the southern boundary of the Picts would be undefined, doubtless, and shifting with the fortunes of war.

Mr. Stephens is of opinion that at a later date than 940 the author of the Dialogue was in the land of Brittany, where, indeed, is that forest of Broceliande that looms so large upon us in the Idylls. "In Brittany, just at this time there was a man who watched most intently the motions of factions in Wales, and soon afterwards made his appearance among his countrymen. He was lineally descended from Howell the Good ; he had fled to Britany in 993, at the death of his father ; and in 1077, after an absence of 84 years, he returned to the land of his ancestors to claim the throne of Wales. He brought with him an immense reputation for wisdom and learning. He brought more than that, for he brought with him *the marvellous history of Arthur and the Round Table.* I do not mean to assert that that prince was the author of this dialogue, but I will assert that it was written to further his interests, and that the people of Wales first heard predictions of the speedy reappearanoe of Cadwaladr in the Vale of Towy, when a rightful and popular claimant to the throne of Dehenbarth was announced in the person of Rhys ab Tewdwr. It will be observed that the dialogue has a special reference to him, for Cadwaladr was to come, at the very time that he came, to the very place where he landed, and for the very purpose which he had in view."

The Avallenau is a work of considerable importance, for it aids us to a critical means of separating the history from the myth in the various complications of the Arthurian story. And it is of importance also for its beauty. But as to its genuineness there is not much room for speculation, because of the internal evidence of its origin at a time subsequent to that of Merlin, and also its evident political purport. It reminds us of the return of Ulysses and his enumeration of the fruit trees. But there is no proper parallel, unless for us it may be in the agreeable suspicion that the poem, as we have it, was founded on a veritable work of the bard, that being necessary to make it pass current as the voice of a prophet speaking from the grave. A few stanzas from the translation by Mr. Edward Williams will suffice here for the illustration of our story :—

1.

Was there such a gift given to any one, as at the dawn of day
Was given to Merddin, ere age had overtaken him?
Seven score and seven sweet apple trees,
Of equal height, age, and magnitude,
They are a mark of a Sovereign's benevolence,
And are overshadowed by lovely foliage.
A maid with beauteous ringlets watches over them,
Gloewedd by name, with teeth of pearly whiteness.

2.

Sweet and excellent apple tree!
Thou wilt be heavy when laden with fruit,
And I am full of care and trouble for thy safety,
Lest the woodmen
Should destroy thy root, and injure thy seed,
And prevent any more apples from growing on thee ;
And I tear myself wildly with anxiety ;
Anguish pains me, and no clothes protect my body ;
These were the gift of Gwenddoleu, the free giver,
Who is now, as he was not.

3.

Sweet apple tree of delicate growth,
Thy shade is celebrated, profitable, and comely ;
Princes will combine upon false pretences,
With false, luxurious, and gluttonous monks,
And idle talkative youths, to get thy fruit;
They all prophesy warlike exploits to the Prince.

* * * * *

7.

Sweet apple tree, which formest a stately grove,
The wild dogs of the wood seek shelter about thy roots,
Yet shall my prophetic song announce the re-coming
Of Modrawd and Arthur, leader of hosts ;
Again shall they rush to the battle of Camlan,
And only seven escape from the two days conflict.
Let Gwenhwyvar remember her crimes,
When Cadwaladr resumes possession of his throne,
And the religious hero leads his armies.
Alas, my lamentable destiny ! Hope affords no refuge ;
Gwenddydd's son is slain and by my accursed hand.

8.

Sweet apple tree of richest fruit,
Growing in the lonely woods of Celyddon,
All seek thee for the sake of thy fruit,
But in vain, until Cadwaladr comes to the conference of Rhyd Rheon,
And Kynan advances to oppose the Saxons ;
Then shall Britons be again victorious,
Led by their graceful and majestic chief ;
Then shall be restor'd to every one his own,
And the sounder of the horn of gladness proclaim
The song of peace, the days of happiness.

The "Songs of the Pigs" are in like manner political and prophetic, and represent the hope of a people dispirited by conquest that Heaven would work miracles in their behalf in the restoration of leaders known to them only as heroes ever triumphant. Yes, Merlin sleeps in his cave, and will awaken when the time comes ; Arthur is on the waters nursed by the three queens, and will return to lead the Kymry to complete renewal of military and bardic glories.

Hear, O little pig ! is not the mountain green?
My cloak is thin, and I am uneasy.
Grey is my plaid ; Gwenddydd will not pierce me ;
And when the men of Bryneich come to bring disgrace upon us,
Cambrians will conquer. Bright will be their day.

It is time now to consign Merlin to the grave, but it shall not be in the way of the Laureate. The bardic record is more to the purpose, as in the "Englynion y Beden"—

The grave of the sun of the Nun
The companion of the lion of Emrys,
The chief diviner Merdin Emrys is
In Newys mountain.

In the dialogue between Merlin and his sister, "the earliest existing record of the Welsh tradition respecting Merlin," we have a clue to the origin of the myth that is so like reality in "Merlin and Vivien."

Gwenddydd.

Alas ! dearest, the cold separation,
When comes the day of tumult ;
Thy imprisonment beneath the earth,
By a monarch valiant and fearless.

In Spenser's "Faerie Queen," Caermarthen is the birthplace and present hiding-place of Merlin, its name being compounded of Caer and Myrddin.

——— That is by chance of name
Caer Merdin called.
There the wise Merlin whylome wont they say,
To make his wonne, low underneath the ground,
By a deep delve, far from the view of day,
That of no living wight he mote be found,
When so he counselled with his sprights encompast round.

The reference brings us back to the question of the two Merlins, but we do not thereby lose our hold upon the north country and the leafy woods of Celydon. Mr. Nash rushes to our aid with the remark that "Merddin, the son of Morvran, of Northern Britain, certainly had no connection with Caer-myrddin (Caermarthen, in South Wales), but like all other celebrities of the northern Cymric kingdom, he has been located by the Welsh writers in Britain, west of the Severn." It is no new thing for a people driven out by conquest to carry their gods with them, and give their names to newer cities as memorials of glories that have passed away. If Merlin be really dead, his grave is in Newys Mountain. Now that we have gathered up a few facts concerning him, we shall dismiss them in the interest of the fiction of his ignominious sleep, as the victim of a wanton in the wild woods of Broceliande. That being accepted, there is a possibility of his return ; for there lives one who could break the spell and set him free. The name by which that one is best known and most beloved is Alfred Tennyson.

RATIONAL RHYMES.

We want some rhymes containing reason,
To suit the subject and the season :
So give me now a rhyme for *Bread*,
You'll find the rhyme within your head ;
Now speak the word, and do not stutter;
The proper rhyme for bread is—*Butter*.

Now let us have a rhyme for *Beef*,
I want it for my own relief;
To talk about when I'm at dinner,
To please some other carnal sinner.
You nothing say and look quite fluster'd !
The meetest rhyme for meat is—*Mustard*.

We need a reasonable rhyme to *Salt*,
As good as hops might be to malt;
Some flavour in't to please a glutton,
Who doats on tender, juicy mutton.
You seem as helpless as Mazeppa—
A perfect rhyme to salt is—*Pepper*.

And now the cook has put the ham on,
There is a cheerful smell of *Gammon* :
You need not search the rhyming book,
The rhyme to gammon's known to cook :
Why grin ? You were not born at Grinnage,
The rhyme for gammon must be—*Spinage*.

Your silence shows you are a stupid ;
The rhyme to that you know is cupid.
The reason where ? There's nothing in it ;
You cannot end, then why begin it ?
You're a stupid ; rhyme to that my brother,
You cannot ! Well, the rhyme is, *You're Another*.

PRESENTS.—Everyone is now thinking what they will give their friends at CHRISTMAS or NEW YEAR'S DAY. The housewife, the mother, and the sister can every day in the year present a most acceptable gift to each member of the household, "A GOOD CUP OF TEA." To ensure its being really good, ONLY that QUALITY which is known to be the BEST gives satisfaction. HORNIMAN'S TEA has deservedly had the character for 50 years, of being the CHEAPEST and the BEST, and being "ALWAYS GOOD ALIKE ;" most who use it will take no other. It is necessary to SEE the Importers' signature, W. H. and F. J. HORNIMAN and Co., on every packet, as there are many base imitations offered to the unwary.—[Advr.]

THE MAN OF ROSS.

The town of Ross, in Herefordshire, has an importance of its own by reason of its position as the key to a world of beauty. From this point we make the tour of the Wye, finding boats for the purpose at the Dock Pitch, and, if it pleases us, making the journey to Chepstow in the course of a day. But prudent people do not "rush" when scenes like these are at command; the names of the places fill one's soul with a sort of rapture, for they are rich in memories of noble men and noble deeds; of the conflicts of races continued through centuries; of personal sacrifice, bravery, and anguish; of the direful struggles and alternations of triumphs that made a great history, and settled, as we hope for ever, the terms of amity on the basis of mutual interest.

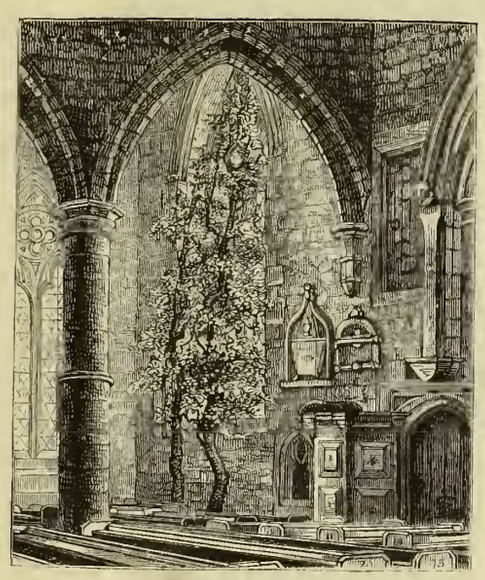
John Kyrle, the Man of Ross.

> O, sylvan Wye! Thou wanderer through the woods,
> How often has my spirit turned to thee.

The ivy-clad ruins of Wilton Castle prepare the voyager for the scenes that follow. The Penwoods, the Man of Ross Walks, the Bridge, and the Goodrich Ferry furnish entertainment and matter for reflection, for at this point the armies crossed the river either way, this ferry being one of the great thoroughfares between England and Wales. Goodrich Castle occupies what is considered the finest point on the river; the views are surprisingly beautiful. The coracles in use remind one of the early Briton as we have often seen him depicted in books, but presently the railway bridge recalls us to the present, and we are soon prepared for the delightful agitations of the spirit to be experienced at Coldwell Rocks, or the speculations of the engineering mind on the rounding of the river here. It may occur to one that such a scene, perhaps this very one, was in Shakspere's mind, in the dialogue of Julia and Lucetta, when he takes a lesson from a river to make a parallel with a lesson of love:—

> *Lucetta*—I do not seek to quench your love's hot fire,
> But qualify the fire's extreme rage
> Lest it should burn above the bounds of reason.
>
> *Julia*—The more thou damm'st it up, the more it burns.
> The current that with gentle murmur glides
> Thou know'st, being stopp'd, impatiently doth rage:
> But when his fair course is not hinder'd,
> He maketh sweet music with the enamell'd stones,
> Giving a gentle kiss to every sedge
> He overtaketh in his pilgrimage,
> And so by many winding nooks he strays
> With willing sport to the wild ocean.—(*Two Gent. Ver.* II., 7.)

At New Weir is another grand scene, the river broadens as though to give grander effect to the Great Doward, and makes another sweep to compel admiration of the cairn-like peak in which is Arthur's Cave and its reminders of old-world romance. Monmouth, Tintern, Chepstow! the names seem to fill one with a sort of blessedness as memory mingles the crowded streets on a market day, the stony desert wreathed about lavishly with ivy and innumerable flowers, the ruined fane and deserted fortress, the least changeful thing in all the route being the river itself, which, in its own way, justifies the homely proverb, "As you make your bed, so you must lie." Its stream has run red in the time of Arthur, and often since, but now we see in it somewhat of a reflection of another Arthur, the subject of the noblest dirge within the range of human utterance:—



Trees in Ross Church.

> The Danube to the Severn gave
> The darkened heart that beat no more;
> They laid him by the pleasant shore,
> And in the hearing of the wave.
>
> There twice a day the Severn fills,
> The salt sea water passes by
> And hushes half the babbling Wye,
> And makes a silence in the hills.
>
> The Wye is hush'd, nor moved along;
> And hush'd my deepest grief of all,
> When fill'd with tears that cannot fall,
> I brim with sorrow drowning song.
>
> The tide flows down, the wave again
> Is vocal in its wooded walls:
> My deeper anguish also falls,
> And I can speak a little then.—(*In Mem.* XIX.)

Ross is at once a respectable, a picturesque, and an interesting town. It would be a pleasure to add that it is prosperous, for in truth it appears so, although it is somewhat too common to meet with beggars in the streets. Its position is advantageous for trade as well as for pleasure, and so it becomes the resort of many pilgrims, who will generally gladly own that they have been well treated. The one great attraction for a certain class is the house of John Kyrle, the "Man of Ross," who resided there in the Market Place, and made Ross a refuge of relief for the miserable, and a pattern of horticultural advancement for all the country round. It might be difficult to find a parallel example of antithesis to the mournful utterance of Antony over the body of Cæsar:—

Parish Church, Ross, Herefordshire.

> The evil that men do lives after them;
> The good is oft interred with their bones—

for here, in Ross, the good lives and is visible, and indirectly it "comes home" to us in London, for the spirit of Kyrle may be said to live in the Kyrle Society, and in the whole scheme of its generous regard for human suffering that is made manifest in gifts of flowers to inmates of hospitals, and of toys and tender teaching to children cast upon the world and cherished by strangers, on whom they have but one claim, of the compassion taught by Christ.

John Kyrle was a man of good family, located at Dymeck, on the Cotswolds, whence, in times long gone, Spain obtained the breed of sheep that made her wool trade. He was born there in 1637, and died at Ross 1724, at the ripe age of 87½ years. He was educated at Balliol, Oxford, and settled down on a patrimony of £500 a-year, by the judicious and benevolent use of which he accomplished wonderful things. He opened up the prospect which overlooks the Wye, planted an avenue of elms, and provided an engine to raise water from the river for the use of the town. These and other acts are referred to in the celebrated lines of Pope, which have ensured for his name an immortality that is fully deserved, but was possible only by the aid of the poet, for local memories, when untouched by genius, are as perishable as though written in water. Pope became acquainted with the history of this man through visiting a Roman Catholic family in the neighbourhood, and his reference to the clothing of the mountains with woods, and providing the swains with water, was but the echo of the talk of the

country-side. The causeway, the seats for weary travellers, the heaven-directed spire, were conspicuous amongst the benefactions of the "Man," and they remain to testify of his large humanity. His chief merit, however, lies in his care of the poor at a time when there were better reasons than now for such benefits as he conferred. There had been from ancient times decreed that tolls paid for corn brought into Ross should be the property of the poor. But the institution was abused, and needed to be rescued from corruption and desuetude. There was none to defend the poor until Kyrle took up their cause, traced the mischief to its root, ground the toll-corn, had it made into bread in his own house, and from his own door distributed it with justice and discretion.

BRIDGE AT ROSS, THE STARTING POINT FOR THE TOUR OF THE WYE.

Perhaps the most pleasing memorial of Kyrle is the elm tree in the church, for this is a growth from the root of one of his trees that was cut down. His bones rest beneath a blue stone in front of the altar. It was his own desire that his tomb should remain uninscribed, but in 1776 a tablet was affixed to the wall to keep his name in remembrance. His residence in the market-place is divided between a chemist and a photographer, and the much-worn stone market-house gives a pleasing old-world tone to the picture, for the shoppiness of the spot is scarcely obtrusive, and the medallion portrait of Kyrle happily carries our eyes upwards. He was a handsome man, with a square countenance beaming with cheerful benevolence. He is described as spare in figure, well shaped, given to much outdoor exercise, enthusiastic in practical horticulture and forestry, and usually clothed in a suit of homely brown. He was a Churchman by birth, faith, usage, and habit, and at the casting of a bell for the church he drank the King's health from his silver tankard and then threw the tankard into the furnace, so that Kyrle himself may be said to speak to the people every time the bell is sounded.

RESIDENCE OF JOHN KYRLE, MARKET PLACE, ROSS.

Many who have visited Ross and heard much of Kyrle go to Alexander Pope and fail to find the famous panegyric, to which the world is in so great a degree indebted for the cherished memory of this good man. They look for a poem entitled "The Man of Ross," but there is no such work. Turn to the "Epistles," and in Epistle III., addressed to Allen, Lord Bathurst, you have it. Here, to conclude, we give the whole of the passage :—

But all our praises why should lords engross?
Rise, honour'd muse! and sing the MAN OF ROSS:
Pleased Vaga [Wye] echoes through her winding bounds,
And rapid Severn hoarse applause resounds.
Who hung with woods yon mountain's sultry brow?
From the dry rock who bade the waters flow?
Not to the skies in useless columns toss'd,
Or in proud falls magnificently lost,
But clear and artless pouring through the plain,
Health to the sick and solace to the swain.
Whose causeway parts the vale with shady rows?
Whose seats the weary traveller repose?
Who taught that heaven-directed spire to rise?
"The Man of Ross," each lisping babe replies.
Behold the market-place with poor o'erspread!
The Man of Ross divides the weekly bread:
He feeds yon almshouse, neat, but void of state,
Where age and want sit smiling at the gate:
Him portion'd maids, apprenticed orphans bless'd,
The young who labour and the old who rest.
Is any sick? The Man of Ross relieves,
Prescribes, attends, the medicine makes and gives.

Is there a variance? enter but his door,
Balk'd are the courts, and contest is no more.

* * * * * *

Of debts and taxes, wife and children clear,
This man possessed—five hundred pounds a-year.
Blush, grandeur, blush! proud courts, withdraw your blaze!
Ye little stars! hide your diminished rays.

* * * * * *

Who builds a church to God, and not to fame,
Will never mark the marble with his name:
Go, search it there, where to be born and die,
Of rich and poor makes all the history;
Enough, that virtue fill'd the space between,
Proved by the ends of being, to have been.

AN EXPERIMENT WITH LEGS OF MUTTON.

You know my eldest married daughter, how observant she is, how correct in her judgments and clear in her perceptions, and wondrous in knowledge of the world. Well, the other day, when taking tea with her, she remarked that the butcher had complained of her ordering legs of mutton so often, mildly suggesting that he should be happy to send loins and necks and shoulders occasionally for a change. I remarked, of course, that it was most unreasonable for a tradesman to complain in that way; customers must have what they wanted. But she protested, in her usual forcible and reasonable manner, that as only two legs can be cut from a sheep, and those were in greater demand than any other part of the animal, the butcher had a perfect right to complain of the perplexity that resulted from the appreciation of one part, and the consequent depreciation of the rest. Then she added, with a happy laugh, "You see, father, one might lie in bed and sell legs of mutton."

The subject passed out of my mind for some twenty-four hours, and then the words returned to me with power, "Lie in bed and sell legs of mutton," and I added, with peculiar unction, "I will do it." You see, I have had a large medical practice, but have made no money, and now that my powers are declining, any easy way of making money has peculiar attractions. I reasoned with myself in this way—The speaker never goes below the level of common sense, but often rises high above it, and is a thoroughly practical woman, who would herself do this very thing, if need were. Yes, my Lucy would, if it suited her, lie in bed and sell legs of mutton.

It was necessary to face a whole series of incongruities at the outset, but I resolved to face them, knowing that a few days' rest in bed would be good for me, and that the monotony of life in bed might be agreeably varied by the transaction of business requiring no special talent. I resolved to face all difficulties, for now it seemed a special opportunity had been provided me to make a small fortune while enjoying the rest I so much needed. I therefore sent for the carpenter and caused him to remove into the lumber room my great mahogany wardrobe, my cabinet of oriental curiosities that I keep in the bedroom for safety, my plate chest kept there for the same reason, and all the fixtures and nick-nacks to make an ample space of unoccupied wall. Upon that wall he fitted powerful meat hooks, and we were ready for business. I wrote with a large paste brush dipped in ink, a bold placard to be placed in the drawing room window, which being at the corner, may be seen from two streets, and I sent to the market for twenty legs of mutton which were brought home, and I paid for them elevenpence per pound. They were handsome and rosy, and would have commanded a penny per pound profit in any butcher's shop, but knowing much of the world, and especially of business, I knew that I should have to lose by the first lot, and so to win customers I fixed the price at ninepence. Having placed a pair of scales on the top of my best bureau, and converted the drawer of my dressing table into a till for the money, I turned into bed quite happy and hopeful, having first placed the placard above referred to in the drawing-room window; it ran thus:—

PRIME LEGS OF
MUTTON.
9d. per lb. Ready Money.

*** N.B.—*Ring the bell, and go up to the second floor.*

The exertion and the excitement together produced a strange effect, for I had but drawn the clothes over my shoulders when I dozed off and had a sweet sleep. From this happy rest I was suddenly aroused by my housekeeper, who burst into the room in a most unceremonious manner, saying, "Here is a person wants a leg of mutton, sir." When I had rubbed my eyes and realized the situation, I replied, "Show the person up." Then I was informed that the person was one of my patients, who supposed by the placard that I had gone away, and that my snug house—that was actually built for the convenience of a doctor under my own directions—would now be converted into a butcher's shop. What followed appeared to me preposterous, because I have always regarded the business principle of buying in the cheapest market, the one only principle that meets with universal recognition. And this is what happened. The person applying as a purchaser was under a misconception, but on learning that Dr. Dawlish had gone to bed to sell legs of mutton, merely remarked, "I'd sooner go to the butcher's and pay double the money," walked away; and thus I lost, I may say, my first customer.

The day passed over fairly well. I had a comfortable little dinner in bed; an hour or two of reading, and one or two little sleeps. The vexation of the loss of the first customer did not greatly affect me, for I consoled myself by saying an established business has its vexations; a new business must have a large share of them. Night came, and with it a very nice little supper; in handing me which my housekeeper asked me, in a confidential sort of way, the meaning of this strange proceeding, as she was pleased to term it. I told her plainly it meant what it appeared to mean; it was no joke, and no enigma; it was my intention to make money by lying in bed and selling legs of mutton, whereat she laughed hysterically, and said she could not stay in the house while such nonsense went on, but would stay one day longer to enable me to make other arrangements.

To this unpleasant episode I attribute the night of trouble that followed. The legs leaped from their hooks and danced a jig on my bed; then they joined themselves to necks and loins and shoulders, and a lot of ghastly, greasy, disjointed dead sheep tormented me, and smeared me with their blood and grease, and occasionally joined in a chorus of "Baa," and I found myself a dismembered carcase all horrible to behold dancing with them and calling "Baa," suddenly changing to "buy, buy," with a chorus of the whole company—

Make your fortune before you dine,
Buy at eleven and sell at nine.

From the dreadful dream I was awakened by an oppressive sense of nausea, and I sprang out of bed and rang the bell. My vexatious attendant presently appeared, and at once seized her nose with her apron and snuffled out something about such a lot of meat shut up all night with the gas burning, and a doctor, too, it would kill anybody. The growl was useful to me, for it aroused me to the fact that the atmosphere was acquiring a deadly condition, for I had kept the gas up partly to enable me to read occasionally when sleep was impossible, and also to advertise the new business to the two streets within view. It is my good fortune to possess a large stock of common sense, a quality in which, as I have said, my eldest married daughter takes after me. So I brought my common sense to bear on the subject, and I ordered my domestic to take away all the legs of mutton save one, that being reserved for sale should a customer suddenly appear, after which, of course, another would be brought in ready for the next sale. Now I must record my extreme disgust at what followed. My domestic, after years of faithful service, actually refused to touch the offending joints, and telling me she would give me some strong tea, and then go to my eldest married daughter for advice, left the room. I was better for the rousing, but I had a grave suspicion of blood poisoning, and my sense of nausea was unbearable. The tea appeared and was welcome, and instantly afterwards I heard the front door shut with a bang, and I knew I was alone in the house.

I endeavoured to quiet my mind by taking a business view of the affair, and had made up my mind to a certain course, when I heard a strange roar, as of a herd of wild animals not far away. I sprang to my window, and to my astonishment beheld a party of boys preparing to storm the house, which told me plainly that my proceedings had caused a stir in the neighbourhood. At this very moment my daughter, accompanied by my housekeeper appeared, and I heard them tearing the placard from the window and pacifying the boys with gifts of money, the next step being to order me to go into another room, and dress, and so make an end of what my dear child was pleased to speak of as outrageous foolery.

The dear girl displayed her business capacity by persuading her own butcher to remove the legs of mutton, and pay fourpence per pound for them; and to keep the secret for her father's sake. The house was soon restored to its wonted calm and respectability, and as I recovered from the shock I was conscious that a few more hours in the atmosphere I had so ingeniously created would have been fatal to me. "But, child of mine," I said, "why did you tell me in so serious a manner that anyone might lie in bed and sell legs of mutton?" And she made her pretty face twice its natural length as she replied, "Why, indeed? I want to know why you accept in a literal sense words uttered in playfulness? What I said is true in a figurative sense, and if I may not sometimes use figurative language, why I must cease talking, at least, *to you!*" The emphasis of the final words afflicts me now, although there are but few who have any knowledge of my singular experience as a trader in legs of mutton.

Dr. Dawlish.

CHRISTMAS ROSES.

Oh! the Spring hath its Roses—rathe Primroses;
They shine from the sterile brake;
And the days grow lighter, warmer, and brighter,
For theirs and their sisters' sake—
Their sisters the Violets, purple and white,
On whose birthdays the wild birds sing songs of delight.

And Summer hath Roses—regal roses;
And proud are their crimson smiles,
And bright is the flush of the fragrant blush
Of these brides of the flowers of our isles;
And the fountains leap up with exultant bliss
When they dimple the streams with their perfumed kiss.

And Winter hath Roses—pale Christmas Roses,*
Dearer and fairer than all,
Pure lily-like flowers for desolate bowers
When oak-leaves, wither'd, fall;
And I cry amidst relics of Life's decay,
"Heaven keep for my winter pure thoughts such as they!"

—From Rowland Brown's *Gathered Leaves.*

"Our Ancestors."—A correspondent of *Nature* sends the following communication: "During eight centuries—say to the time of the Norman conquest—one's direct ancestors amount to a far greater number than would at first be contemplated. Taking three generations to a century, one has father and mother (2), grandparents (4), great-grandparents (8). At the end of the second century the number of ancestors springs to 64. Following the calculation, you will find that at the end of eight centuries one is descended from no less than 16,000,000 ancestors. Inter-marriage, of course, would reduce this estimate, and there is no doubt it must have largely prevailed. But the figures are so enormous that, in spite of all, I ventnre to suggest that the words, 'All ye are brethren,' are literally true."

* Helleborus niger.

CENTURY PLANT, AGAVE AMERICANA,

AS EXHIBITED AT SOUTH KENSINGTON,
JULY, 1886.

AN INTERVIEW WITH A PRODIGAL SON.

It was in a thoroughly generous, I will even say charitable, frame of mind that I called on the Prodigal Son to expostulate on his ways, and to persuade him to better courses. I am bound to say he received me in the most affable manner, and was not for one moment ruffled by my remarks, but treated me with a frankness I did not expect, and that I fear I could not, or did not, reciprocate. I broke the ice by saying I had called to condole with him on the necessity that had arisen for turning his heirlooms into ready money, but he assured me that there was no necessity for condolence, and in plain terms said he could do very well without it. Then I felt a certain amount of chagrin, for it was not within reason that I should put myself to the trouble to talk to a man for my own good, and when whatever he might do could make no difference whatever to me. The conversation that ensued I shall report with accuracy, and leave the great public to acknowledge that I have effected a moral triumph.

Expostulator: In selling these heirlooms, Mr. Prodigal Son, you bring disgrace on your family name; you destroy the interest long associated with your noble house, with its creditable history, its valuable pictures, its rare books, and its numerous curiosities. You are about to strip yourself and wrong society, and you will not know how to face the world when this event is accomplished.

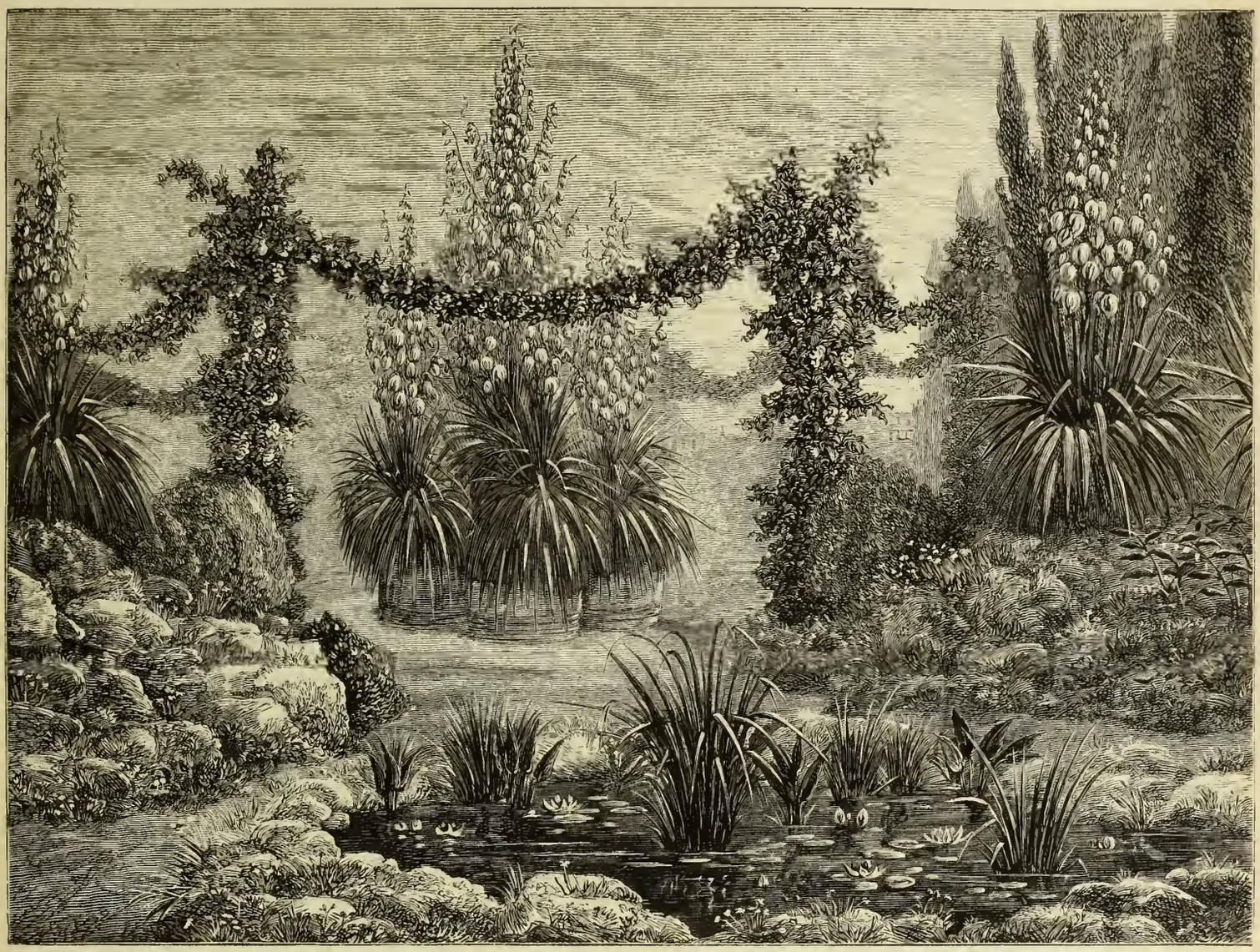
Prodigal Son: I sell for the same reason that other men sell, because I want the money; and when you talk about disgracing my family name, tell me, is it a greater disgrace to sell and pay, or to keep and live in debt, and thereby impoverish my creditors? You are not prepared for the position, I perceive. It is of no concern to me that my house and its contents are interesting to the world at large, and if the world is in the mood to find fault, I retort that the world ought to thank me for providing a new sensation, for I perceive that the sale catalogues are already at a premium, and express trains are organized to bring buyers from day to day to the sale of these effects. I strip myself willingly, for I want something more substantial than a title and the right to wear gewgaws; I want what you want, and what every man wants: I want money, and I go the surest way to get it by doing as I please with my own.

Expostulator: Your argument is simply a justification of your profligacy. You would make a ruin of a great possession, and defy the Expostulator, whose aims are conceived in the spirit of purest generosity.

Prodigal Son: I shall not question the purity of your motives. I make it a rule to believe every man when he declares his motives; all I do in the face of pure motives is to take care of my own motives, and work out my own policy, so that should my friend who talks about motives prove a hypocrite, I shall be none the worse for it. You see I am making a general answer to cover all motives; and I repeat that I believe in yours, for I never dispute unless there is some obvious advantage in the proceeding.

Expostulator: Then you will not dispute my proposition to the effect that the course you are bent on is a wrong to your ancestors, a wrong to yourself, and a wrong to society; therefore, before the deed is accomplished, pause, reflect, and choose a wiser course.

Prodigal Son: Now, there is some advantage in disputing with you on this point, because as regards facing the world when all is over, I shall be able to say I have paid my debts by making the world my debtor, and—be not alarmed at the declaration—I shall expect the world to show me the gratitude due to a benefactor.



THE YUCCA IN GARDEN SCENERY.—A Sketch from the Royal Horticultural Society's Gardens, Chiswick.

Expostulator: You do alarm me by your cynical frankness; the world your debtor, indeed! for what? For extravagance in living? For the scattering of ten thousand treasures that made your house a place and a name of renown in all countries?

Prodigal Son: You and people of your class are wiser than wisdom. I can remember well when it was said of me that my luxury made employment, and was good for trade; I remember that there was only one reason that could be discovered for returning me to Parliament, and that was, as they said, "because he spends his money like a brick." Well, for years I have lived beyond my means, and a shrinking income consequent upon agricultural depression intensifies the case, and my credit being gone, I take a bold course and strip myself to pay my debts. And you, with the noblest of motives, call me to account! Let me keep my heirlooms and augment my debts; will that course agree with the motives that influence you on this happy occasion?

Expostulator: Well, no, not exactly, but—you see, there may be a medium course; say a more frugal way of living, and the management of your reduced income so that it shall suffice both for your maintenance and to pay your debts, for, of course, that is a point which, with my pure

motives, should have first consideration. You see I live by trade, and know something about it.

PRODIGAL SON: I am quite prepared for your alternative, but I must tell you what you appear not to have perceived for yourself—that I am not an angel, or anything in the world better than a man. You expect the "titled great," as they are called, to be of superhuman virtue, while the constitution of society forces them into vicious grooves and makes them less than men in respect of all the trials to which they are subject. Take a medium course you say. I do better than that, for I choose the possible, while you gratify your self-esteem by proposing the impossible. You pay your way probably, knowing nothing of debt. But then you probably began life by learning to earn your own living, and you follow a course of industry because, forsooth, you have no other means of subsistence. Had you been born to a great name and a great estate you would have cared more for amusement than for the workshop, and having become fixed in your habits you might perhaps be in exactly the same position as I am now, ashamed to beg, afraid to steal, and with only one prospect of escape from a present difficulty. All I shall expect as the result of my sacrifices will be the thanks of society for benefits conferred.

EXPOSTULATOR: I cannot but feel that there is some justification in the course you pursue, but it is of the ignoble sort, and you vitiate even that by speaking of yourself as a benefactor. The man who accumulates is the true benefactor, for it is by accumulations of individuals that the wealth and power of a state are augmented: the profligate, the scatterer, is no friend to his race; he does nothing to advance thought, improve industry, or increase wealth. Your words convict you both of imprudence and insincerity. You have invited me to speak freely, and I take you at your word. I will not aggravate your case with any more reproaches. My own interest in the matter is of the most unselfish kind, for of all your treasures I only covet the possession of a few Elzevirs.

PRODIGAL SON: You do not afflict me in the least, and one reason is that I have heard all this before, and have thought it out much more seriously than you can imagine. Now, you have talked about motives, and I repeat I quite believe you, for you must be a better judge of your own motives than I can be. It is time, however, for me to talk about my motives. Of my intentions you know enough; of my motives you know nothing. Very well, I shall begin by saying that I strip myself for the advantage of society, and as some kind of return for having lived an idle life, earning nothing and swallowing much. It is out of pure benevolence that I sell my grand pictures, my historical plate, my unique library, my miscellaneous treasures, collected by hands that the grave has closed over and that cannot point at me the finger of scorn. Yes, I am the world's benefactor, for I place at its disposal a vast accumulation of curiosities for the delight of thousands, in place of keeping them here to be seen occasionally by the few who will take the trouble to trouble me on the subject, and who, if they can, will take the trouble also to convince me that I do not appreciate them, and know less of them than men who have never seen them, except by my permission. Yes, this noble house is rich as it stands; the world has no share with me in the enjoyment of it; the immensity of the collections constitutes for me an oppression: yes, an oppression, which I shall be rid of when the world has selected and disposed at its own freewill of the things I offer it to be taken at its own price! Why should I affect any mock modesty when I feel that in taking measures to pay my debts I do the world a double good—I perform the first duty of a citizen as regards my private affairs, and I enrich the picture galleries, the libraries, the museums (public and private) with treasures all have heard of but few have seen, and that presently will be at the command of those who will take them at prices determined by themselves. I in debt? Yes; but in a few weeks hence the world will be in my debt for this benefaction. My debts to the world will be paid; the world's debt to me cannot be paid; Now, Mr. Expostulator, have you anything more to say?

EXPOSTULATOR: All you say comes simply to this, that every evil is attended with some amount of good. That has always been acknowledged, but we are not to do evil that good may come. You draw your arguments from the past, but allow me to say that the future should have consideration also; for, after all, why do men accumulate wealth except it be for the benefit of those who come after them, whose duty it is, let me say, to add to the parental accumulations. The future must be thought of, and your course appears to be to ignore the future, and submit yourself at any time to be the sport of fate. You inherited an estate that might have been capitalized at, say, three millions of money; and by application to business of some kind you might have doubled it to the advantage of your successor—surely you must see that the future cannot be lightly despised, except by the reckless and improvident.

PRODIGAL SON: The piling up of fortune upon fortune has not often been a matter of consideration with me, for you see I have lived according to the Scriptural advice—leaving the morrow to provide for itself. This sounds hypocritical, perhaps, but I really mean it. Just observe now your model man who inherits, say—to take your figure—three millions, and adds to it another three millions. His successor inherits six millions, and leaves to his successor twelve millions. This rate of progress is fundamentally false, for in a true theory of money-making we should progress in a geometrical rather than an arithmetical ratio. Therefore the three millions to begin with should very soon become thirty millions, or thirty thousand millions! It matters not how great the sum, for it is easy to deal with gigantic figures when we are free from the burden upon the human soul they would suggest if considered seriously. But I take you at your word. A man is bound to add to the estate he inherits, and the consequence is that he is bound to become a monster, for the possession of wealth beyond a certain point must convert a man into a beast, a swallower of all within his reach, an organized leprosy, a defier of kings, a terror to peoples, a curse and a blight to the world where the common sunshine that freely blesses the lowly would not be good enough for him. There is no such man, and so you need not curl your lip as I picture the wretch who has inherited unheard of wealth, and added to it until the only comfortable thought left to him is that death will absolve him from the curse of great possessions. I thank God, as a Prodigal Son, that as I brought nothing into the world, I am to take nothing out. Twice in a man's existence he may be happy—when he is born naked and with no language but a cry, and when he dies, casting his burden upon shoulders that long for it, but will soon be weariod, as I am, of the weight of it. I say there is no such man as the monster I have rudely painted, for Providence has wisely ordained that at certain points in the history of personal accumulations the Prodigal Son shall come in and scatter, giving mankind the benefit of the hoard, whatever it may be, and ridding society of a possible bugbear, for a more hideous bugbear there cannot be than the man who is unreasonably rich. Your Accumulator accumulates, and thereby stores up electric force; but your Distributor distributes, and thereby gives the world light. This interview must now terminate, and I shall show my appreciation of your high motives and ingenious arguments by inviting you to select your Elzevirs and keep them as a memorial of this conversation, which I confess I have much enjoyed.

The Prodigal conducted me to the library, where I selected my Elzevirs and took them away with me, that there might be no doubt about the conditions of the gift. I did not suspect that there would be two sides of the question discussed, but I have the consolation of the conviction that I had the best of the argument. JEREMIAH SMALLSOUL.

A STRING OF PEARLS.

IT is not every preacher on pearls that can claim the right that I have to speak with authority on the subject. I have myself laboured in the pearl fishery, and with more brilliant success than I ever anticipated, although my nature is one of the hopeful sort. Yes, you have here the words of one versed in the business, who can boast of unique experiences, and at least one most unique result, the finding of a pearl to which, as it appears, there is no parallel in nature or art.

With metaphorical pearls we shall have nothing to do, for it was the matter of fact trophy of pearl oysters in the Colonial and Indian Exhibition that caused certain friends to demand of me an essay on pearls in the Christmas number of the glorious G. M., and with that trophy in my mind I shall now proceed to business.

A pearl is a concretion of carbonate of lime, and is identical in origin, as well as composition, with the lustrous nacre, with which the shells of oysters, mussels, and many other molluscs are delicately lined. The animal pours out a fluid which solidifies in this way to afford a proper finish to its residence, for such a tender fleshy creature could not possibly live in a rough abode any more than a man could sleep naked on a couch made of nutmeg graters. Whether as a lining to the shell, or as a bead attached to the shell, or concealed within the body, the substance is the same, and its use is protective. The lining is "mother of pearl," making smooth the house in which a most delicate sensitive creature has to perform a few movements, chiefly of expansion and contraction, and the "beads" or "seeds," called "pearls," are the coverings of particles of grit or other foreign bodies that have obtained admission, and would prove most injurious unless the creature had the power of self-protection in rendering them smooth and homogeneous with the shell itself.

Between pearls and mother-of-pearl the difference, commercially considered, is immense. Both are obtained from the pearl oyster, *Meleagrina margaritifera*, and both are met with in the common oyster, *Ostrea edulis*; the common mussel, *Mytilus edulis*; and other bivalves. But for commercial purposes at the present day the pearl oyster is the only important source of any kind of pearl, the lining of other shells being too thin for detachment, and the pearls that occur (rarely) in their flesh being of small size and impure in colour. It is sufficient for this paragraph to add that pearl in either shape is a perfectly natural production; it may be obtained in peculiar forms by artificial processes, but even then is perfectly natural, as natural, say, as the "propolis" or cement that honey bees employ either to seal up a crevice in the hive or wall in a snail that has intruded and cannot be removed.

Pearls have been valued from the most ancient times, and their origin and properties have been well understood. The prophet Job, speaking of wisdom, says "The gold and the crystal cannot equal it; and the exchange of it shall not be for jewels of fine gold. No mention shall be made of coral or of pearls, for the price of wisdom is above rubies" (xxvii., 17.) In the days when Rome was great pearls must have been valued extravagantly, for the one that Cleopatra boastfully dissolved in vinegar, and drank for the display of her profligacy, was valued at £50,000. A hint of it is conveyed in the Shakesperian text, where Alexis bring to Cleopatra news of Antony—

Alex. Sovereign of Egypt, hail!
Cleo. How much unlike art thou Mark Antony!
Yet coming from him, that great medicine hath
With his tinct gilded thee.
How goes it with my brave Mark Antony?
Alex. Last thing he did, dear queen,
He kissed—the last of many double kisses—
This orient pearl. His speech sticks in mine heart.
Cleo. Mine ear must pluck it thence.
Alex. 'Good friend,' quoth he,
'Say the firm Roman to great Egypt sends
This treasure of an oyster; at whose foot,
To mend the petty present, I will piece
Her opulent throne with kingdoms; all the east,
Say thou, shall call her mistress.' (*Ant. Cleo.* 1, 5.)

The mention of the oyster is peculiarly appropriate in this address, for

the Romans despised the shelly products of the shores of Italy, and secured regular supplies of British bivalves—the "natives" of the days of high conquest—for the enrichment of their feasts. In the first satire of Juvenal the taste of the Roman epicure is described in the same way as we now speak of the taster who, when blindfolded, can name the wine he is drinking, or the nursery-foreman who can name a camellia in the dark by merely touching its leaves. The epicure of Juvenal

> At the first bite each oyster's birthplace knew,
> Whether a Lucrine or Circean he'd bitten;
> Or one from Rutupinian deeps in Britain.—(*Sat.* I. iv. 140.)

Those who want to know all about historical pearls will find a search for them in the books a quite agreeable pastime. The British public in modern times have never seen so many at one time, or so many so good as when the Indian presents to the Prince of Wales have been displayed, whether at Bethnal Green or South Kensington. The size of the pearls on sword scabbards, saddles, and table ornaments astonished the people, and many curious ones asked for the proper qualities of a pearl in the eyes of a connoisseur or dealer, a question certainly of some interest. It should be understood, then, that a pearl may be pear-shaped, or round, or oval; but it must be symmetrical. It must have a pure colour, and a clear pearly lustre. All deviations from these rules are either blemishes or cabinet curiosities, these last being of much greater interest than the proper pearls that owe their value to their size and perfection of form and colour.

In Ceylon pearls are obtained by the practice of diving for oysters, as may be found described in a thousand books. The oysters are put into pits to putrefy, and when dried up are searched for the pearls. It is a very nasty, but also a very profitable business, variable, hazardous; but hitherto always enjoying the advantage of a ready market for all the pearls obtained.

It should be understood that no pearls are taken from oysters as they are seen when making a lambent glow upon the brow or neck of a lovely woman. No; the rough diamonds demand polishing, spite of Mr. Ruskin, who declares that all such things should be appropriated in exactly the condition in which Nature presents them to us. That declaration of J. R. has often troubled me, because I have seen emeralds and rubies raw from the mine showing such loveliness of colour that I was bound to say with him—

> Beauty unadorn'd is adorn'd the most.

But I cannot now speak *ex cathedra*, having no rights that way; but I will tell you that, as a rule, pearls, when found, are not so pure and lustrous as they are when dressed, and there are no dressers of pearls that are equal to the Cingalese workmen, who inherit centuries of experience in the curious business. By means of very simple machinery they drill the pearls, that they may be put on strings, and finish by polishing them, the powdering polish being prepared from the pearls themselves. It would puzzle a novice, even if expert in drilling, to drill holes in pearls with the bow and spindle employed in this business, for it is like a conjuring trick, only much more meritorious, because there is no trick, but wonderful manual dexterity. A black pearl may have merits of its own, but it may be made a white pearl by the polishing process, and whoever might attempt to revive the British pearl fishery—for pearls are plentifully produced on our coasts—would have to take into consideration the possibilities of the drilling and polishing.

Now we come to the fantastic pearls, and I must tell you that the first of the kind I ever saw was in the form of a ring. Yes, a perfect ring of pearl. It was plunged in acid, and the product was an old and very thin wedding ring that had by some means found its way into the shell of an oyster, and had been promptly coated with nacre to render it inoffensive. At South Kensington there are two collections of pearls. Go to the New Natural History Museum and turn sharp to the left from the entrance door, and proceed until you see the third door on the right. There enter and you will be in the oyster shop, a most interesting place, wherein are displayed in glass cases the pearl oysters and the pearls, some of them in considerable number attached to the shells. You may there learn—if you have not already grasped the fact—that pearls occur on the shells and also in the body of the animal, the last-named sort being those we are accustomed to see as personal adornments. Now go to the Old South Kensington Museum, and there you may find the *cultivated* pearls, for the Chinese and other orientals have peculiar modes of operating to produce pearls. They pierce the shell of the living creature; they introduce, to fret the animal, little images of Buddha, and these become coated with nacre, and are natural pearls on adventitious foundations, such as my wedding ring and the cross of pearl, that was figured in the *Illustrated London News* some six or eight months ago.

As regards pearl fisheries, Queensland comes in nicely now, by tapping a warm sea. The Persian Gulf is rich in pearls; the coast of Coromandel affords space for prospectors, the Algerine coast, and Sooloo Islands are pearly in their way; and in the new world, Pearl Island, on the coast of Columbia, and also the Bay of Panama, are capable of defying the milky way in heaven by a pearly way on earth. The best pearls, mind you, are those from eastern seas, the western seas being "new" have, of course, not yet learned their business in this department.

It is very much to be feared that the British pearls, once so famous, were never thoroughly worthy of their fame. The Romans valued the pearly products of the Conway river, which, in its pearl producing region, may be regarded as an inlet of the sea. Now, it was there that I, the writer of this superficial stuff, embarked in the pearl fishery, and under an inspiration that is probably as unique as its results. The fact is I went into this trade for love and not for money, saying if the Romans enriched themselves with Conway pearls, I may do the same thing, for nature is constant, and the lapse of a couple of thousand years will not much trouble her. And so I collected and cooked bushels of common mussels, having the assistance of two dear brothers, as unused to the business as myself, but strengthened for the performance by a feeling the world knows very little about, the feeling of true friendship.

We found the pearl fishery a most unpleasant occupation, but we secured a lot of pearls, all of them save one dark coloured, some jet black, but mostly of a dull lead colour, and all of them of the seed size; not one large pearl rewarded our devotion. However, as Wordsworth has said, "Nature never did betray the heart that loved her," so I must say that, in the way of pearls, nature has been faithful and generous to me. I have a pill-box filled with pearls of my own finding, all of them the produce of the mussels of the Conway. But I have something more—I have a *golden pearl*, a thing, so far as I know, unheard of until it came into my hands. Yes, in cutting through a lobster, a pearl came forth and actually rolled into my hand. It is nearly as large as one of Cockle's pills, or say it is the size of a small pea. The colour is a clear dull amber; the form is perfectly spherical, the surface so good that to polish it would be a folly, and as regards colour, if it is not unique—why, then it is not so rare a find as I have always regarded it. As the possessor of a golden pearl of my own finding, I may subscribe myself,

The Lover of Margaret.

A FERN HUNT.

To an elderly clerk, country-bred, but whose business it has been for the last thirty years to figure officially at the desk or counter of a London bank, a few weeks' holiday when leaves are green is an absolute necessity. The great metropolis to him is a desert, and his little domicile and garden an oasis. Nothing in the way of architectural pretension alone will suffice to allay his instinctive craving for greensward and twinkling leaves. A garden of some sort, be it ever so small, cribbed, and cabined, can be made at least suggestive if not attractive, and the plants that may be most readily utilized, the most tractable, hardy, and suitable, and at the same time most elegant, persistent, and easily managed, are ferns. My garden—I am the official referred to—is only ten yards by five, lies east of the house, and is surrounded on three sides by an eight-foot wall. The south wall has a narrow lean-to, the north has a covering of Irish ivy, Virginian creeper, and a few climbing roses, and the east has a Pyrus japonica and two Gloire de Dijon roses.

But my pride is a small collection of British ferns, grown between the interstices of burrs and fragments of limestone, which I brought home piece by piece as luggage, on returning from my summer holidays. The most interesting little lumps are chosen, with seedling ferns growing in the crevices, and lichens or moss creeping over them and folding them in emerald velvet. Cocoa-fibre dust mixed with sand and loam is the material in which they grow.

It was an enthusiastic Irish curate who first taught me to take an interest in ferns. "The great field of botanical research," said he, "is too wide for busy mortals who have little time to spare at home, and there is enough in this one branch of the study to afford interest and delight to the student, and especially if he will take the trouble to search for the plants in their natural habitats." Ferns, as a very general rule, make their homes in the most interesting and picturesque localities, chiefly in the south and west, where hartstongue, lady fern, osmunda and adiantums, oak and beech fern, are most abundant, or in the wild solitudes of the Northern Highlands.

There were three species with which I wished to enrich my little collection—the true maidenhair, the green-stemmed Asplenium and the holly fern. My story, if such it may be called, relates to the latter—how and where I found it, and the events connected therewith, one of which caused me great anxiety.

Taking my fishing creel—which served the purpose of a haversack, a fishing rod, a sketch book, and a little contrivance for cooking a trout by the riverside, I secured a ticket for Inverness, and from thence walked south sixteen miles to Freeburn Inn, on the banks of the picturesque river Findhorn. There for a week I fared sumptuously, caught trout and cooked them, and wandered for hours by the charming river, whose banks, in some of the shady spots, are covered with dense carpets of oak and beech fern. From thence I walked across to the quaint old inn at Rothiemurchis, near to where lived of yore Professor Aytoun's "Old Scottish Cavalier."

> "He kept his castle in the north,
> Hard by the thundering Spey.
> A thousand vassals dwelt around,
> All of his kindred they;
> And ne'er a man of all that clan
> Had ever ceased to pray
> For the Royal race they loved so well,
> Though exiled far away."

On the banks of the thundering Spey, the huge old inn of Rothiemurchis is an interesting feature. The great kitchen, with its garniture of flitches and hams, its rows of polished pewter plates, its open hearth with fire of fragrant pine, its group of brawny Scots and busy housewives, its wooden settles, with fishing rods, and nets, and guns in the corners, presents an interior which an artist might do well to paint.

In the distance, apparently only a few miles, is a ridge of hills with their flanks scored and quarried by the rude fingers of countless storms. Between the picturesque old inn and the hills and the Cairngorm, stretches the indigenous forest of Rothiemurchis, until some years ago covered with magnificent groves and groups of Scotch fir. While sauntering along the bank of the Spey, two gentlemen approached with a guide, their intention being to cross the Cairngorm next day. I was invited to join them, and gladly availed myself of their courtesy. After a homely tea, which included a plentiful supply of white trout, rabbit, and scones, we smoked a pipe by the log fire, and retired to rest; as on the morrow the mighty barrier of the Cairngorm must be surmounted,

taking on our way the cairn on the topmost summit of the famous Ben Muichdhui. The distance to Braemar was about 34 miles. We started at eight o'clock, after breakfast, and reached the Invercauld Arms at midnight. It was a fine day, and the view from the cairn was magnificent. It is unnecessary to remind the readers of the GARDENERS' MAGAZINE how greatly even a slight knowledge of botany enhances the pleasure of such a trip; especially when one reaches the region of alpine plants. In charge of a guide, however, and in company with others whose feelings and convenience must be studied, there was little or no opportunity of rambling in search of ferns. Only once I was tempted, during half-an-hour's halt of the party, to wander in search of a mouthful of snow. It was August, yet patches of the winter snow still remained. I climbed eagerly along the slope, lying my whole length, and had just tasted the refreshing coolness, when the mass of shingle and snow began to move, and of course Dame Nature began to fill the abhorred vacuum. Plunging feet and hands into the gradually moving mass, I glanced below. The prospect was grand, no doubt, but scarcely reassuring: unless exercising extreme caution, I should be buried beneath tons of débris at the foot of the slope five hundred feet below. At last, with a stealthy, cat-like movement, I reached terra firma again, and once more breathed freely while seated beside the moraine. The stern rebuke of my companions was well deserved, and thenceforth I let the snow alone. It was a weary and desolate journey down the bare and gloomy Lui-More Beg, by the blackest and loneliest of mountain tarns. Not a vestige of tree-life was to be seen, nothing but bleached skeletons of dwarf Scotch fir for miles and miles. The scenery on the lower slopes, however, was magnificent. If an artist wishes for material for a landscape of rugged grandeur and simplicity let him paint there a picture of Wild Britain. He will find a literal fulfilment of Scott's couplet—

> Land of brown heath and shaggy wood
> Land of the mountain and the flood.

After a night's rest at Braemar, I walked to the head of Glen Tilt, and commenced a diligent search for Lonchitis and viride. After a time I came to an opening in the wall of rock, down which poured a sheet of foaming water. To scramble up the steep boulders was the work of a minute. I leaned over the edge, looked carefully round the amber-coloured sides of the cavity, and saw, beneath, the whole surface of the rock covered with a garniture of the very ferns I was in search of, holly and viride. There was no way, however, of reaching the treasures except by sliding over the damp rocks into the rock basin beneath. At last I rashly scrambled down and slipped over the dark moist drapery of hymenophyllum, for such it was, into the sanctum of the coveted ferns, not without misgivings, however. To scramble or slip into this Eldorado was easy enough; to escape, unassisted, I found impossible. The walls were only eight or nine feet high, but they overhung, and there was nothing whatever except some scraggy heather along the edges, but quite beyond reach, to which one could cling. Fortunately there was a margin of shingle on which I could stand or sit, but there were ominous marks on the sides of the cavernous recess which told of storms from the hills, that now and then filled the hollow basin and rushed over the precipice before joining the waters of the Tilt. To shout or whistle was utterly useless: the sounds of the rushing water as it plunged into the dark ravine were deafening, and unless attention could be drawn to the spot I might remain unnoticed for ever; no one but a fern-bitten maniac like myself would think of examining such a place. For an hour I remained squatted by the margin of the pool, almost wet through with the spray of the cascade and the dripping rock, watching meantime with fear and trembling the patches of gathering clouds that floated past me towards the hills. Not a frond did I touch of the hated ferns—the bristling, spiny, aggressive impostors that had lured me to this terrible doom! At last it occurred to me that I might make known my position to a chance passer down the glen by means of a bit of letter-paper tied to my fly-line. For three hours my signal of distress was unheeded; the distant hills were reddening in the western sunlight, and I began to think seriously of the probability of spending the night in this terrible prison, with the certainty, if a storm came on in the night, of being carried over the ledge into the angry stream below. How I watched that bit of note-paper as it waved and fluttered in the wind! At last a bright idea struck me—too bright, alas! for it seemed, as I put it into practice, to dash my only hope of escape. I tried the strength of my silk fishing line twisted with string. Alas! I am a stone too heavy; and just as my hands touched the heather stems above it snapped, cut by the sharp edges of the chasm. At last there was a sound of rushing feet, the barking of a shepherd's collie, and the loud angry tones of a man's voice. I put another paper to the end of the fishing-rod, and waved it frantically above me. A dog's head appeared. Never before have I seen one so handsome or so brimful of intelligence. In spite of the whistling and Gaelic oaths of his master he refused to leave me till the latter came to examine the spot.

"Aye, mon, and what are ye doin' awa' doon there?" was the inquiry.

I explained to him my position. "Aweel, good night, but ye'll be gettin' verra wet. Good night."

The murderous joke of this wretched Celt almost drove me mad. "Come back!" I stormed.

"Dinna ye want to stay, then?" said the idiot. Of course not. I was almost dead with cold and damp and hunger. By the aid of the shepherd's crook, after throwing up my creel and rod, I scrambled out of my prison, not, however, without securing a few tufts of holly and viride as trophies. They are thriving now in my little fernery, and they remind me of my narrow escape from a frightful death.

"Aye, mon, but ye're wet and cold, an' ye got nae drop o' whuskie?"

"I'd give a crown for a mutchkin just now," said I.

"Weel, come on doon the glen—I'll see."

Two miles down the glen we came to the Ghillies' bothies of his Grace the Duke, but as the lessee of the shootings was hourly expected at the lodge, they were unable to take me in. I partook, however, of refreshment, and, rewarding Sandy for his kindly assistance, set off to John Macara's, a few miles lower down. It was past eleven o'clock when I assailed Macara's hospitable door, and begged for a lodgment. I explained my predicament, and asked for shelter. A peat fire still smouldered on the hearth, and beside it was a big old oaken arm-chair, to which I was invited. Macara, a fine specimen of the indigenous Celt, discovered my woesome plight, brought me a pair of new thick knitted hose, and a magnificent plaid—brought butter milk, wheaten and oaten cake, and goat's-milk cheese. "Might I sit by the fire?" "Oh, yes; but ye'll no' be verra comfortable. Ye see my wife's sister came to-day, and occupies our only spare room." It was a big, old-fashioned house-place where we were. Presently some thick home-spun curtains moved, and a worn, wrinkled hand dropped out. It was the gude wife's, and that was the bed. "Have you no straw in the barn?" I asked.

"Yes, indeed! but ye wouldn't like to sleep there." "Oh, yes, indeed!" was the reply. So, taking a lanthorn, we walked across the little homestead, and I was soon warm and snug in the plaid among the new crackling oatstraw. The straw was clean enough and in plenty, but there was an insurmountable difficulty in adapting it to the sinuosities of this particular specimen of human form. The incessant crackling, the far from pleasant odour, the various light footsteps that careered over my prostrate form, the plaintive whinings of an ostracised pussy, the fox in the fell, the owl in the dell. As soon as the early sunshine streamed through the crevices I rose and dressed. My host met me at the barn door with a hearty good morning and an invitation to breakfast, which consisted of rabbit, red-deer ham, eggs, milk, tea, and scones. It was with difficulty that I persuaded Macara to accept a slight acknowledgment. My walk down the glen to Blair Athol was most enjoyable. Glen Tilt is a charming locality for the botanist. He might spend a week there, and discover fresh beauties every day. But he had better not attempt alone to procure the holly fern from the Devil's black punch bowl, where I gathered it.

LUKE ELLIS.

THE PIG.

JACOB! I do not like to see thy nose
Turn'd up with scornful curve at yonder pig;
It would be well my friend, if we, like him
Were perfect in our nature: why despise
The sow-born grunter? He is obstinate,
Thou answerest; ugly, and the filthiest beast
That banquets upon offal,
Now I prithee hear the Pig's Council. Is he obstinate?
Jacob, we must not be deceived by words,
By sophist sounds! A democratic beast,
He knows his merciless masters seek
Their profit and not his: he has not learn'd
That pigs were made for man; born to be brawn'd
And baconized! That he must please to give
Just what his gracious masters please to take—
Perhaps his tusks—the weapons Nature gave
For self-defence, the general privilege;
Perhaps—hark! Jacob didst thou hear that horn?
Woe to the young posterity of pork,
The enemy is at hand—
Again thou say'st—
The Pig is ugly—Jacob, look at him!
Those eyes might teach the lover flattery!
Behold his tail, my friend! in curls like that,
The wanton hop marries her stately spouse,
So crisp in beauty, Amoretta's hair
Winds round her lover's soul the chain of love!
And what is beauty? but the aptitude of parts
Harmonious! Give thy fancy scope,
And thou wilt find, that no imagin'd change
Could beautify that beast—place at his end
The starry glories of the peacock's pride!
Give him the swan's soft breast! for his hard hoof
Shape such a foot and ancle, as the waves
Crowded in eager rivalry to kiss
When Venus from the enamour'd sea arose!
Jacob! thou could'st but make a monster of him!
All alteration man could make, would mar
His pig perfection—
The third and last charge;
"He leads a dirty life"—There I could shelter him
With noble and right reverend precedents;
And show by virtue of authority, that 'tis
A very honorable thing, to thrive
By dirty ways.—But let me rest
On better grounds, the unanswerable defence
That pig is a philosopher, who knows no prejudice!
Dirt! Jacob, what is dirt? if matter—why
The daintiest dish that tempts the o'ergorged epicure
To the last morsel, that stuffs him to the throatgate,
Is no more. If matter be not, but as sages say,
Spirit is all, think, Jacob, what that pig is,
And the mire wherein he stands knee deep.
And there! that breeze
Pleads with me, and has won from thee the smile
That pleads conviction, o'er yon blossom'd field
Of beans it came, and thoughts of bacon rose!

SOUTHEY.

"A SIMPLE FACT ABOUT" KEATING'S COUGH LOZENGES. Ask throughout the world, in any country that can be named, you will find them largely sold. There is absolutely no remedy that is so speedy in giving relief, so certain to cure, and yet the most delicate can take them. One Lozenge gives ease. Sold in 13½d. tins.—[ADVT.]

Fetis she was, and smale to se,
No wintred browes had she.
—Chaucer *Rom. Rose.*

ORIGIN OF TAM O'SHANTER.

All the good stories, the whole world around, through all the ages, have had for their centre of gravity or basis of construction realities of a substantial sort. Fictions they may be, but they are founded on facts, and it is the truth in them that chiefly speaks to us through the adornments or disfigurements of narrators. The critics have dealt variously with the general subject, and all that need now be said by way of introduction to this note is that witchcraft must be classed amongst the facts of history. Those who discovered and burnt witches are in some way entitled to a conditional vindication, as not utterly profane. The world believed in witches, and in some degree the belief yet survives. Witches believed in themselves, but that belief is probably dead, because in civilised communities the witches themselves are dead, for, indeed, they could only exist in the belief that made them a danger. In the year 1790, when Burns wrote *Tam O'Shanter*, stories of witches were current in Scotland, and there was yet a large survival of popular belief in their power and the diabolical source thereof. The poem bears evidence of a reality that has hitherto failed of recognition. The circumstantiality is perhaps of less importance than the vividness of the picture as a whole, suggesting to us a search for its origin in facts accomplished.

The greatest of Shakspere's tragedies illustrates, with infinitely greater force, but not with more directness, than the greatest work of Burns, the absolute reality of witches, and the "craft" that troubled mankind through many ages. They both demand assent to the proposition that witchcraft had an objective existence, and was believed as earnestly by the witches themselves as by their dupes and victims.

In a letter to Francis Grose, Burns gives three prose versions of the story. In one, a farmer, who "had got couragcously drunk in the smithy," saw the "infernal junto" play their antics in Alloway Kirk, and managed to carry off the cauldron in which the hell-broth was prepared from the bodies of unchristened children. In another, a farmer of Carrick witnessed the incantation, and, losing his self-command in admiring a buxom lass who danced with peculiar liveliness, shouted the dread words, "Weel luppen, Maggie wi' the cutty sark." In this case the speed of the horse was insufficient for his complete escape, for at "the keystane o' the brig" the witches despoiled the horse of its tail, and the stumpy steed became a witness of the truth of the farmer's declaration. The third story is of no account in this connexion.

In Robert Chambers's *Life and Works of Burns*, iii. 152, we are told that "the country people of Ayrshire unmythicize the narration, and point to a real Tam and Souter Johnny," the first being Douglas Graham, farmer, of Shanter; the other, his neighbour, John Davidson, noted for telling the "queerest stories."

That a drunken freak and the lies told to cover it explain the form of the poem is well enough. But we have in these "facts of the case" no explanation of the motive, no indication of the source of the inspiration, no key to the supernatural business. The moral is obvious enough, for the *dénoûment* proves the impotency of witches, and justly mocks the prevalent belief in their powers. These considerations, however, do not remove witches and witchcraft from the category of historical facts.

The confession of certain Scotch witches at the assizes, held at Paisley, February 15, 1678, must have been well known to Burns, for it was a theme of fireside conversation in his youth, and there were many living who remembered the whole of the circumstances. That confession establishes the reality of witchcraft. Nor is there wanting evidence tending to justify, at least, in some degree, the penalties of discovery in the practice. The confession is cited in *Demonologia* (Bumpus, 1827).

An important commentary on the subject will be found in an octavo volume entitled *Interesting Roman Antiquities Recently Discovered in Fife*, by Rev. Andrew Small (Edinburgh, 1823). At p. 155 of this work we learn that near the Castle Law, Abernethy, were twenty-two graves of witches, and near by is the hill on which they were burned. The author proceeds to give a relation of alleged facts bearing on the subject before us. A Mr. Ross, laird of Invernethy in the reign of James VI., became, as justice of the peace, responsible for the apprehension of certain witches, and made the discovery that their names were entered in a book. He set his mind upon obtaining this written record, and, as one step thereto, he persuaded a woman who was a member of the gang to permit him to accompany her to a meeting at the Steps of Kilbuck. He went dressed as a woman, but Nicky Ben was not to be deceived so easily. His Majesty smelt him out, and proclaimed the presence of a man. The woman, anxious to screen the laird, endeavoured to assure Auld Sooty that all was right, saying, "Hout, it's me wi' bairn, and its

a laddie bairn." But this would not do, and the laird had to confess the fraud. But he added that his object was to be "enlisted in the corps," and that he had only disguised himself that he might, without disturbing them, witness their merriment. The end of this interview was an appointment for a meeting at the Castle Law, where tradition declares that a golden cradle of the Pictish kings has been hidden since the time when the palace of those kings gave eminence to Abernethy.

The meeting was held, and the laird came on a fast mare, and kept his seat while the orgies proceeded, and obtained possession of the book wherein to inscribe his name with his own blood. But instead of complying with the rule, he put spurs to his steed and fled with the book, "while out the hellish legion sallied."

He had taken the precaution to warn the miller of Ballo Mill to have the mill going, for the clatter of a mill is as great an impediment to the progress of the witches, as the running stream "they darena cross." The witches swarmed upon him, but the laird kept his seat and the mare kept her tail, and he outran them and got home, and quickly locked himself in and copied the names from the book. By this time the clamouring crowd had reached the house, and he dispersed them by throwing out the book, which they gladly seized and carried away.

"It appears that the red book," says Mr. Small, "had extended also to the greater part of the south of Perthshire, as there were a considerable number of witches burnt on the hill of Moredun, near Perth, about the same time with those at Abernethy. The seizing of the red book saved the trouble of a formal trial, which was indispensable with those who were convicted and burnt at this time in England."

In introducing the story the author says: "If ever the poet Burns had been in this part of the country, I would have said he had taken the leading ideas or hints from it in his humorous and excellent poem." The truth of the story of the laird's adventure is of little consequence; but that Burns was familiar with it is scarcely to be doubted, and it was in a certain sense inevitable that somewhat of his knowledge of witches should be embodied in a brilliant effort of his imagination.

S. H.

THE BLUE ROSE.

The Blue Rose was described by Alphonse Karr as the favourite of both ancient and modern writers. It is as blue as the sky, is of Italian origin, and very common. It has not been figured in any of the periodicals that give special attention to horticultural novelties, but it will be within the remembrance of some of our readers that a gentleman who formerly fed the pages of G.M. with rosy wisdom saw and described the wondrous flower, but had not the good fortune to keep it for the surprise and delight of the world at large. In the year 1854 this rose was heard of in Paris, and many believed in its existence, because about that time some half-dozen roses appeared in catalogues and gardens and exhibitions, showing a considerable advance towards the coveted colour. Perhaps the bluest of roses that have acquired historical importance is the one called Louis XIV., raised by Guillot fils and sent out in this country in the year 1859. It is described in the list of 1,485 varieties of roses given in the "Garden Oracle" for 1882 as "velvety red," which is correct. But we have seen a lot of blue in it, and that should have kept it in cultivation. But it may be considered as now non-existent, and the reason it was discarded was that it produced fewer flowers than any of the varieties that were in cultivation at the time it was introduced. In the "Oracle" list referred to, some forty or more roses may be found that give what may be termed a hint of blue; but the actual word "blue" has no place in the columns devoted to the colours.

In "Notes and Queries," April 14, 1855, is a quotation from the announcement of Mr. Page, a horticulturist, of the United States, to the following effect: The horticulturists of Paris have succeeded, by artificial crossings in obtaining a natural rose of a blue colour, which is the fourth colour obtained by artificial means; that and the yellow or tea rose, the black or purple rose, and the striped rose being all inventions, and the result of skilful and scientific gardening. So far, as to the statement of the case. Mr. Page continues:—

Some years ago nearly the identical paragraph now copied throughout the country about this blue rose was circulated in all the papers of the day, and has re-appeared nearly every year since. It must be that some editor occasionally inserts the pile of marvels, and others copy, oblivious of a thing so unimportant as a blue rose. In a pecuniary point of view, however, a blue rose is not a trifle. Independent of a handsome standing premium offered by the Horticultural Society of Paris, a blue rose would make its possessor a princely fortune. I have been told by an old rose grower that the recent speculation in Augusta (an American yellow rose sent out 1853), yielded its perpetrators 20,000 dollars profit (£4,000). Surely the commercial value of the rose has not depreciated since the days of Cleopatra and Nero. On the fourth day of her festival Cleopatra treated Marc Antony to a carpet of 600 dollars' worth of rose leaves, and Nero, at a single festival, expended £20,000 for roses alone. Such sums must in those days have stripped the empire of every rose in existence; but now, when there are over 12,000 varieties of roses, and the culture so widespread that in one city alone (Washington) the nurserymen have altogether this winter about 50,000 cuttings in process of rearing, 20,000 dollars for one rose forces us to explain, "O tempora, O roses!" But so it is. The rose is immortalized, and that blue rose man, if he manage well, can be as wealthy as some well-known bankers in London, but as yet he has not made his appearance.

Whence came the idea of a blue rose? We ask for the idea, being as yet uncertain as to the fact. Well, the idea originated with the Moors of Spain, who professed to have blue roses, and who explained that they were obtained by watering the plants with solutions of indigo. In his admirable "Rose Garden," Mr. William Paul, commenting on the story, says "that they had such cannot for a moment be supposed; and the means by which it has been said they obtained them are still more questionable." But this mode of dealing with the subject does not push the blue rose into the region of fiction, because within a few years past flowers of the white Lilium longiflorum have been exhibited in brilliant red and blue colours, said to be produced by steeping them in aniline dyes. The Marquis D'Orbessan, author of *Essai sur les Roses*, declares that he saw the blue roses, and one respectable eye-witness is more to the purpose than any amount of conjecture.

And so we come to another question—may we, consistently with our present knowledge of the laws of nature, regard the blue rose as a thing within possibility, regardless of the question whether it exists or not?

In front of such a question stands a terrible declaration by Decandolle, a declaration that has very considerably influenced opinion, although, like many another declaration, not quite so good as it looks. The great botanist says "Yellow and blue are the fundamental types of colour in flowers, and these colours are antagonistic, mutually excluding each other. Yellow by culture may be changed into red or white, but never into blue. On the other hand, blue will pass into red, but never into yellow."

We shall ask a question here to illustrate the length and breadth of the portentous argument. Which came into existence first, the red or the blue tropæolum? As a matter of fact, nobody knows; but the evolutionships would say the red certainly. Let us take this conclusion as suitable for present purposes. If red tropæolums develop into blue tropæolums, why should not red roses produce blue roses, and what becomes of the declaration that yellow and red are antagonistic, "mutually excluding each other," when we have in the tropæolums blue, red, and yellow flowers?

Let us enlarge the view thus suggested. We have in the pansy, hyacinth, flax, scabious, aconite, salvia, lupin, iris, in addition to the tropæolum, examples of blue, yellow, and red with no indication whatever of antagonism. Take the lupin for example; its tones of blue are superb; the little annual lupin is of a brilliant yellow colour, and the tree lupin is a delicate pale yellow. The iris is not the less a striking example. If it be said the colours prevail in the genera and not in the species, we shall be content to name the pansy as a bold exception. But to entertain this argument we must enter upon another, for it will be forced upon us to entertain the question, what is a species? To avoid that question, we would point to the strelitzia or to the reticulated iris for refutation in the individual flower of the doctrine of the antagonism of yellow and blue. But we need not discuss the question further; what Decandolle wrote in haste he probably repented at leisure.

The blue rose is possible, and the blue dahlia is possible. The question still remains, have they been seen? The correspondent who saw it reported on the circumstance in the G.M., December 23, 1865, and to ease the mind of the reader who cannot refer, it may be said, in a word, that he saw it in a dream. As for Alphonse Karr, he has taken care to say that the thing is notorious as a fiction but not known as a fact, and no reasonable person believes in its existence. See his essay, "Les Roses Noires et les Roses Bleues."

DOUBTING IN EARNEST.

Wilhelm Grimm in a letter to a friend relates that once a little girl rang their bell and met him in the hall with the words, "Are you the Mr. Grimm who writes the pretty tales?" "Yes; I and my brother." "And that of the clever little tailor who married the princess?" "Yes; certainly." "Well," said the child, producing the book, "it is here said that everyone who doesn't believe it must pay him a silver thaler. Now I don't believe that princess ever married a tailor. I haven't so much as a thaler, but here is a groschen, and please say I hope to pay the rest by degrees." Just then Jacob came up, and the brothers had an interesting interview with the little dame; but they could not persuade her to take away the groschen which she had laid upon the table.

A DREAM OF A DREAM.

There is nowhere anything permanent either without or within me, but only an incessant vicissitude. Universally I know of no being, not even of my own. There is no Being. I myself know nothing at all, and am nothing. Forms there are; these alone are existent, and are cognisant of themselves after the manner of forms—forms which flit past, without there being anything past which they flit; which hang together through forms of forms—without anything imaged by them, without significance or object. I am myself one of these forms; nay, I am not myself this, but only a confused form of forms. All reality converts itself into a marvellous dream, without life to dream of, or soul to dream with—to a dream which hangs together in a dream of itself. Contemplation is that dream. Reflection—the fount of all being, and all reality which I figure to myself—the fount of my own being, aims, and faculties, is the dream of that dream.

Johann Gottlieb Fichte.

A Sensible Notice.—The late Earl of Kilmorey put up on a board at the entrance to a lane near his house the following notice:

"This road is not passable,
Not even jackassable;
If this way you would travel,
You must bring your own gravel."

Light and Leading.—Question given to a pupil teacher nineteen years of age: Who was Oliver Cromwell? Sketch his life and career. Answer: Oliver Cromwell was the son of Robert Cromwell. He was a good man. He ascended the throne in the year 1649. He dissolved Parliament, locked the door, and put the key in his pocket.

D. of M.	D. of W.	Anniversaries, Festivals, Occurrences, Historical Notes, &c.	Sun. Rises.	Sun. Souths After Noon.	Sun. Sets.	Moon. Rises. After.	Moon. Sets. Morn.	High Water at London Bridge. Morn.	London Bridge. After.	Liverpool Dock. Morn.	Liverpool Dock. After.	M. tmp. avrg. of 40 yrs. Chiswick.	Orchids in Flower.		Day of Yr.
1886			H. M.	M. S.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	H. M.	DEG.			1886
26	S	**1st Sunday after Christmas.**	8 8	0 51	3 53	8 32	5 32	2 18	2 38	11 43	0 3	38·1	Cypripedium insigne	Sylhet.	360
27	M	Boxing Day. Bank Holiday.	8 8	1 21	3 54	9 16	6 22	2 58	3 17	0 3	0 23	37·8	Cypripedium insigne Maulei	Sylhet.	361
28	Tu	*Innocents' Day.*	8 9	1 51	3 55	9 52	7 23	3 36	3 57	0 42	1 1	37·6	Cypripedium Harrisianum	Gar. hyb.	362
29	W	Stafford exec. 1689. W. E. Gladstone b. 1809.	8 9	2 20	3 56	10 22	8 25	4 15	4 34	1 22	1 40	37·5	Cymbidium giganteum	Nepal.	363
30	Th	Pegu annexed, 1852.	8 9	2 49	3 57	10 49	9 29	4 51	5 9	1 59	2 16	37·3	Cymbidium Mastersi	India.	364
31	F	*Silvester, Bishop.*	8 9	3 18	3 58	11 12	10 31	5 26	5 45	2 34	2 51	37·1	Dendrobium moniliforme	India.	365
		JANUARY.													
1	S	*Circumcision.*	8 8	3 47	4 0	11 35	11 35	6 4	6 26	3 10	3 29	36·8	Zygopetalum Mackayi	Brazil.	1

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Schedules and all particulars (free) of
Mr. WILLIAM HOLMES, Hon. Sec.
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Miscellaneous Exhibits invited for Special Awards.

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*** THE GARDEN ORACLE for 1887, price 1s., contains all the information proper to an almanac for the desk and library-table, and, in addition, a review of the horticulture of the past year, and a new and complete catalogue of Florists' Auriculas, in which descriptions and characters are given of many varieties never before catalogued.

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The Gardeners' Magazine.

SATURDAY, DECEMBER 25, 1886.

THE NATIONAL DIETARY may be said to be on trial at the present time—or, if not on trial, say on exhibition—for we see food at every turn, and for a philosophical consideration of the subject, the question is forced upon us—Do people need an excessive amount of sweet and greasy food at this particular moment? Beyond all doubt, a large portion of the human family find delight in eating and drinking without regard to the actual needs of nature, unless, indeed, it be a need of nature to load the palate with sensations and the stomach with incongruous foods. There is a certain degree of beauty, perhaps, in a well-filled butcher's or poulterer's shop; it is beauty of a quite peculiar kind, and appeals to a sentiment that is closely allied to sensuousness; but is not for that reason objectionable. There is, in fact, so close a correspondence between our tastes and our appetites that, on suitable occasions, an exhibition of food is more pleasing to the eye than any number of pictures, sculptures, or even flowers, and so for the present the butcher shall be our master of arts, and his array of carcases our picture gallery. There is something to be said for the fact that the display of carcases in London is peculiar to the place; in many cities, more especially on the Continent, the mortal remains of the friends that have come from the pastures to feed us are carefully concealed from public view, so that one may wander for days together in the streets and not, except by searching for it, see so much as a single mutton chop. This seems to indicate that the spectacle of cold joints in their pristine rosiness is not so gratifying to mankind in general as to certain communities in particular. We do not pretend to have any special views on the subject; the display does not shock us, because we are accustomed to it; but, on the other hand, the concealment does not trouble us, for there can be no particular benefit in accustoming the eye to that side of nature, which nature commonly conceals, for only by an act of violence is the inner part of any animal revealed to our vision.

A more interesting question lies beneath. Is the need for flesh as food as natural as it is commonly believed to be; or, in other words, might we not find advantage to our health and our means by subsisting on a diet of fruits and farinaceous substances? The question, whatever the degree of importance to which it may be entitled, has been pleasantly and judiciously forced upon public attention within the past half-dozen years by militant vegetarians who contend that animal food is at once unnecessary and injurious, unreasonably expensive, and the use of it by those who can afford the price, detrimental to the poor who cannot. The question of the necessity is of the first importance; all other questions of economy to the individual and the general feeding of the nation are subsidiary thereto. If flesh foods are needful, society must adapt its ways to ensure sufficient of them, for nature cannot be thwarted for any purpose without entailing penalties at every step, and the defeat of the purpose in the end. Do we need animal food? Can we not obtain all the nourishment we require from the vegetable kingdom without resorting to the practice of destroying life? It is a proper question for the season, and our friends the vegetarians will insist on our considering it.

Arguments founded on the teeth and general anatomy of the human frame are worthless in this discussion. It is a fact that man can eat almost anything, and when flesh is not at command he can do pretty well without it. He is separated from the whole creation of animated beings, not by any special construction of teeth or stomach, but by the faculty that enables him to grind, to cut, to pickle, to cook the food he eats. It is of primary importance that he cooks his food; he is the only animal that calls in the aid of fire, and this it is that gives him command of food in all climates, the fruits of the tropics being sufficient at one time, while at another he is content with the greasy flesh of the seal or the whale. This point has obtained but slight attention hitherto, but it must be of importance in connection with the whole nature of man; for, apart from the intelligence that teaches him to cook, he is the most helpless of creatures, and would soon be obliterated from the face of the earth by the competition of the lower creatures that surpass him in strength, agility, and those arts of cunning that result from the exercise of special faculties of sense. We must take him as he is, and we find him everywhere a flesh-eater and a cooker of his meat. Those only abstain from flesh who cannot get it, or who, being the subjects of superstitious beliefs, are governed in their dietary by rules which have no relation to health whatever.

Taking man as we find him then, what is the lesson to be derived from the dietary practices of communities and nations? In our own land we see those who obtain but little animal food occupying the lowest social position. We know perfectly well all that may be said about the depressive influence of poverty, but we are content for the present with the broad fact that the intelligent and prosperous who are best capable of setting an example of what life should be are flesh-eaters, we might say, almost to a man. In a comparison of

nations the argument is of tremendous force when we behold the vegetarian nations in bondage to flesh-eaters, anywhere and everywhere holding an inferior position, so that dependence and slavery appear inevitable consequences of the "purity of mind" that forbids the use of the flesh-pots.

The conquest of the earth has been accomplished by flesh-eating races, and the colonist of to-day must be a man who can eat anything, for there is no vegetarian restaurant in the bush. There is much said about the abundance of food in the tropics, and the indifference of the appetite to a carnal diet in warm countries. But the people who talk this sort of stuff do not happen to have experience in the matter, or they would know that animal food is well-adapted for sustaining the strength under the trials to which heat subjects it, and all travellers agree that the only special act of abstinence required by the conditions of life in the tropics is in relation to intoxicating drinks, which are dangerous in all climates and in all seasons; but particularly so when a high temperature prevails. To justify the vegetarians in the universal application of their principles, it must be shown that man can everywhere obtain a sufficiency of acceptable nourishments direct from the vegetable kingdom, the simple truth being that he can nowhere do it, for where fruits most abound they are but of limited use both as to their season of perfection and their adaptability to man's wants. To reduce the human race to a strictly vegetable diet would be the first step towards unpeopling the world, and we imagine that is no part of the vegetarian programme.

The point commonly, and indeed too commonly, urged, that certain forms of vegetable food contain all that the human frame requires for nutritive purposes, must be granted as not only capable of proof, but beyond the need of proof. We will not go to India for evidence, because it is not encouraging to take lessons from conquered nations. We prefer to look around us and note that men who practise vegetarianism are apparently as healthy and happy as other men, and, therefore, it may be said they furnish instructive examples. Individuals are free, and as an individual affair, vegetarianism is all very well in its way. In grain and pulse there is a considerable proportion of the nitrogenous compounds that are so especially characteristic of a flesh diet, and that constitute one of the attractions of such a food to the universal appetite. But these "vegetable meats," as they are sometimes called, are less easy of digestion than flesh, and those who live upon them are of diminished energy of life in proportion to the degree of their dependence on pulse and grain. To overcome the difficulty recourse is often had to the use of eggs, but this is so violent a proceeding that it ought to be forbidden under penalties by the law of the land. The man who preaches vegetarianism and admits eggs into his dietary has accomplished the *reductio ad absurdum*, for he is not a vegetarian, and might even be denounced as combining the monster and the hypocrite; unless, indeed, he take refuge in the plea of ignorance, which, of course, will be fatal to his preaching. Of eggs as food we say nothing; they properly belong to a mixed dietary, such as the world at large approves of, but as every egg is an embryo chicken, the disciples of Pythagoras have no right to touch one. Flesh foods are commonly eaten because grateful to the palate, affording agreeable occupation to the digestive powers, and most acceptable nourishment to the frame. There are no vegetable foods that answer to these three points in an equal degree; we have nothing to say against fruits and farinaceous substances, we only say they do not of themselves suffice for sustaining life in the most pleasant manner, being more remote than flesh from the constitution requiring to appropriate them, and, therefore, less easy of assimilation. Flesh may be eaten raw, and without mastication, and then will prove no particular burden to the stomach. But this cannot be said of peas and beans, or of wheat and potatoes. In most houses meat is too much cooked, and people eat more than they need of it. But it is a necessity of life for all that, and rich in benefits for those who use it in reason and moderation.

The Prince of Wales was elected an honorary member of the Linnæan Society at the meeting of that body on December 16.

Devon and Exeter Horticultural Society will hold its summer show August 17, and chrysanthemum show November 4.

Mr. C. Solman has been engaged as gardener at Wonersh Park, Guildford, the residence of J. J. Sudbury, Esq.

Mr. H. Pewtress has received the appointment of gardener to Alfred Tate, Esq., Roseleigh, Woolton, Liverpool.

Odontoglossum crispum Stevensi, one of the finest of the many good forms of this beautiful species, was sold at Stevens' Rooms a few days since for eighty guineas.

Newcastle Horticultural Society will hold an autumn exhibition next year, instead of its usual summer show. The dates are August 30 and 31, and September 1.

Hooper and Co., of Covent Garden, having enlarged their operations in various ways, and the senior partner having retired, a limited company has been formed to purchase and take over the business, the capital being fixed at £100,000 in 10,000 shares of £10 each. The offices are in the Piazza, Covent Garden.

Field's Jubilee Flower Cups, of which we have received samples, are well deserving the immediate attention of exhibitors of cut flowers, more especially chrysanthemums. The cups are so made that they fit into the water tubes in telescopic manner, and enable the exhibitor to arrange the blooms at any desired height without the aid of springs, which are liable to get out of order. To still further facilitate the fixing of the flowers in position, the tubes of the cup are provided with a wire loop at each end. The cups are made in three sizes, and the manufacturer is Mr. B. Field, Swan Place, Old Kent Road, S.E.

January Show of Chrysanthemums by the National Chrysanthemum Society, at the Royal Aquarium, Westminster, January 12 and 13, is the subject of much interesting speculation, and the establishment of a January show is a new feature in floriculture. The schedule for this show comprises in all sixteen classes, and they may be said to include all January subjects save poinsettias. There are seven classes for blooms and bouquets of chrysanthemums, and added thereto classes for cyclamens, primulas, solanums, hollies, ivies, and conifers. This January show ought to ripen into a great feature in the programme of the useful and spirited N.C.S. The secretary is Mr. William Holmes, Frampton Park Nurseries, Hackney, London, E.

CHRYSANTHEMUM DR. SHARPE.

It has given me much satisfaction to read Mr. C. Harman Payne's notes on the statement that has been made as to the identity of Dr. Sharpe with the Old Purple variety introduced by Mons. Blanchard to Europe at the end of the last century, and figured in *Botanical Magazine*, tab. 327. I am glad that Mr. Payne has dealt with the question so satisfactorily, because it is a point of some importance that mistakes of this kind should not be allowed to pass unchallenged, but be corrected if possible. That the flowers of Dr. Sharpe bear a striking resemblance to those of the Old Purple as represented in the *Botanical Magazine* I am perfectly aware. The likeness is indeed so great that in a lecture delivered last year before the Bedford Park Natural History Society, I selected an indifferently formed flower of Dr. Sharpe to show the character of the first large-flowered variety introduced to this country. But because there is a similarity between the two it does not follow that they are identical, and I am surprised that so careful an observer as my friend Mr. Burbidge should have made such a blunder. Still more am I surprised that Mr. J. Douglas should have rushed into the front to support Mr. Burbidge's views without pausing for a moment to consider whether he was right or wrong in the opinion to which he gave expression. If we turn to the plate in the *Botanical Magazine*, we find a flower of a much smaller size than the most indifferently grown bloom of Dr. Sharpe that has come under my notice. We also find it to be so very thin as to be almost semi-double. That the variety is represented in its true character I have no doubt, for in the somewhat lengthy description accompanying the plate the flowers are said to range from semi-double to double, and the golden tubular florets are described as being more or less visible. The flowers of Dr. Sharpe, on the other hand, are characterized by their extreme fulness, and a flower produced by a half starved plant in a small pot would require to have at least one-half of its florets removed before it would present the thin appearance of the flower of the Old Purple. There is also a decided difference in the colour, but knowing how strangely misrepresented are the hues of flowers in coloured prints, and the length of time that has elapsed since the drawing in question was prepared I do not attach much importance to that point.

The history of Dr. Sharpe may be told in a very few years, and without waiting until information can be obtained from the Antipodes. It was not distributed "something like ten years ago," as suggested in Mr. Payne's "Echoes," at page 753, but exactly twenty years ago. The variety was raised by Dr. Sharpe, who lived at Waltham Cross, not at Tunbridge Wells, as stated by Mr. Burbidge in his work on the chrysanthemum, and it was sent out in the season 1866-67 by Mr. A. Forsyth, then of the Brunswick Nursery, Stoke Newington. So great was the favour shown the variety by the cultivators in the Stoke Newington district that at the exhibition held in 1868 it was represented in nearly all the collections of plants by specimens in a very high state of development. It has been said that Mr. Forsyth has not published any particulars as to the origin of the flower, but this also is wrong, for in a communication which appeared in the Gardeners' Magazine of November 30, 1872, he expressly states that it was raised by Dr. Sharpe. In a note on the chrysanthemums in the gardens of that gentleman, which appeared in the volume for 1872, page 673, Mr. Forsyth says: "The other day I enjoyed the opportunity of seeing the splendid collection of chrysanthemums in the gardens of John Sharpe, Esq., at Waltham Cross, which, it may be assumed, has not been surpassed in any private establishment in the United Kingdom. Dr. Sharpe has for many years taken a most lively interest in the cultivation of the chrysanthemum, and has also succeeded in raising some fine seedlings. One of these—Dr. Sharpe—it was my good fortune to distribute a few years since, and, it may be safely said, there is not another reflexed flower to equal it, whether for richness of colour, size, and perfection of form of the flower, or the fine, compact habit and floriferous character of the plant." This, I consider, is all the explanation that could possibly be desired from Mr. Forsyth.

George Gordon.

WINTER WORK IN FRUIT ORCHARDS.

By J. C. Clarke.

The winter months offer a good opportunity for doing any necessary work in fruit orchards. Even in those that are managed in the best possible manner there are always a few matters that require attention during the winter season, as that is the time for planting as well as for pruning.

In open weather the planting of young trees may be proceeded with, and the sooner it is done now the better, to enable the soil to become settled about the roots before dry weather occurs. In many cases old trees are allowed to remain upon the ground long after they have ceased to be fruitful. This is a mistake, for when a tree has become so exhausted with age as to be unable to produce other than small and indifferently-formed fruit, it should be grubbed out and a young one planted to supply its place. As far as practicable no young tree should be put in the station from which the old one was removed, and a fresh position be provided for every new tree that is planted, unless the old exhausted soil can be taken away and replaced with fresh compost. It is not often that orchard trees obtain so much attention as this, for each tree would require three or four cartloads of fresh soil. It is, therefore, more important to change the position every time a young tree is planted. It is practically of no consequence, the lines of trees being broken or irregular. Orchards should be managed in the best way for producing the best crops of fruit. It is fine fruit that helps to pay the rent, and if that can be had it matters not whether the trees are planted with mathematical precision or distributed irregularly about the ground.

Anyone conversant with the condition of English fruit orchards cannot fail to be aware of the fact that there is a lamentable scarcity of all sorts of fruit except apples. This is equivalent to carrying all the eggs in one basket, because when the apple crop fails there is no possibility of balancing the loss with anything else. One may walk through scores of orchards and not find a single plum or pear tree. As regards cobs and filberts they are scarcer still. Where there are a few damson trees met with, they have the appearance of having come by chance rather than by any arrangement. This is not as it should be; for, whilst apples should be the principal crop, it is a short-sighted policy to exclude the other fruits altogether. Every orchard should contain a few trees of such plums as Diamond and Mitchelson's Orleans, Pond's Seedling, and Victoria. Perhaps standard plums may not do well very far north, but there is a large tract of country, where they may be expected to do well. With regard to pears, the same remarks apply, and especially in the case of those sorts which ripen early. Williams's Bon Chrétien does very well as a standard, although it does not make a handsome tree, but it is a fairly good and constant bearer, and the fruit always realizes a good price in the market. The Windsor makes a capital standard, and although it is not a prolific bearer, it invariably bears moderate crops, and not unfrequently the fruits realize three halfpence each wholesale. Besides these two sorts there are the Swan's Egg, Crassane, Autumn Bergamot, Brown Beurré, Beurré Superfin, and Clapp's Favourite will also do well in warm localities.

In the matter of pruning, much less of this is done than the case requires. I do not wish to imply that there are not some orchards which are well cared for in this respect; but such cases are an exception. In the majority of instances too much pruning is done at one time, with long intervals between. Moss-headed trees are allowed to become over-crowded with thin weakly shoots, which only produce small and inferior fruit. Those with a spreading, loose growth are allowed to extend their branches to an unreasonable length, and then when they are carrying their fruit the first rough wind has so much power on the pliant branches that the principal part of the crop is blown down before the fruit is ripe. On the other hand were leading branches to be cut back moderately once in three years the head of the tree would assume a more compact form, and the branches help to shelter each other. Those trees which form naturally close heads like the old Forge apple, should be regularly attended to once in two years, so as to keep the head clear of the weak spray-like growth, and thus let in light and air to strengthen the main branches, thereby increasing the size of the fruit. The great fault of the English apples is they are too small. This is not so much the fault of the sort itself as that of the cultivator. The trees are allowed to have too much bearing surface, which being composed of weak and over-crowded growth cannot sustain a full crop. In consequence of this the bulk of the produce is inferior both in size and colour.

To protect the trees from the depredations of rabbits, there is no more simple plan than to surround them with galvanised wire netting. I have used this netting as a protection for many years for all sorts of trees in places where rabbits are numerous, and it protects them more effectually over a longer time and with less trouble than anything else I have tried. The netting used is two feet wide and has an inch mesh. This is cut into lengths ranging from nine inches to two feet wide according to the size of the tree to be protected. For young trees pieces between nine and twelve inches are enough to encircle them and leave plenty of space for the stem to grow. The end which rests on the ground is fastened down with a couple of wooden pegs. Where the wire meets the loose ends are quite sufficient to make it secure. When pigs or sheep have the run of the orchard, the netting should fit rather close to the stem, and then the cattle will not rub it off. Once a year the trees should be examined to see that the netting has not been interfered with. To protect the stems of fruit trees from being barked by cattle, I find the most substantial protection is obtained by enclosing the boles with strips of boards known as builders' battens. These are generally three inches wide and three-quarters of an inch thick. Four of these are sufficient to protect a young tree; one end should be sharpened and driven a little way into the ground. The pieces must be long enough to reach up to the branches, and when they are set up round the tree they must be laced together twelve inches from the bottom and the same distance from the top with strong wire. To securely fasten the battens together, a hole should be made in the middle of each, through which the wire must be drawn. By this means the boards can be drawn up as close as may be desired. The larger the tree the more battens will be necessary, and if they are painted with a coat of tar before they are put up they will last for several years. This is the least expensive and most durable way of protecting the trees that I have tried.

The surface dressing is a point in the management of orchards which is not sufficiently attended to by those who want large fruit with a clear skin. Cultivators do not, as a rule, expect good crops of corn or roots, or a good supply of vegetables, unless they have manured the land, but in the case of fruit orchards quite an opposite view is taken, for the most part they plant the trees and leave them to take care of themselves, expecting all the while good crops of fruit. That they do not obtain them regularly the season just passed offers sufficient evidence. On the failure of the past season's apple crop I hold decided views, and I maintain that the widespread failure is due more to indifferent management than anything else; the fact that for the most part apple trees in gardens bore good crops, where they are generally better managed than in orchards, proves that something must be wrong. I am willing to admit that shelter may have had something to do with the preservation of the blossoms, and so added to the crop. But there must have been something else to have made so much difference between good crops and none at all. The productiveness of the garden trees was, in my opinion, the result of judicious cropping in previous years and a rich soil. If not rich, soil in gardens is usually maintained in a sufficiently fertile condition to enable the trees to bear the strain of producing regular crops of fruit. Except exhaustion in the trees through having borne three heavy crops of fruit consecutively, there was no unfavourable climatic condition last spring to account for so signal a failure of apples. There was plenty of plums, and in many cases fair crops of pears, because the trees had not been exhausted by bearing full crops the seasons immediately preceding it. I do not mean to say that failure altogether would have been averted had a better system of cultivation prevailed. But I contend that if the trees had been regularly and judiciously pruned better crops would have been obtained, especially if the roots had been better nourished. The value of surface-dressing orchard land for the purpose of maintaining its fertility is not sufficiently recognized. Many trees that are now prematurely old through the poverty of the soil might be restored to health and fruitfulness by the applications of rich surface dressings, especially immediately over the roots. The materials for top dressing can hardly be too strong; but in most cases good farmyard manure is the only thing available, and nothing else is likely to do so much good, provided it is laid on to a sufficient thickness, and additional applications made as the case requires. Rich maiden loam would be better than nothing, as anything that will nourish the roots will be beneficial.

In going amongst orchards of Devon I have been surprised at the luxuriant condition of the trees where cattle had been kept in the enclosures during the winter. Pigs and sheep appear to be the favourite animals for keeping in orchards; the former being fed and kept in them constantly, and in the case of sheep they are brought to the orchards at night and taken out in the morning. No anxiety is felt about the grass, for I have seen the surface trodden into a quagmire during the winter, but as spring advances and the cattle are removed, it quickly commences a luxuriant growth and assumes a rich green colour. It does not require a great stretch of imagination to convince one how much benefit the trees must receive from so much cattle being kept in a limited area for several consecutive months. However, from personal observation I can say that no more fruitful orchards are anywhere to be found. Some may be disposed to say that climate alone is sufficient to account for it; but I do not think so, for there are as many unfruitful orchards in Devonshire as in any other county of England.

ORCHID NOTES.

Cattleya speciosissima Buchananiana.—This is a very fine variety of a beautiful autumn-flowering Cattleya, which has been figured in the current number of the Orchid Album, but the absurd varietal name suggests the propriety of giving such varieties an appropriate English appellation. The very large flowers, with richly-coloured lip, mark this variety out to be one of the best Cattleyas in flower at the end of September. It is a very shy flowering species, and requires special culture to bring out its best properties. The plants should be grown in baskets or pots, in the usual peat and sphagnum compost, and be suspended close to the glass roof in the Cattleya house. They ought to have a decided season of rest by being kept dry, when they have made their growth. All these plants require plenty of light and to be shaded only from scorching sun.

Lycaste Deppei punctatissima, also figured in the Orchid Album, is a beautifully spotted form of the species. Lip, sepals, and petals are all very prettily spotted. It is, doubtless, quite unique as a variety. The Lycastes are easily grown, as a general rule, and yet some persons fail to grow them well who are successful with other orchids. Ours have done better this year than usual in a shady part of the Cattleya house; they require a rather warmer temperature than Odontoglossums, and it is desirable to mix some good flakey leaf-mould with the potting soil. Some of the best cultivated plants I ever saw were produced in Mr. Borwick's garden at Higham Hill. They were potted in leaf-mould, pure and simple, with a sprinkling of potash fish manure.

CYCNOCHES CHLOROCHILON is also represented. This is a arge flowered species of the singular "Swan Orchid," with yellowish-green sepals and petals; the peculiar looking lip is creamy yellow. They are mostly free growing deciduous orchids requiring the temperature of East India house.

ODONTOGLOSSUM ALEXANDRÆ REGINÆ is also figured, and is a very pretty variety, the flowers white, the sepals, petals, and lip being spotted and blotched with reddish brown. For potting these orchids, it is stated that the fibre from tufted masses of the common polypody is excellent. It is possible we will have to try substitutes of some kind for our orchids, as good peat becomes every year more difficult to be obtained. Almost any tough fibre that does not readily decay might be used for potting. J. DOUGLAS.

SIMON DELAUX

HORTICULTURE ESTABLISHEMENT'S AT SAINT-MARTIN OF THE TOUCH, NEAR TOULOUSE (HAUTE-GARONNE) FRANCE

CRHYSANTHEMUM

AT the last particular and international exhibition in Toulouse, a hundred unpublished and news varieties of the most remarkable were rewarded by the first great price: Gold medal of first class.

The Jury acknowledging the superiority of our semis over these of our competitors, reserves the second price; that give an exact notion of the exceptive merit of our plants: *such issues want not to be commented.*

Three hundred unpublished varieties, exceding the ones the other in a beauty, were submitted to the valuation of the Jury. Independently of the varieties already delivered to the trade in these last years and universally known to day, for there is more twenty years that we have made us an speciality to cultivate this fine radiated so exactly estimated. The varieties the most extraordinary and remarkahle, as for the form as the colour, all ahtained of our numerous yearly seed-beds, were put by with the greatest attention: so we prepare ourselves to lute in this pacific tourney, with this copious collection of three hundred unpublished varieties which the visitors of the exhibition did not get tired to admire them and which the Jury rewarded by the first great price.

In this collection a sorting has been made by us a hundred of varieties of the most remarkahle are been selected and we can assert what she entirely surpass all what has appeared of beautifull till there. The finest collections are greatly surpassed by the one which we offerd to our honourable clientship. We find there a bigness of flowers which had not heen reached till now, with laciniated, crisped, goffered and twisted petals, feigning some ribbons of the most graceful effect; the brightest and the most varied colouring meet them in this collection, which join in the same time the most varied and eccentric forms.

Ceding after having resisted a long time to the numerous solicitations of the most distinguished amators, we decided at last to make profit our honourable clients and the horticol society of that rich and only collection in putting in the trade a hundred of our finest products, result of twenty years of observance and worck, got by fecondations, hybridations, and selections carefully coinbined.

A price of 600 francs is offered hy the Simon Délaux firm's, horticulturist, at Saint-Martin of the Touch, near Toulouse (Haute-Garonne), France, to the *National Chrysanthemum Society*, of London, to be awarded at the time of the first Exhihition of Chrysanthemum, organised by this Society, in november 1887, to the horticulturist or amator who will present this collection in pots, in plants the finest and the hest cultivated.

We also offer to the same Society, a price of a value of 100 francs, for the same collection presented in cutted flowers.

The relaited Catalogue of the 100 varieties will be sent to the affranchised request.

We pray MM. the editors of news paper or general secretaries of the horticulture Societies, to whom this present circular letter wil he sent, to have the Kindness to put in their estimable news paper, the upper notice concerning the London Exhibition's. We sent here to them our anticipated thanks.

[We comply with M. Délaux's request, with the exception of excluding the commercial particulars, which would best appear in the advertising department.—ED.]

STANDARD BEARER CELERY sent up from York House, Great Malvern, is of large growth, the colour deep dull red, the blanched portion white with agreeable tinge of pink, quite solid, crisp, and somewhat tender and of an excellent nutty flavour. As a market celery this appears to be a variety of some importance; and doubtless, it is of value for the garden.

THE WEATHER has rather gratified than distressed the world within the past ten days, and it is interesting to note that, while severe frost is unusual in advance of Christmas, it is also unusual for London and the south-eastern counties to have the sharpest taste of it, which has happened in the present instance. An early winter is generally first experienced in the north, but this time the south has had the lead. When accounts are cast up it will be found that the temperature has ruled considerably under average throughout December, so far. The outlook, however, seems to include changes, for at this time (Wednesday noon) the barometer is falling, and the wind appears to be hacking, so we fear the holidays will not have the advantage of ice for skating.

AFRICAN LILY.

Agapanthus umbellatus.

NOTHING that the great African continent has given us in the way of flowers can surpass in value the glorious old African lily, which is not a lily, but an amaryllis, and is none the worse for that. From Africa we have the magnificent terrestrial orchids called disas, any number of heaths and pelargoniums, not a few of the finest palms, and the hard-leaved cycads, that connect them with the sago-palms of India and China. But for usefulness, the agapanthus stands alone; and if we are called upon to find a companion for it, the *Vallota purpurea* shall have the preference over all other African plants; and this also, although called "Scarborough Lily," is, strictly speaking, an amaryllis. This familiar plant has been classed as a crinum, as a hyacinth, as a polyanthus, and a tulbaghia; its modern name dates from the publication of Aiton's "Hortus Kewensis," wherein, on the authority of L'Heritier, it is entered by the name now universally recognized. It was cultivated in the Royal Gardens at Hampton Court in 1692, therefore it is no novelty; and yet of its history there is not much to be said.

This fine plant is commonly and advantageously regarded as requiring protection in winter, and is, therefore, grown in pots and tubs. It is, however, quite hardy in the southern counties, and in London survives an ordinary winter in the open border, where, if spared for a few years the trial of a severe and prolonged frost, it increases to a large mass, and flowers freely in the month of September. The winter of 1885-6, the longest we have known, though certainly not the severest, affected outdoor plants at Kew so slightly, that when, in the month of April, the spring renewed the growth of vegetation, they were found to be fresh and green, and scarcely touched by the winter frost. In the Botanical Gardens of Manchester some large clumps have stood out in borders for several years, with but little harm, from which they have soon recovered. Some very fine clumps that we had in the open border, on heavy land, in a northern suburb of London, were so much injured by the keen frost that occurred in the month of March, 1880, that it was not until the end of May that they presented above ground a new growth of green leaves from the roots; and in that year they did not flower, having enough to do to accomplish their re-establishment.

We are particular to set forth these facts, because, when a noble plant, such as the one before us, proves to be hardy enough to brave an average winter in the open ground, the gain of all lovers of a garden is immense. But, as remarked above, the plant is with advantage treated as requiring protection in winter, and generally speaking, the amateur cultivator will insure the best success by practising pot culture.

The agapanthus requires a rich, strong, loamy soil, in which it produces a large mass of stout fleshy roots, that are thirsty in high summer time. It is a mistake to prepare a light sandy compost, except when the plants have been cut up for increase; in which case, for the first potting they should have a sandy soil of a rather poor character, and be put into pots as small as possible, But when they have made new growth, and require more room, the soil should be a rich, strong loam, the pots should be large in proportion to the plants, and from June to August they should stand in pans of water. By this treatment they will make a grand growth, and flower finely. During winter a stable or shed will suffice to shelter them, but the best place is a plant-house, heated sufficiently to keep out frost. It is a good practice to shift the plants into pots one size larger than the last when growth commences in the spring, and to continue this practice until they become too large for the purposes required, when they might be divided by carefully cutting through at the crown, and taking care not to seriously mutilate the roots. Each piece removed, should have a bunch of roots of its own; and if these are unmanageable when they are potted, they may be shortened, but must not be severely cut back. For some time after the divided pieces have been potted in small pots very little water should be given. To be out of doors from May 1 to October 1, will suit the agapanthus well.

There are some half dozen varieties of *Agapanthus umbellatus*, comprising one with flowers of a pure white colour, one of very dwarf habit with narrow leaves, and one the leaves of which are beautifully variegated. For all ordinary purposes, the common blue robust variety is the best. We have had large plantations of this plant, mixed with tritomas, gladioli, and lilies. They gave but little trouble, and made an impressive display of their various and magnificent flowers—a kind of "hardy gardening" not often seen, though neither costly nor difficult.—HIBBERD'S *Familiar Garden Flowers.*

NORTH OF SCOTLAND HORTICULTURAL SOCIETY.

THE usual monthly meeting of the North of Scotland Horticultural Society was held in the Christian Institute, Aberdeen, on Friday evening, 17th inst. There was a large turn-out of members, and the President, Mr. A. Robson, occupied the chair. Mr. A. Gillespie, Aberdeen, and Mr. Peter Elder, gardener, Daneston House, were admitted new members. Papers were then read on novelties and specialties in fruits, flowers, vegetables, and plants. Mr. J. Wilson, Charleston Gardens, led off with the first paper, on "Rare Vegetables," followed by Mr. R. Grigor, Sunnybank, on the same subject. A paper sent by Mr. R. Farquhar, Fyvie Castle, on "Potatoes," was read by the secretary. An animated discussion followed the reading of the papers, in which many of the members took part, and at the close of which the essayists were warmly thanked for their contributions. A discussion on fruit was then opened by Mr. Robert Mortimer, Aberdeen, during which a general interchange of views took place among members present. Votes of thanks were accorded to several parties for specimens of chrysanthemums, plants, and vegetables brought forward for exhibition. A cordial vote of thanks to the President terminated the last society meeting of 1886.

VERONICA LEGUSTRIFOLIA.

THE veronica, which I showed before the committee at South Kensington on the 7th inst., excited some interest, owing to the flowers and foliage having stood seventeen degrees of frost. I was asked to get the correct name, as the one I had it under, V. salicifolia, was disputed. A sprig was therefore sent to Kew to Mr. Baker, and he has kindly named it, saying that it will not pass muster for a form of parviflora, but considers it V. legustrifolia. GEORGE F. WILSON.

Heatherbank, Weybridge.

NOTES ON MISTLETOE.

By William Earley.

To very many, both in this and other countries, mistletoe appears for renewed acquaintance amidst Christmas festivities. That it is an indigenous plant is generally understood. Beyond its peculiarity as being parasitical, its chief characteristics are little understood by any but botanists and horticulturists; how it attaches itself to trees being quite beyond the conception of town-folk, and some others, who know not whether it exists, as some parasitical plants do, in a separate and separable form or not—in a word, how it subsists in connection with its foster parents, &c., is as a closed book. To such I may say it has no root ramifications, like unto trees in general. It seems to choose, according to modern research, a great variety of tall trees upon which to grow, notably so the apple, oak, poplar, mountain ash, and more particularly the hawthorn.

Its white-coated viscid seeds, which grow some years so abundantly, do not occur upon all plants—only, in fact, upon female plants. The plant, therefore, is diœcious, or bears only male flowers and no berries upon male plants; the female plants are therefore most generally marketed. It is surmised that the strong honey-like fragrance of the flowers upon the former attracts bees and other insects, and that it is by this means fertilization is effected. It is not uncommon, therefore, to meet with plants entirely devoid of berries, though to the uninitiated the reason does not seem any too clear.

The seeds when ripe, which they are about the months of February, March, and April, are said to be distributed by birds. It is believed that they eat them first, and discharge them in company with birdlime upon the branches, the latter being an aid to a proper adhesion to the bark of the branches, and to subsequent germination. Whether this be so or not, certain is it that each seed possesses a wonderful organism, such as enables it to push forth its initial root, and accord to it a kind of inherent leverage power, by which it is enabled to bore through the outer bark—rough though it be—into the real inner wood, where it attaches itself. Thus it grows so as to become a part of the foster tree itself, self-engrafted, living absolutely on the juice of such claimed associate, apparently welded to it as branch of its branch and part or parcel of it, in all save the quaint external growth.

The mistletoe is easily made to grow upon such trees as the above-named by artificial process. Berries gathered when ripe (not Christmas-gathered ones, which are often used, and give so much disappointment), inserted into a notch made in a tree branch, must be pressed firmly by aid of its glutinous coating, and so tied as to be safe from robbery by birds generally. That the thing may be done is proved by the fact that one firm of English nurserymen hold a goodly stock of young apple trees grown in pots upon which artificially-grown mistletoe plants exist.

Once the seeds germinate and the young plants commence to grow there is little or no danger of losing it subsequently. Like all "ill weeds" it prospers apace. Indeed the mistletoe invariably robs trees of their sap, and what should be their own support. And it checks the growth of such foster trees, as a natural consequence, and may be defined therefore an injurious parasite.

Many attempts have been made to explain the meaning of the English name mistletoe; though the best is due to Lord Bacon, who, in his "Natural History," connects the plant with the missel-thrush, a bird belonging to our country, and which his lordship avers, according to tradition, is necessary to the due germination of the seeds; for to this bird in particular is the practice attributed of eating the berries, and ultimately depositing them in an undigested state upon the branches of trees. From missel to mistletoe a very decided change takes place in more instances than one, which the reader will readily see, to whose thoughts I leave the matter.

The Druids made much of mistletoe, but more especially such as grew upon oak trees. This, according to their notions, was hedged around by a divinity giving to both the oak and the grove wherein it grew a peculiar sanctity. Not only did their ceremonial worship extend to the mistletoe, but to the whole district. According to Pliny and other old writers, particular ceremonial was observed at the annual cutting of the plant from the foster oaks; and our present practice of hanging the branches up in our dwelling-houses has been handed down from the Druids also, though they did so with the belief that the spirits of the woodlands would find shelter therein from inclement wind and weather of the winter season.

Though the identical British mistletoe does not extend over a wide range of the globe, there exist nevertheless other species, or kindred plants, treated in like manner; the "Donerbesen" of the Swiss, certain Indian and other plants to wit. No doubt the custom of "kissing under the mistletoe" when friends meet beneath it, is due to Scandinavian mythology, and was brought about on the mythical restoration to life of Balder, the Apollo of northern countries.

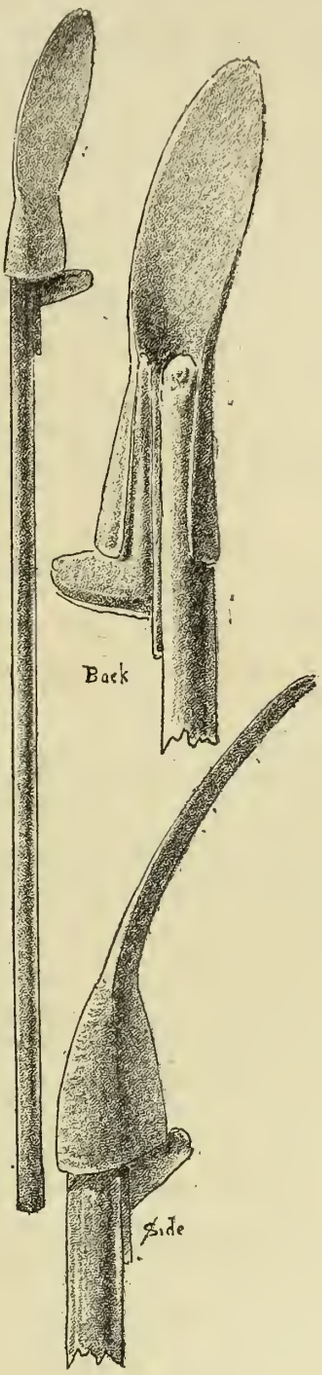
The mistletoe has in various countries been considered variously as the embodiment of "lightning" (Switzerland), a "talisman" (France), the "spectre's wand" (Holstein). It was the "All Heal" of the Druids in consideration of a belief in its curative properties.

In Sweden the peasantry believe houses are safe from fire when a branch of it hangs within, and a great variety of superstitious notions connected with the imagined witchcraft of the past cling to it; indeed we may say that in some counties of England relics of such superstitions are still to be found.

Apart from all these, the plant is a very interesting one in form and habit of growth superficially, to say nothing of the exceptionally strange manner in which it assures maintenance upon the juices of another tree.

IRISH POTATO SPUD.

A spud is a spade and a spade is a spoon, and both words are available to represent daggers, stilettos, and swords. We have spades in cards; they are not spades for the garden, but the heads of pikes for the service of war, and derive their modern name from the Spanish *esparda*, a sword. This takes us far away from potatoes; but as the word *spud* is used in slang Scotch for potato, we are forcibly brought back to our subject by the etymological consideration. The word spade is from the Latin *spatha*, any broad blade of wood or metal. Here are figures drawn from the Irish potato spud, shown by Mr. Buckley at the Tercentenary Exhibition, which we present as illustrating an interesting implement. It approximates in form to some of our draining tools, and its counterpart may be found in museums, for in the days when the art of the smith was in a somewhat elementary state, spear heads and other implements were



Irish Potato Spud.

attached to the shaft by the means still used by the smiths in Ireland. The blade is bent over at the base to clutch the shaft, and is fixed by driving in a wooden wedge, which is cut to form a foot rest for driving the spud into the ground. It is a better instrument for its purpose on the rocky ground that in Ireland is often tilled for potatoes than the English spade would be, and that justifies it as a piece of sensible engineering.

SNOW CRYSTALS.

Pale snow-stars tangled in a spider's web,
When all the woods are bare, the fields forlorn,
Shall change, when wintry storms have blown their worst,
To sparkling dew-drops of the summer morn.
So ofttimes from sad days of care and pain
Sweet seasons of calm happiness are born.

H. B.

POTATOES GROWN FOR TRIAL IN THE GARDENS OF THE ROYAL HORTICULTURAL SOCIETY, CHISWICK, 1886.

THE International Potato Exhibition having collapsed ignominiously, the trial cultures at Chiswick acquire for us a new and special interest. We have many times in the course of the past season reviewed the growing crops, and made notes of the several varieties, and, at the time of lifting, instituted sufficient comparisons for fair, general estimates of relative cropping. We have placed before our readers the list of varieties certificated by the Fruit and Vegetable Committee as supplied officially to the horticultural papers, but beyond this we have no information of the decisions of the committee, and have, therefore, had to rely on our own observations.

The number of lots grown was 196. We say "lots" because in a few instances the same variety was sent by more than one contributor. However, we shall be scarcely in error in saying that the number of varieties grown was near upon 200, of which 20 were considered worthy of special notice for both cropping and table quality. Two of the newer kinds are reported as showing great promise of usefulness; they are *Maggie* and *Hybrid Skerry*. Another promising pair are *Salisbury* and *Seedling Fletcher*. We shall hope to give attention to these next season, should the trial culture of the useful tuber be continued.

As regards the growth in the past season, there was a slight check occasioned by dry, hot weather in July, and the early sorts lifted light in consequence. And in September a time of low temperature, with humidity, caused a slight outbreak of disease, which, except in a few cases, appears to have spent its force on the shaws, without seriously touching the tubers. On the whole it may be said that the season was favourable both to potatoes in general and to the comparison of the many varieties that in this case were brought together for critical comparison. The Jensen plantation was placed under the care of the compiler of this report, and all that need be said is that the moulding was carried out according to the settled prescription, and as these lots turned out much the same as others, there is absolutely nothing more to be said about them.

The names that follow the particulars are those of the donors of the varieties. In connection with new and scarce kinds the names of the persons contributing are important parts of the history. Therefore it has been thought advisable to give the names of donors throughout. For any opinions as to quality, &c., &c., in this report, we are alone responsible; of the decisions of the Committee we have no official information. The numbers are taken from the garden book, and are of no practical importance.

WHITE KIDNEYS.

1. *Royal Ashleaf.*—Poor crop, small tubers. Vilmorin.
2. *Hardy's always first eight week kidney.*—An early potato, moderate crop, medium tubers, very like Royal Ashleaf. Hardy.
3. *Seedling Yarde.*—A fine early and fair cropper, white flesh, handsome on table. Yarde and Co.
4. *Belle Augustine.*—Very small, worthless. Vilmorin.
5. *Seedling No.* 3.—Large, flat white kidney, good crop, white flesh, a fine potato. Dunkley.
6. *True Blue.*—Very small, white flesh. Ross.
7. *Feuille d'Ortie.*—very small, worthless. Vilmorin.
8. *Seedling No.* 2.—Moderate crop, rough skin, white flesh, to be tried again. Dunkley.
9. *Cambridge Prolific.*—Medium size, fair crop, white flesh, good looking. Ridgewell.
10. *Cambridge Beauty.*—Very much like the last but larger, rough skin, slightly tinged with pink, good crop, a pretty thing. Ridgewell.
11. *Pearly White.*—Large and long like Magnum Bonum, good crop, white flesh, very late. Eckford.
12. *Maid of Athens.*—Very small, poor crop, very like degenerated Ashleaf. Fletcher.
13. *Snowdrop.*—Large, good crop, fine quality, much diseased, white flesh. Vilmorin.
14. *Harvester.*—Large, good crop, rough skin, white flesh. Dean.
15. *Prince of Wales.*—Long, medium size, fair crop, yellow flesh. Vilmorin.
16. *Joseph Rigault.*—Very small, worthless, much diseased. Vilmorin.
17. *Jaune longue de Brie.*—Long, small, moderate crop, yellow flesh. Vilmorin.
18. *Lily White.*—Very heavy crop, fair size, white flesh, handsome. Vilmorin.
19. *Norfolk Giant.*—Large, very rough, poor crop, late and ugly, white flesh. Daniels.
20. *Early Primrose.*—Very small, poor crop, white flesh. Daniels.
21. *Norfolk Hero.*—Large, heavy crop, not good, white flesh. Daniels.
22. *Jubilee.*—Heavy crop, but small, like Magnum Bonum in appearance, white flesh. Daniels.
23. *White Beauty of Hebron.*—Medium size, fair crop, white flesh. Daniels.
24. *Lord Salisbury.*—Large, flat, rough, a heavy crop, handsome, white flesh. Wiles.
25. *Knock Kidney.*—Poor crop, large, ugly, very white flesh. Murdoch.
26. *Earl of Aberdeen.*—Large, good crop, rough skin, yellow flesh. Murdoch.
27. *Marjolaine Tardive.*—Very small, poor crop, yellow flesh. Vilmorin.
28. *St. Helene.*—Poor crop, fair size, yellow flesh. Vilmorin.
29. *Princesse.*—A very long, thin potato, moderate crop, white flesh, not worth growing. Vilmorin.
30. *White Star.*—Heavy crop, large, very white flesh. Vilmorin.
31. *Auld Lang Syne.*—Moderate crop, large, pink eye, ugly, white flesh. Daniels.
32. *Worden Park.*—Moderate crop, small, inferior, white flesh. Barrow.
33. *Chancellor.*—Large, handsome, very heavy crop, rough skin, white flesh, excellent flavour, extra good. Dean.
34. *Cole's Favourite.*—F.C.C., 1885. Good crop, large, rough skin, handsome, of good quality, white flesh, one of the best of the new varieties. Perry.
35. *Oblongue de Malabry.*—Very poor. Vilmorin.
36. *The Captain.*—Large, good crop, rough skin, second quality, white flesh. Hughes.
37. *Prime Minister.*—Very large, good crop, rough skin, late, white flesh. Dean.
38. *The Colonel.*—Large, good crop, coarse, white flesh. Cooper.
39. *Rothiemay.*—Very large, heavy crop, coarse. Murdoch.
40. *Wormleighton Seedling.*—Heavy crop, late, white flesh. Vilmorin.
41. *Bennett's Surprise.*—Long, large, heavy crop, late, good keeper, white flesh. F.C.C., March, 1886. Bennett.
42. *Hurts Hall Beauty.*—Very large, rough, ugly, much diseased, white flesh. Cooper.
43. *Seedling A*1.—F.C.C., 1886. Very large, smooth skin, good crop, first quality, white flesh. Harris.
44. *King William.*—Very small, moderate crop, white flesh. Curtis.
45. *Improvement.*—Very large, long, very heavy crop, white flesh, late. Daniels.
46. *Seedling No.* 1.—Good crop, fair size, rough skin, yellow flesh, late. Dunkley.
47. *Exquisite.*—Medium size, moderate crop, rough skin, white flesh. Grigor.
48. *Dewdrop.*—Fair crop, medium size, white flesh. Fletcher.
49. *Marjolaine Hâtive.*—Moderate crop, fair size, white flesh. Vilmorin.
50. *Belle de Fontenay.*—A good crop, large, Ashleaf type, yellow flesh. Vilmorin.
51. *Edelweiss.*—Heavy crop, fair size, yellow flesh. Vilmorin.
52. *La Boulangère.*—Moderate crop, medium size, yellow flesh. Vilmorin.
53. *Pride of Hawarden.*—Good crop, large, very clear skin, white flesh. Howard.
54. *Early White Rose.*—Large, heavy crop, nice looking, yellow flesh. Daniels.
55. *The McKinlay.*—Large, moderate crop, like Magnum Bonum, white flesh. Laxton.
56. *Friesland Beauty.*—Very large, heavy crop, very clear skin, good quality, white flesh. Cheal and Sons.
57. *Johnson's Mainerop kidney.*—Moderate size, good crop, clear smooth skin, white flesh. Johnson.
58. *General Earle.*—Heavy crop, large, rough skin, pretty, white flesh. Johnson.
59. *The Captain.*—Moderate crop, fair size, rough skin, white flesh. Johnson.
60. *Seedling.*—Very large, heavy crop, coarse, late, yellow flesh. Jenner.
61. *White Beauty of Hebron.*—Good crop, large, good looking, white flesh. Laxton.
62. *Banbury Kidney.*—Long, heavy crop, fair size, Magnum Bonum type, white flesh. Perry.
63. *Woodstock Kidney.*—Good crop, fair size, extra fine, and a general favourite. Vilmorin.
64. *Langley Pride.*—Moderate size and crop, clear skin, white flesh, badly diseased. Veitch.
65. *Magnum Bonum.*—Heavy crop, good size. Vilmorin.
66. *Maincrop Kidney.*—Good crop, fair size, first quality, an excellent potato. R.H.S.
66. *Beauty of Rosefield.*—Small, good crop, yellow flesh. McPherson.
67. *Day's Sunrise.*—Large, heavy crop, rough, clear skin, white flesh, handsome. Day.
68. *Fyvie Flower.*—Good crop, rough skin, medium size, pretty, yellow flesh. F.C.C., 1886. Farquhar.
69. *Clipper.*—Very large and evenly round, heavy crop, white flesh, fine quality. Lye.
70. *Golden Flourball.*—Large, fair crop, coarse, yellow flesh. Daniels.
71A. *Pickwick.*—Fair crop and size, nothing particular. Marson.
72B. *The Harper.*—Large, moderate crop, late, yellow flesh. (?)

COLOURED KIDNEYS.

71. *Purple and Gold.*—Heavy crop, ugly, flesh yellow. Daniels.
72. *Cluny McPherson.*—Fair crop, medium size, rough skin, white flesh. McPherson.
73. *Ellingtonia.*—Good crop, fair sized, purple flaked, pretty, good quality, white flesh, has been certificated. Ellington.
74. *Desideratum.*—Pale pink, medium size, good crop, useful, white flesh. R.H.S.
75. *Clarke's Attraction.*—Purple flaked, small, poor cropper, white flesh. Clarke.
76. *Blanschalige Hummelshamer.*—Purple, worthless, yellow flesh. Vilmorin.
77. *Purple Ashleaf Kidney.*—Worthless. Vilmorin.
78. *Empress of India.*—Purple flaked, worthless. Daniels.
79. *Pearl of Savoy.*—Pink, large, heavy crop, early rose type, white flesh, good. Daniels.
80. *Violette d'Albany.*—Purple flaked, moderate crop, fair size, late, white flesh. Vilmorin.
81. *Rosée de Conflans.*—Pink, worthless. Vilmorin.
82. *Progress.*—Red, large, heavy crop, rough skin, first quality, white flesh. Vilmorin.
83. *Napoleon.*—Pink, small, poor crop. Vilmorin.
84. *Quarantine Violette.*—Purple, long, good crop, medium size, yellow flesh Vilmorin.
85. *La Cuisinière.*—Purple, medium-size, fair crop, yellow flesh. Vilmorin.
86. *Van Acher.*—Purple, moderate crop, small, yellow flesh. Vilmorin.
87. *Blanc Spätre Rose.*—Large, purple, heavy crop, very ugly, white flesh. Vilmorin.
88. *St. Andrew.*—Red, medium size, good crop, pretty, white flesh. Ross.
89. *Mottled Beauty.*—Purple flaked, fair crop, medium size, white flesh, Wiles.
90. *Achille Lemon.*—Purple flaked, moderate crop, small, yellow flesh Vilmorin.
91. *Negresse.*—Black, small, good crop, the flesh is coloured, but of good flavour. Vilmorin.
92. *Early Seedling.*—Pink, heavy crop, Early Rose type, white flesh, a promising American variety. Horsford and Pringle.
93. *The American.*—Red, very large, coarse and ugly. —— ?
94. *Pousse debout.*—Red, very long, a curiosity of no use for general purposes. Vilmorin.
95. *Rouge Hative.*—Red, poor crop, small. Vilmorin.
96. *Prizetaker.*—Pink, large, heavy crop, rough skin, white flesh. Vilmorin.
97. *Saucisse Blanche.*—Pink flaked, large, ugly, yellow flesh. Vilmorin.
98. *Wiltshire Champion.*—Pink, large, moderate crop, ugly, white flesh. Merrit.
99. *Rubanie.*—Red flaked, fair size, poor crop, white flesh. Vilmorin.

WHITE ROUND.

100. *Alexandra.*—Small, poor crop, worthless. Harris.
101. *The Squire.*—Heavy crop, fair size, rough skin, very pretty, white flesh. Wiles.
102. *Acme.*—Moderate crop, small, yellow flesh, useless. Eckford.
103. *Prodigy.*—Medium size, good crop, slightly tinged with pink, pretty, yellow flesh. Eckford.
104. *Maggie.*—F. C. C., 1886, very large, fine crop, rather deep eye, good quality, a fine potato, white flesh. Murdoch.
105. *Georgie.*—Small, good crop, pretty, but too small, white flesh. Murdoch.
106. *Suffolk Favourite.*—Good crop and size, rough skin, excellent quality, very white flesh, F. C. C., 1885. Ellington.
107. *Early Peachblow.*—Small, poor crop, white flesh. Vilmorin.
108. *Chiswick Favourite.*—Large, good crop, rough skin, excellent quality, very late, white flesh, F. C. C., 1885. Veitch.
109. *Standard.*—Medium size, fair crop, yellow flesh. Vilmorin.
110. *Comice d'Amiens.*—Pink eye, small, poor crop, yellow flesh, worthless. Vilmorin.
111. *Bedfont Prolific.*—Medium size, fair crop, white flesh. Dean.
112. *Brookfield.*—Large, good crop, rough skin, handsome, white flesh. Easty.
113. *Fame.*—Large, good crop, clear smooth skin, white flesh, new and excellent. Ross.
114. *Early Essex Regent.*—Very small. Curtis.
115. *White Perfection.*—Good crop, fair size, clear skin, yellow flesh. Daniels.
116. *Dr. Johnson.*—Small, poor crop, worthless. Daniels.
117. *Perfect Peachblow.*—Very large, heavy crop, clear skin, pink eye, white flesh, fine-looking, extra good. Daniels.
118. *New Golden Shaw.*—Worthless. Daniels.
119. *Buck's Regent.*—Small, heavy crop, Champion type, yellow flesh. Harris.
120. *Gelbe Rose.*—Good crop, medium size, deep eye, rough skin, white flesh. Vilmorin.
121. *Miss Chilton.*—Moderate crop, medium size, rough skin, Schoolmaster type. Wright.
122. *Lord Byron.*—Poor crop, ugly, much diseased, useless. Fletcher.
123. *Parisienne.*—Heavy crop, good size, rough skin, Schoolmaster type, pretty, very white flesh. Vilmorin.
124. *Earl of Fife.*—Large, heavy crop, deep eye, ugly, badly diseased, yellow flesh. Murdoch.
125. *Citronelle.*—Large, coarse, good crop, yellow flesh. Vilmorin.
126. *M.P.*—Good crop, fair size, rough skin, first quality, white flesh. Ross.
127. *Miss Fowler.*—Fair crop, medium size, pretty, yellow flesh. Ross.
128. *Schoolmaster.*—Good crop, large. R.H.S.
129. *Bouncer.*—Good crop, fair size, clear smooth skin, white flesh, first quality, F.C.C. 1886. Laxton.
130. *Snowball.*—Moderate crop, fair size, pretty, white flesh. Dean.
131. *Snowflake.*—Small, poor crop, white flesh. Vilmorin.
132. *Supreme.*—Large, good crop, rough skin, Schoolmaster type, white flesh. McPherson.
133. *Eclat.*—Good crop and size, rough skin, white flesh. Bell.
134. *Fyvie No.* 10.—Good crop, fair size, rough skin, yellow flesh. Farquhar.
135. *Masterpiece.*—Fair size, good crop, smooth skin, white flesh. Daniels.
136. *Seedlings.*—Small, moderate crop, white flesh. Tidnam.
137. *The Student.*—Moderate crop, medium size, pretty, white flesh. Watkins.
138. *Improvement.*—Good crop, medium size, clear skin, yellow flesh. Daniels.
139. *Brighteye.*—Moderate crop, fair size, very smooth skin, pink eye, white flesh. Ross.
140. *Brownall's Best.*—Worthless. Vilmorin.
141. *Goldelse.*—Small, worthless. Vilmorin.
142. *Scottish Queen.*—Poor crop, fair size, white flesh. Vilmorin.
143. *Lerchen Kartoffel.*—Small, heavy crop, pink eye, clear skin, white flesh. Vilmorin.
144. *Lord Curzon.*—Fair size, moderate crop. Beckett.
145. *Chairman.*—Poor crop, good size, white flesh. Dean.
146. *Early Gem.*—Large, good crop, rough skin, pretty, yellow flesh. Johnson.
147. *Goldfinder.*—Very small, worthless. Laxton.
148. *Blucher.*—Good crop, medium size, slightly tinged with purple, pretty, white flesh. Hughes.
149. *The Doctor.*—Good crop, large, rough skin, first quality, white flesh, a fine potato. Pritchard.

COLOURED ROUND.

150. *Purple Beauty.*—Good crop, fair size, rough skin, pretty, white flesh. A. Hollier.
151. *Red Victoria.*—Small, worthless. Ridgewell.
152. *Royal Norfolk Russet.*—Fair crop, medium size, very peculiar rough skin, very white flesh, good. Daniels.
153. *King of the Earlies.*—Pale pink, medium size, poor crop, white flesh. Vilmorin.
154. *Maréchal Valliant.*—Black, fair crop, deep eye, medium size, yellow flesh. Vilmorin.
155. *Violette.*—Deep purple, heavy crop, fair size, yellow flesh, good. Vilmorin.
156. *Seedling.*—Medium size, immense crop, curious growth, late, white flesh. G. Allen.
157. *Early Emperor Napoleon.*—Red, fair size, poor crop, white flesh. Vilmorin.
158. *Rosette.*—Red, fair crop, medium size, white flesh. Vilmorin.
159. *Rouge de Bretagne.*—Moderate crop, coarse, deep eye, yellow flesh. Vilmorin.
160. *Yeoman.*—Red, heavy crop, fair size, clear smooth skin, a pretty novelty, white flesh, good. Ross.
161. *Freedom.*—A new red, colour vivid, good crop and size, rough skin, white flesh. Ross.
162. *Useful.*—Red, good size, heavy crop, rough skin, white flesh, late. Ross.
163. *Red Regent.*—Deep red, moderate crop, medium size, rough skin, late, yellow flesh. Vilmorin.
164. *Grampian.*—Red, fair size, moderate crop, rough skin, white flesh. Vilmorin.
165. *Wood's Scarlet Prolific.*—Large, poor crop, white flesh. Vilmorin.
166. *Renommée.*—Red, moderate crop, coarse, yellow flesh. Vilmorin.
167. *Rosebud.*—Pink, poor crop, fair size, clear smooth skin, white flesh. Dean.
168. *Frühe blanc runde.*—Purple flaked, good crop, fair size, pretty, white flesh. Vilmorin.
169. *Blanchard.*—Purple flaked, large, good crop, deep eye, clear skin, yellow flesh. Vilmorin.
170. *Chandernagor.*—Purple, worthless. Vilmorin.
171. *Violette d'Islande.*—Purple, poor crop, small, white flesh. Vilmorin.
172. *No.* 4.—Purple flaked, large, good crop, deep eye, yellow flesh. Kendal.
173. *King of Russets.*—Large, pink, very heavy crop, clear rough skin, one of the finest new potatoes. F. C. C., 1885. Lye.
174. *The Cook's Favourite.*—Red flaked, large, good crop, coarse and ugly, yellow flesh, late. Daniels.
175. *Seedling.*—Purple flaked, large, handsome, very heavy crop, clear rough skin, white flesh, to be tried again. Fletcher.
176. *The Pet.*—Red flaked, moderate crop, fair size, smooth skin, pretty, white flesh. New Ross.
177. *Seedling.*—Purple flaked, moderate size, very heavy crop, deep eye, rough skin, pretty, late, white flesh. Lye.
178. *Jasper.*—Worthless. Vilmorin.
179. *Beauty of the West.*—Purple flaked, small, poor crop, white flesh, late. Vilmorin.
180. *Hybrid, Skerrie × Irish White.*—Purple flaked, fair crop and size, rough skin, pretty, white flesh. F. C. C., 1886. One of the best flavoured. The Garden.
181. *Hybrid, Skerrie × Cruffle.*—Similar to the last. The Garden.
182. *Hybrid, Skerrie × Champion.*—Similar to the other two. The Garden.
183. *Wellington.*—Pink, heavy crop, medium size, pretty, white flesh. Hughes.
184. *Reading Russet.*—Moderate crop, fair size. Vilmorin.
185. *Bedfont Rose.*—Fair crop, medium size, rough skin, white flesh. Dean.
186. *The Dean.*—Black, good crop, fair size. Dean.
187. *Charter Oak.*—Pink eye, large, good crop, first quality, nice looking, white flesh. R.H.S.
188. *Vicar of Laleham.*—Good crop, fair size. Vilmorin.
189. *Tam Glen.*—Purple flaked, moderate crop, fair size, white flesh. McPherson.
190. *Saucisse.*—Worthless. Vilmorin.
191. *Vitellote* or *Fir Apple.*—Very curious, red. Vilmorin.
192. *Asperge.*—Curious, white. Vilmorin.
193. *Vitellote Jaune.*—A curiosity. Vilmorin.

"THE ENGLISH GIRLS' KITCHEN GARDEN."

"THE English Girls' Kitchen Garden" is "a practical development of the Kindergarten adapted to English habits. It is a system calculated to raise the tone of domestic work, by teaching girls when they are young, in an attractive way, that labour of any sort which makes home comfortable is the true calling of every woman. It consists of a graduated series of three courses. The first course teaches methodical daily work; taking the girls step by step through the day's work, and by means of lively songs, bright object lessons, and little toy models for table-setting and bed-making, the little women are taught lessons which draw out their powers of activity, satisfy their curiosity about facts and things around them, and will be of great value to them when they come to have houses of their own to work in or to manage. In the second course they are taken through a series, teaching them washing, ironing, and house-cleaning; and I find the grown-up women go into raptures over the tiny washing-tubs, clothes-baskets, clothes-posts, and pegs, &c., quite as much as the little ones. The third course shows them the parts of beef and mutton by a 'pricking' lesson, pie-making with delightful little rolling-pins, pastry-boards, and pie-dishes; baby-dressing, &c., with dolly, and the favourite play, 'waiting on the door,' which will help the little players when they come to the real work not to be rude or make blunders. One cannot but notice how happy *little* girls are if allowed to dust mother's chairs, or to iron the stockings and handkerchiefs; how deftly they manage the sweeping-broom with a handle about twice as tall as themselves; how delighted to have a small piece of dough, and make grimy little editions of mother's tarts. And one cannot but be struck, too, by the fact that as these same little girls grow older they lose this taste, and come to look upon domestic work as drudgery, preferring, when they leave school, any occupation but housework. Is this not, in a great measure, due to the fact that this natural womanly taste is neglected, and its cultivation left out of the girl's education, with the result that our girls go out as little maids-of-all-work with such profound ignorance and want of method that they are a torment to the mistress and a misery to themselves? And does it not generally end in the poor lassie sitting down in a perfect muddle of pots and pans to cry in thorough discouragement, and perhaps finally to be sent home in disgrace, to be started again in another situation—gradually gaining knowledge, but only by painful experience?"

EMPYREAN HARMONY.

THE moonlight on the cedar trees in silver radiance lies,
And infinite calmness seems to reign amid the cloudless skies,
And the bright celestial cosmos in its motion seems to be
Sweetly moving to the music of a glorious harmony.

And he who long in such still hours surveys the welkin bright,
Feels all his soul uplifted by the beauty of the night,
And like Pythagoras of old he hears or deems he hears,
Far echoing from these starry skies "the music of the spheres."

H. B.

"THERE IS UNQUESTIONABLY" no better remedy in the whole world for all cough and throat troubles than KEATING'S LOZENGES—any medical man will assure you of this fact. Relief is speedy; they contain no strong acting, but only simple drugs; the most delicate can take them. Sold everywhere in 13½d. tins.—[ADVT.]

OLYMPIA, WEST KENSINGTON.

CLOSE to the West Kensington or Addison Road Station of the Metropolitan District Railway, on its western side, a few yards from the Hammersmith Road, a large range of buildings has been erected by the National Agricultural Hall Company, which is intended not only for exhibitions similar to those held in the Agricultural Hall at Islington, of live stock, cattle, horses, and dogs, but also for military tournaments, performances of horsemanship and gymnastic feats, and other public entertainments requiring space, and for a great variety of recreations. These buildings together cover an area of four acres, and will be popularly known as "Olympia." The grand hall, two acres and a-half in extent, is the largest hall in the kingdom, covered by one span of iron and glass. It is 450 ft. long by 250 ft. wide, including an outer parade 40 ft. wide, affording a total ground floor area of 109,750 superficial feet, or nearly one-half greater than the area of the Agricultural Hall at Islington. The galleries over the outer parade contain 46,000 superficial feet of floor space. The central area on which the performances take place is nearly a third of a mile in circumference. A minor hall forms an annexe to the grand hall, and can be used separately for exhibitions, concerts, balls, theatricals, musical or other entertainments, while connected with the galleries will be spacious salons for lecture-rooms, picture galleries, refreshment-rooms, public and private dining-rooms, and offices. The open gardens, comprising five acres and a-half, are immediately adjacent to the hall. They will be devoted to fashionable gatherings, garden and floral fêtes, musical promenades, and outdoor sports. One special feature of the company's programme will be high-class musical performances in the open-air; and Olympia will be in constant use, summer and winter, for any and every class of indoor and outdoor amusement, instruction, and recreation of a high style and character. The general manager is Mr. J. S. Wood, whose brilliant idea of an Old English Fair created such a sensation in South Kensington two or three summers ago, and who also invented and organised the subsequent "Shaksperean Show." Among the promoters are the Earl of Lathom (chairman), Alderman Waterlow, General Duncan Baillie, and Mr. Wentworth Cole; two members of Parliament, Mr. Lawrance and Mr. Beach; and Mr. Armine Bevan. The façade overlooking the railway presents a handsome combination of red brick and white stone, and it is expected that an arrangement may be effected with the railway, by which a broad and commodious road may be laid out in front of the new building from the station up to the Hammersmith Road. The station and the building will be connected by a short covered way, so that passengers by rail to Addison Road may pass directly into the hall in any kind of weather without inconvenience. The hall is covered in by an iron roof in which many ingenious novelties in engineering detail have been introduced by its designers. The structure consists of semicircular arched ribs 7 ft. deep, and 170 ft. clear span, placed 34 ft. apart, and having a clear height from the floor to the crown of the roof of about 100 ft. It constitutes the loftiest iron and glass roof yet erected in or near London, the Crystal Palace excepted. The original architect was the late Mr. H. E. Coe, whose work has been completed by Mr. Edmeston; the contractors are Messrs. Lucas and Son. The engineers for the ironwork were Mr. M. Ende and Mr. Walmiston, and the contractors for it were Messrs. Andrew Handyside and Co., of Derby.

"OLYMPIA," THE NEW NATIONAL AGRICULTURAL HALL, WEST KENSINGTON.

TOMATO DISEASE.

THIS is already too well known by growers of tomatoes to need any particular describing. It affects the foliage first, then, if not checked, goes to the stems, and from thence to the fruit, and appears very much like the potato disease. I allude to it now partly because, with a crop that I have just ripened off, I have had to combat with it greatly; and partly with the hope of inducing others of your readers to say what they know about it as regards its successful treatment. I believe the conditions most favourable to its appearance inside a house are a somewhat low temperature combined with a humid atmosphere, and a little too much moisture at the roots of the plants. But I think it gained an entry with me this time through some tomatoes that were grown outside being placed in the house to ripen. I afterwards found they were diseased. I have tried to get rid of it by limewashing the walls of the house and painting hot-water pipes with sulphur, &c. But the only evincible progress that I have made towards its eradication has been by reversing the abovementioned conditions as much as possible, viz., by raising the temperature 5 deg. or 10 deg., and diminishing the supplies of water. I have gone as far as letting the plants flag a little, apparently with great benefit as far as disease was concerned; but this affects the crop in other ways. This is the second attack I have experienced during the autumn and winter months, and although in each case I have managed to secure a fair crop, in neither have I been thoroughly rid of disease till the plants were all cleared out.

J. HILLING.

Literature.

THREE THOUSAND MILES THROUGH BRAZIL.

Exploring and Travelling Three Thousand Miles through Brazil, from Rio to Maranhão. By James Wells, F.R.G.S., &c. (Low and Co.).—In two handsome volumes, freely and effectively illustrated, Mr. Wells has recorded his experiences and impressions, not only as a traveller, but as a worker in the vast country that gives a special political tone to the heart of South America. When a young man he went in search of fortune to the fruitful western tropics,

A Cosy Corner in Paquetá, Rio de Janeiro.

and following his profession as a railway surveyor and engineer, he enjoyed peculiar opportunities for acquiring knowledge and for seeing things that are hidden from the eyes of the mere traveller whose object is to spend rather than to make money. The map will show that from Rio on the tropic of Capricorn to Maranhão on the equator we travel nearly due north, skirting what may be called the seaboard of Brazil, although at times removed to a distance of over a thousand miles from the coast, as, for example, on the line of the Tocantins, which must be fully fifteen hundred miles off Pernambuco. Mr. Wells, therefore, has seen much of the best part of Brazil, its sea coast bustle, its forest solitudes, and the magnificent mountain scenery that is so characteristic of the country.

It is customary in books of travels to begin at Southampton or Liverpool, or some other well-known port, in order that the reader may be informed of matters he is well acquainted with already, and be made a little weary before the proper business begins. Now, Mr. Wells begins in this way, but he contrives to reach Pernambuco as early as page 3, and then from page to page throughout the two delightful volumes the incidents follow with sufficient rapidity, in glorious variety, and are so vividly presented as to compel attention and often enlist our sympathy. At Rio the true complexion of commercial life in Brazil is revealed; the stranger encounters strange sights, strange sounds, and strange smells. From the landing-place the city is seen spread out against a back-ground of noble mountains, its complexion being quite European, more especially in the domes and towers of the churches. The beauty of the architecture is scarcely skin deep, for stucco does duty for stone, and gold-leaf hides the poverty of design. But all is new to the new comer. The gentlemen wear chimney-pot hats, black frock coats, tall white collars, white trousers, black vests, elaborate gold chains, and immaculate boots; their feet are dainty, their figures fragile, their complexions biliary. Amongst the crowd there may be noticed, perhaps, a Mina negress, with broad, burly, bare shoulders, glistening like polished ebony, or rather dark walnut; a turban covers her round jovial head, an embroidered chemise her ample bust; bare are her massive arms, and voluminous is the balloon-like skirt of striped cotton; a shawl carelessly thrown over one shoulder gives her, withal, a picturesque appearance. There are brokers, merchants, cabs, tram cars, uncheon rooms, drinking bars, but there are no ladies!

Mr. Wells takes us pleasantly through the city, but we enjoy much more his visits to the suburbs. The Botanical Gardens attract all strangers; but improved acquaintance with the country destroys all their charm, for the villas and châlets that surround the town are equally beautiful, the lavish productiveness of nature making even the gems of the tropical flora commonplace. The streets of the suburbs are often in an execrable state, and loafers and loungers make little gangs of picturesque figures exhibiting considerable diversity of colour. Those who have mastered the philosophy of a wheelbarrow will be instructed by the way the negro labourers use them. They were imported into Pernambuco for the express purpose of dissuading the negroes from carrying heavy loads on their heads. The thing was explained to them, and they published to all the world their appreciation by placing their loads on the barrows and then carrying the combined barrows and loads on their heads. To speak of a "thick-headed nigger," therefore, is not to be considered the equivalent of using profane language.

The stranger in the suburbs has much to bear, if at all musical, for through every open window—and, as a matter of course, the windows are all open—comes forth the tinkling sound of a bad piano badly played, and there are public performers innumerable, so that an Englishman who exiles himself to avoid being killed by a German band, must not go to Rio for the enjoyment of heavenly peace. But here, as everywhere, human nature has a kindly side; there is much of frank hospitality, and the country houses are as like paradise as the liveliest imagination can allow. There is wanting, says Mr. Wells, the touch of a lady's hand in the household arrangements. There are not many good pictures to be seen, and the furniture may be called gimorack. But there is a bright side to the domestic story, and we give it in the author's words: "Outside the house the gardens gleam and glitter with colour and brilliancy; vividly green grass-plots and ornamental basins of water and fountains, and Portuguese statuary shaded by noble palms of many varieties, gorgeous or highly-perfumed flowers, or noble dark green mango trees, or delicate-leaved light green mimosas, or large bushes of crimson poinsettias; many of the trunks have fastened to them great clumps of orchids in full flower; and in the rear of the house are fruit trees of many kinds peculiar to the tropics. Truly these gardens are at first sight surprisingly beautiful; we become accustomed to them after a time, and only in after years, when we can see them no more, can we realise on a foggy London day, the memories of their bright scintillating beauties, and think with regret of the bright blue skies, the luxurious temperature, the humming birds flashing like living jewels from flower to flower; truly there are many worse places than beautiful Rio." One of the most enjoyable of the country houses is described as at Paquetá, an island ten miles up the bay. Here Mr. Wells was welcomed to a "cosy corner," where a happy family dwelt within the shade of almond trees, cocoanut palms, and other such vegetable comforters. "The handsome, exceedingly well-cared-for steam launch is anchored a little way off; boats and canoes line the shore, fishing tackle and nets fill a large boathouse hard by, the materials for spending a spare day on the water; the lawn is studded with flower beds, the verandah covered with flowering creepers, and many orchids in flower are tied to tree trunks. How enjoyable it is on a warm summer night to lazily roll in the rocking chairs, enjoy a cigar, and the quiet scene, the pleasant surroundings, and melodious sounds of rippling water and rustling leaves."

Roughing it outwards from Rio begins with railway train and is continued with mules. A taste of the woodlands is experienced at Juiz de Fora, one of the coffee districts. The woods here are abundantly supplied with orchids, principally cattleyas. A labourer can easily collect a cartload of these plants in a day or two in these woods around Juiz de Fora. The commonest are Cattleya labiata v. picta, C. granulosa, C. Aclandiæ, C. Warneri, C. gigas, and C. Forbesi (Lind.).

We shall now give our readers a taste of the book illustrative of its wide range of incident and observation, and what follows will remind some of our readers of Mr. Kelly's experiences in the Rocky Mountains. We are now to quit civilisation and make our way to Mantequeira, through a Minas forest, to Barbacena, a mountain journey, and mules are to be the carriers.

Suburban Villa in he Larengeiras, Rio de Janeiro.

"Our first experience of the mules I must enlarge upon, as they are *bixos* that form a considerable actor in our future experiences. As we look at them there is such a palpable air of latent devilry in them, that within our heart of hearts we, at least I, was not supremely comfortable. Their skins quiver with irritation whenever a fly alights upon them, they stamp impatiently with their natty little hoofs, their tails are whisked to and fro with sharp rapid

strokes, their ears move in unison, they glance slyly at one, and calculate if one is within kicking range, they snap with their teeth viciously at one another, and lash out their heels and with loud neighs at the slightest provocation. Antonio fetches the trunks and arranges them in a businesslike way on the pack-saddles, trios their balance, and makes it up with odd parcels; when completed to his satisfaction, he places on top a dried ox-hide, passes a raw hide-rope over all, hitched on to a broad horse-hair girth, then applies a long pole to the rope and winds it up tourniquet fashion; the winds and winds as though he was going to turn the mule into a wasp; the mule grunts and staggers, and still he winds. 'That's enough, Antonio,' we cannot help saying, out of pure commiseration for the animal; but he merely remarks, 'Diabo do bruo.' As the animal expostulates with a kick, he gives yet another turn, and secures the stick by lashing to the hide-rope. The same process is repeated with the other mule. 'Antonio, the mules are loose, they will run away.' He looked at us curiously, and as we thought, superciliously, but made no remark. After a certain amount of prancing, we scrambled into our saddles; then immediately all the world seems to dance round us—houses, banks, and fences fly about promiscuously. There must be an earthquake, or the earth is topsy-turvy; our helmets see-saw between our eyes and the back of our heads; the mules are playing cup and ball with us, happily neatly catching us each time we descend; our personality, we feel, is lost in our clothes, as we sway violently to the right and the left. Suddenly my colleague dashes off to Rio Janeiro, blind-folded with his helmet; my mule fortunately prefers the opposite direction; away we go down the hill at a break-neck pace; the reins seem to be useless encumbrances, one might just as well try to stop a locomotive with them. After it can be realised that I am yet in the saddle, and in the land of the living, I settle down into my seat, and let Senhor Mule have whip and spur, and through the town we go flying."

Thus we see our spirited traveller start on his journey for the forest primeval, and we can promise all who will accompany him through his two spirit-stirring volumes a very refreshing record of events and observations amidst the grandest and most varied of the scenery of Brazil.

BULBS AND TUBERS FOR OUTDOOR CULTURE.

By Mrs. T. L. Nelson, Worcester, Massachusetts Horticultural Society.

One who did not know the enormous will-power and energy of the people of New England, might wonder why such lovers of fruits and flowers do not seek a more genial climate. But the same spirit which brought their forefathers here bids them cling to the land of their ancestors' adoption. The frigid winters and scorching summers sometimes dishearten, but do not entirely discourage. True as the needle to the pole, the New Englander gathers up what is left from their ravages, and patiently as he can (for there is a limit to human serenity) repairs damages, replaces winter-killed plants, protects from the severe rays of the sun, and leaves the result, as he must, with Him who sends the sunshine and the rain.

There are, perhaps, three certain summer months, with a possible fourth if there is no early frost. What, then, in this brief season, can we grow in the way of bulbs and tubers, that will give pleasure and profit?

The subject of bulbs and tubers for out-door culture is a broad one. Much has been said upon it, and we have much still to learn. Experience, that best though sternest of tutors, is each day teaching us something new. Sometimes the lesson is dearly bought, but if the result is favourable we must not repine at the cost. But results are often very aggravating, as, for instance, after we have petted plants in the greenhouse or conservatory, if we find, by experimenting, that they do better out of doors—either bedded out or in a cold frame.

There are no invariable rules for cultivating any plant, so much depends on the location and exposure. Two gardens may be found, placed side by side, but where one only is sheltered from northerly winds, and these gardens will be in many respects entirely unlike. The gardener should select the best places, or what seems to be the best places, for his different plants, and if it proves that they do not thrive where placed, he must next year change the location. No amount of obstinacy will make a plant grow if it is not at home. I have changed plants that did not thrive several times, and until they seemed to grow as if, at last, they were exactly suited. There is no pleasure in growing a plant that simply drags out a miserable existence.

It is well, as far as practicable, to change every year the location of many kinds of bulbs, and their kindred; and of bedding plants as well. One plant will absorb the element that another has declined; so that change is very beneficial. We must also take special note of the country from which our tubers, &c., come, and of its conditions of sun, soil, and climate. Some plants require partial shade, others the unobstructed rays of the sun.

The careful student of nature takes note of all these matters, and the result well repays him. I often hear one person say to another, "I wish I were as successful in my garden as you are in yours," when I cannot help feeling amused, knowing how the plants have been set out, and how cared for, in the unsuccessful garden. I cannot think its owner intended to be negligent; but, on the other hand, I know that the envied one is a more thorough student and more diligent in finding out how to make his plants grow.

Bulbs, tubers, and corms (or hard bulbs as the last are commonly called) are elongated root-stalks; and are simply store-houses for the embryo plant, serving to nourish and sustain it until the roots start; which is generally from the base. Bulbs enlarge and throw out bulbs from their sides and tops, and sometimes upon the stem of the plant itself. Tubers increase in size and produce eyes or buds, and can be divided into as many pieces as there are buds. Corms increase generally from the top of the old corm, which decays.

In speaking of different bulbs, tubers, and corms, I shall make no attempt to treat them distinctively, but shall use the word bulb to indicate all, as that is a term generally so used, and it would confuse many people to adhere to the more exact scientific terms; moreover it is not of these store-houses that we propose to speak to-day, so much as of their contents and culture.

It is not the quantity of suggestions that is valuable in most cases, but the quality. Therefore it is better to discuss a few kinds of bulbs thoroughly than to touch on and treat superficially every sort we can think of. No valuable knowledge is gained in the latter case, but only a jumble of shallow suggestions of no great use to any one.

In the northern states we have quite a large number of indigenous Lilies, Arums, &c.; but we cultivate very few of them, because we like them best in their native haunts. If cultivation would improve them it would be worth while to transplant them to our gardens, but in most cases it is quite difficult to make them grow at all, and still more so to make them grow satisfactorily. It is best, therefore, speaking generally, to forbear all cultivation of native plants and bulbs, unless we have places for them as nearly as possible like that from which they come; although our native lilies, *L. Canadense* and *L. superbum*, do well in cultivation, and well repay the cultivator.

It would be of no present practical use to speak of spring bulbs since all that can be successfully cultivated are, or should be, already in the ground—the snowdrop, hyacinth, crocus, tulip, narcissus—in short, all that go to make up our habitual spring display.

Our climate is so variable that we can never tell when we are out of the reach of frosts. Location makes a difference of a week or ten days. There may be a time when, in some sunny and sheltered spots, we feel sure we might plant anything without fear of frost, while yet, within a hundred feet, we may find the ground frozen so hard that we could not expect to plant for ten days.

There are some bulbs that will take no hurt if the ground freezes an inch after planting, and there are others that feel the slightest chill. I have planted gladioli early and had the tops chilled, yet with no injury; but tuberoses must wait until the ground is thoroughly warmed and likely to stay so.

Lilies are among our most trustworthy allies after the galaxy of spring flowers has passed away. *Lilium candidum* is one of the hardiest species, but it is also the most particular about the time of planting. The bulbs must be planted when they are in the dormant state; which is the last of August or the first of September. The bulbs start in the autumn, and the foliage remains green through the winter. The bulbs will not bloom if disturbed after they commence growing. *L. longiflorum* is not as hardy as many of the other varieties, from the fact that its bulbs are liable to start in the fall if the weather is warm. It is best to cover early with leaves or light compost, as a a hard frost after the bulbs have started almost invariably kills them. This lily is easily transplanted. Several years ago some bulbs were sent me in the spring, from the west, which bloomed almost as soon as those wintered in my own garden. I have transplanted them while in full bloom, taking care to disturb the roots as little as possible, and the next spring they came up strong and vigorous. *L. auratum* is quite uncertain, even with the best of protection; I plant a few bulbs every year, and charge the cost to account of "bedding plants." I think they are worth growing if I get only one season's bloom from them. I do not mean it to be understood that I do do not winter any of the bulbs of this species, but merely that *L. auratum* cannot be depended upon like *L. candidum* and *L. speciosum*. Last season my bulbs were extremely satisfactory, and flowered finely. One bulb produced two stalks with thirteen blossoms on each; another eleven on a single stalk; and several here six each. Were I to get no more than two blossoms from a bulb, I would still grow them.

All the varieties of *L. speciosum* are hardy. Album Præcox is a much finer white variety than Album. Rubrum, Roseum, Punctatum, Melpomene, and Purpuratum are all desirable varieties. *L. pardalinum* (sometimes called "leopard lily") is fine and hardy. *L. excelsum* (bright buff) is one of the most beautiful lilies we have in cultivation. *L. Brownii* is rare and costly; and with its peculiar purple outside and the pure white, waxy inside presents a striking contrast to *L. longiflorum* and the varieties of that species. *L. Leichtlini*, *L. monadelphum*, and *L. Parryi* are all fine yellow varieties. All the varieties of *L. Martagon* are good. *L. Chalcedonicum* (Scarlet Turk's Cap) is one of the best. *L. tenuifolium*, one of the earliest (if not *the* earliest), is a lovely scarlet lily, with reflexed petals and very slender stems and foliage. *L. pomponium verum* is very much like *L. tenuifolium*, but is a little more robust and flowers a little later. There are many inexpensive species like *Thunbergianum*, *umbellatum*, and *tigrinum* and their varieties which are showy and perfectly hardy. I have not intended to give a complete list of lilies, and indeed have only mentioned those which I have myself grown.

There is no special mode of cultivation; at least, there are no precisely uniform conditions of soil and exposure that are imperative. I have seen equally fine lilies grown on high and on low land. But on low land they will not thrive unless the soil is thoroughly drained, for water at the roots, or wet heavy soil, is fatal. Therefore drain the wet soil thoroughly; and make it light and rich. Remember it is not the bulb that needs feeding, but the roots beneath it. If the soil is light, make it rich; and between the bulbs plant annuals or some light bedding plants, which will serve to keep the surface cool and moist.

The Iris in its many varieties is one of the best of our hardy garden tubers. It increases rapidly and forms large clumps, and I believe all the varieties are hardy. This genus is widely represented, many countries contributing. The English, Spanish, and German species form, as their names indicate, a European group. Japan contributes the best of all—*I. Kæmpferi*. This iris has a very wide range of colour, and some of the blossoms strikingly resemble some varieties of valuable orchids. All of the genus are of the easiest culture, abundant moisture being the chief requirement. Some soils that are fatal to the lily will suit the iris. Large quantities are annually imported from Holland, and many are grown in this country. Except for new varieties, the home grown are the most valuable.

Herbaceous Pæonies are reliable garden plants. I say reliable, because they are quite hardy. They bloom at different seasons, so that there is a succession of bloom all through the early summer months. The whole family is very showy and especially adapted to large gardens. The foliage is bright and attractive, and perfectly free from insects. *P. tenuifolia* has tuberous roots, and the foliage is entirely different from that of other pæonies—being, as the name indicates, very finely divided. The blooms are small, and of a clear bright red not unlike that of a rose, which they closely resemble also in form.

Gladioli are by far the most valuable of all the summer-blooming bulbs. They are easy to grow, easy to keep, and exceedingly valuable for cut flowers. If a spike is cut when there is only one flower out, it will keep on blooming in water at least a week, and at a season, too, when most flowers would be entirely faded in two days at the most. I would not plant gladioli in beds for show; but planted in groups, with low or medium low-growing plants, they are very ornamental. The foliage must be allowed to grow in order to mature the bulb, or corm, which is forming at the top of the old one; and when grown, as advised, with other plants the ripening foliage is partially concealed and is not unsightly; whereas a whole bed of gladioli alone, with the blooms cut off, is anything but attractive.

Water is an essential requisite in the cultivation of the gladioli. When the ground becomes dry, water well, so that the roots beneath the bulb will be thoroughly wet. Sprinkling when the ground is dry is worse than no water at all. It is far better to stir the earth around the roots than to supply water to

the plants merely on the surface. To water a dry bed or border thoroughly requires a great deal of patience, but no one ought to attempt to cultivate flowers unless blessed with a large stock of that useful commodity.

If you wish your spikes to grow straight be sure and stake them early. A crooked spike of flowers, of any kind, is unsightly. If one wants a bed for cutting, it is just as satisfactory and very much cheaper to buy a hundred or two of first quality mixed bulbs; but if not many are wanted (as comparatively few have room for a bed made entirely of one kind of flowers) by all means get named varieties. If you look over some reliable dealer's lists of named varieties, for three or four successive years, you will find that each year a few new varieties are introduced at from four to six dollars each. The year after they are put out, you will observe a marked reduction in the prices of some; in others not much. The difference is generally due to the varying habit of the bulbs, some being of robust growth while others are weak. The strong bulb will throw up from two to four spikes of bloom, and each spike represents a bulb forming. The weak grower will perhaps exhaust itself in giving one spike and will make a very small bulb. The strong variety will be cheaper because it increases so rapidly, while for some reason the weak grower is still retained, and its price keeps up. The prolific bulbs are the ones that are desirable; some of the finest exhibition varieties are comparatively cheap, and many desirable sorts are very cheap. Eugene Scribe and Mary Stuart (pink), Meyerbeer and Phœbus (scarlet), Nestor and Pactole (yellow with coloured markings), Martha Washington (clear lemon colour), Beatrix, Shakspeare, and La France (white or nearly so), Leander and Baroness Burdett-Coutts (mauve), and Africaine (very dark), are some very fine varieties; and none of them are very expensive. One can form but very imperfect ideas of varieties from descriptions. The best way if you are uncertain is to visit an exhibition of named gladioli. There you will find both new and older sorts, and, as they may be assumed to be correctly named, you can select the kinds that suit you best. Old varieties, or those that have been shown before, will of course be true to name, but the very new ones will have to be taken on trust until their faces become familiar.

Tuberous-rooted Begonias are very valuable in the garden. There are a great many varieties; and here again, unless one wishes for a select few, mixed bulbs do very well in the border; but if only a few are wanted get named kinds, so that variety of colour may be ensured. I think the single-flowered stand the rain better than the double, for the reason that the single shut a little closer and the rain cannot penetrate the blossom. Those who have grown this class of begonias will remember that the blossoms keep closed in cloudy and rainy weather. I can tell pretty nearly whether or not it is going to rain by glancing at my bed of begonias. Sometimes they seem rather undecided and are about half closed, but generally it is one way or the other.

Mont Blanc is the best white variety that I have grown. Annie Laing is a very fine variety, with large, pale pink blossoms of great substance. Countess of Kingston is a very large fine scarlet. Robusta perfecta (scarlet) and Robusta perfecta rosea are Ernst Benary's seedlings, and are very fine varieties. *B. Pearcei* has beautifully-marked foliage and bright yellow flowers. These begonias need the sun only part of the day and for that reason are doubly valuable in the garden, where most plants require all the sun they can get.

Dig up the tubers late in the autumn and dry them off in boxes. I think it does not hurt the roots in the least to let the tops freeze, as the tubers are already matured and ready for their winter's rest. Store them in a cool place and do not not give them any water unless they get too dry, in which case they would shrivel without water. If the bulbs are kept moist they will decay, for they need absolute rest when in a dormant state. These begonias are easily grown from seed. The seedlings bloom the first year if the seed is sown early enough. The seed is very fine and must be lightly covered and kept moist by glass or paper.

Gloxinias can be grown very finely in a cold frame, either planted out or plunged. I grew them last summer in a temporary cold frame with excellent success. The location should be the same as for tuberous-rooted begonias.

My frame was left uncovered during several unexpected rains and showers. The first time I expected to see the foliage spoiled; but before the sun came out I put on the sash and covered the glass with newspapers until the foliage was dry, and they were not injured in the least. Gloxinias are easily grown from seed, requiring the same treatment as begonias. In the greenhouse they will, if started early, bloom in August or September. Mine were planted in midsummer and, as there was no bottom heat, started slowly, and did not bloom until the following season. If they do not bloom the first season the bulb will be of good size and easier to keep over winter. The bulbs of the gloxinia require to be kept dry when resting.

Single temporary cold frames are, I find, very convenient in the garden, as they can be put on a pile of leaves or earth; and in many gardens this is a great advantage, more especially where all the ground has to be utilised.

Agapanthus umbellatus is one of the few blue flowers that are really blue. Some people take the Agapanthus from the pot, and plant it out in the border, and it does well.

Some of the summer-blooming bulbs are better kept in pots or tubs; still they can be made very effective in the open border. *Amaryllis lutea* is a hardy species which blooms in early autumn, at a time when yellow flowers are scarce, and it is, therefore, very acceptable. *A. Halli* is also hardy and is a lovely pink variety, blooming in August. *A. Belladonna, major, minor,* and *alba* are all summer-blooming bulbs. They bloom planted out in the border in August and September, and require entire rest after they have matured their foliage. *A. formosissima* is another bulb useful both for bedding and cut flowers. Its beautiful, velvety crimson blooms when arranged with fine white flowers make a charming combination for a vase. Planted out when the ground is warm it soon starts, and throws up with the leaves a flower-stalk bearing one blossom. Shortly after, another blossom appears; and then the bulb matures, and forms side bulbs. The foliage remains green until killed by the frost. Store the same as other dormant bulbs; being careful not to cut the foliage close to the bulb, for the bud is formed in the top of the bulb. *A. Johnsoni* will bloom in the ground, and some reserve it for bedding out in summer, by keeping the bulb dormant through the winter.

There are many places in the garden and about the house where a pot of *Vallota purpurea* is very ornamental.

The *Zephyranthes* in all its varieties of pink and white is desirable, and requires no care beyond planting out in the spring, lifting in the autumn, and storing in winter.

Ismene calathinum is very beautiful in the garden. The plant is fine without the flower; I think it much handsomer than many plants that are grown for foliage only. The leaves are lance-shaped, about two and a-half feet in length, of a deep glossy green, and remain green until killed by the frost. The flowers are borne on a stout stalk about three feet in height, and are trumpet-shaped, about four inches long, of a beautiful white, and exquisitely fragrant. Strong bulbs produce two stalks, and the bulbs increase rapidly. They must be kept perfectly dry through the winter. Store them in sand, and start them by giving them water while in the sand. When started, plant them out where they can be kept moist.

Choretis alba is easily grown and produces a cluster of pure white flowers not unlike some of the Pancratiums. The blooms keep in water several days.

Pancratium calathinum has flowers very much like those of *Choretis alba*, and they both thrive under the same treatment and in almost any soil.

The Tigridias are all showy and worthy of a place in the garden. *T. grandiflora alba* is beautiful in contrast with *T. conchiflora* and *T. pavonia*, the two old varieties so familiar to all. It is a dead white with deep crimson markings, and the three planted together form a very showy group.

Milla biflora is quite new. It has slender rush-like foliage and white, tubular, star-shaped flowers of great substance, about two inches across, borne on long slender stems. Each flower-stalk has from two to five flowers.

Caladium esculentum (related to the fancy-leaved Caladiums) is fine for specimen plants, for which large bulbs are best, or it may be planted in groups. The leaves are often eighteen inches across.

Richardia albo-maculata is a very ornamental variety of *Richardia Æthiopica*, our common Calla. The leaves are irregularly spotted with white and much smaller than those of the common Calla. The flower is proportionately small and has a violet throat.

Amorphophallus Rivieri is a stately plant. The bulb grows to a very large size, and as it increases the plant enlarges in proportion; the centre throws up a thick stalk, very curiously spotted, and the spathe unfolds like an inverted open umbrella. The foliage is as curious as the stalk, but is a beautiful green on the upper surface. It makes an elegant plant for the lawn. After the tops are killed by the frost, the bulbs should be stored like gladioli, and planted out in spring without starting. I have seen the plant potted in August and it did not wilt or appear in the least disturbed. Apparently as the plant had stopped growing the large bulb was abundantly able to support it, and it did not feel the change like a fibrous-rooted plant. The roots are fleshy, and have small tubers at the extremities.

Tritoma uvaria grandiflora is a very conspicuous plant; the blooms look like spikes of flame, hence the name—"Red-Hot-Poker." It makes a great show in the garden at very little cost.

Galtonia (*Hyacinthus*) *candicans*, a plant not unlike a giant snow-drop, with its spike of drooping greenish-white flowers, forms a striking contrast to the Tritoma.

The Tuberose is as easily flowered in the ground as any other bulb. As it takes about four months from the time of starting to bring it into flower, it must be started either in a hot-bed or in a greenhouse. If you have neither of these, plant out the bulbs in a sunny place, when the ground is thoroughly warmed, and after they have started give plenty of water. If there is no frost until late in autumn they will bloom in the ground; but it is not best to risk it. When they are well budded, put in good soil and let them stand a few days in the shade. Afterwards give them the sun and keep well watered. If the weather holds warm leave them out of doors, but in case of a cold snap take them in. We generally have a few chilly days with light frost early in September—just enough to chill tender plants, and then there follows warm weather. Tuberoses are very easily chilled, but if they are taken in during turns of cold weather they can be left out to bloom.

A high bed of autumn leaves, with a few inches of soil on the top, and a temporary frame with a sash, gives heat enough to start many kinds of plants in the spring, and tuberoses start readily in the gentle heat from such a bed. Place the bulbs in a shallow box close together in good soil, and you will soon find them finely started with a mass of roots, and ready to bed out. By getting a month's start in this way they will bloom in August.

I shall touch lightly on the dahlia, although it is a very important tuberous-rooted plant, and its glory continues until the frost comes and cuts it down. The only drawback is its requiring so much room to grow in. Still there are places where such plants are very much needed; and the pompons and single varieties are especially desirable.

When we are complaining of our severely cold winters and hot summer's sun, we are apt to forget that we are mercifully spared some other evils. No earthquakes, tornadoes, or floods devastate our loved New England. Our hard winters make us long for and quicken our enjoyment of warm weather. Now—

"Naked and lone the rosebush fair"

reminds us of the time when—

"The buds swell out in the warm May air."

Only a little while and we may say—

"Lo, the winter is past,
The rain is over and gone;
The flowers appear on the earth;
The time of the singing of birds is come."

PAIN AND SORROW.

From the nether earth arise
Clouds that glorify the skies,
That lit with sunset's golden fire,
Make our wistful hearts aspire
Towards ideals, purer, higher
Than are found upon the earth,
Whence those golden clouds had birth
So from earth-born clouds of sorrow
Spiritual light we borrow:
So from suffering and from pain,
Purer nobler lives we gain,
Holier heights our thoughts attain.

H. B.

Sutton's Pocket Garden Calendar for 1887 is a neat affair, intended for gardeners' pockets. The "garden operations" constitute a good series of reminders. There is a lot of Sutton in the pretty thing.

Work for the Week.

CONSERVATORY AND GREENHOUSE.

GREENHOUSE.—In the conservatory, whatever flowers are at command may be made the most of by judiciously intermixing with them good plants of Agaves, Yuccas, Acacia lophantha, Palms, Cycads, Camellias, and others possessing characteristic foliage. Greenhouse temperature 40 deg. to 45 deg.

HARD-WOODED PLANTS in the greenhouse must have as much air as the weather will allow, and as little water as possible, as we may soon expect severe frosts. The thermometer should not descend below 38 deg. Soft-wooded plants will be subject to mildew if the house is at all damp, and must have fire-heat during foggy as well as during frosty weather. Shift any specimen plants that are in need of increased root-room.

ERICAS must have air at every opportunity, and if forced with other flowering shrubs must have the coolest place in the forcing pit, and be very gently stimulated.

STOVE AND ORCHID HOUSE.

STOVE.—The cultivator ought to be able now to furnish the conservatory with showy specimens of Euphorbias, Poinsettias, Gesneras, Begonias, Luculias, &c., &c., from the stove. But there must be a succession, and one of the first things to consider now is how to make the stove available, not only for the preservation of its ordinary inmates, but to forward furnishing plants for other structures. Cystisuses, Azaleas, and Camellias should therefore be introduced at the coolest end of the stove, if there is room for them; a few roses may be forced with them, and many ornamental-foliaged subjects will be found useful if in a clean and healthy state. Temperature of stove 50 deg. by night, 60 deg. by day, with a rise of 10 deg. during sunshine.

ORCHID HOUSE.—In collections where there are now only a few orchids in a growing state, the forcing pit may be turned to account to receive them, so as to allow of the cooling down of the orchid house, and securing thereby a complete state of repose for the plants, which is scarcely possible if there happen to be a few fine specimens pushing into bloom, or in an active state of growth.

FLOWER GARDEN AND PLEASURE GROUND.

CARNATIONS AND PICOTEES require plenty of air and very moderate watering, and to be kept clean.

EVERGREEN SHRUBS planted now must be heavily mulched with short litter to keep frost from their roots.

ROSES should now be heavily mulched with half-rotten dung. If the manure is quite green and rank it will do as well, but thoroughly rotten dung is almost useless as a mulch for roses—in fact, a waste of valuable material. Roses may be planted now during dry weather, the ground to be in good heart, deeply trenched, and well manured. On loamy land broken up from grass roses do better than in ordinary garden soil, and those who grow for show should either use turf liberally or break up meadow ground for their best plants. Procure whatever briers may be required quickly before the best are gone. Manettis layered during summer may now be divided and planted out in rows for budding next season.

FRUIT GARDEN AND ORCHARD.

FRUIT TREES of all kinds, both in fruit garden and orchard, should in favourable weather, if necessary, be pruned and painted. For the latter purpose a mixture of lime, soot, and clay, to the consistence of paint, will answer well; or use Gishurst's Compound according to the directions which accompany it.

KITCHEN GARDEN AND FRAME GROUND.

ASPARAGUS, SEAKALE, AND RHUBARB will now be coming in plentifully from the forcing beds. If these beds are allowed to become too dry, the produce will be neither good nor plentiful. But they may be moist on the surface, and yet dry at the roots of the plants; therefore, ascertain by stirring the soil with a trowel in the middle of the bed, and if dry give a good soaking with tepid water. Make up fresh beds for successive supplies. In ordering in roots for forcing, take care either to plant immediately on receiving them, or keep the roots moist with moss or mould, or they will be much injured by the action of the atmosphere.

COMPOST should be prepared in quantity, as there is now a chance of its being well frozen and several times turned before the winter is over. The benefit of attending to this at once will be immense in the culture of specimen plants, and, in fact, with whatever requires a good compost, well pulverized, and free from vermin. It must be remembered that compost frequently turned at this time is not only frozen, which kills the vermin, but the robins and thrushes explore it every time it is thrown up afresh, and they, perhaps, clean it more effectually than frost.

DEEP STIRRING and successive frostings of the soil are immensely beneficial, and to ensure success in the culture of vegetables hard work is necessary in the winter. The outdoor work of this month must be regulated by the weather. When the ground is not fit to be trodden on, get together all the clippings of hedges, prunings of trees, &c., for charring, and keep the produce under cover to use as needful; it is a most valuable top-dressing for peas and other early crops, both to stimulate growth and prevent attacks of slugs. During frost wheel out dung, ready to dig in at the first opportunity.

PEAS AND BEANS may be sown now in frames to transplant when the season is sufficiently advanced. These will be useful to replace any outdoor sowings destroyed by frost, and to mend and patch the rows that have suffered damage. The best way to sow for transplanting is on strips of turf, which can be lifted out and laid in the rows when the transplanting takes place.

WARM BORDERS sloping to the south under brick walls may be sown with Horn carrot, Early Short-top radish, white mustard, golden cress, Beck's Gem beans, and Hammersmith lettuce. During sharp weather dry litter and hurdles will protect them very efficiently.

A CHRISTMAS GREETING.

WHEN Winter sets his seal upon the land,
In the white glory of the silent snow;
And Christmas comes with open heart and hand,
And sets the jovial yule-tide logs aglow—
May pain and sorrow perish in their blaze
And peace and happiness fill all thy days. H. B.

Correspondence.

JUBILEE YEAR.

SUGGESTIONS TO THE NATIONAL FLORISTS' SOCIETIES.

THE forthcoming year being the fiftieth or jubilee year of the reign of our gracious sovereign Queen Victoria, will ever be memorable in history and will be celebrated with rejoicings, that will show the sympathy of a loyal people with their Queen and her family. In addition to the exceptional festivities the year will be celebrated by various classes in divers manners. Men of wealth will mark the era by vieing with each other in contributing munificently to charities, to societies, to corporations and to institutions having for their objects the welfare of the people and the advancement of the nation. People of smaller means will emulate the wealthy in celebrating the year, acting principally as members of corporations, guilds, societies, &c. Knowing that much will be done in various directions, I would ask:—Cannot we as Florists do something to make the year noteworthy? Thereby in our humble way we may increase our influence, and thus assist in promoting the love for flowers and extending their cultivation, which I venture to say is one of the purest of human pleasures.

We have several National Societies of Florists. There are the Auricula and Primula, the Carnation and Picotee, the Rose, the Chrysanthemum, and the Tulip, all of which are national their names and aims. The last mentioned having enjoyed the patronage of the Queen for several years, rejoicing also in the title of Royal, I would suggest that special exertions should be made by the members and friends of the above-named societies to make their exhibitions something, aye a good deal above their usual averages and worthy of this memorable year. I would further suggest that extra funds be raised; that schedules be enlarged, and formed upon as wide a basis as possible, with extra liberal prizes and extra medals; and that the exhibitions be designated "Jubilee" exhibitions, and the medals "Jubilee" medals. I have no doubt that if the matter were to be brought under the notice of the Queen, her Majesty would have pleasure in giving her patronage to all these National societies, that in future they may style themselves "Royal and National," as the Tulip society has done for some years. Were this to be done, they would enter with renewed vigour on a career of further usefulness,

The Auricula and Primula and the Carnation and Picotee societies have two sections each, the north and the south, which hold their exhibitions in London and Manchester respectively to suit the growers in all parts of the country. The northern sections of these two societies and the Royal National Tulip Society are practically affiliated with the Royal Manchester Botanical and Horticultural Society, and hold their exhibitions in the gardens of the society at Old Trafford, or in the Town Hall, Manchester.

A grand opportunity is given to the National Auricula and Primula Society to open the season in a manner befitting the year. The southern exhibition will be held in London on April 26, and the Northern exhibition in the Town Hall, Manchester, on April 29. The shows will therefore be held on the Tuesday and Thursday of the same week. This should be a fine jubilee auricula week. Northern growers should support the London exhibition, and the southern growers the one to be held at Manchester. The Northern schedule will certainly be much improved upon, and I have no doubt the Royal Manchester Botanical and Horticultural Society will, in honour of the occasion, give medals in addition to its usual contributions.

Much more could be written with reference to this matter, but I make these suggestions, and invite the opinions of others. If the matter is taken up in a liberal spirit, I shall with pleasure at least double my subscription in 1887 to all the societies with which I am connected. SAMUEL BARLOW.

Stakehill House, Castleton, near Manchester.

NOMENCLATURE OF FLORISTS' FLOWERS.

Reading "Chrysanthemum Echoes" in your valuable and widely-circulated journal this morning, it occurred to me that I ought to make a few facts known, which have fallen under my own observation, bearing on the confusion that exists in reference to the nomenclature of florists' flowers, and showing, as I think, the difficulty attending attempts at reformation. The causes of this confusion are no doubt numerous, but one fruitful cause is the way in which exhibits are named.

The late celebrated dahlia grower, Mr. John Keynes, of Salisbury, had just named his collection of dahlias, when passing, I saw "Duke of Norfolk" attached to one, and immediately drew his attention to it. "What! don't you know that flower?" the dear old gentleman asked. "Yes," I replied, "I know it well, under the name of Norfolk Hero," and it was altered in a trice. But for this, who else could I have convinced that Duke of Norfolk was not a large orange-coloured dahlia, after taking notes of his superb collection?

I am at the present moment under a difficulty, arising from a most respected customer having carefully taken notes at our great chrysanthemum shows, and found things that puzzle me. I must also mention another strange fact. A successful grower and exhibitor of zonals usually had names attached of which I knew nothing, and it sorely puzzled me till, on one occasion, his man in charge admitted that they had been re-named. What judge is equal to setting these things right. No doubt many of your readers can remember the storm that arose when a rose critic observed, "That, as shown, rose Beauty of Waltham was not to be distinguished from an old variety" (I believe, Mdlle. Julie Daran, but am writing from memory). I also remember it was afterwards declared to be distinguishable by its spines.

I was talking with the aforementioned gentleman, Mr. Keynes, and had his testimony that one dahlia, in certain instances, could not be distinguished from another. Will our judges withhold certificates from seedlings that are not distinct from varieties already in cultivation, and will they undertake to disqualify where two varieties in a collection are not distinct. It would require men far above the average in wisdom and courage.

But one word in reference to synonyms. I have observed Little Bob and Scarlet Gem so classed. Now I bought both in as soon as sent out. Little Bob I discarded after once flowering it, Scarlet Gem I have never grown tired of. It seems strange to be told they are the same. I know well the flowers, on first expanding, are alike, or very similar, but I could not grow a plant of Little Bob without half of the flowers being unsightly through fading. Hence I hailed Scarlet Gem as a great improvement. Mrs. Marsham also, sent out as an improved Elaine, has since been declared the same, yet persons I should consider competent judges have assured me the raiser of Mrs. Marsham was correct in his description.

It would, indeed, be a boon if we could correct the errors that have crept in. Who will suggest a method? Clearly it will not do to decide by a comparison of the flowers when expanded, as many varieties vary exceedingly, although this method might do for exhibitions if it did not put too great a strain on exhibitors. RICHARD PANNETT.

Chirley, Sussex.

CLASSIFICATION OF DAHLIAS.

All lovers of the dahlia have, I imagine, read with much interest your encouraging leading article on the present position and prospects of their favourite flower, and which has been admirably seconded by Mr. Thos. Moore, the indefatigable Hon. Secretary of the National Dahlia Society. It is also very gratifying to old growers and exhibitors to see an increasing number of fresh exhibitors competing at the Crystal Palace Annual Show, which I take to be a clear proof that the dahlia is still maintaining its high position as the queen of autumn flowers.

In reference to the growing desire for a new classification of dahlias, I do not think a more simple change could be adopted than that proposed by my father, Mr. George Rawlings, in the GARDENERS' MAGAZINE of May 8th, viz., that they should be divided into two classes, selfs and parti-coloured, or variegated. If this proposal is carried out the whole of the tipped varieties would have to be shown in the class hitherto known as "Fancies," and the selfs with their various shades by themselves. I notice that one of your correspondents would prefer to have a separate class for the tipped flowers. Undoubtedly they would form an attractive section, and would gain many admirers, but it is not to be expected the committee will attempt any extension while the funds of the society are so low. We must therefore agree with Mr. Moore, "that if any extension is attempted, the growers and admirers of the dahlia must provide the means by more numerous subscriptions or special prizes for some particular class." If this help were forthcoming, I do not see any reason why separate classes should not be provided, both for gentlemen's gardeners and *bonâ fide* amateurs. I should like to conclude this note by giving the late Mr. John Keyne's opinion on this subject. Writing to the *Gossip of the Garden*, he says: "Without having any particular fondness for the word 'Fancy,' I should be very sorry to see the flowers, hitherto comprehended under that term, discarded. For the purposes of exhibition I think two classes would be quite sufficient, viz., self and variegated. I should say let nurserymen show first twenty-four varieties self, and second, twenty-four varieties variegated; and the same for amateurs, substituting, in either class, twelve for twenty-four varieties." J. RAWLINGS.

Romford.

I have read with pleasure the letter in your magazine from our esteemed friend Thomas Moore, Esq., thus proving his health has enabled him to continue that interest he has taken for so many years in floriculture. As an old amateur florist from the time dahlias were what may be termed in their infancy, when Springfield's Rival, Dodd's Mary, Argo, Yellow Defiance (Ansel's Unique I saw growing on the seed beds at Camden Town), and many other good old flowers which would not disgrace a stand now at our National Dahlia Shows. If, sir, you will kindly allow me space to offer a few remarks upon what has appeared in your paper of late, I, sir, agree a defined line should be drawn as to what constitutes a fancy dahlia, but I trust they will be encouraged instead of discarded as a show flower, and to class Fancies only as a striped flower, where two (or more) colours extend down the petals as a flake, all others tipped to be included with selfs as at present. I have several times put up a stand of the colours called selfs, and find there is not that attraction as mixed colours tipped, &c., give, not for exhibition, but as an experiment. A letter appears also from Mr. Mist on December 11, in which he complains that amateurs have to compete against gentlemen's gardeners who have perhaps both wealth and assistance an amateur is not able to command. To that I reply, for an amateur to compete against such and beat them is the greater victory. I generally find with florists' flowers, where an amateur attends, especially with dahlias, they can hold their own against gentlemen's gardeners. I prefer to show in open classes where I can, and several times this year have beaten both nurserymen and gentlemen's gardeners, and all I allow any one to do to mine is to water, stake and catch earwigs, and my esteemed friend and neighbour, Mr. Henry Glasscock, who has generally held his own against all comers, has no further assistance. Dahlias are so easy of culture, up early with the rising sun, and they require no more attendance until the sun is setting at night. To be beaten by such as Mr. Mist objects to compete against is no disgrace, but to win in such company is a pleasure far greater than three times the value among amateurs. I acknowledge classes should be formed for small exhibitors, even to four blooms or two blooms, to give small growers a chance, similar to the classes at the Northern Carnation and Picotee Shows, say, for amateurs who grow under one hundred plants or under fifty plants prizes. I think the funds at the National Dahlia Show could be met, for forty-nine pounds is given now in nurserymen's prizes, and only thirty-two in amateurs'. Take, say, eight pounds, it would be to the interest of nurserymen to take that sum, and make amateurs and nurserymen amounts equal, and by so doing it would encourage small growers, and benefit nurserymen by extra sales of plants, causing fresh growers to enter into so friendly a conflict. THOMAS GARRATT.

Mill House, Bishop's Stortford, Herts, December 13, 1886.

HAPPINESS.

How oft man's happiness is like
The luminous opal haze,
That haunts the distant woodlands
On the sunny summer days.

As over flowery dales and hills
Our pilgrim quest it leads;
Still as we follow in pursuit,
Forever it recedes.

H. B.

PRESENTS.—Everyone is now thinking what they will give their friends at CHRISTMAS or NEW YEAR'S DAY. The housewife, the mother, and the sister can every day in the year present a most acceptable gift to each member of the household, "A GOOD CUP OF TEA." To ensure its being really good, ONLY that QUALITY which is known to be the BEST gives satisfaction. HORNIMAN'S TEA has deservedly had the character for 50 years, of being the CHEAPEST and the BEST, and being "ALWAYS GOOD ALIKE;" most who use it will take no other. It is necessary to SEE the Importers' signature, W. H. and F. J. HORNIMAN and Co., on every packet, as there are many base imitations offered to the unwary.—[ADVT.]

THE REPUBLIC OF FLOWERS.

CHAPTER I.—THE REVOLT.

In an age of Socialism, Nihilism, Republicism, and other isms, it is not surprising that revolutionary ideas should invade the realms of Flora. At first it was but a feeling of discontent that whispered, Why should the Rose be queen? We are quite as good as the Rose both in form, colour, habit, and everything else that pertains to a proper flower. As the old adage says, "A spark is soon fanned into a flame," so a whisper soon acquires a voice that can be heard, and soon questions were asked, By what right is the Rose queen? She does not belong to the floral world at all. She is a usurper, her proper place being in the Fruit Garden. She could not produce a fruit to be compared with the other members of her family. So she planted herself in the Flower Garden, and not content with taking a subordinate position, she must take upon herself the title of the Queen of the Flowers. Again, why should she be shown different to all of us, in boxes of moss? while we, poor things, have to be content with the miserable *green-painted* boards. True, someone has presented the Dahlia, on boards covered with black velvet, a wonderful improvement. I am refined enough, continued the Carnation, to be exhibited on boards of gold, but I doubt if that would enhance my beauty, so I sincerely trust that they will place me on black velvet. Disgraceful that the Crystal Palace should charge five shillings admission to a rose show, and only one shilling to every other, as if she were so very superior to the whole of us! Another charge: Her cruelty. See how dreadfully she treats her devotees with her tiger-like claws, only second to the stings of the loasa. Moreover, she wants the garden to herself, for the books say, Roses are better planted by themselves. She makes the garden gay for a few weeks, to be followed then by desolation.

As all the talking in the world does no good, the flowers tried to eclipse the Rose by their superior beauty. They formed clubs to look after their interests; some flourished, but others failed, notably the Pelargonium, a good club at the start, but did not obtain the support it deserved. The Dahlia, another club that ought to be well supported, is in a crippled financial state. Among the first to push itself forward was the Pansy. It donned the purplest of velvet robes trimmed with gold or silver. The Auricula arranged itself different to all other flowers, expecting to obtain the maximum of admiration, when, lo! the Rose put in an appearance at the Spring Flower Shows, and the visitors said, What beautiful Roses for the time of year. And the auricula and pansy were neglected. The composite flowers had a happy thought; they said in respect of form they could beat all the flowers, and forthwith appears the Dahlia, a marvel of regularity, and the Chrysanthemum presented balls of gold and silver. Too formal is it? Then I'll produce something totally different, says the Chrysanthemum, assuming all sorts of fantastic shapes and twisted in all sorts of indescribable ways. Still there was the inevitable Rose, and the verdict was, what lovely autumnal Roses. Then the Lilies, a time-honoured family, tried what they could do, putting forth *L. auratum* and *L. speciosum* very beautiful, but not suitable for buttonholes. This family thought they had another arrow in their quiver, and put forth the flaming Tritoma; but folks called it a red-hot poker. Now, says the Iris, we have some wonderful things that must shake the position of the Rose as queen, at the same time producing the Gladiolus and the Tigridia, a splendid thing, but fading at noonday. The Pelargonium says, I can vanquish the Rose with leaves alone; and sure enough it produced leaves marvels of colour, so exquisite that the flowers, tending to spoil their appearance, had to be removed. All the flowers tried in their turn, but the only ones that gave the Rose anything like a shaking were the Orchids, those wonderful children of the tropical forests. But these were regarded as only for the select few, their cost and the expensive appliances for rearing them being a drawback to their universal popularity.

This failure of the varied flowers to obtain sufficient recognition caused them to say, Why have a queen at all? Turn the floral world into a republic with a president elected for two years. If the rose likes to put up for the high post of president it can do so, and at the end of two years give some other flower a chance. This opinion rapidly gained strength, and the deposition of the rose as queen was resolved upon. The next move was to carry the resolution out. This proved not a very difficult affair, the rose only having a few Geums and Potentillas to back her up. Not that they wanted to resort to violence, but only to relegate the rose to its proper place. We are flowers pure and simple, and, as such, are in our proper place; but not so the rose; its relations are the peach, apple, pear, plum, strawberry, raspberry, almond, and other fruits too numerous to mention, and if the rose is president once in twenty years it ought to be satisfied.

A provisional government formed, a discussion ensued as to what arms the republic should bear. A quartered shield was agreed upon to represent the four seasons. The first contained four Golden Crocuses, to represent spring, on a brown ground; the second Lilium auratum, on a green ground, to represent summer; third six chrysanthemums on green for autumn; and fourth four Christmas Roses on brown for winter. The crest, a terra-cotta vase containing both single and double dahlias, to illustrate the progress of the gardeners' art in transforming the former into the latter. The motto was a knotty point. At last the following was agreed upon:

FLOWERS FOR THE EYE,

in juxtaposition to that of the fruits, viz: Fruits for the Palate.

The arms agreed upon, the important duty was to select a suitable president. Many coveted the position of first president, and one by one they were rejected, and a final selection was made of four—the *Chrysanthemum*, *Carnation*, *Lilium auratum*, and *Odontoglossum vexillarium*. Each family worked hard to secure the return of its selection; each thought its candidate secure. The Composites were a strong family, so were the Lilies. The Carnations were the weakest, and endeavours were made to get the order to retire as having no chance; but it relied upon its popularity to carry it successfully through.

CHAPTER II.—THE ELECTION.

On a certain day there was a great gathering of the floral world to elect the President. Such a display of colour was never seen before.

The first duty was to find a suitable chairman. This was soon done by selecting the stately Hollyhook, who, upon taking his place, was greeted with applause. When it had subsided he addressed the assembly thus—Most noble Flowers, it affords me great pleasure to hold the position I do to-day, although I hardly feel as strong as I should wish after my long and severe illness, but I am thankful to be amongst you once again. (Cheers.) Now, we are assembled to perform an important duty, and that is, to elect a president for the ensuing two years. Of course it is a high position to hold, but, owing to the altered

state of things, within the reach of every one. (Cheers.) It would be of little use for many of you to try at present, therefore do not allow petty jealousies to interfere with your better judgment. When I see flowers that were only tenants of botanical gardens, and others that were weedy things, altered in the past twenty-five years so that they are hardly recognizable: one in particular, the Begonia, before I was taken ill, was only considered a foliage plant, and now it stands beside that most floriferous plant, the Pelargonium, so there is still room for improvement, and any one of you may reach the coveted position some day. (Cheers.) There are four candidates to be nominated, each having a dual claim, a family claim, and an individual claim. I will not bias your judgment, but leave it to the proposers to state what those claims are, so I will call upon the Sweet William. Great applause followed this judicious speech.

When the Sweet William arose there was a slight cheering from the family. He was rather old-fashioned, but well dressed, and thus addressed the assembled flowers: Most noble Flowers,—I have great pleasure in proposing the Carnation as President of the Republic of Flowers. The carnation is a noble member of the— (and hesitating a little whether he should say Dianthus or Caryophylleæ family, a voice shouted out "Chickweed family"). Well, Chickweed family, if you like; but bear in mind the Chickweeds are an inferior branch of the great Caryophylleæ, a family that gives many beautiful subjects to the floral world, the fragrant pink, the silenes, and many choice alpine plants. Surely the fragrance of the carnation ought to ensure its election.

Then rose the great Sunflower as the spokesman of the Compositæ. At the sight of his radiant face, like the glorious orb from which he takes his name, there was immense cheering from his large family, and he thus addressed the assembly: Most noble Flowers,—I have a pleasing duty to perform in proposing the Chrysanthemum as president. It has a great claim as the chosen representative of our great family; a family that contains about half of the members of the floral world. It is a family that has always some representative in bloom, the earliest to appear is the— (a voice, "The dandelion"). Don't sneer at the dandelion. It is a beautiful flower, even if it is despised. Only let it become fashionable; and there is a rumour that it is, and you will see dandelions—I beg your pardon, Leontodons—three inches across, beautifully double, all colours, and shaded from pale to deep-coloured centres. When interrupted, I was going to say the Cineraria, that beautiful flower that is more characteristic of spring than any other. This is followed by the Marguerites, not to mention our garden daisies, the delight of childhood, the marigolds of summer, and such a numerous list that I shall not mention all, but come to those of the autumn, the dahlia, and the subject proposed, the Chrysanthemum. With regard to the proposed, it has been called the Queen of the Autumn. (Groans.) Well, I don't mean to offend, I only said that to show that it was a formidable rival to the deposed queen. (Cheers.) What can be finer, and in the outdoor garden; it lightens it up so that, if it were not for the shortness of the days, it would still seem like summer. Before I resume my seat, I have not the shadow of a doubt that your choice will fall on the Chrysanthemum as your first elected President.

Then rose the Cypripedium, and proposed Odontoglossum vexillarium. He said the noble flower that has just resumed his seat lays great stress on the extreme beauty of regularity of form. Well, in proposing the Odontoglossum, I will go to the other extreme, and impress on you the superior beauty of irregularity of form. Certainly the orchids have fantastic forms, so many take to mimicking animals, and even man himself. Again, look at the strange combinations that almost make an artist's hair stand on end, yet how harmonious they are; no harshness, all blended together with a softness not equalled by any other flower. A most important item is their value; look at the price they fetch. Again, orchids may be found in bloom on any day of the year. Is there not being published in the Gardeners' Magazine a calendar for every day?—(cheers)—and in that calendar every day is a flowering orchid presented.

In seconding the proposition the Cattleya said the orchids were flowers pure and simple—they never pretended to produce anything to eat. It was true one member produced vanilla, but that is a perfume, and it was the prerogative of flowers to produce the varied perfumes that administer pleasure to man.

The next comer was Lilium candidum, well named the Madonna Lily. Most noble Flowers (said the Lily), in proposing my brother Auratum as President I feel confident of success. It is a flower to be proud of, and the Liliaceæ are a proud family, holding their heads erect, as much as to say "We fear no foe," and few foes they fear except frost. The Sunflower said the compositæ were half the floral world. If they are, I'm sure the Liliaceæ are the other half, and they make an end of the flowers. (Great laughter.) I might remind the Cypripedium that, as to value, the tulips fetched prices far greater than any orchid, but the time may come when orchids will come down in price like the tulips. (A voice: "Never.") You may say never; so did the Tulip, but nevertheless it has happened. In the matter of fragrance the Liliaceæ is the family of perfume. What can exceed their delicious fragrance? (A loud voice, "Onion!" Great laughter.) It is a pity the onion has such an objectionable odour, but many of the alliums are pretty. When interrupted I was going to say the Lily of the Valley, or Solomon's Seal, although so closely related, the scent is so different, and whereas the spicy scent of the lilies may be objected to by some, the sweet perfume of these is objected to by none. (Cheers.) Now it is not many years since Lilium auratum was introduced, but where is another flower that has taken such a strong hold on the public? This was followed by loud cheers.

When quietness was restored, the chairman said: Most noble Flowers, it is not my province to say anything to influence your decision, but I am sure you have had the claims of each candidate most lucidly set forth, and the verdict rests in your hands, therefore I call upon you to record your decision by show of hands. The Carnation had a great show of hands, the Chrysanthemum a greater show, the Odontoglossum not so many as the Chrysanthemum, and Lilium auratum most of all. Now by the show of hands, continued the chairman, Lilium auratum is elected, but the Sunflower, Sweet William, and Cypripedium, demanded a poll on behalf of their respective candidates, and the chairman said: A poll has been demanded on behalf of the defeated candidates, therefore it will be taken a few days hence, and no doubt the worthy editor of the Gardeners' Magazine will publish the result of the election of the first President of the Republic of Flowers. Henry Aris.

Dendrobium nobile nobilius continues to hold a high place in the estimation of orchidists, as proved by the fact that at a recent sale at Stevens' Rooms a small plant with two buds realised twelve and a-half guineas.

CHRYSANTHEMUM ECHOES.

Mem: In the last paragraph of this column for the 11th inst., a curious but unaccountable error crept in. I intended to say that Dr. Sharpe was living at Waltham Cross *twenty* years ago, and not ten as there mentioned. By some remarkable process of arithmetic I calculated from 1866 to 1886 to be ten years, and as several kind friends have taken the trouble to point out the discrepancy, my duty is to thank them for their courteous reminders.

In compiling an English Catalogue of Chrysanthemums what is the proper course to pursue with regard to foreign titular abbreviations? This is, in fact, the sum and substance of the discussion concerning the variety distributed by the French under the name of MM. Thibaut et Keteleer. My answer to that is, the abbreviation most easily understood by those for whom such a catalogue is intended. In French correspondence the plural of Monsieur is written in the following different ways: Mrs., MMrs., MM., Messrs., and Messieurs, as anybody knows who has ever had anything to do with the matter. In cataloguing the variety now under consideration, I discarded the first three foreign abbreviations as being less well known to us than the fourth. It was for Englishmen that the work was prepared, and it was therefore the most desirable one to employ. This, be it understood, is no apology, but a mere statement of fact.

To start with the originator of this ridiculous discussion will be the best plan. He says he cannot agree with the alteration. I deny that any alteration has been made. MM. Thibaut et Keteleer is pronounced when spoken as Messieurs Thibaut et Keteleer. Words represent articulate sounds, and abbreviated words serve the like purpose. The same writer says, why not translate the et, and that there is just as much excuse for the one as the other. I beg to differ. We have translated nothing. Translating a name from one language into another is an entirely different thing from using one of a number of abbreviations. I therefore submit that Messrs. or MM. is equally right, or even the word in full, Messieurs. Another correspondent, equally as well informed as the first, says Messrs. Thibaut et Keteleer should read MM. Thibaut et Keteleer. So it does, and they both read Messieurs Thibaut et Keteleer. And now comes a most astounding revelation, for this astute expounder of what is right and proper very sapiently observes that the first is part English and part French. I thought up to then I had a tolerably fair acquaintance with both languages, but for the life of me I cannot discover where the English is in the first. Does this gentleman really mean to say Messrs. is an English word? He surely cannot. Messrs. is not a word at all; it is only a part of a word, and if we English have borrowed it from our neighbours to supply a vacancy, as we have in many other cases, it does not cease to be French. No, sir, Messrs. Thibaut et Keteleer is French, as much French as MM. Thibaut et Keteleer is, and all your illogical observations will never make it anything else.

There is yet one other wiseacre who joins in this chorus of nonsense, and I have already thrown down the gauntlet to him in a former contribution. I will, however, make but a few observations more. The French have no fixed rule as regards these titular words. They one day write M. Gobemouche, the next Monsieur Gobemouche, Mme. Bellefleur or Madame Belleflenr, just as they please. Why do these profound critics not complain that we spell Madame in full, that we spell Mademoiselle Mlle., and Monsieur Mons.? They raise no question on these. Why do they not utter a wail of discontent because we spell the French abbreviation Sr. at length, Souvenir? Because their knowledge of French is on a par with their ignorance of Basque, Czech, Walloon, or anything else they never learnt. There are few people capable of criticizing fairly the national catalogue for this very reason. Personally, I am proud of my share of the work; nobody pretends that the result of any human labour is without a blemish, but the one object in view was to present to the public an authentic catalogue which should be a standard work of reference, and take the premier position in the chrysanthemum world. I am satisfied that it has done so, and therein lies my reward.

In this series of contributions I have seldom run away from the main point—the chrysanthemum, but I must tell our friends the story promised last week. The scene is Paris. On one of the public promenades an Englishman recognizes in the distance an Irish acquaintance whom he is anxious to avoid, but fails in his endeavour. "Bedad," says Paddy, accosting him joyfully, "I'm mighty glad to meet you, my friend; here I've been a whole blessed fortnight in this gay city and divil a bit can I speak the language, and now to run across an old friend at this very moment is a real treat, I must look ye up and come and have a bit of dinner wid ye,"

"Awfully pleased to see you," says the Englishman, "shall be delighted if you will."

"But where are you staying my friend," inquires Paddy.

"Oh, just down there by the waterside," evasively answers the Englishman after a moment's hesitation.

"Aye, come now, that's not very explicit," was Paddy's retort, "just let me know where you're staying plain, the name of your hotel, my boy, is what I want."

"Right you are, old fellow," is the Englishman's response, with a significant smile, "I'm putting up at the Hotel de la Morgue, pray come whenever you like, I am sure you are very welcome, and if by any chance I happen to be out, just make yourself quite at home, *you'll find the cold meat on the sideboard.*"

History does not record what passed when they met again.

The reviewer of Mr. Molyneux's book on the chrysanthemum in the *Gardeners' Chronicle* a few weeks back seems to doubt the ability of any but experts to recognize the different varieties by the foliage. What Mr. Molyneux said is certainly correct; a grower ought, and can, detect mistakes by the leaves in hundreds of cases, but he never meant that a person who was unacquainted with the chrysanthemum could do so, or that it was possible for the cleverest of us to name by the foliage new sorts which we had never seen in bloom. The foliage of the chrysanthemum is to the uninitiated the same on one plant as on another, but those who have grown for two or three seasons only a few plants can readily pick out the Queens, Beverleys, James Salter, Fair Maid of Guernsey, Soleil Levant, Julie Lagravère, Attraction, and many others by simply looking at the leaves. They are, as many cultivators will agree, as distinct in their peculiarities of form as are the blooms.

The same journal says that a silver medal was awarded for my Chrysanthemum Album on behalf of the subscribers to the same. This is quite Greek to me. Nobody has up to the present contributed gratuitously a single plate to the collection. Every one has been sought for, and purchased solely by me. But I take the hint, and shall be glad if any of the readers of the Gardeners' Magazine who possess old coloured or plain engravings of the chrysanthemum will kindly contribute. Old catalogues issued by Salter and Forsyth will be extremely welcome, as also any issued by Dixon prior to 1872. I should be glad to hear of any old local pamphlets, and particularly of that by Mr. Geo. Taylor, which I have vainly tried to obtain for upwards of 18 months. Surely some good-natured Stoke Newington friend could put me in the way of obtaining a copy of that. Among my other wants are an early edition of Mr. Dale's book with the coloured illustration of Plutus, Tyas' Popular Flowers, Hibberd's Garden Favourites, also pamphlet by Wm. Ivory, published in 1851, or thereabouts, and anything and everything else it is possible to get hold of concerning the Queen of Autumn. Correspondents will kindly address their communications to 8, Kennington Park Gardens, London, S.E.

C. Harman Payne.

THE LATE MR. E. POHLMANN.

Mr. Edward Pohlmann, who died at Halifax on November 27, was a prominent northern florist, and particularly well known as a cultivator and exhibitor of auriculas. He was a native of Halifax, and resided there until the day of his death. Born in the year 1825, he was educated in the town, and when he left school he learned his father's business—that of a piano manufacturer—and on his father retiring from business, it passed into the hands of his two sons—William Henry and Edward—and it was carried on as Pohlmann and Sons for some years. But from his youth upwards Edward was deeply attached to flowers, and preferred his garden to his business. Eventually the brothers dissolved partnership, and Edward devoted his attention wholly to the culture of flowers and became a professional florist. The auricula was the flower to which he appeared most deeply attached, and he was the raiser of two dark selfs; one named Garibaldi, he sent out himself, the other, Helen Lancaster, a flower of excellent properties, passed into the hands of Mr. Royde, florist, of Rochdale, by whom it was distributed. At the time of his death, Mr. Pohlmann had a large number of highly-promising seedling auriculas, both show and Alpine, produced from seeds obtained from crosses of the best varieties, and many of them of great promise. Last spring he purchased Mr. Samuel Barlow's fine seedling dark self, Mrs. Potts, intending to send it out, which will no doubt be done by his son and successor in the business. He also took a great fancy to of Alpine auriculas, and raised many valuable seedlings.

The carnation, picotee, polyanthus, and primrose were among his particular favourites, and they were always to be seen in his garden at their season in strong force, which also contained many other choice hardy plants, for it was a passion with Edward Pohlmann to have the best of everything. No matter what was the character of the weather, Mr. Pohlmann was to be found in his garden, and it was while here that he took a severe cold which brought on acute bronchitis, and terminated in his death. He took to his bed on November 12 and died on the 27th, enduring a great deal of suffering with fortitude and resignation. From the first he entertained a strong impression that he would not recover.

Among his brother florists he was greatly esteemed for his uprightness and manliness of character. He was an excellent judge of florists' flowers, and acted as one of the judges on the occasion of the National Society's Auricula Show, at South Kensington, in April last. R. D.

Very unexpectedly to nearly all his fellow-florists will have come the sad tidings of the death of Edward Pohlman, of Halifax, in the sixty-second year of his age.

In business life he had been an active member of the firm of H. Pohlman and Sons, pianoforte manufacturers, Halifax; but Edward Pohlman had long ago retired, not hard to satisfy; and thus wisely, in a life not strong, gave what years there might be to better than commercial gains—years that might have been shortened even more had the anxieties and weight of business been laid upon them.

Always a true lover of florist flowers, and for forty years an ardent grower of the auricula, he gladly came forward in the movement of 1873, that, commencing with the revival of the old Auricula Show at Middleton in Lancashire, has led up to establishment of the National Auricula Society, and been suggestive of the like encouragement for the carnation and picotee.

Mr. Pohlman was a most active member on the northern committees of these associations, and we shall miss him very much at the annual florists' gatherings, whether meetings or shows, from which he was hardly ever absent as a worker and an exhibitor.

It has been as a raiser and grower of the Auricula, and a successful exhibitor at both the Southern and Northern shows that Edward Pohlman has of late years been chiefly known.

He always bravely and honestly did his best to win; and in a difficult season would strive with better heart than some of us, and be less visibly affected with the disappointments of it. He thoroughly understood the habits of the plants he cared for, and though they were lusty and strong, with now and then the mishaps that befal the best of us, yet he was one of those safe men who are known as "good to grow after," that is, plants from his treatment were not of overfed and vitiated constitution.

He leaves a vast collection of auriculas, the destiny of which will be dispersion, for the reason that has few exceptions, that, no one in the family circle is a florist like his father.

The Auricula was his favourite of all flowers, although he had a heart for many. He came to see the tulip in her hour of triumph at the Royal National Tulip Show, and grew a few carnations and picotees, and always reserved a favoured spot here and there in the garden for some good or uncommon hardy plant, that could thrive in the doubtful air that often came from across a large and smoke-stained town.

In Edward Pohlman we have lost a quiet, appreciative fellow workman, one of those whose friendly rivalry and companionship add so much to the pleasures of a healthful, innocent pursuit; for success, like knowledge, is only most enjoyed when imparted to and shared with others.

Now, to the fresh memories of John Simonite and of Robert Lord, there is left to us, within the year, that of Edward Pohlman.

Only a few days before he died I walked across the moor with my friend, H. Wilson, in the dampness of a dark November afternoon, to see Mr. Pohlman and his plants. We both felt at once the strangeness of not finding him, at a wonted hour, among them, and were told that he had that day gone to bed, feeling very ill. Still we hoped that he could see us for a while; but the message came that he was unequal to it, and was very sorry.

We did not tarry long among the plants without him. There was that heavy air of loneliness upon them, that expression of homelessness, that always seems to come where the hand is vanished that betokened ownership.

Indeed, outside the garden wall we spoke of it to each other, knowing it was equally in our thoughts.

Had we seen the Great Shadow in that Absence?—Yes.

Burton-in-Lonsdale. F. D. Horner.

LONDON FRUIT AND VEGETABLE MARKETS.

As the past summer was fairly favourable to the cultivation of vegetables of all descriptions, and the weather of late has been open, the Metropolitan markets in common with those in the principal centres in the provinces are abundantly supplied with excellent produce. Green vegetables are especially good for the season of the year, roots have seldom been more satisfactory and of fruits there are plentiful supplies, the prices are on the whole rather better than in some previous years, but they are by no means so high as to thoroughly satisfy the grower or to cause uneasiness in the mind of the consumer. Choice fruits, more particularly grapes, are selling much better than at the corresponding period of last year when prices touched so low a point that they did but little more than balance the cost of carriage and other incidental expenses.

Chief amongst the fruits with which the markets are now being supplied are the apples, and those of English growth are, as usual, decidedly unsatisfactory. There are good samples of Blenheim Orange, Dumelow's Seedling, and the Royal Russet, but they are the exception rather than the rule. The great bulk of the produce placed at disposal consists of varieties that are second and third rate, and fruit so small in size as to be practically of but little service. This state of things affords anything but satisfaction to those who are interested in the prosperity of the rural industries, for it proves to demonstration that many of the orchards in the country are occupied with sorts that are worthless and with trees that are worn out. Whether fruit growing will pay or not is still an open question, and we do not now propose to discuss it, but it may be said that it is not profitable to grow fruit so poor in quality or small in size as to be of very little value to the consumer. But it is not only in the selection of the varieties and the management of the trees that there is plenty of room for improvement. Many of the English growers have yet to learn how to send their fruit to market in such a way that it will present an attractive appearance, and pass into the hands of the buyers in a sound and otherwise satisfactory condition. They would do well to take a lesson from the American growers, who, by the excellent system of packing they have adopted, put their fruit on the London markets in a better condition than many growers resident within a hundred miles of the metropolis. English apples range in price from 3s. to 6s. per bushel, the higher prices being for good fruit of Blenheim Orange and Dumelow Seedling, two varieties for which there is a very brisk demand throughout their respective seasons. American apples, which at the present time consist chiefly of Baldwin, Northern Spy, Greening, and Russets, are now selling at prices ranging from 7s. 6d. to 15s. per barrel. The most general prices are 10s. and 17s. per barrel, the fruit having to be especially good to reach the maximum price stated. Pears are very scarce in all the markets, and fruit suitable for dessert range from 4s. to 6s. per dozen retail, but at the lower price the fruit is not particularly good. Rather large quantities of stewing pears are now being received from France, and these realize from 3s. 6d. to 6s. per box, according to the size of the boxes, which is somewhat variable, and the quality of the fruit. Cobs and filberts are fully thirty per cent. dearer than last year, when, in consequence of the enormous crop, they were lower in price than they had been during the last quarter of a century. Oranges are moderate in price, good fruit being worth from 10s. to 12s. per case, and Lemons are worth from 3s. to 3s. 6d. per hundred.

Although grapes are selling better than last year, there is a plentiful supply of good fruit of the several kinds now in season. That deliciously flavoured and ever popular white grape, the Muscat of Alexandria, is well represented in Covent Garden, and ranges from 4s. to 5s. per lb. wholesale, which is an advance of about 1s. per lb. as compared with the corresponding season of last year. Black grapes command from 2s. to 4s. per lb., the higher price representing the value of first-class samples of Gros Colmar, which still maintains the high degree of popularity it has enjoyed for many years past. The average price of well coloured examples of Alicante is 2s. 6d. Almeria grapes are exceedingly plentiful, as they have been for a long time past, and are somewhat below the average in value, the price ranging from 10s. to 12s. per barrel. Pines, which are now being received in immense numbers from the Azores, are, on the whole, remarkably good; fruits, ranging from 5 lb. to 6 lb. each, being plentiful. The prices range from half a-crown to half a-guinea, but the fruit has to be of large size and in the best possible condition to command the maximum price.

The whole of the markets throughout the metropolis are well supplied with potatoes which, if not of exceptional quality this season, are by no means indifferent. Regents command at the present time the highest price of the several varieties now being sent to market, and range from 60s. to 90s. per ton, according to the district in which they have been grown. Cambridge Regents are worth from 60s. to 65s. per ton, Essex Regents from 60s. to 70s. per ton, York Regents from 65s. to 80s. per ton, and Scotch Regents from 75s. to 95s. per ton. Magnum Bonum is now worth from 50s. to 70s. per ton, 50s. representing the value of the lower grades from the fen districts. There is no scarcity of onions, liberal supplies being received from both home and foreign growers. English onions are worth from 3s. to 4s. 6d. per cwt., whilst samples of Dutch and German growth realize from 2s. 9d. to 3s. 6d. per bag. Carrots are worth from 20s. to 35s. per ton, really first-class samples being obtainable at the higher of the two rates. Parsnips fetch from 9d. to 1s. per score, and beetroot, with which the markets are very liberally supplied, are worth from 4d. to 8d. per dozen. Brussels sprouts are plentiful and comparatively cheap, produce of the finest description being procurable at from 1s. 6d. to 2s. per half sieve. The substantial savoy abounds, and can be bought in the eastern markets at prices ranging from 3s. to 4s. per tally.

Passing to the decorative aspects of the market, it may be mentioned that there is an abundance of both holly and mistletoe. The holly is fairly well berried, and comprises a larger proportion with variegated leafage than in any previous season. Of mistletoe immense quantities were received in the week ending December 18 from the orchards of Brittany and Normandy, in which the parasite is so abundant as to yield practically unlimited supplies. It is interesting to note that whilst we are receiving large quantities of mistletoe

from France, several tons of the produce of orchards on the Welsh border have been recently shipped to New York to meet the demand in the United States for mistletoe of English growth. The price of mistletoe in the London markets ranges from 9s. to 12s. per crate, which represents a considerable fall in value as compared with the prices obtained by the earliest arrivals.

Replies to Queries.

G.C.—Phyllanthus angustifolia.

Old Subscriber.—Your curious plant is Coccoloba platycluda. It was figured in *G.M.*

Names of Plants.—D. P.—1, An oncidium too much shrivelled to be named; 2, Begonia insignis; 3, Begonia Knowsleyana; 4, Begonia parviflora.

W. Terry.—The variety with yellow flowers is Grandiflorum, the other is Roseum superbum.

Pea Nut.—W. W., Leith.—The pea nut, Arachis hypogea, is an annual that requires to be grown in the open ground in a warmer climate than that of Britain. It is interesting to hear that you have obtained a free growth and that the plants have flowered, but we are not surprised at the failure of the plants to produce fruit. The nuts (which are not nuts) were described in our issue for December 30, 1882.

Cool Orchids.—A. R. S.—The orchids best adapted for a cool house comprise several fine subjects, flowering in summer and autumn. Winter flowering species are not well adapted for cool house culture. As regards the cultivation, it should be understood that the several species vary in their requirements, and no general answer can be given as regards the use of virgin cork, which is more useful for decorative than cultural purposes. The following are the names of a few of the very best orchids adapted for a cool house: Cypripedium spectabile, C. insigne, C. Irapeanum, Disa grandiflora, Orchis foliosa, Anguloa Clowesiana, Dendrobium nobile, Epidendrum vitellinum, Lycaste Skinneri, Odontoglossum grande, Oncidium ampliatum, Lælia anceps. The "Orchid Growers' Manual," by Mr. B. S. Williams, Victoria Nurseries, Upper Holloway, price half a-guinea, is the best book for you. But if a shilling book is preferred we recommend Mr. Castle's "Orchids," published at 171, Fleet Street, London, E.C.

Camellias.—C. R.—The raising of double camellias from cuttings is both difficult and tedious, and as they do not grow so vigorously, or flower so freely on their own roots as when grafted on stocks of the single-flowered species, this mode of increase is seldom resorted to. The usual practice in striking cuttings of camellias is to select shoots that are moderately ripened as early in the summer as they can be obtained, and then insert them rather close together round the sides of pots filled with sandy peat. Generally speaking, the wood will be ripened sufficiently for propagating purposes by the middle of June. There should be no undue haste, for the wood is usually in the best possible condition for making cuttings throughout July. As the cuttings are inserted shut them up in a frame, and, if practicable, plunge the pots to about one-half their depth in a mild hotbed. With the assistance of a gentle bottom heat the cuttings will be struck by the end of ten or twelve weeks, and when this is found to be the case they should be potted off separately.

Mistletoe.—G. W.—The mistletoe is certainly a parasitical plant, usually selecting the apple tree as a host, though we know that it occasionally finds quarters upon other trees, notably the poplar. The propagation of mistletoe is usually made a mystery of, but nothing is more simple. The method adopted in sowing the seed is to make a V-shaped incision on the under side of the branch, and insert the seed. If the branch is wrinkled and gnarled, a suitable place can sometimes be found for holding the seed securely. It is important to sow on the under side, as it is in a great measure protected from winds, rains, and the quick-sighted missle-thrush. The germination of the seed is a very slow affair, and it is necessary to sow several seeds to obtain a plant, as usually not more than about three in ten take root. If you have no apple trees, you need not despair of obtaining mistletoe, as it will grow satisfactorily on the elm, lime, walnut, and thorn. As regards the best season for the operation, March is generally recommended as the berries are then full ripe.

Roses.—C. R., Newton.—Roses can be readily progagated by means of cuttings, which may be struck at any time from the beginning of July until the end of November. In striking roses during July and August it is advisable to select moderately firm shoots from which to take the cuttings, and insert them in pots or pans and place in a cold frame. The pans should be well drained, and be filled with a mixture of loam, leaf-mould, and sand, and have a surfacing of silver sand. The cuttings struck during September and October may be inserted in pans or pots, or in a bed of soil made up in the frame with an equal degree of success; but when the number is large, inserting them in the bed is in some respects preferable. When the cuttings are taken in October or November they should be inserted in an open bed or border. For beds and borders strong, well-ripened shoots are necessary, and they should be cut into lengths of eight or nine inches, and be inserted rather close together in trenches just deep enough for about one half of the cuttings to be below the surface. There are two points in striking roses in the open borders to which special attention must be paid. One is to well tread the soil between the rows as early in March as the condition of the soil will admit of its being done; and the other is to water the cuttings at intervals during periods of dry weather in April and May.

T. T. Shields.—Leave the ground as rough as possible for the present. See that it is well dug, for the man who wants to rake it fine will probably, if allowed, dig it with a table fork.

Oyster Shells.—Young Gardener may use oyster shells as "crocks" as may be convenient; they are in any case harmless, for they consist almost entirely of carbonate of lime. It is the custom with chrysanthemum growers to pound oyster shells, and in the broken state to mix them with the compost the plants are grown in. The most experienced cultivators consider the practice sound, and therefore a young gardener may follow the lead without entertaining fear of the result.

Unhealthy Cucumber Plants.—A. G. writes: I shall be exceedingly obliged to any reader of the GARDENERS' MAGAZINE who can tell me why my cucumber plants flag when the sun shines upon them. To enable those disposed to help me, I will give the fullest particulars I can of the house and the way in which the plants were grown. The house devoted to the cucumbers is thirty feet in length and ten feet in width. It has eight ventilators, four at the top and four at the sides. Those at the top of the house are three feet by eighteen inches, whilst those at the sides are three feet by seven inches. The pit within the house is twenty-eight feet long, five feet wide, and four feet deep. Early in March I filled the pit with hot stable manure, and in about ten days the plants were bedded out, each one having about half a bushel of compost, consisting of loam and manure from an old cucumber bed. The house is heated by hot-water pipes which are fixed round the bed, and level with the surface. I admitted air every day when the weather was warm and the plants were shaded on a sunny day. In bright weather when the plants were shaded and the house freely ventilated by opening all the ventilators, the temperature was allowed to rise to between 90 deg. and 100 deg. The plants appeared to be remarkably healthy until they began to bear fruit in April, when the leaves began to flag and continued to do so when the sun shone upon the house. They were watered about every other day with clear rain water and syringed every afternoon when the house was closed for the day. The roots appeared to be healthy, for they were white and made good progress, and I am quite unable to understand why the leaves should have flagged in the manner described.

TRADE CATALOGUES.

WAITE, NASH, AND CO., 79, SOUTHWARK STREET.—*Wholesale Price Current of Seeds*, 1887.

FRANK CANT, COLCHESTER.—*Roses.*

HOOPER AND CO., COVENT GARDEN.—*New Cereals, Oats, Barley, Wheat, and Rye.*

J. R. PEARSON AND SONS, 2, EXCHANGE ROW, NOTTINGHAM.—*Garden Seeds.*

H. AND F. SHARPE, WISBEACH, CAMBRIDGESHIRE.—*Wholesale Garden and Agricultural Seeds.*

CHARLES SHARPE AND CO., SLEAFORD.—*Clovers, Grass Seeds, &c.*

JAMES CARTER AND CO., 237, HIGH HOLBORN, LONDON.—*Pure Seeds for Vegetable and Flower Garden.*

WILLIAM BULL, 536, KING'S ROAD, CHELSEA.—*Novelties in Seeds*, 1887.

NUTTING AND SONS, 106, SOUTHWARK STREET, LONDON.—*Wholesale Catalogue of Garden and Flower Seeds.*

SUTTON AND SONS, READING.—*Amateur's Guide in Horticulture*, 1887.

WEBB AND SONS, WORDSLEY, STOURBRIDGE.—*Spring Catalogue*, 1887.

JAMES VEITCH AND SONS, KING'S ROAD, CHELSEA, S.W.—*Catalogue of Seeds, Implements, &c.*

W. E. BOYCE, ARCHWAY ROAD, HIGHGATE.—*Descriptive Catalogue of Chrysanthemums.*

THOMAS LAXTON, BEDFORD.—*Novelties in Fruits, Vegetables, &c., for sale by private treaty.*

Obituary.

The death of Mr. THOMAS BROWN, formerly of the firm of Thomas and Edward Brown, sometime proprietors of what is now the Royal Nursery, Slough, occurred at Honolulu, on the 22nd of October last, at the ripe age of over 82 years. He had been ailing for some time past, but it was not until the 8th of October that he was compelled to give up business. On the 15th he celebrated the fiftieth anniversary of his marriage: and since that he gradually failed, until he passed away peacefully, surrounded by his family. Of all the respected citizens of Honolulu he was almost *primus*, for he was universally beloved for his many excellent qualities in public and private life. He leaves a widow, four sons, and a daughter, the eldest son being the Hon. Cecil Brown, a member of the legislative assembly. On the funeral day a service was held in St. Andrew's Cathedral, the building being quite filled; and the interment took place in the Nuuanu Valley Cemetery. Thomas Brown was born at Slough, on the 27th of July, 1804. He relinquished business as a nurseryman at Slough in 1844, and in 1846 went to Honolulu, and engaged in stock raising on Kauai. In 1852 he went to the United States of America, but returned to Honolulu in 1856. He soon afterwards entered the Office of Conveyances, as clerk, then became deputy registrar, and finally was appointed to the head of the department, which position he held up to the time of his death, in a most faithful and efficient manner. He possessed sterling business qualities, and his graceful deportment and unaffected and affable manner won him many friends.

END OF VOLUME.

W. H. and L. COLLINGRIDGE, City Press, 148 and 149, Aldersgate Street, London, E.C.

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